



THE SECOND FIVE YEAR PLAN 1980–85

PLANNING COMMISSION
MINISTRY OF FINANCE AND PLANNING
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
DHAKA
MAY, 1983

পরিকল্পনা বিভাগ
গ্রন্থাগার
গণপ্রজাতন্ত্রী বাংলাদেশ সরকার

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FOREWORD

In a few days time the third year of the Second Five Year Plan would be over. One would consider it strange that at this juncture we are bringing out the final version of the Second Plan. The Second Plan was launched on July 1, 1980, and the draft Plan Document was also issued at that time. That draft was prepared in the background of successful efforts in adjusting to changed international payments situation following the increase in oil price in the early Seventies. But by the time the Plan was launched international trade and aid situation received a significant jolt and it changed very adversely against Bangladesh. In the introductory chapter of the Plan the need for revision and the process through which this revision was carried out has been clearly explained.

2. The current year has been a period of soul-searching in economic planning and management. Rational sharing of responsibilities between the public and private sectors with a view to giving full opportunities to private initiative and individual efforts has engaged the attention of the government. Second, devolution of administration both for regulatory and for development purposes has been attempted with boldness. Third, a serious effort has been made to secure financial discipline and monetary stability in the economy. Fourth, the financial management of the public corporations has substantially improved. Finally, investment has been planned and made keeping in view resource availability and the extent of mobilization of domestic savings. While these practical steps have been taken, the draft of the Second Plan has simultaneously been revised to reflect the new orientation and what may be called 'pragmatism and fiscal realism'. Even then the Plan is ambitious in some respects. It may be said that the target of internal resource mobilization, the target of family planning acceptors, or the target of expansion of basic education are all quite difficult to achieve. But these are the three areas in which unusual efforts are needed if the process of development is to hold out hopes for the future.

3. Rural development in its broadest sense is the main focus of the finalised version of the Plan. In the new thinking about rural development local level planning as well as execution is of crucial impor-

tance. Increase in agricultural production and simultaneously creation of job opportunities in rural areas are the corner-stones of rural development strategy. Achievement of self-sufficiency in foodgrains production by itself is a fundamental plank of the Plan and reliance on irrigated agriculture as a strategy is expected to deploy large resources in the rural areas and create employment opportunities in a big way. But that is not enough and other non-farm activities and specially infrastructure building must provide opportunities for employment. By the end of the coming year elected Thana Parishads hopefully will be planning and implementing development programmes in the countryside in a big way. While organisation of ninety-three million people for the purpose of development may be difficult, it is our sincere hope that organisation of units of two hundred thousand people in the various thanas of Bangladesh will be crowned with success.

4. The finalisation of the Plan under difficult external and internal conditions has been a mixed experience for the planners. In a country where poverty is endemic, unemployment chronic, malnutrition pervasive and illiteracy blighting it has been a challenging task for them to work in an atmosphere of frustration and hope—frustration with debilitating international economic environment, and hope of a nation that gained its freedom at a high cost for a better life. It is a country where there is no alternative to optimism—without hope it is impossible to go through the deprivations that abound this poor country of millions. I too hope that this planned endeavour of our planners, technocrats, development administrators, public leaders and our donors to improve the lot of the teeming millions is rewarded. There must be light at the end of the tunnel we call the development process.

(A. M. A. MUHITH)
Minister for Finance and Planning
29-V-1983

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SECOND FIVE YEAR PLAN 1980-85

INTRODUCTION

The Second Five Year Plan was launched in July, 1980. The objectives, strategy and targets of the Plan were fixed in consideration of the prevailing international trade and aid climate and the compulsion of rapid growth in Bangladesh. Soon after the draft of the Plan was prepared international trade and aid climate changed dramatically. For the first time after the World War, there was no trade growth in 1981 and almost a negative growth in 1982. Official development assistance as percentage of gross domestic product of the developed countries declined during these years. Primary products, mostly exported by the developing countries, suffered the greatest decline in purchasing power in fifty years. Not only petroleum price registered increase but prices of manufactured goods and machineries shot up substantially. These developments had serious repercussions on Bangladesh economy. In two years, Bangladesh suffered a purchasing power loss of nearly one billion dollars. Aid flow became stagnant in nominal terms. The value of Taka with reference to reserve assets declined by over 25 percent. There had to be severe constriction of imports and this had direct adverse impact on government revenue which is heavily dependent on import trade. These developments coupled with original overly ambitious estimates of resources for the Second Five Year Plan warranted a significant revision of the Plan.

2. As early as in 1980/81 the task of revising the Plan was taken up in right earnest. Initially, it was felt that global crisis would be overcome shortly and accordingly, it was decided not to change the major targets of the Plan and only rationalise the expenditure programme. Non-essential components of various programmes were eliminated and reduction in Plan size in the public sector was brought about by about 20 percent. But before this exercise could be completed, it appeared that global situation would not change so rapidly and its impact on Bangladesh would be rather drastic. It was then thought that there should be a Hard Core Programme for the Second Five Year Plan at a further reduced level of another 20 percent or thereabout. By then we were already in the third year of the Plan Period.

3. With the experience of two years and a perception of the prospects for the third year, it was found that the Plan needs still further revision. A qualitative revision in various programmes became obligatory. First of all, it was noted that there would not be a great change in the objectives of the Plan but there should be some change in the emphasis. It was felt that domestic resources mobilization should be given greater emphasis and improvement in the balance of payment position should be another important objective. It was also considered necessary that people's participation is obtained through devolution of administration and development of local institution, both social and governmental. In fact, it was realised that without a decentralised implementation mechanism economic growth under resource constraints could not be achieved in a significant manner. In the strategy also, there had to be some basic changes. With availability of lesser resources it was found necessary to undertake more of immediate productive investments even at some sacrifices to other areas of development. It was further noted that with a lower level of investment programme the various production targets needed substanitial revisions.

4. The sectoral allocations had to be changed somewhat. Administrative devolution and emphasis on immediate production programmes naturally called for larger allocation to the rural and agricultural sector. The implementation capability of education and population planning sectors allowed some diversion of resources to other sectors. The urgency of developing domestic energy resources warranted a larger allocation for this sector. Naturally, other sectors like transport and communication, housing and industry had to make some sacrifice.

5. A significant change took place also in the investment policy of the country. It was felt that initiatives drive and energy of individuals should be given greater opportunity to flourish and contribute to economic development of the nation. A policy of encouraging the private sector in a big way had recently been adopted by the Government. Responsibilities of public corporations for managing a host of business or industrial enterprises have been curtailed and a large disinvestment programme is under implementation. Private sector has also been allowed to operate in sectors previously reserved for the public sector. Earlier, private sector was allowed to get into banking and cotton textile industry with new ventures. Recently, they have been allowed to buy some existing units in these sectors as well as in jute textile industry. Every fiscal, monetary and institutional measure is designed to obtain bouyancy in private investment, both indigenous and expatriate. This new strategy-thrust called for two different actions in Plan revision. First, the share of private investment had to be increased. Second, in some sectors like industry, transport and housing, private investment had to be allocated a larger share by cutting down allocations in the public sector.

6. While preparing the draft of the Second Five Year Plan, the Planning Commission developed three different multi-sectoral models for determining various sectoral allocations. It was found that under the changed circumstances, it was necessary to switch from the high growth model to the low growth model. In revising the Plan, basically this model was accepted but then modifications were made in view of performance record of the first two years and prospects of the third year. Such modifications also took into consideration a few on-going investments of lumpy nature such as power plants and fertilizer factories as well as some targets of final demand in selected goods and services like food, textiles and primary education. This modification also incorporated the implementation capability of sectors like Health, Education and Social Welfare.

7. A question arose as to whether it was at all necessary to revise the Second Five Year Plan on the eve of finalising the programme for the fourth year. It was felt that a revised plan frame would provide useful guidance to the programme of the last two years of the Plan. It would put the Second Five Year Plan on a realistic basis. Further, it would provide the benchmark from which to start work on the Third Five Year Plan. Finally, it was considered desirable to finalise the draft of the Second Five Year Plan, the Plan has been around for almost three years as only a draft Plan. The revision of the Plan is giving an opportunity to translate the macro-plan into micro-level projects for various sectors. This is also providing an opportunity to exhort the nation to strive for greater mobilization of efforts in raising resources as well as efforts in implementing planned development within a framework of economic discipline. However, the revision of the Plan at this stage will warrant careful appreciation of two basic issues. First, there will be a confusion in comparing figures based on current value with those

based on the constant value of 1979/80. In this chapter, an attempt has been made to supply comparative figures specially in relation to the original draft Plan. Second, the write-up of the various chapters may give an impression as if the Plan was written in 1980. Occasionally, by introducing current facts and figures an attempt has been made to break the monotony of such an impression.

Physicals Targets

8. The Plan targets have undergone some major revision in some areas to be reflective of current performance and reduced level of investment. Some of the major differences with the physical targets in the Draft Plan have been brought out in Table I'

TABLE I

Major Physical Targets in SFYP

Item	Unit	1979/80. (Actual)	1984/85(Target)	
			Revised	Original
I Agricultural Output :				
1. Foodgrains	Lakh tons	133·50	175·00	200·30
(a) Rice	Do	125·40	156·40	177·80
(b) Wheat	Do	8·10	18·60	22·50
2. Jute (Raw)	Lakh Bales	59·60	60·00	65·00
3. Tea	Lakh Lbs.	807·10	950·00	950·00
4. Tobacco	Do	871·40	1,293·00	1350·00
5. Potato	Lakh tons	9·01	13·60	13·60
6. Edible Oilseeds	Do	1·70	3·60	4·00
7. Pulses	Do	2·20	3·00	4·76
8. Cotton (Raw)	'000' Bales	4·00	56·00	263·00
9. Fish	Lakh tons	6·50	10·00	13·30
II Agricultural Input :				
(a) Irrigation Equipment Fielding				
1. Low Lift Pumps	Numbers	38,600	60,000	50,000
2. Shallow Tubewells	Do	23,400	250,000	120,000
3. Deep Tubewells	Do	9,795	18,000	25,000

TABLE-I—*Contd.*

Item	Unit	1979/80 (Actual)	1984/85(Target) Revised	1984/85(Target) Original
4. Hand Tubewells	Number	110,000	450,000	500,000
b) Fertilizer Distribution	'000' Tons	838	1,600	1,900
1. Urea	Do	536	700	830
2. TSP	Do	206	600	710
3. MP & others	Do	96	300	360
III. Industrial Output :				
1. Sugar	'000' tons	93·20	200·00	216·00
2. Jute goods	Do	525·00	650·00	736·00
3. Cotton Yarn ..	Lakh Lbs.	950	1830	2840
4. Cotton Cloth ..	Lakh Yds.	5924	9800	12000
5. Fertilizer	'000' Tons	442	1037	1428
(a) Urea	Do	361	927	1300
(b) TSP	Do	71	100	120
(c) Ammonia Sulphate ..	Do	10	10	8
6. Diesel Engine ..	Number	2,410	20,000	35,000
7. Pumps	Do	2,110	18,100	48,100
8. Bus, Truck & Car ..	Do	2,048	5,000	5,000
9. Paper	'000' tons	30·61	45·00	45·00
10. Pulp	Do	12·27	30·00	30·00
11. Newsprint & Mechanical Print	Do	41·27	48·00	48·00
12. Cement	Do	343	450	535
IV. Energy Resources :				
(a) Power				
1. Gross Generation ..	Million KWH	2,353	4455	4455
2. Peak demad ..	Megawatts	462	922	1035
3. Generating Capacity (Availabe)	Do	554	1342	1302
4. Transmission line ..	Miles	1094	1,496	1632
5. Distribution line ..	Do	12,390	31,390	48,106
6. Rural Electrification ..	Number of Villages	2,181	25,000	23,000

TABLE-1—*Contd.*

Item	Unit	1979/80 (Actual)	1984/85 (Target) Revised	Original
b) Gas				
7. Gas production	.. MMCF	44,970	128,000	120,000
8. Transmission line	.. Miles	142	478	422
9. Distribution line	.. Do	1005	2175	2205
V. **Health and Population Targets**				
1. Thana Health Complex	.. Number	290	356	356
2. Hospital Beds (including private)	Do	20,926	32,465	32,465
3. Family Welfare Centre	.. Do	1,773	3,150	4,500
4. Rural Dispensaries	.. Do	1,275	1,275	1,275
5. Crude Birth Rate	.. Per thousand	43·25	31·56	31·56
6. Crude Death Rate.	.. Do	16·75	13·78	13·78
7. Continuous Users of Contraceptives.	.. (i) Couples in Lakhs.	23·4	70·8	70·8
	(ii) % of Eligible Couples.	14·0	37·5	38·0
VI. **Educational Targets**				
1. Primary School	.. (i) Lakhs students	70	130	130
	(ii) % of 6-11 Yrs. of population.	60	92	92
2. Allocation for Primary Education (Including Mass)	.. % of total educational investment.	..	48·50	46·85
3. Allocation for Technical Education.	.. Do	..	12·53	8·29
4. Allocation for Secondary Education.	.. Do	..	12·64	19·17
5. Allocation for University Education.	.. Do	..	7·40	6·63
VII. **Infrastructure Targets**				
1. Paved Roads	.. Miles	2554	3679	4602
2. Ocean-going Ships (Public Sector).	.. (i) Number	25	28	40
	.. (ii) '000' DWT	369	457	607
3. Buses	Number	10,969	12,967	14,702
4. Trucks	Do	16,228	18,628	23,647

TABLE-1—*Contd.*

Item	Unit	1979/80 (Actual)	1984/85 (Target) Revised	Original
5. Post Office	Number	7,292	7,992	8,600
6 Telephone Lines ..	Do	1,20,017	1,75,017	2,38,000
VIII. Employment				
1. Labour Force	Lakh people	284	322	322
2. Employment	Do	253	293	305

Balance of Payments

9. The main reason for the revision of the Plan is the deepening of the problem with the external sector. Export receipts fell due to decline in prices though in real terms, export grew at 4·7 percent a year since 1979/80 and import bill had to be reduced for want of financing. Import volume fell faster in real terms as import prices also rose. Therefore, besides reduction of the size, the Revised Plan has also to give greater emphasis on import substitution and export promotion. As a result of depressed world trade and aid, import and export projections have vastly changed from the one outlined in the Draft Plan. Export is now expected to grow at an annual rate of 8·7 percent against the original projection of 9 percent while the expected growth of import is reduced from 8·4 percent to a negligible rate of 0·3 percent at 1979/80 prices. The projections of import and export are given in Tables 2 and 3 respectively:

TABLE 2
Import Programme in SFYP
(At 1979/80 prices)

[Tk. in crore]

Items	Unit	(1979/80) (Actual)		1984/85 (Projection) Revised		Original	
		Quantity	Value	Quantity	Value	Quantity	value
1. Foodgrain	Lakh Tons	28	965	6	194	8	0
2. Edible Oil ..	'000' Tons	78	105	115	155	117	164
3. Oil Seeds	Do.	24	13	38	21	87	50
4. Petroleum Products ..	Do.	474	199	468	193	546	193
5. Crude petroleum ..	Do.	1277	397	1400	435	1400	447
6. Cotton (including staple) ..	'000' Bales	182	88	415	201	585	273
7. Cotton and Synthetic Yarn	Lakh lbs.	72	17	160	38	80	17
8. Fertilizer	'000' Tons	576	207	420	151	1052	346
9. Cement	Do.	489	56	900	104	1150	129
10. Capital goods	..	..	736	..	1230	..	2304
11. Other raw materials	..	..	598	..	700	..	1090
12. Other consumer goods	..	..	286	..	297	..	483
Total: (a) In crore taka ..	..	..	3667	..	3719	..	5496
(b) In million $	..	..	2366	..	2399	..	3546

TABLE 3

Export Programme in SFYP

(At 1979/80 Prices)

[*Tk. in crore*]

Item	Unit	(1979/80) (Actual)		1984/85 (Projection)			
				Revised		Original	
		Quantity	Value	Quantity	Value	Quantity	Value
1. Raw Jute	Lakh bales	19·7	222·1	21	237	28	308
2. Jute Goods*	'000' tons	455	600·4	590	795	610	812
3. Tea ..	Lakh lbs	527	51·0	780	76	750	75
4. Leather	..	..	101·5	..	178	..	171
5. POL Products ..	..	..	35·7	..	54	..	37
6. Frozen Foods ..	..	..	60·6	..	145	..	187
7. Newsprint, Paper and Pulp	'000' tons	25·4	16·6	60	26	61	39
8. Fruits, Vegetables and Spices	..	..	2·9	..	14	..	26
9. Garments and Textiles ..	..	..	1·2	..	70	..	15
10. Handicrafts	..	..	5·1	..	9	..	11
11. Others	..	..	20·8	..	94	..	36
Total : (a) In Crore Taka	..	..	117.9	..	1,698	..	1,717
(b) In Million US$	..	..	721		1,095		1,108

* Including Jute carpet.

10. The main strategy for facing the balance of payment problem of the country is to secure a higher growth of export and induce greater substitution of imports, while keeping non-essential imports to the minimum. Export sector has so far failed to be as dynamic as it should be in a developing country. In real terms (1972/73 prices), export value increased at 5 percent a year, at about the same rate as GDP grew during the second half of 1970s. The main reasons were virtual dependence on a single manufacturing industry (*i.e.* jute textiles), past industrial strategy concentrating heavily on import substitution resulting in the neglect of investment in export industries in spite of presence of comfortable areas of comparative advantage, deteriorating world trade and the like. The Plan has addressed those issues but break-through in the export market will require determined effort at home for developing export industries and an aggressive marketing policy overseas including international effort to expand the Generalized System of preference for the developing world. At home, the efforts will also include investment in physical facilities such as transportation, shipping and warehousing and enforcement of quality control. The establishment of the Export Processing Zone at the port town of Chittagong and fiscal and foreign exchange facilities provi ed to foreign private capital are expected to induce higher foreign investment in the export sector during the Plan period. In addition, the potential export markets for some of the public sector goods like newsprint, paper, fertilizer, electric cables and equipment should be explored by the public enterprises through aggressive salesmanship abroad and planned production at home rather than going for export of uncertain surpluses.

11. *Home Remittance :* Home remittance from Bangladesh wage earners abroad has turned out to be better than what was projected in the Draft Plan. In numbers, export of manpower has increased at an annual rate of 37 percent over the calendar year 1979. Revised projection of remittances on the basis of recent experiences is shown below:

TABLE 4

Home Remittance

(At 1979/80 prices)

Remittance	1979/80 (Actual)	1984/85 (Targets)	
		Revised	Original
(a) In crore Taka	407	916	512
(b) In million US $	263	600	360

12. *Aid Prospect:* Aid flow contrary to all expectations stagnated during the first three years of the Plan and even declined in real terms. In the first three years, disbursements are estimated to be US $ 3,476 million in 1979/80 constant prices as against the draft Plan estimates of $ 4,853 million. In view of these experiences, the estimate for foreign aid for the plan period has been substantially reduced. The comparative position of commitment and disbursement of aid as envisaged in the Draft Plan and Revised Plan are as follows:

TABLE 5

Commitment and Disbursement of Aid
(At 1979/80 prices)

[Dollars in Million]

	Opening Pipeline		Commitment		Total Availability		Disbursement	
	Revised	Original	Revised	Original	Revised	Original	Revised	Original
Food Aid ..	55	24	882	1,087	937	1,311	883	1,111
Commodity Aid ..	398	473	2,252	3,477	2,650	3,950	2,156	3,150
Project Aid ..	2,153	2,153	4,868	7,950	7,020	9,103	3,055	4,900
Total ..	2,606	2,650	8,002	12,514	10,607	14,364	6,094	9,161

13. In the Revised Plan, the commitments and disbursement in current terms are as shown in Table 6.

TABLE 6

Year-wise Aid Commitment and Disbursement
(current prices)

[Dollars in Million]

Year		Food	Commodity	Project	Total
1980/81	Opening Pipeline	55	398	2153	2606
	Commitment	203	355	1082	1640
	Total ..	258	753	3235	4246
	Disbursement	194	393	560	1147 (1065)
1981/82	Opening Pipeline	59	357	2632	3048
	Commitment	218	491	1233	1942
	Total ..	277	848	3865	4990
	Disbursement	230	422	584	1236 (1181)
1982/83	Opening Pipeline	47	426	3281	3754
	Commitment	230	458	1270	1958
	Total ..	277	884	4551	5712
	Disbursement	260	475	610	1345 (1230)
1983/84	Opening Pipeline	17	409	3941	4367
	Commitment	240	700	1400	2340
	Total ..	257	1109	5341	6707
	Disbursement	240	520	750	1510 (1296)
1984/85	Opening Pipeline	17	589	4591	5197
	Commitment	140	800	1650	2590
	Total ..	157	1389	6241	7787
	Disbursement	140	600	920	1660 (1322)
1980-85	Total Commitment	1031	2804	6635	10470
	Total Disbursement	1064	2409	3424	6897 (6094)

Note: Figures in the paranthesis indicate disbursement at 1979/80 constant prices.

Domestic Resources and Financing of the Plan

14. As domestic resource mobilization capability is largely dependent on foreign trade, a downward revision of trade estimates in view of deterioration in world trade and aid can not but directly and indirectly affect domestic resource estimates. But the Plan envisages measures for greater austerity in current expenditure, reduction of consumption subsidy, fuller utilization of productive capacities in industries, power, agriculture and transport, further improvement in public sector management efficiency and additional taxes to meet the investment need. The Plan also recognizes the declining trend in foreign aid, and therefore, emphasizes the need for greater efforts for mobilization of domestic savings. In the aftermath of large budget deficits raised in 1979/80 and 1980/81, an inflationary growth path does not appear to be a suitable alternative. The revision exercise in the context of such circumstances and thinking has perforce set high targets for domestic resource raising and monetary stability.

15. Besides the Plan Outlay of Tk. 17,200 crore, a number of outside-the-plan investment such as food for works programme, food stock and other inventory build-up and equity capital of corporations are to be taken into consideration in estimating total resource need. Total outlay (Plan and non-plan) for the plan period has been estimated at Tk. 19,079 crore. Of the total outlay, Tk. 7,091 crore will be financed out of official aid, Tk. 3,856 crore from external transfers and other sources and the remaining Tk. 8,132 crore from domestic resources. It is to mention that an important component of external transfers will consist of workers remittances. Total Development Outlay and its financing are shown in Table 7:

TABLE 7

Development Outlay (Plan and Non-Plan) and its Financing
(At 1979/80 prices)

[*Tk. in crore*]

Description	Base year (1979/80)	Plan period (1980-85)	Terminal year (1984/85)
1. Plan Outlay	2,717	17,200	4,295
2. Non-Plan Outlay	627	1,879	280
3. Total Development Outlay	3,344	19,079	4,575
4. (a) External Resources	2,544	10,947	2,165
(b) Foreign Aid (net)	1,792	7,091	1,225
5. Domestic Resources Need	800	8,132	2,411
6. GDP (at 1979/80 market prices)	18,206	..	24,210
7. (a) Development Outlay as % of GDP	18·4	..	18·9
(b) Plan Outlay as % of GDP	14·9	..	17·7
8. (a) Investment	2,896	16,579	3,955
(b) Investment as % of GDP	15·9	..	16·3
9. (a) Domestic Saving	789	5,668	1,790
(b) Domestic Saving as % of GDP	4·3	..	7·4
10. (a) National Saving	1,196	9,279	2,706
(b) National Savings as % of GDP	6·6	..	11·2
11. Marginal Saving Rate (Domestic)	..	14·7	..
12. Tax/GDP Ratio	7·9	..	9·5
13. (a) Foreign Aid (net) as % of GDP	9·8	..	5·1
(b) Foreign Aid (net) as % of Plan Outlay	65·0	41·2	28·5

16. Financing of public sector programme of Tk. 11,100 crore will call for very serious efforts for securing revenue surplus. Though public sector size has been reduced, the on-going projects will continue to make heavy demand on public resources. Of the total public sector outlay of Tk. 11,100 crore, Tk. 6,196 crore will be financed from foreign aid (net) and the remaining Tk. 4,904 crore from domestic resources. The financing of the public sector programme is shown in Table 8 :

TABLE 8

Financing of Public Sector Programme

(At 1979/80 prices) [*Tk. in crore*]

1. Plan Outlay	11,100
2. Financing	..
A. Foreign Aid (Net)	6,196
B. Domestic Resources	4904
(i) Revenue Surplus (from existing taxes and new tax measures)	4,205
(ii) Corporate Bodies own Funds	350
(iii) Capital Receipt (Net)	119
(iv) Borrowing from Banks and Private Sector	230

Sectoral Allocations

17. Sectoral allocations of the Draft Plan not only have undergone severe downward revision but in some cases relative proportions have changed as well. Deliberately some sectors have been allotted more, such as water resource, rural development, thana infrastructure and energy. Even though considered desirable, it has not been possible to allocate more funds to programmes like education or population planning because of lag in implementation capability. On-going commitments and specially the stage of completion of some projects called for more allocation than what an inter-sectoral model would have provided for. Heavy reductions had to be borne by industry, transport and communication sectors. Sectoral allocation in the Public Sector is given in Table 9.

TABLE 9

Sectoral Allocation in the Public Sector during SFYP

[*Tk. in crore*]

Sector	Original Allocation (1979/80 prices)		Resvised Allocation (1979/80 prices)		Revised Allocation (Current prices)
	Amount	Percent	Amount	Percent	
1. **Agriculture and Related activities** ..	6,500	32·3	3,802	34·3	5.552
(a) Agriculture	2,700	14·4	1,470	13·3	2,149
(b) Water Resources	3,000	14·9	1,850	16·7	2,702
(c) Rural Development and Institutions (including Development Boards)	800	4·0	482	4·3	701
2. Industries and Minerals	3,275	16·3	1,390	12·5	2,042
3. **Energy and Natural Resources**	2,760	13·7	2,052	18·5	3,021
(a) Power	2,000	9·9	1,437	12·9	2,130
(b) Natural Resources	760	3·8	615	5·5	891
4. **Transport and Communication** ..	3,239	16·1	1,524	13·7	2,160
(a) Transport	2,635	13·1	1,287	11·6	1,819
(b) Communication	604	3·0	237	2·1	341
5. Physical Planning and Housing	1,220	6·0	574	5·2	820
6. **Education, Religious Affairs & STR** ..	1075	5·4	572	5·2	836
(a) Education	905	4·5	470	4·3	692
(b) Religious Affairs	15	0·1	10	0·1	15
(c) Scientific and Technological Research (STR)	155	0·8	92	0·8	129
7. Health	595	3·0	288	2·6	413
8. Population Control and Family Planning ..	615	3·0	310	2·8	368
9. **Socio-Economic Infrastructure**	601	3·0	202	1·8	280
(a) Social Welfare	85	0·4	41	0·4	59
(b) Women's Affairs	89	0·4	22	0·2	31
(c) Youth Development	101	0·5	19	0·2	26
(d) Sports & Culture	95	0·5	43	0·4	60
(e) Mass Media	231	1·2	77	0·7	104
10. Manpower and Labour	185	0·9	61	0·5	88
11. Public Administration	60	0·3	38	0·3	55
12. Thana Development	..	..	287	2·6	425
Total ..	20,125	100·0	11,100	100·00	16,060

Growth Rates

18. Lower investment despite the emphasis on immediate productive projects will affect the overall growth rate. It is also to be noted that in the first three years growth rates have been very erratic starting with 6 percent in the first year, it was only 0·9 percent in the second year and may be arround 3·8 percent this year. Food production which was to reach 20 million tons in 1985, is likely to be only 15·1 million tons this year and about 17·5 million tons in 1985. Housing and Construction have been affected by recession and pick-up will be a matter of time. The revised projection of growth rates is given below alongwith those projected in the Draft Plan :

TABLE 10

A Comparative Statement showing Original and Revised Growth Rates during SFYP

Sectors	Average Annual GDP Growth Rates (%)	
	Original	Revised
1. Agriculture	6·3	5·0
(a) Rice and Wheat	7·1	4·9
(b) Other Agriculture	5·4	5·2
2. Manufacturing	8·6	8·4
3. Construction	14·4	4·8
4. Power and Gas	16·0	16·0
5. Housing	4·2	3·0
6. Transport	10·7	5·7
7. Trade and other services	7·4	5·7
Total	7·2	5·4

PART I
FRAMEWORK OF THE PLAN

CHAPTER 1

REVIEW OF PLANNED DEVELOPMENT

Introduction: An Overview

Bangladesh is primarily an agricultural country having an area of 55,598 sq. miles and a population of 87·2 million (1979/80). About 90 per cent of the population lives in villages and 80 per cent of that is dependent on agriculture which contributes over half the amount of GDP. Average annual per capita income is Tk. 2,087 ($ 135) only and over four-fifths of the population are considered to be below the poverty line in terms of minimum calorie requirement. Poverty, malnutrition, unemployment and illiteracy, all these problems afflicting Bangladesh, are deep-rooted in her colonial past.

1.2 During the last two decades attempts were made through a series of development plans to solve these problems but no perceptible improvement in the standard of living of the population has taken place. The past process thus resulted in a disenchantment of the mass which led to the eventual independence of Bangladesh in 1971 through a Liberation War. The damage to the economy was so widespread that the first national government of independent Bangladesh had to engage in the massive task of rehabilitation and reconstruction of the economy. However, the political imperatives of the Liberation War required restructuring of social priorities into a new economic frame-work to meet the aspiration of the new nation and interfacing with the Reconstruction Programme. Accordingly, in a hurry and even with weakness of the data base, a theoretically consistent and technically well drawn-up Plan was prepared. The First Five Year-Plan with a programmed outlay of Tk. 4455 crore was launched in July 1973.

1.3 In the process of implementation the Plan, however, met anumber of setbacks. First, the unusual combination of inflation and recession in developedcountries failed the expectations about their contribution to the planned development of Bangladesh. This condition pervaded the entire plan period of 1973—78. Secondly, there was the unprecedented flood of 1974 which destroyed standing paddy crops over millions of acres and brought the country on the verge of a colossal famine. Thirdly, Bangladesh continued to suffer a deteriorating terms of trade in the world market which sapped her resources, particularly because of increasing cost of her fuel import. Fourthly, restructuring of trade, finance and industrial management in a new nation and establishment of a national administrative apparatus in a war-torn country proved inordinately time consuming and complex. All these made the recovery of the economy slow and painful that the Gross Domestic Product (GDP) reached its 1969/70 level in 1975/76 only in per capita terms.

1.4 As the world inflationary and recessionary conditions continued to cast doubt on the prospect of aid it became clear before the end of the Five Year Plan that a Second Five Year Plan could not be initiated just on the heel of the First Plan. So, a Two Year Plan was prepared for the last two years of the decade (1978—80) with emphasis on completing as many of the on-going projects as possible within the available resources.

1.5 The development experiences of 1970s have been generally disappointing. The common man still live in shanty houses and are uneducated and ill-fed. Only about two-thirds of children between 5 to 11 years age are enrolled in the primary school not to speak of substantial drop-outs. There is only one doctor per 10,000 persons in the country. Due to high growth of population against low agricultural growth food deficit increased. The country had no option but to become increasingly dependent on foreign aid with debt mounting. This scenario has remained basically unbroken over the last two decades but a process of change has set in since 1975.

1.6 The period since 1975 may be called the period of consolidation while in the period preceding rehabilitation of the war-torn economy was completed. Between 1975 and 1980, GDP registered an increase of about 5·2 per cent per annum in spite of agricultural setbacks in 1976/77 and in 1978/79 due to floods and droughts. During this period, there have been appreciable improvements—increase in export earnings despite stagnation in the volume of exports of jute and jute goods against a continuing recession in industrialised countries, improvement in industrial production through better capacity utilisation, and acceleration in construction activities. The development efforts in this period led to consolidation of the economy. In fact, the improved performance of the economy during the second half of 1970s laid the basis for embarking upon a reasonably large development programme in 1980s.

The First Five Year Plan (1973-78)

1.7 It is in the background of domestic and international stresses and strains on a war-ravaged economy that the First Five Year Plan was launched. The Plan's main objectives were reconstructing the war-torn economy, reducing poverty and achieving social justice. Specifically, the Plan aimed at an annual growth rate of GDP at 5·5 per cent, creation of employment opportunities for 41 lakh man-years so as to bring about a substantial reduction in unemployment, reducing the dependence on foreign assistance to 27 per cent of total investment and curbing population growth from 3 per cent to 2·8 per cent a year.

1.8 But the First Plan targets for GDP, employment and investment, in all major aspects, remained largely unrealised as the required action programme could not be supported by adequate domestic and external resources, required institutional support and warranted skilled manpower. Unfavourable weather conditions frequently upset agricultural development while inflation and recession continued to sap resource mobilization efforts. During the Plan period, only 59 per cent of investment in real terms was realised and food output lagged behind the population growth rate (around 2·5 per cent a year), while industrial output could not even reach the 1969/70 level until 1976/77. The public sector enterprises were handicapped by various problems such as inexperienced management, shortage of skilled manpower and inadequate supplies of spares and inputs. Exports which suffered during the war recovered slowly to reach its 1969/70 level in 1977/78 in dollar value, while import dependence on foreign aid increased rapidly. All these inhibited the growth of GDP to 4·0 per cent a year against the target rate of 5·5 per cent.

1.9 The development efforts were severely constrained by the scarcity of domestic resources, and public resources were strained. With the failure to raise domestic resources to the desired level, the dependence on foreign aid increased. The proportion of external capital inflow to the development outlay, instead of declining, actually increased to *about 78 per cent. The amount of foreign aid received during the Plan period came to* be Tk. 3027 crore at current prices against domestic contribution of Tk. 957 crore only.

1.10 The process of economic development in Bangladesh since independence can be viewed as consisting of two distinct phases. The first phase lasting for nearly three and half years from Independence to mid-1975 was mainly concerned with rehabilitation and recovery of the economy after the War of Independence. The second phase following it was characterised by a number of economic stabilisation measures leading to the consolidation of the economic foundation of the country and creating conditions for economic progress. A comparative performance of the economy under the two phases with respect to the growth of GDP and other major economic indicators are shown in the table below:

TABLE 1.1

Comparative Growth Scenario under the Two Phases of the First Five Year Plan.

Item	First two years (1973/75)	Last three years (1975/78)
1. Average Annual Growth Rate (%)	5·70*	6·40
Terminal Year Position:		
1. Gross Investment as % of GDP at current market prices. ..	6·30	13·45
2. Net Capital Inflow as % of GDP at current market prices.	7·24	8·82
3. Gross Domestic Savings as % of GDP at current market prices.	..	4·63
4. Tax Revenue as % of GDP at current market prices.	4·34	7·93
5. Current Budget Surplus (Crore Tk.)	125·14	367·42
6. Foodgrains Production (Lakh tons)	112·24	131·00

*With respect to the 1972/73 actual GDP, which was depressed below the normal level; it was the rate of recovery rather than growth since 1969/70 level of GDP was reached in 1975/76.

1.11 During the first two years, the greatest constraint had been the acute shortage of domestic resources which even dampened the pace of rehabilitation programme. Revenue receipts fell short of estimates by 26 per cent while revenue expenditures exceeded the estimates by 12 per cent. This could not but tell heavily on the development expenditure. The development expenditure during 1973/74 was Tk. 400 crore which

at 1972/73 prices was Tk. 300 crore compared with the plan's projection of Tk. 525 crore. The situation worsened in 1974/75. The development expenditure in 1974/75 was Tk. 525 crore in money terms, but as the domestic price level rose sharply during the period, particularly due to the crop failure, expenditure in real terms was about the same as it was in 1973/74 against the planned projection of Tk. 645 crore.

1.12 In terms of real economic growth, the experience of the first two years of the Plan was disappointing. Most of the planned targets remained unfulfilled. In 1973/74 the GDP was planned to grow at 4·1 per cent in order to achieve 1969/70 GDP level but the actual GDP was below the benchmark figure. During 1974/75, a growth rate of only 2 per cent was realised against the target rate of growth of 5·5 per cent. In 1974/75 both agricultural and industrial outputs were still below their 1969/70 levels, being 94 and 87 per cent respectively. The recovery in the export trade was also sluggish, particularly due to the difficulties in adjusting it to the new geo-political conditions. Many commodities like tea, hides and skin, matches and paper which used to feed the Pakistan market had to strive hard to find new markets, while jute goods export suffered from the recession in industrialised countries. As a result, total export in 1974/75 was still about 25 per cent below the 1969/70 level requiring the country to remain heavily dependent on foreign assistance.

1.13 The tardiness of the economic recovery together with resource constraints led to the revision of the planned investment programme so that the basic objectives of the Plan were protected. A Three-year Hard-Core Programme was adopted for the period 1975/76 to 1977/78. The second phase of economic development which was one of consolidation began with the launching of this programme. This change together with various stabilisation measures and increased flow of aid accelerated the development of the economy.

1.14 There was significant rise in the development programme since 1975. In the first two years of the Plan, the average size of development expenditure was Tk. 462 crore at current prices, while it increased to an annual average size of Tk. 1058 crore in the last three years. In 1977/78, development outlay was Tk. 1267 crore against Tk. 400 crore in 1973/74 at current prices. Investment as a percentage of GDP increased from 6·30 per cent in 1974/75 to 13·45 per cent in 1977/78 leading to higher growth rate.

1.15 During the period, 1973-75 the country could only mobilise about 20 per cent of its development outlay from domestic resources; during the Hard-Core period, the share of domestic resource improved somewhat to 25 per cent. This followed stronger fiscal measures. Average tax revenue of the Government was Tk. 884 crore in the last three years of the Plan as compared to Tk. 420 crore in the first two years and the tax receipts as percentage of GDP increased from 4·29 per cent in 1973-74 to 7·93 per cent in the terminal year (1977-78) of the Plan. Government undertook deficit financing to the extent of Tk. 98 crore on the average a year during the first period, but during the next three years, the average annual deficit financing was brought down to Tk. 64 crore per year with no deficit financing in 1976/77.

1.16 The revival of economic activities in the second phase of the Plan together with improvement in fiscal and monetary management and favourable crop harvests had soothing effect on price level also. The general cost of living index for government employees at Dhaka during the first two years of the Plan increased from 181·51 in 1972/73 (1969/70—100) to 407·58 in 1974/75 at an average annual rate of 50 per cent, while in the latter period, the index rose by 2·6 per cent a year to 440·70 only.

1.17 Inflationary pressure of early 1970s led to a decline of both industrial and agricultural wages in real terms. The general wage index declined to 51·39 in 1974/75 from 67·6 (1969/70—100) in 1972/73. Although it registered an improvement and rose to 66·9 in 1975/76 as a result of good harvest, it could not be steadily maintained. On the basis of Household Expenditure data it is estimated that real wage index which was down to 43·6 (1969/70—100) in 1974/75 rose to 56·7 in 1977/78 and agricultural wage (real) index from 51·6 to 63·8 over the same period, but they remained although below the pre-independence level.

The Two Year Plan (1978—80)

1.18 Although by the end of the First Plan the country acquired greater stability and development management improved, a Second Five Year Plan could not be meaningfully undertaken because of the existence of a large number of unfinished projects which would have severely restrained the Plan's choices. Therefore, a Two Year Plan was formulated to complete as many of the on-going schemes as possible within the available resources. The major objectives of the Plan were attaining a 5·6 per cent annual growth of GDP (2·8 per cent in per capita income) and greater self-reliance through mobilisation of domestic resources for financing development programme, moving towards self-sufficiency in foodgrains, reducing population growth, improving provision of basic needs such as food, clothing and drinking water, and arresting further deterioration in employment situation.

1.19 There has also been considerable shortfall in the realisation of targets of the Two Year Plan. The Gross Domestic Product rose by 4·0 per cent in 1978/79 and by 2·9 per cent in 1979/80. Average growth rate was 3·5 per cent compared with the planned growth rate of 5·6 per cent. The total foodgrain production during 1978/79 was 130·29 lakh tons, a little less than that of 1977/78, but in 1979/80, the foodgrain production went upto 133·50 lakh tons. During this two-year period economic growth was affected by unfavourable weather conditions besides the oil prices shock of 1979.

1.20 During the First Five Year Plan, the manufacturing industries were striving for recovering its 1969-70 level of output which was reached in early 1976/77. The recovery was slower than planned. During the Two Year Plan period, industrial output, in value-added terms, increased at an average rate of 2·3 per cent only. The financial position of five public corporations with the exception of jute textiles showed improvement as a result of upward change in output prices to compensate for increased cost but there was still idle capacity in most sectors.

1.21 An important feature of the Two Year Plan was the increasing orientation of industrial policy towards private investment. The private investment ceiling was raised from Tk. 3 crore to Tk. 10 crore and a concurrent list was created allowing private investment in joint ventures with the public sector. Industrial credit was made available in increasing quantity while abandoned enterprises were disinvested. As a result, private investment picked up and disbursement of loans by the financial institutions to the private sector rose from Tk. 124 crore in 1977/78 to Tk. 516 crore in the final year of the Two Year Plan.

Growth Rates, Saving and Investment

1.22 The growth rate during the First Five Year and the Two Year Plan periods has been estimated with reference to the actual GDP of the base year which was 1972/73 for the former and 1977/78 for the latter.

1.23 The Gross Domestic Product of Bangladesh increased by 34 per cent during the First Plan period at an average annual growth rate of 6·1 per cent.

1.24 A structural breakdown of the GDP growth is presented in Table 1·2. It will appear from the table that agriculture grew at 4·9 per cent while during the Two Year Plan period agriculture grew at an annual rate of 1·8 per cent. The growth in the first period was faster because the actual output in 1972/73 was below the normal. The overall rate for the period of 1973—80 was 4·0 per cent. Manufacturing sector was slow to recover such that by the end of the First Plan, its contribution was still below the benchmark figure. Under the Two Year Plan its growth rate was 2·3 per cent and overall growth rate for the period of 1973—80 was 7·2 per cent with respect to actual GDP of 1972/73. Services sectors like transport, banking, trade and government, etc., grew at a rate faster than the increase in GDP.

1.25 There has not been any major change in the structure of the economy over the last seven years. It can be seen from Table 1·3. Though during the period GDP has risen and the shares of the agriculture, manufacturing and other sectors in GDP have somewhat changed, agriculture still remained the dominant sector of the economy. Share of the agriculture sector declined from 57·6 per cent to 54·9 per cent over the period. While usually in a growing economy the share of the agriculture tends to decline and that of manufacturing increase, this has not happened in Bangladesh in 1970s. During the 7 year period agriculture received 30·08 per cent and industry 15·24 per cent. The remaining investment went into the rest of the sectors which grew faster than the combined growth rate of agriculture and industries. Further, the growth in these two sectors also slowed down—agriculture mainly because of unfavourable weather and industries due to diminishing scope for utilisation of idle capacity and delay in completion of on-going projects. The contribution of the rest of the sectors in incremental output was 53 per cent showing a considerable rise from 1972/73 benchmark level of 32 per cent. The largest increase was made by the trade and other sectors where the share rose from 23·30 percent to 35·70 per cent in the incremental output. The faster growth of the trade and other sectors can be explained by the fact that during this period, there was massive expansion in the external trade, particularly import trade which rose from Tk. 740 crore in 1973/74 to Tk. 3951 crore in 1979/80 at current prices. Another sector that gained in share is the construction sector which accounted for a significant part of the total investment made during 1970s.

TABLE 1.2

GDP and Growth Rates in the First Five Year and the Two Year Plan Period

(At 1972/73 constant factor cost)

[*Tk. in crore*]

Sector	1972/73 Bench mark	1972/73 Actual	1974/75 Actual	1977/78 Actual	1979/80 Actual	Annual Compound Growth Rate (%) 1973—75 (First Two Years of the FFYP) Over bench mark	1973—75 (First Two Years of the FFYP) Over Actual	1975—78 (Last three years of the FFYP)	1973—78 First Plan Period Over bench mark	1973—78 First Plan Period Over Actual	1978—80 (Two Year Plan Period)	1973—80 (First Five Year Plan and Two Year Plan Period) Over bench mark	1973—80 (First Five Year Plan and Two Year Plan Period) Over Actual
1. Agriculture ..	2883	2722	2970	3454	3580	1·5	4·4	5·2	3·7	4·9	1·8	3·1	4·0
2. Manufacturing ..	520	330	374	513	537	(−)13·3	6·4	11·1	(−)0·3	9·2	2·3	0·5	7·2
3. Construction ..	184	144	176	268	373	(−)2·2	10·6	15·0	7·8	13·2	18·0	10·6	14·5
4. Power and Gas ..	15	8	10	16	20	(−)18·3	11·8	17·0	1·3	14·9	11·8	4·2	14·0
5. Housing ..	236	236	249	281	304	2·7	2·7	4·1	3·6	3·6	4·0	3·7	3·7
6. Trade, Transport and others	1165	1090	1281	1557	1707	4·9	8·4	6·7	6·0	7·4	4·7	5·6	6·6
GDP (Total) ..	5003	4530	5060	6089	6521	0·5	5·7	6·4	4·0	6·1	3·5	3·9	5·3
Population (In million)	74·3	74·3	78·9	83·7	87·2	3·0	3·0	2·0	2·4	2·4	2·1	2.3	2·3
Per Capita GDP (Tk.)	673	610	641	727	748	(−)2·4	2·5	4·3	1·6	3·6	1·4	1·5	3·0

TABLE 1.3

Structural Change in GDP

(At 1972/73 constant factor cost)

[*Tk. in crore*]

Sector	1972/73 Bench-mark	1972/73 Actual	1979/80 Actual	GDP Composition 1972/73 Bench-mark	GDP Composition 1972/73 Actual	GDP Composition 1979/80 Actual	Contribution to incremental output (GDP %) Over Bench mark	Contribution to incremental output (GDP %) Over Actual
1. Agriculture ..	2883	2722	3580	57·60	60·09	54·90	45·92	43·09
2. Manufacturing	520	330	537	10·40	7·28	8·23	1·12	10·40
3. Construction ..	184	144	373	3·70	3·18	5·72	12·45	11·50
4. Power and Gas ..	15	8	20	0·30	0·18	0·31	0·33	0·60
5. Housing ..	236	236	304	4·70	5·21	4·66	4·48	3·42
6. Trade, Transport and others.	1165	1090	1707	23·30	24·06	26·18	35·70	30·99
Total: ..	5003	4530	6521	100·00	100·00	100·00	100·00	100·00

1.26 *Investment and Savings*: There has been a considerable increase in gross investment—over 7 times as high in 1979-80 as that in 1973-74 at current prices. Table 1·4 gives an estimate of annual investments and savings during the First Five Year and the Two Year Plan period. Investment as a percentage of GDP increased to 16·51 per cent in 1979-80 compared with 9·32 per cent in 1975-76. A major part of it was financed from foreign aid. The total net foreign assistance received amounted to Tk. 7,867 crore against the investment of Tk. 10,774 crore in the economy. The net capital inflow is estimated to have increased from 6·17 per cent of the GDP in 1973/74 to 12·17 per cent in 1979/80.

1.27 Domestic saving has thus financed only a small fraction of the total investment; but some improvement in it is visible from the rise of saving ratio from about zero in 1973-74 to 4·34 per cent in 1979-80, still it is low. An obvious explanation for such a low level of saving is that a vast majority of people are too poor to save. Natural disasters like flood, cyclone and drought which cyclically visit Bangladesh make people more risk-averse than usual, further depressing saving. Severe inflation of the 1970s also eroded the saving ability of people and worked as a dampner on institutional savings as interest rates fell below inflation rates.

TABLE 1·4

Estimate of Annual Investment and Savings During the First Five Year and the Two Year Plan Period.

(At Current Prices)

[*Tk. in crore*]

Items	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80
1. GDP at Current Market Prices	7,147	12,307	10,867	11,075	13,338	15,457	18,206
2. Resource Balance (including services)	450	909	1,306	699	1,284	1,448	2,562
3. Total Resources Available: Domestic Investment (I) and Consumption (C)	7,597	13,216	12,173	11,774	14,622	16,905	20,768
4. Gross Investment (I)	436	775	1,013	1,489	1,794	2,261	3,006
5. Consumption (C)	7,161	12,441	11,160	10,285	12,828	14,644	17,762
6. Net Foreign Capital Inflow	441	891	1,258	622	1,176	1,263	2,216
7. Gross Domestic Savings	(—)5	(—)116	(—)245	867	618	998	790
8. As percentage of GDP at market prices:							
(a) Investment	6·10	6·30	9·32	13·45	13·45	14·63	16·51
(b) Net Capital Inflow	6·17	7·24	11·58	5·62	8·82	8·17	12·17
(c) Savings	(—)0·07	(—)0·94	(—)2·25	7·83	4·63	6·46	4·34

SOURCE: Planning Commission.

1.28 On the investment side, private investment was restricted by the lack of investment opportunities because of ceiling. Financing problems were also real, partly because there was little development of public companies to mobilize household saving. The banking institutions remained entrenched in giving cover to the liquidity of the unprofitable public corporations and were not well placed to finance private development.

1.29 Public industrial enterprises generally failed to return profit on their investment. Between 1973/74 and 1979/80 they returned a total profit of Tk. 63 crore for an investment which ran into few thousand of crores of Taka. Their outstanding credit from the banks stood at Tk. 239·75 crore in 1979/80. Thus instead of contributing to public savings the corporations had been drawing on bank credit which could otherwise be used for productive purposes. More serious than that, continued operating deficit also required financing their capital replacement programme, called BMR, through fresh loans, mainly from overseas borrowing, while their debt servicing burden was being borne by the government.

1.30 In the Government sector, rehabilitation and reconstruction programmes laid heavy claim on the fiscal resources. In addition, there was unavoidable demand on the new national government for expansion of public services in post-independence period including welfare programmes. As a result, the current expenditure of the government increased at an average annual rate of 23 per cent during the period, 1972/73 to 1979/80. Payment of consumer subsidies on public distribution of foodgrains alone amounted to Tk. 810 crore or 14 per cent. of the current expenditure during the same period. The increase in current expenditure practically left little as public saving from normal revenue earning of the government. During the above period total public saving amounted to Taka 1909 crore or 4·20 per cent of revenue, requiring the government to resort to large-scale deficit financing from the early years of Independence, except in the year 1976/77 when along with other measures fiscal austerity was introduced.

1.31 The fiscal system also did not undergo any significant change during the first Five Year and the Two Year Plan period. The tax structure had a narrow base and was inelastic. The tax revenue itself remained highly dependent on imports which were largely financed from aid and the indirect tax accounted for about 86 per cent of the total tax revenue. Although tax-system was quite elaborate, the collection of taxes was very low. The tax-receipts as percentage of GDP increased from 4·29 in 1973/74 to 7·90 in 1979/80 as shown in Table 1·5.

TABLE 1·5

Tax Receipts As Percentage of GDP
(At Current Prices)

(Tk in crore)

Year	GDP (At Market Price)	Tax	Direct	Indirect	Tax-GDP ratio (%)
1973/74	7,147	306·40	47·65 (16)	258·75 (84)	4·29
1974/75	12,307	534·22	105·65 (20)	428·57 (80)	4·34
1975/76	10,867	825·02	160·14 (19)	664·88 (81)	7·59
1976/77	11,075	769·15	142·18 (18)	626·97 (82)	6·94
1977/78	13,338	1057·45	204·64 (19)	852·81 (81)	7·93
1978/79	15,457	1265·29	242·78 (19)	1022·51 (81)	8·19
1979/80	18,206	1438·95	231·69 (16)	1207·26 (84)	7·90

NOTE: Figures in parentheses indicate percentage of total tax.

Growth of Sectoral Output

1.32 The Gross Domestic Product of the country increased by 44 per cent over the last seven years. In some sectors, output exceeded the 1969/70 level. The production performance in agriculture and manufacturing is discussed below.

1.33 *Agriculture* : The First Plan adopted the programme for attaining food self-sufficiency. The target for foodgrain production was fixed at 15·14 million tons as against an output of 10·02 million tons in 1972/73 and 11·92 million tons in 1969/70. Actual output in 1977/78 was, however, 13·11 million tons, 15 per cent less than the target. This gives an average annual growth rate of 1·1 per cent over 1969/70 level which is below the population growth rate. The country, as a result, became more import-dependent. In 1969/70, food import was about 1·55 million tons; it rose to 2·78 million tons in 1979/80, which was partly caused by the drought of 1979.

1.34 Besides natural disasters slow expansion of improved production methods explains the failure to attain the target of food self-sufficiency. Only around 11 per cent of land was under mechanised irrigation system in 1979/80 and only 56 lbs. of chemical fertilizer were used per acre of cultivated land. Between 1973/74 and 1979/80 distribution of fertilizer increased at an annual rate of 14·4 per cent against 16·3 per cent attained before Independence. It was projected that an area of 49.20 lakh acres of the total cultivable land would be under mechanised irrigation by the terminal year of the First Plan, whereas only 28·75 lakh acres was covered. Moreover, the distribution of seeds suffered because of bottlenecks in the procurement and delivery system. Supply of HYV seeds moved slowly; so, under the Two Year Plan, development programmes were undertaken for production, processing and storage of HYV

seeds. Liberal provision of short term credit expanded the scope for increased application of modern agricultural inputs but there were frequent supply constraints which limited timely availability of credits. The output of major crops is shown in the table below:

TABLE 1.6

Output of Major Crops

Item	Unit	1969/70 (Actual)	1972/73 (Actual)	1977/78 (Actual)	1979/80 (Actual)*
1. Rice	Lakh tons	118.16	99.30	127.64	125.39
2. Wheat	Lakh tons	1.03	0.90	3.44	8.10
3. Sugarcane	Lakh tons	74.00	53.18	65.90	65.70
4. Tea	Lakh lbs.	668.00	532.00	816.00	784.40
5. Jute	Lakh bales	71.71	65.14	53.59	60.00

* Fall in output of rice, sugarcane and tea was due to drought conditons in 1978/79 and 1979/80.

1.35 *Manufacturing* : There was slow recovery of the manufacturing sector. The index of manufacturing production (1969/70=100) which stood at 81 in 1972/73 reached the pre-independence level in 1976/77 and rose to 112 in 1979/80. It is apparent that most of the initial difficulties of the public sector were overcome towards the end of the decade, when the public enterprises, which had been losing concerns for a long time, started to return profit. The table below shows the performance of the major manufacturing industries in terms of output during the First Plan and the Two Year Plan period:

TABLE 1.7

Production of Selected Industrial Items

Item	Unit	1969/70 (Actual)	1972/73 (Actual)	1977/78 (Actual)	1979/80 (Actual)
1. Jute Textiles	'000' tons	561	446	547	523
2. Cotton Textiles					
(a) Yarn	Lakh lbs.	1,057	809	1,070	1,129
(b) Cloth (Mill made)	Lakh Yds.	599	584	845	924
3. Paper	'000' tons	31	23	29	31
4. Newsprint	,,	36	27	30	38
5. Sugar	,,	93	19	175	93
6. Fertilizer	,,	101	217	264	431
7. Cement	,,	53	32	332	434
8. Steel (ingot)	'000' M.Tons	54	68	111	133

1.36 The above table clearly shows that the performance of public sector industries was mixed. Cement, steel, sugar, fertilizer and cotton textiles achieved sizable growth in the first five years, while jute textiles and paper trailed behind the 1969/70 level. Further advances were made during the Two Year Plan period in cement, steel, fertilizer and cotton textiles while paper industries recovered its 1969/70 position. Jute textile, the biggest industry, however, failed to recover completely, mainly because of lack of world demand as well as decline in the share of Bangladesh in world trade.

1.37 There has been some resurgence in private investment since 1974 with the liberalisation of industrial policy. The estimated private investment in the organised sector rose from Tk. 140 crore in 1974/75 to Tk. 799 crore in 1979/80.

Employment

1.38 The First Five Year Plan envisaged expanding employment opportunities as a means to reduce poverty and improve income distribution. It aimed at creating enough new jobs not only to absorb all new entrants into the labour force but also to reduce the existing level of unemployment and under-employment. The increase in labour force was estimated at 0·39 crore man-years as against the planned target of 0·54 crore man-years so as to improve labour market situation.

1.39 In a country like Bangladesh where self-employment in subsistence argicultural and informal non-agricultural sectors is the dominant character, it is very difficult to make any precise statement about employment except in census years which do not necessarily coincide with the terminal year of a Plan. In 1974 there was a census on population. According to that census unemployment figure was 0·50 million in a population of 76·4 million. Previous census (1961) turned up an unemployment figure of 0·08 million against a population of 50·8 million. In between these two censuses, however, urban population as well as urban unemployment underwent changes. Based on these it is estimated that employment during the First Plan period increased to the order of 0·30 crore man-years which fell short of the actual growth of labour force. The gap between the increase in labour force and the growth of job opportunities could not but led to further deterioration in the unemployment situation. This shortfall is explained by the fact that investment target of the Plan could not be attained.

1.40 The experience in this area under the Two Year Plan is not much different from the First Plan period. Though the employment target was set at 18 lakh man-years to alleviate existing under-employment and unemployment situation, indications are there that unemployment situation has worsened and in the rural areas the number of landless and near landless people appear to have gone up.

1.41 It is only through a large Food for Works Programme that a rapid deterioration in employment situation could be avoided and distress in the rural area could partly be mitigated. Food for Works Programme was started in April 1975 with a modest quantity of 31·5 thousand tons of wheat in the aftermath of the devastating floods and famine of 1974. Since then, the programme has become a regular activity and grown in size and volume over the years. During 1974-75 to 1977-78, a total quantity of 73 thousand tons of wheat was utilised creating an employment opportunity of 26·4 crore man-days. The employment generation through this programme during the Two Year Plan period stood at 16·2 crore man-days against the utilisation of 45 thousand tons of wheat.

1.42 The 1979-80 labour force is estimated at 27·47 million. In view of the performance of the First Five Year Plan and the Two Year Plan, it is concluded that the unemployment situation at the end of 1979/80 was in no way better than what it was in 1972/73. In 1979/80, employment stood at 25·3 million leaving a residual unemployment figure of 2·17 million or about 8 per cent of the labour force on a head-count basis; there was in addition considerable under-employment due to crowding on limited land and seasonality and low cropping intensity of agriculture.

Price and Income Situation

1.43 One of the most disturbing features of 1970s was the world-over inflation. Bangladesh was severely affected by it because of her colossal dependence on imports for capital goods, basic raw materials and consumer goods. In case of few critical items of imports, the Government had to cushion inflationary effect through subsidies; otherwise, in general, the home currency was allowed to depreciate, leading ultimately to the devaluation of 1975, which made import very costly. Government also tried to contain inflation effect of devaluation by demonetizing currency notes of Tk. 100 denomination and calling a hault to deficit financing. Prices declined following the good aman harvest of 1975. But this trend could not be maintained for long and inflationary spiral re-emerged mainly due to frequent bad harvests and rapid monetary expansion at home, and due to continuing world inflation which made imported goods increasingly costlier. The overall price situation is largely explained by the fact that between 1973 and 1980 money supply increased by 148 per cent while GDP grew by 44 per cent at constant prices.

1.44 Prices rose by a much bigger margin than the money supply. Consumer Price Index rose from 181·5 (1969/70 = 100) in 1972/73 to 407·9 in 1974/75, but went down to 380·1 in 1975/76 following the good harvest. Since then, there has been continuous rise in prices and in 1979/80 the index reached the new height of 561·12. A broader view of the price situation by consumer classes is given in the table below :

TABLE 1.8

Consumer Price Index (1969/70 = 100)

Year.	Middle Class (Dhaka).	% Change.	Working Class (Narayangonj).	% Change.
1972/73 ..	182	..	205	..
1973/74 ..	252	38·46	286	39·51
1974/75 ..	408	61·90	419	46·50
1975/76 ..	380	(—)6·85	380	(—)9·31
1976/77 ..	382	0·53	366	(—)3·68
1977/78 ..	441	15·45	431	17·76
1978/79 ..	486	10·20	465	7·89
1979/80 ..	561	15·43	539	15·91

1.45 During the second half of 1970s, the price increase has been rapid in the field of agricultural commodities—food as well as non-food. Inflation plus short supplies of essential consume goods severely affected the standard of living of the masses. Both industrial and agricultural wages failed to keep pace with price level during the early years and real wages reached their troughs in 1974-75. After the good harvest of 1975-76 and due to the monetary and fiscal measures, improvement started to take place in real wages, but the recovery was slow such that in 1979-80 the working class had still a real income which was about 20 per cent below the 1969-70 level. The movement of real wage is shown in the table below :

TABLE 1.9

Trend in Real Wage Index (1969/70=100)

Year.	General Wage Index.	% Change.	Agricultural Wage Index.	% Change.
1972/73 ..	67·58	..	66·56	..
1973/74 ..	64·57	(—) 14·45	69·24	4·03
1974/75 ..	51·39	(—)20·41	58·40	(—)15·66
1975/76 ..	66·91	30·20	76·56	31·10
1976/77 ..	71·20	6·41	75·62	(—)1·23
1977/78 ..	66·74	(—)6·26	74·32	(—)1·72
1978/79 ..	75·74	13·49	80·95	8·92
1979/80 ..	82·45	8·86	84·33	4·18

1.46 The decline in the rural wages of the working population led to a further accentuation of poverty and degradation of material life of the common man. Given the internationally accepted minimum nutritional requirement, the monthly required income at 1963/64 prices was estimated at Tk. 37 per head to ensure the minimum nutritional intake. In 1963/64, 96 per cent of the rural households had income less than this standard; so alternative concepts of 'absolute poverty' as the income (Tk. 23·61 per person per month) needed to satisfy 90 per cent of the calorie requirement and 'extreme poverty' as the income (Tk. 17·02 per person per month) required to meet only 80 per cent of calorie requirement have been used. According to these concepts, 52 per cent of households and 40 per cent of population in rural areas were under absolute poverty level in 1963/64 ; the corresponding figures for extreme poverty level were 10 and 5 per cent respectively.

As against those, the 1973/74 Household Expenditure Survey shows a significant deterioration in the poverty level, both absolute and extreme, over the decade, 1963/64 to 1973/74. The table below indicates the extent of decline :

TABLE—1.10

Change in Poverty Level

	1963/64	1968/69	1973/74
(a) **Absolute Poverty :**			
% of Households :	52	84	87
% of People :	40	76	79
(b) **Extreme Poverty :**			
% of Households :	10	35	54
% of People :	5	25	42

SOURCE : Bangladesh Bureau of Statistics.

1.47 It may be mentioned that in 1973/74 the economy was still recovering from the severe setback suffered during the War of Liberation. The 1973/74 Household Survey would, therefore, give a rather dismal picture about the level of poverty ; but the trend towards continuous degradation of material life of the ordinary man was noticeable even prior to Independence, for in 1968/69 also the proportion of absolutely poor people was higher than in 1963/64 the percentages of households and population below absolute poverty level being 84 and 76 per cent respectively in 1968/69, and those in extreme poverty 35 and 25 per cent correspondingly. The 1975/76 Nutrition Survey of rural areas arrived at an extreme poverty level of 35 per cent of households while the absolute poverty level at 90 per cent of nutritional requirement was estimated at 46 per cent of households. The improvement in absolute poverty level is likely because of good harvest of 1975/76 and fall in the general price level. It must be stressed that the well-being of the rural population is generally highly sensitive to agricultural situation, while extreme poverty is determined by the holding of rural wealth.

1.48 The change in the pattern of land holding between 1960 and 1977 lends support to the above finding. Between these years the percentage of land held by pure share croppers declined from 1·11 per cent to 0·41 per cent, and their share in the number of farms from 1·63 to 0·56 per cent. With increasing population pressure on land, such decline would plausibly mean growing landlessness. The 1974 famine also accentuated this process. The result of this process is the 'growth' of extreme poverty. On the other side, the share of small farmers (holding less than 2·5 acres of land) in land rose from 16·25 to 18·75 per cent over the same period, while their number declined in percentage terms from 51·63 to 49·73 indicating thereby an improvement in their wealth holding and material well-being.

1.49 Not only that there was re-distribution of land, income and welfare between the income groups in rural areas but some changes in the relative position of rural and urban income distribution are also observed, in favour of the urban sectors. The Household Expenditure Survey brings this out, as shown in table 1.11 :

TABLE 1.11

Rural-Urban Income Distribution

(Average Household Income per month)

Surveys.	Rural.	Urban.	Rural Income as % of Urban Income.
1963/64	.. Rs. 148·3	Rs. 208·9	71·0
1973/74	.. Tk. 463·7	Tk. 629·5	73·7
1976/77	.. Tk. 679·9	Tk. 962·8	70·6

1.50 The urban-rural relative position was affected by two sets of forces, output and price. In 1973-74, agricultural output registered an increase over the preceding year; it was, in value added terms, 95 per cent of 1969-70 level while in case of industry the corresponding percentage was 88 per cent. Secondly the food price was also relatively higher favouring farmers in rural-urban terms of trade. In 1976-77, on both counts, the position was reverse. Industrial output was 109 per cent of the 1969-70 level against 101 per cent for agricultural output. In respect of price, the wholesale price index for agriculture rose by 21·7 per cent between 1973-74 and 1976-77 while that for manufacture rose by 30·4 per cent. In terms of harvest prices at which the farmers sell their staples, the position of farmers was still worse. The harvest price of aman paddy rose by 11·4 per cent only over the same period. Thus the 1973-74 improvement of the rural sector *vis-a-vis* the urban sector was washed away by subsequent events.

Balance of Payments and External Resources

1.51 *Balance of Payments*: The First Five Year Plan aimed at accelerating import substitution and expanding exports in selected areas. Total value of merchandise imports was projected at $7890 million and merchandise export earnings were projected at $ 4281 million at benchmark prices. After adjusting for invisible receipts and payments, net capital inflow to cover the export-import gap was projected at $ 3748 million. The Two Year Plan followed the same objectives—a faster increase in export earnings and import substitutions. Merchandise import payments were projected at $ 3461 million against the projected export earnings of $ 1220 million for the TYP period and the net foreign capital inflow was estimated at $ 2086 million.

1.52 A comparative picture of import payments, export earnings and foreign capital inflow during the First Five Year Plan and the Two Year Plan periods is presented in table 1.12.

TABLE 1.12

External Sector—Targets and Actuals.

[*In million dollars*]

Category	First Five Year Plan.		Two Year Plan	
	Projection (1973/78)	Actual. (1973/78)	Projection. (1978/80)	Estimated Actual (1978/80)
A. Import Payment ..	**7969**	**6239**	**3718**	**4219**
Capital goods ..	2650	1021	852	864
Intermediate goods ..	2673	2539	1930	1752
Consumer goods ..	1623	654	275	492
Foodgrains ..	729	1621	404	820
Invisibles ..	294	404	257	291
B. Export Earnings ..	**4575**	**2371**	**1467**	**1638**
Merchandise Exports ..	4281	2000	1220	1340
Invisible receipts ..	294	371	247	298
C. Net Capital Inflow ..	**3748**	**3285**	**2086**	**2206**

NOTE : Actual in current $

1.53 *Import Payments* Import payments during the First Plan period amounted to $ 6239 million at current prices as against the target of $ 7969 million at 1972/73 dollar Thus there was a serious shortfall in import, if increase in the unit value of import is taken into consideration. Import price index rose to 206 (1972/73=100) in 1977/78.

1.54 As can be seen from table 1.12 that there was considerable shortfall in the import of capital goods and consumer goods during the First Plan period. During the initial years of the Plan, raw materials were also in short supply due to scarcity of foreign exchange and high cost of imported materials, leading to idle capacities in import-dependent industries. With improvement in foreign exchange availability, largely because of improvement in aid, import of industrial raw-materials and spares was liberalised after 1975/76, but import of some of the important items like cement, raw cotton, yarn, coal etc, remained much below their projected level. Very little progress could be made in major areas of import substitution like petrochemicals, cement, cotton, and pharmaceuticals. Lower import of capital goods than projected only indicates a lower progress in the field of investment affecting both import substitution and export promotion programmes and contributing thereby to the balance of payment problems.

1.55 Actual import payment during the Two Year Plan is estimated at $ 4219 million which is 13 per cent higher than the projected level. The main reason was foodgrain imports which exceeded the projected level of import by 103 per cent to make up shortfall in agricultural output in 1978/79. Import payments as percentage of GDP rose from 15·15 in 1977/78 to 20·14 per cent in 1979/80 ; as against 10·35 per cent in 1973/74.

1.56 *Export Earnings*: Total export earnings during the First Plan period totalled $ 2371 million in nominal terms compared to $ 4575 million of planned expectation at 1972/73 dollar. In real terms shortfall will come to be much larger as, during this period, export price indices went up by over 46 per cent. The nominal rate of annual growth of export was 7·5 per cent. As percentage of GDP export rose from 4·12 per cent in 1973/74 to 5·69 in 1977/78. The shortfall was mainly on account of raw jute and jute goods. Export earnings from jute goods remained low because of depressed foreign demand as developed countries remained in recessions for most of the year. Export earnings from tea and leather exceeded the planned targets in nominal value because of price increase. A higher earning from the export of frozen fish, shrimps and frog legs was made possible through the development of processing plants and increasing availability of shrimps and frog legs for processing.

1.57 Export earnings during the Two Year Plan are estimated to have exceeded the projected level by 11 per cent in value terms. This is attributable to further increase in export prices and partly due to higher export of jute and jute goods. The increase in export earnings during the plan period was the continuation of the trend that began with the devaluation of Taka in May, 1975. Export earning as percentage of GDP increased to 6·14 in 1979/80 from 5·55 in 1977/78. Except little gains in the export of frozen food items, export trade remained lop-sided during the whole decade with jute and jute goods as the leading sector.

1.58 *External Assistance*: It has been pointed out earlier that the increase in domestic savings has not kept pace with the increase in investment ; the need for external assistance has consequently been increasing during the period under review. From December 16, 1971 up to June 30, 1980, the total amount of aid committed to Bangladesh has been of the order of $ 9161 million of which $ 2140 million was on account of food, $ 3163 million on account of commodity aid and $ 3858 million on account of project aid. Over the years aid commitment has changed in both size and composition.

1.59 In the first two years after Independence (pre-plan period), total aid committed was $ 1498 million and disbursement was $ 822 million. During the First Five Year Plan, total aid committed was $ 4707 million and disbursement was $ 3532 million which is about 75 per cent of the total commitment. Out of total aid disbursed, food aid was $ 1224 million or 35 per cent, commodity aid $ 1480 million or 42 per cent and project aid $ 828 million or 23 per cent.

1.60 During the Two Year Plan, total aid disbursed was $ 2252 million or 76 per cent of the total commitment. Of the total aid disbursed, food aid was $ 554 million or 25 per cent, commodity aid (including cash) $ 860 million or 38 per cent and project aid $ 838 million or 37 per cent.

1.61. During the initial years since Independence bulk of the foreign assistance was utilised mainly for consumption requirements, but gradually changed to import of industrial raw materials, spares and machineries. Project aid as a percentage of total aid disbursed rose from 27 in 1973/74 to 33 in 1977/78 and to 38 in 1979/80.

1.62. *Terms of Trade*: There has been a drastic deterioration in the commodity terms of trade of Bangladesh, during the initial years of the First Five Year Plan. Import price indices rose by 153 per cent following world-wide inflation as against increase in export price indices by 31 per cent resulting in the terms of trade decline to 52 in 1974/75 (1972/73 =100). However, Bangladesh experienced a modest improvement in her external terms of trade during the period from 1975/76 to 1978/79. The index of the terms of trade rose from 52 in 1974/75 to 76 in 1978/79. The improvement resulted from higher increase in export prices following persistant demand for jute and jute goods accompanied by small rise in import prices. But the situation was reversed in 1979/80 when the terms of trade declined to 63 (1972/73=100) due to a fall in the export prices of raw jute, tea and leather and a sharp increases in import price of crude and POL, wheat, cotton, fertilizer and other manufactured goods. The table 1·13 gives export and import price indices and the commodity terms of trade of Bangladesh during the period from 1972/73 to 1979/80.

TABLE 1·13

Terms of Trade for Bangladesh

(1972/73=100)

Year.	Import Price Indices	Export Price Indices	Terms of Trade
1972/73	100·0	100·0	100·0
1973/74	177·0	107·5	60·7
1974/75	253·0	131·2	51·9
1975/76	216·8	113·8	52·5
1976/77	221·2	133·7	60·4
1977/78	230·6	159·2	69·0
1978/79	266·4	201·6	75·7
1979/80	363·2	229·2	63·1

1.63 *Debt Service Payments*: Bangladesh has generally received external assistance as grants and soft loans. Debt service payments totalled $ 55·60 million in 1975/76 as against $ 17·50 million in 1973/74. In other words, debt service payments as a percentage of export earnings increased from 4·69 in 1973/74 to 15·14 in 1975/76. During 1976/77, debt service payments were reduced to 12·31 per cent of export earnings. After that debt service payments recorded upward trend despite debt relief provided by some donors. In terms of percentage of export earnings, debt service

payments increased to 14·53 per cent in 1979/80. Since export earnings of Bangladesh are low and there is considerable sturctural rigidity to expand export, careful management of external debt is important so to keep the debt servicing liability within a 'safe margin' and protect necessary imports. It calls for obtaining external assistance as grants and soft loans, avoiding hard loan, and persuading donors to cancel the debt liabilities of Bangladesh.

Management of the Public Sector

1·64 *Annual Development P.ogramme*: Since Independence, the public sector has come to play a dominant role in the economy of Bangladesh. Its scope has been widened by the nationalisation of major industries and by the objective necessity arising out of the fact that the private sector had been historically dependent on the support from the public sector. The size and composition of government development spending had, therefore, been extremely important in determining the rate of economic growth. The First Five Year Plan provided for public sector development expenditure of Tk. 3,952 crore in a Plan of Tk. 4,455 crore. The size of the public sector programme in the Two Year Plan was Tk. 3,261 crore out of the total planned outlay of Tk. 3,861 crore, showing a decline in its share from 89 per cent under the First Plan to 84 per cent; but the public sector retained its dominance. Total public sector development expenditure during the First Plan and the Two Year Plan period is estimated at current prices at Tk. 8,095 crore—Tk. 4,162 crore in the First Plan and Tk. 3,933 crore in the Two Year Plan.

1.65 The size of the Annual Development Programme increased at an average annual rate of about 31 per cent between 1973/74 and 1979/80. This is attributed to greater efforts for domestic resources mobilisation, and higher level of foreign aid inflow, and these in turn suggest growing strength of development administration also. The improvements continued at accelerated pace during the Two Year Plan period. The utilisation of ADP funds also showed considerable improvement. It stood at 66 per cent during the first two years of the First Plan and it increased to 96 per cent during the Hard-Core Period due to administrative measures and decentralisation of financial authorities. While the average rate of utilisation during the First Plan period was 84 per cent, during the Two Year Plan it improved to 91 per cent.

1·66 *Development Administration*: After Independence, the economic course was changed deliberately to a new direction. Accordingly, the major industries, bank and insurance business were natio nalised and one elaborate institutional system corresponding to functional re-organisation of the government into economic activities was created leading to the establishment of new Ministries and new sector corporations. But partly because of absence of experience in the management of a large public sectors and partly because of rapid sequences of historical events, the whole decade of 1970s witnessed a succession of administrative measures. Most important ones were brought about after 1975. These consisted of (i) restructuring of ministrial level activities into divisions so as to sharpen

focus on major problem areas of the national economy, (ii) decentralisation of financial authority and (iii) strengthening of planning activities in the line ministries. The main thrust was stepping up development activities. As a corollary to this, for effective monitoring of project implementation, the Project Implementation Bureau (PIB) was strengthened. Progress of development programme came to be regularly reviewed in the Council of Ministers under the Chairmanship of the Hon'ble President as the Executive Head of the Government. Under the decentralised financial rule the development agencies were allowed their first two quarters' release without reference to the Ministry of Finance. On the whole, the effect of these measures has been wholesome; this is reflected in the higher utilisation of development expenditure as a percentage of budget allocation which rose from 77 per cent 1974/75 to 89 per cent in 1979/80.

1·67 The implementation of development programme, however, still suffers from a few major problems. First, in spite of very substantial increase in development expenditure in aggregate terms, very few projects are completed each year due to the thinning out of resources over growing number of projects; that is, there has been no significant improvement in implementation time. Secondly, the present programming techniques is inadequate such that resources are inefficiently allocated until emerging bottlenecks force reallocation of fund or search for new resources. As the size of the development programme has a tendency to increase, shortage of fund often creates uncertainity in meeting the required fund for all the project and results in frequent reallocations. Thirdly, the project formulation and implementation have been less effective resulting in increased cost and unforeseen problems. However, certain measures have been initiated to improve the situation through revising the procedures for processing of development projects to facilitate quick implementation of projects. As per the modified procedures, the sponsoring authority can now sanction schemes/projects costing upto Tk. 200 lakh. At the level of the Planning Ministry, the financial limit for approval has been enhanced to Tk. 500 lakh and schemes above Tk. 500 lakh will require the approval of the Executive Committee of the National Economic Council. Although this decentralisation has improved the decision-making process, it also poses problem for allocative efficiency. Allocative efficiency may suffer because overall programming and monitoring are separated into two organisations. Another source of weakness of the current planning process is the dichotomy that exists between allocation of local resource and administration of aid, which do not necessarily follow their logical sequences. Extreme dependence of development programme on foreign aid has led to aid-directed programme which distorts priorities as well as choice of technology. It is felt that the Planning Commission should effectively be involved in the process of aid negotiation.

1.68 To sum up, the development efforts of 1970s have injected resilience into the economy in spite of their short-coming. While in some areas failures were visible, in other respects new experiments were carried out successfully during this period such as in rural development and mass participation programmes. There is no doubt that they paid of substantially even during the short period they had been under experiment, for there has been faster growth in agriculture since 1975/76 than in the pre-independence period.

CHAPTER II

OBJECTIVES AND STRATEGIES OF THE PLAN

OBJECTIVES OF THE PLAN

The objectives of the Second Five Year Plan (SFYP) have been formulated in the context of overwhelming problems of poverty, unemployment, illiteracy; and malnutrition of the mass, mostly living in the rural areas. In the past high growth rate of population on the one hand and slow growth of the economy on the other have rather accentuated these problems over time. About 85 percent of people now lives under condition of absolute poverty; 74 percent of them cannot read and write and about 33 percent of labour force have no work. The problems have become endemic in character. If the current trends continue, the number of absolute poor will rise to 113 million by 2000 A. D. and syndrome of poverty will spread like a mushroom. Even the magnitudes of the existing problems are so massive that a long term perspective for their eventual solution is necessary. The Second Five Year Plan is only a step in that direction. Because of severe resource constraint the Plan expects only humble success in its time period and will strive hard to turn the tides of growing economic malaises. Its objectives have been envisaged in the need for a broader framework of a long term perspective. Aware of the limits, the objectives of the Plan are defined as follows :

(i) To ensure an equitable growth in order to bring about a noticeable improvement in the standard of living of people by ensuring adequate supplies of the basic needs;

(ii) to reach self-sufficiency in food in the shortest possible time;

(iii) to expand opportunities for gainful employment so that people have access to income and resources for their basic needs and to benefits of growth;

(iv) to eliminate illiteracy and achieve universal primary education as steps for comprehensive human resource development;

(v) to reduce the rate of population growth;

(vi) to promote participation of people in development activities through devolution of administration and development of local institutions; and

(vii) to attain a higher degree of self-reliance through domestic resource mobilization effort and improvement of balance of payment position.

2.2 The main focus of the Plan is on the reduction of poverty through growth of income and employment. The socio-economic picture of Bangladesh is clearly reflected in the world economic atlas in which she appears as one of the poorest countries. Her per capita annual income is US $ 100 only; even if her national income were equitably distributed, it could hardly afford every individual a decent living. Poverty is so endemic and ubiquitous in Bangladesh that over three-fourth of the population cannot afford to meet the minimum dietary requirements. There has been, at the same time, a decline in the per capita availability of many daily essentials like cereals, fish, protein, milk and pulses. Because of inflation the poorer section of the population who earn their livelihood usually as wage-labour suffered the most. An unprecedented world inflation further stifled the absorptive capacity of the mass. There was not only less of essential goods available per

head, but also less purchasing power in the hand of the common man. During Seventies, the whole economy was in a difficult process of adjustment and had to largely rely on consumption and production subsidies. Underlying this policy of subsidisation is the apparent concern of the Government for people's welfare, but welfare cannot subsist without improvement of the economy as a whole.

2.3 As the economy grew slowly, there was a further deterioration of the unemployment problem during 1970's. Over a third of the working population is unemployed and underemployed. It is rather a paradox of poverty that in spite of large unemployment, children who are otherwise supposed to be in schools do work in various fields. The problem is most acute in rural areas where agricultural land constitutes the main economic asset. Agriculture has generally received disproportionately low allocation of development found; even its share declined historically in 1970s. As a result, the new agricultural technology which is potentially labour-intensive could not expand as fast as the rural labour force. On the contrary, as the priority of claims on such limited resources followed generally the existing distribution pattern of rural wealth, there was further concentration of wealth and correspondingly, further deterioration in rural landlessness and unemployment. Urban squalor is only a reflection of a deteriorating quality of rural life. Though there was some improvement in mid 70's, the trend could not be maintained and overall economic condition of the poorer section tht small farmers, share-croppres and landless labourers, remain well below the 1969/70 level.

2.4 In a general way, the progress in all the sectors of the social life was inhibited by the sluggish growth of the economy. Very little could be achieved in the field of mass literacy, housing and health. Barely one-fourth of the population is literate and less than two-thirds of the children of the age between 5 and 11 years have access to primary education. These proportions in the rural areas are far less. In short, the rural areas where over 90 percent of people still live, constitute a tragic state of mass poverty, unemployment, illiteracy and malnutrition.

2.5 The central theme of the Second Five Year Plan is, therefore, the reduction of poverty by a significant extent, and creation of such conditions as would help completely eliminate it in an objective way by the end of the century. The ultimate purpose is to significantly improve the quality of life of the common man. As a necessary condition, the economy would have to be taken progressively to a higher level of income and employment. In the context of our social and economic conditions, our development potentials and constraints, the main emphasis of the poverty-oriented strategies is the development of the rural sector where the overwhelming majority of the population live and poverty is endemic, even though it is this sector where tremendous potentials of growth is yet untapped and the three bounties of nature—land, water and man, are in waste. It is a long story of colonial philosophy of life and culture which led to disproportionately more investment for urban comfort to the dire neglect of the rural population. The Second Plan will, therefore, attempt at bringing about a decisive change in the pattern of growth inherited from the past by focusing on rural development which constitutes the core of the Plan. All other development objectives and strategies will be built around this core.

2.6 Rural development will be all comprehensive of economic, social and cultural life of people and will include actions in the field of education and health care also. But because the foundation of welfare is output, the corner stone of rural development will be agricultural development, which in the short run such as that of the Second Five Year Plan will act as the prime mover of economic prosperity of the rural areas. The strategy

for agricultural development will be to broaden the modern technological base for rapid transformation of the traditional agriculture. To attain this not only adequate resources will be made available to the rural sector but also an equitable share in the resources and economic benefits should be ensured to each group comprising the rural community. Since access to resources is largely influenced by the existing pattern of asset ownership in the rural areas, a viable distribution system and the necessary political condition should also be developed along with allocation of resources. There exists at present significant inequality in the ownership of wealth in the rural areas which interferes not only with the equitable distribution of income but also with opportunities. It makes a poverty-oriented strategy difficult to realise its objectives. While inhibiting productive energies of the mass, there is no question that social justice will demand a more equitable distribution of wealth, income and opportunities during the Second Five Year Plan.

2.7 In order to ensure that the poor have access to their basic needs, a poverty-oriented strategy will require spelling out in detail the strategies for employment generation and human resource development. A traditional approach to employment creation without such technological support as will help them increase productivity and earn enough to have command over the basic needs of life is not adequate. The human resource has to be developed to ensure a reasonable level of income to workers. It will consist of both widening and deepening of the technological knowledge and skills of the mass and substantiation of labour with improved technology.

2.8 It will also be necessary for the success of the programme to take adequate measures in the field of production planning. The Second Plan should expand the supplies of daily necessaries such as food, clothing, health services, drinking water and housing and education materials. In recent years, many of these supplies have suffered in per capita terms, and in terms of imbalance between demand and supply, the quantity involved being very large. The Second Plan will make this up as well as ensure adequate supplies so that there is significant improvement in the consumption standard of the common man.

2.9 In the past, whatever little attempts were made to provide relief and succour to the rural people through various programmes, they suffered frustration as a result of rapid growth of population. The present rate of population growth is around 2.5 per cent a year. On the face of this growth no amount of development efforts can appreciably improve the standard of living in the rural areas in foreseeable future. For the success of planned development it is a must that population control be simultaneously pursued with a priority as equal in importance as rural development. In fact population control will constitute an essential lever of rural development such as that the rural households are involved in it as a community.

2.10 In order to accelerate the pace of rural development and retain as much benefit of it as possible for the rural community, the Second Five Year Plan will initiate the development of a chain of rural industries and service centres in support of the rural sector. These industries will provide inputs and services to agriculture, process agricultural raw materials, and manufacture goods to meet the demand of rural households. Service centres will provide facilities for workshops, technical training, demonstration of methods and technics, processing, marketing, storage and credit.

2.11 The emphasis on rural development will help the country realise maximum benefit from development since such potentials in the rural areas are much more than they were traditionally perceived in earlier planning process. It will help accelerate growth with less demand on conventional resources and thus will enable the country to pursue a course of self-reliance.

STRATEGIES OF THE PLAN

Strategy for Rural Development

2.12 The aim of rural development is to bring about an all round improvement in the quality of rural life both material and cultural. It will include widening the production and technological base of the rural economy and expanding public services in the rural areas such as primary education, health services and transport. The success of the rural development strategy will, however, depend on successfully containing the problem of population on the one hand and providing opportunities for productive employment of family labour including women on the other. The task is undoubtedly massive and so it will require a combined effort of both people and the Government. In the democratic setting, the prime mover of rural development will, in fact, be the people themselves, while the Government will act to complement local efforts with financial and technical supports and with such other inputs as may be locally missing. Initiative of local people will be encouraged to evolve a framework of grass-root planning and implementation. It is recognized that a plan cannot be considered a success unless people deem it so.

2.13 The present involvement of the Government in the rural economy is minimal and largely indirect. The economic activities are entirely in the hands of millions of farmers and petty businessmen, spread over 68 thousand villages. They belong to a national economy only in the sense of statistical aggregate; otherwise they are now on their own living at subsistence level. The indirect role so long played by the Government such as through input supplies has been so ineffective in relation to the nature of the problem and the direct involvement of the Government so insignificant that the pattern of rural life has not changed much over the last three decades since partition of British India. To overcome this inherited colonial inhibition, devolution of Government administration down to the thana level has already been decided. As a result, at the thana level economic activities of the Government will have better coordination. In addition, Thana Administration will initiate and undertake development programmes of local importance with resource support from the Central Government.

2.14 To ensure people's participation in the development process, local level organisations will be encouraged to evolve on a spirit of self-help. Such organisations will also provide a system for efficient use of voluntary labour in various fields of the rural life, not only in production but also in community development. The Government role here should be one of moral leadership, guidance and acquiescence. In the past, all efforts for rural development failed for lack of support of rural institutions. Though motivation and enthusiasm among people were not lacking, the approach to rural development, which was top-down, not only failed to appreciate the felt-needs of people but also inhibited their initiative. The Plan emphasizes building grass-root level production organisations among the target groups to promote a back-to-back relationship with Thana Administration in order to reflect felt-needs of people in official policies and programmes.

2.15 An important area of rural development will be the development of human resource in rural areas. The necessary condition to satisfy this is to raise, by a significant margin, the rate of literacy. Primary education will hence be an urgent concern of the Government and will be made compulsory during the Plan period. Along with it, the present productive labour force will also call for emphasis on adult education and so the non-formal education system will be strengthened through the development of Community Schools.

Strategy for Agricultural Production

2.16 The Plan seeks to achieve a rapid growth in agricultural production and productivity. Without rapid change in agriculture there can hardly be any rural or national development in Bangladesh, nor can there be any significant reduction in poverty or unemployment. All efforts at institutional changes, land reform, local level organisation, regional planning, etc., will be geared to provide the thrust to raising agricultural production. While self-sufficiency in foodgrains at a higher level of per capita consumption is a major objective of the Plan, a more balanced diet of the mass will also be aspired after through substantial increase in the production of oil-seeds, pulses, vegetables, fish and poultry. A land use plan for various crops and purposes is not immediately envisaged but it will have to be considered as yield increases are achieved and stabilished.

2.17 Agricultural production strategy will seek to ensure proper institutional changes and appropriate policy measures relating to the supply of inputs and supporting services, *viz.*, irrigation, water, fertilizer, pesticides, improved seeds, credit, extension service, price-support measures and marketing facilities.

2.18 The main thrust in the agricultural production programme will be increased irrigation coverage combined with expanded cultivation of HYVs of rice and wheat supported by intensive management. Irrigation coverage will be doubled during the SFYP, with emphasis on minor irrigation projects (such as LLPs, DTWs and STWs) and full capacity utilisation of existing and proposed irrigation facilities and provision of supplementary irrigation during Aus and Aman seasons. Area under HYVs of rice and wheat will expand substantially, and fertilizer use will double during the SFYP. Availability of fertilizer, critical as it is, will be ensured not only by making better utilisation of capacity of existing fertilizer plants but also by setting up of new plants at an early date and by planned imports. Better and massive use of organic manures will also be introduced. Seed multiplication and storage facilities, both in public and private sectors, will be part of the production plan. Credit facilities will be increased not only by making greater allocation of funds, but also by administering it better so as to ensure better recovery. A major effort will be made to ensure adequate marketing facilities including transport and storage without which increased production will generate serious problems of disposal. Subsidies to inputs will be reduced on a planned basis with a definite time-table for drastically reducing them within the next five-year period. Efforts will be made to initiate production of most of the inputs required for agriculture and rural development including fertilizer, implements and tools.

2.19 Proper incentive prices for important agricultural commodities will be maintained. Procurement and storage efforts will have to be greatly improved. Adequate bufferstock will be built up to tide over the difficulties of lean periods and a marketable surplus should be sought after by gearing production of essential items. Consistent demand management will be undertaken, and the rationing system will be eliminated progressively. General subsidies on fertilizer and other inputs will be selectively applied as a well-planned promotional efforts. Prices of major food items such as rice, wheat, edible oil, sugar, baby food, pulses, fish, poultry, etc., may have to be stabilized through appropriate pricing, distribution and production policies. Food policy will be properly integrated with the agricultural programme as output of food and its price influence other productions such as jute, sugarcane and pulses and oil seeds.

Strategy for Institutional Framework for Local Level Production Planning

2.20 The Plan sets high targets for foodgrains and other agricultural crops like jute, cotton, sugarcane, pulses and fish. Because agriculture is primarily privately owned and managed, in the past the government had tried to induce its modernization by providing extension services, training, subsidized inputs and credit to the farmers. This strategy is not considered sufficient to generate a real break-through in the rural economy. Optimum use of modern inputs along with land, water and labour cannot be made because land is owned in small plots by the majority of the farmers; a large proportion of farmers even do not won any land but work as share-croppers, while land is owned also by those who are not farmers. Modern agriculture requiring higher cash investment and producing more for market involves risk which small farmers and share-croppers cannot generally afford to undertake. Thus production and land use plan cannot be left to individual farmers as such. It is not, however, necessary to interfere with the ownership of land; what is intended is to influence land use and production plans at village level indirectly by price policies to ensure its best use. It cannot be ignored that land is the most scarce resource in Bangladesh and its proper development and utilization to ensure effective employment of the rural labour force and higher output is a necessity for the success of the Plan. Positive steps will be taken to provide an institutional framework for production and employment planning at the local level and ensuring better use of land, water and human resource. It is recognized that local level institutions for promotion of production, employment, voluntary consolidation of holdings, etc., for more efficient use of land cannot emerge readily without official support and legal recognition to necessary changes.

2.21 The local institutions will also encourage and organise fish, poultry and livestock development. Employment of the village landless will receive particular attention of the local organisations. Such organisations will face initial problems and can be perfected through a gradual process to encompass the rural life, concerned not only with production but also community services like health and education, population planning and human resource development.

2.22 To sum up, the strategy for attaining the agricultural targets will consist of strengthening the technological base, establishing grass-root level organisations for planning and implementation and channeling spent-up human energy through such organisations. This will be assisted by the parallel programme for supplies of modern inputs, price support policies, improvement of marketing facilities and a programme for infrastructure building.

Regional and Spatial Planning Strategy

2.23 Regional Planning is essential for comprehensive rural development as well as balanced regional growth with meaningful dispersion of industries, cash crops and other economic activities. The nation is to be divided into meaningful economic regions and sub-regions on the basis of the economic and physical characteristics of its various components. The characteristics of production, marketing and distribution channels, transport modes, river system, physical features, etc., influence the formation of these viable economic regions. Each region will have to undertake planning for its socio-economic development. The union may be considered as the primary unit for regional planning. Between the union and the nation, it is possible to develop thana as the most important planning unit and then move up to districts whose sizes may be suitably reduced. The Plan intends to initiate action to develop comprehensive regional plans.

2.24 The national targets of production will be disaggregated into regional targets to ensure agricultural commodity specialisation by region, taking into consideration the soil and other resource endowments of various areas. The scope of regional planning will ensure such regional specialisation on an efficient basis. Moreover, input and service packages for such regional commodity specialisation will be synchronised in the regional plans.

2.25 Population and possible economic activities within the geographic area of a Thana seem reasonable enough to commission a primary industries-*cum*-agro-service centre at its best located place defined by socio-economic parameters. Each Thana (or reconstituted Thana) will have an industries-*cum*-urbanisation programme within an overall Thana Development Plan based on local supply of agricultural raw materials and other resources. These programmes will also provide for inter-region and inter-industry linkages. It will be a major task of the planners to indentify the Thana level viable agro-based and agro-supporting small and cottage industries. The Government may initially assist establishment of these industrial concerns at the appropriate centres, organising them as co-operatives of producers and helping them in management, marketing and credit, but will gradually withdraw when their viability has been established. The Thana level growth centre will be organised within the framework of a hierarchical system of regional and sub-regional industrial-*cum*-urban centres and complexes, and connected with the major urban centres and major ports through fast domes of transport.

Industrial Development Strategy

2.26 The medium-term industrial strategy is to provide the necessary support to the rural sector. As such it has been built around the agricultural development programme. The main emphasis is, therefore, on agro-support and agro-process industries. To ensure that the benefit from the growth of agricultural income is fully enjoyed by the rural sector, special impotance will also be given to the development of consumer goods and service industries in rural areas. All these industries will be developed at close proximity to the rural communities so that there are increased employment opportunities in the rural areas. Development of a chain of growth centres in rural areas where all public utility services can be economically made available in the interest of rural industries and rural communities will be the hall-mark of the Second Plan.

2.27 An important objective of the industrial strategy is to create optimum possible employment opportunities. Development of rural industries is an obvious way of attaining this goal. In general these industries will be more labour-intensive than otherwise. But along with the number, the productivity aspect of employment will require serious attention so that labour wage is sufficient enough to enable the worker to have effective command over their basic needs. The technological improvement of cottage and small industries along with agriculture is thus a necessary condition for the success of the rural development strategy of the Second Five Year Plan.

2.28 Though in the short-run the emphasis on agriculture, where large potential is yet untapped is a rational choice, it cannot be overlooked that the long-term economic interest of the country lies in the acceleration of the pace of industrial development such that there is the necessary structural change for sustained economic growth. With foreign debt accumulating, Bangladesh has also to develop an outward-looking industrial system. To meet these ends, the industrial base will require to be further deepened with greater emphasis on the development of metallurgy and engineering industries. There is, however, no question that each and every step in this direction has to be cautiously taken for maintaining harmony with the development of local technology and human skill.

2.29 The implication of the rural-bias of the industrial strategy is obvious in that under the Second Plan there will be greater scope for investment by the private sector. The liberalisation of the industrial policy since 1976 has already created some favourable effects on private investment. It will, however, be necessary to complement private initiative by further measures in the public sector, particularly by improvement of utility services and strengthening public sector enterprises so as to improve their linkages with the private sector. A crucial issue for a further progress of the Industries Sector, both private and public, will be the capital-labour relation. There is no doubt that with the growth of modern industries, organised labour force will play an important role in industrial development, influence its course and affect its success and failure; therefore a more enlightened policy towards the organised labour will have to be followed during the Second Plan period. The elements of such a policy will be the workers right to bargain collectively, provision for labour training and their participation in management. But such an enlightened industrial labour policy must avoid dualism in technology and in labour market through corresponding development of rural skill and technology.

2.30 The continued energy crisis casts a gloom on the economic prospect of non-oil producing developing countries as modern technologies in industries, agriculture and transport happen to be predominately energy-based. Prime movers in industries and transport are run on oil or electricity, and the required transformation of the traditional agriculture into a commercial agriculture has also come to depend on a high-energy technology. Fertilizer-HYV-water technology uses far more energy than the traditional agriculture. Thus the economic development will be vulnerable and uncertain so long as energy crisis continues, unless low energy alternatives to meet development needs are quick developed.

2.31 Bangladesh faces a serious problem due to energy crisis in the immediate term. Not only energy crisis is likely to thwart her efforts for food self-sufficiency and economic progress, but there is also the threat of world food surplus becoming scarce if it is used as substitute to transport fuel in developed countries. If this happens, world food gap will widen and the energy crisis will degenerate into a crisis of survival for the food deficit countries. This makes determined effort for reaching food self-sufficiency in the shortest possible time all the more important for Bangladesh.

2.32 In Bangladesh, as in other developing countries, energy demand cannot but grow rapidly. Though currently Bangladesh consumes about 100 kg. of oil equivalent energy per capita of which about two-third comes from traditional sources like firewood, cowdung, straw and husk, etc., yet her import-bill for fuel accounts for ever 50 percent of her foreign exchange earnings. Therefore, the energy strategies of the Second Plan consist of development of local energy sources like gas and to switch from the use of oil-based prime mover to electric ones in irrigation along with use of gas for electricity generation. But in view of the fact that electrification is capital intensive and scale-dominated, only a small fraction of the total power demand in irrigation and elsewhere as in small industries and transport can be met through electrification. Most of pumps and tube-wells and transport will continue to be dependent on imported fuel. Therefore, simultaneously with electrification, efforts should be directed to harness such natural endowments as solar and wind energy for the furtherance of agricultural development and develop low energy technologies for use in various other fields of the economy. The energy policy is directed towards development and use of low energy technologies, making more use of renewable energy and substitution of local energy for imported fuel to the extent as technology will permit.

Strategy for Balancing Public and Private Sectors

2.33 For rapid economic development the balance between public and private sectors has been determined on pragmatic considerations. In all cases where public ownnership is retained, efficiency must be increased through improving management, allowing decentralised decision-making and ensuring economic pricing on the part of the enterprises. Success in management is to be rewarded through appropriate incentives, while inefficiency and poor performance will be retributed. Professionalism in management will be an important element of the public sector strategy to pursue.

2.34 While social direction of private enterprise in certain fields may be necessary to safeguard public interest, in all fields where private enterprises had performed satisfactorily, *viz.*, small-scale business, agriculture and transportation, private enterprise will continue to be the main lever for development. In particular, small entrepreneurship will be encouraged through extension, inputs supply, credit and marketing facilities. Emphasis will be placed on developing a capital market through appropriate policy measures so that there can be a better mobilisation of resources for productive enterprises, in particular private resources from abroad.

Population strategy

2.35 In spite of great efforts by the Government in the past, a fast growing population remains a serious problem for Bangladesh. In such mass-oriented problems like population control, a quick breakthrough is also hard to expect. The problem is complicated by illiteracy and the conservation of a traditional society. But in view of the critical nature of the problem, a robust effort shall have to be made during the Second Five Year Plan period.

2.36 So long the main emphasis had been more or less on the delivery system, but a real breakthrough cannot be achieved without motivation and participation of the community. One of the focuses of local level organisations is to create this condition during Second Plan period. Along with this, the delivery system will be further strengthened and the entire system of incentive will be explored such as inducements for late marriage and preferential treatments to small families. Some of these will be tested on a selective basis. Population control programmes will be meaningfully integrated with health services with a view to increasing the effectiveness of these programmes and enabling family planning activities to use the existing overheads and infrastructures of the Health Division. Such integration will augment the resources at the disposal of the population control programmes. Population programmes will be under constant evaluation and the most effective methods of significantly reducing the growth rate of population will be pursued with great zeal.

Strategy for Education

2.37 It is considered that the objectives of attaining a better quality of life for the mass can be realized, if the population is literate. The ability to read and write is an important asset of man in modern life. It helps in better understanding of one's problems efficient use of modern inputs in farming, transaction of business, cooperatives, land management, use of family planning devices and above all, in the use of democratic rights of a citizen. Universal primary education is thus a precondition for modernisation and growth.

2.38 Along with primary education, removing illiteracy from the country is considered as an important strategy for social and economic development of the masses. Since resources are limited, there cannot be simultaneous increase of investment of public funds at all levels of education. It is necessary to economize the use of resources with greater emphasis on efficient use of facilities, confining higher education to the meritorious students and making the private sector pay more for higher education. Thus, the expansion of primary and mid-level technical education at public cost, along with increased dependence on the private sector for higher education, is recommended as a strategy for the Second Five Year Plan.

Employment Strategy

2.39 As has been already argued, a strategy of production of basic needs must be matched by a viable strategy of employment generation and human resource development so that the poor may have access to their basic needs, but there is a large volume of unemployment and under-employment of labour force in the country. The growth of employment during the First Five Year Plan and the Two Year Plan has not kept pace with the growth of the labour force, because the economic development could not proceed at the pace as desired. As a result, the extent of unemployment and under-employment intensified during 1970's. In the past, employment goal has been generally derived as a by product of investment strategy; thus it did not receive as much priority as it should have as a national problem. Contrary to it, a comprehensive employment strategy is the keynote of the Second Five Year Plan and productive employment generation will be its overriding objective which is reflected in all programmes and projects. The focus of employment is the rural sector.

2.40 A large increase in employment in the Second Plan is envisaged in agriculture. This will materialise partly through increasing cropping intensity and expansion of high yielding varities of crops which require substantially more labour inputs than traditional varieties. Fisheries, livestock and forestry will also contribute to a significant increase in employment. Infrastructure building, specially in the rural areas through the sectoral programmes, in addition to the Rural Works Programme and the Food For Works Programme will promote a sizable increase in employment.

2.41 As a part of the strategy for productive employment, there iwll be a selective promotion of appropriate technology in fields of directly productive sectors, through research, adaptations and diffusion of improved machinery and equipment and assisting potential entrepreneurs with credit, inputs, technical training and marketing facilities. Whether in agriculture or in industry, there is need for technological transition from back-breaking work to comfort of labour. Introduction of new skill and ideas will influence the outcome. Thus, the essence of the strategy is to remove the hindrances from the path of the hard working and honest small farmers and entrepreneurs and substantiate their labour with higher skill and equipment and better infrastructure facilities.

Human Resources Development Strategy

2.42 A strategy of human resources development thus becomes a precondition to the strategy of employment generation. The essential elements of the human resources development strategy are skill formation and raising the technical capacity of the population through education and training, research and extension, and an institutional set-up with appropriate linkages between all these elements. It has two sets of needs to respond. Besides those receiving formal education, there is the existing labour force in rural and

urban areas whose technical skill needs to be upgraded. As they are either engaged in productive activities or are age-based and so ineligible for formal education like the school drop-outs and adult illiterates who have very little productive skills, wide-spread non-formal programmes of skill training will be organised for these groups in which literacy will also form an essential part. These non-formal programmes will be effectively linked with productive activities like agriculture, animal husbandries, rural industries, transportation, trade and services. Particular stress will be placed on non-formal programmes, on-the job training, training for self-employment and development of small entrepreneurship.

2.43 It is also envisaged to set up a network of institutions to be termed "Community Schools" which will provide effective linkages between the structures of formal and non-formal education and make both mutually reinforcing. The "Community School" will be an existing secondary school designated as such, which will actively encourage participation of the community in school activities through establishment of teacher-parent associations and curriculum advisory committee comprised of progressive farmers, locally available experts and local leaders. The school will also actively participate in community development projects to instill a spirit of community involvement. While the community schools will provide formal training to its students, its resources, physical and human, will be fully utilised with appropriate supplement from other sources to provide a range of programmes of non-formal education and training for adults. Officially organised training centres for non-formal programmes are at present lacking below the Thana level; the Community School would fill this important gap and make such training facilities available at the Union level. With growing tempo of rural development, community schools may extend to villages eventually.

2.44 Research is absolutely essential in any programme of human resource development; so the Second Plan will provide adequate resources to appropriate institutions for carrying out applied research which has a bearing on development. This will cover agronomy, farm management, small industry, "appropriate technology", employment, marketing and many other areas. The Second Plan will ensure that research results which prove to be economically viable and promise sufficiently high returns on investment are translated into practice through extension and appropriate governmental policies. In the Second Plan a system of extension based on the "Training and Visit" system which has been introduced in the North-Western region of the country will be further developed, not only for application to agriculture but to small industry, health, population control and few other areas as well.

Resources Mobilization Strategy

2.45 Currently Bangladesh is dependent on foreign aid for nearly 80 percent of its development outlay. Our exports pay for only a third of our imports. This overwhelming dependence on foreign aid has had several undesirable consequences. The main problem is that it results in a compromise of the interest of the country with those of the suppliers. It has also serious effect on the choice of technology, because donors including international agencies tend to set high standards. Heavy dependence on aid prevents realistic annual programming of development activities. For all these reasons, reducing our dependence on aid by mobilization of a greater amount of domestic resources and increasing our export earnings must be important element of our long term strategy. Import substitution to the maximum extent possible, reduction of import of luxury items and more productive use of remittances from the citizens of Bangladesh abroad, are necessary to achieve self-reliance.

2.46 Resource availability can be increased by eliminating or reducing expenditures on subsidies to consumption and on agricultural inputs like irrigation water, fertilizers, etc. But these may have undesirable effect on consumer welfare and output objectives; therefore, careful use of these fiscal options will be necessary during the Plan period. Resource availability can also be augmented significantly if management and capacity utilization of nationalised industries are improved and they are allowed to charge competetive prices. A necessary prerequisite for price freedom is, however, to create cost-conciousness in the public corporations to eliminate wastage and improve efficiency. Sizable economy in the resource use can also be achieved through holding down the expenditure on public administration while improving the quality of services. Further, there is considerable scope of mobilising resources out of existing taxes through improvement of tax collecting machinery and through imposition of taxes on untaxed and unearned incomes.

Strategy for Price Stabilisation

2.47 1970s has been a decade of inflation and Bangladesh has not been an exception to that. This has a destablising effect on the economy, affecting saving, growth, investment, employment and welfare in general. Though the First Five Year Plan recognised price stability as a precondition for realising its socio-economic objectives, the inflationary situation of 1970s frustrated them all. Although inflationary pressure is still continuing, effort will have to be made to maintain a reasonably stable price level during the Second Plan period. It is recognised that in a developing economy, it will be an illusion to expect an unchanging price level. The very process of growth and structural rigidities of the economy are bound to bring about some inflationary pressure on the economy. An economy dependent so largely on imports, cannot also insulate itself from the effects of global inflation. In fact, changing price is an instrument for efficient allocation of resources. So what will be strived under the Second Plan is to contain inflationary pressure within limit and to ensure that the cost of it is not disproportionately borne by the weaker section of the society.

2.48 The methods to contain inflation will consist of maintaining saving and investment in equilibrium through austere budgetary policies, emphasizing investment in self-liquidating and quick maturing projects, ensuring adequate supply of essential commodities through increased domestic production and import, encouraging a competitive system of distribution, and resorting in a selective way to price regulation in cases of essential items of common man's consumption.

Long-Term Perspective

2.49 It is recognised that planned development is a continuous process. The Second Five Year Plan is only a step in this process. As Bangladesh faces many a critical problem with too little resources a long-term perspective is necessary in order to overcome its socio-economic malaises. A medium term plan like this one is hence to be viewed as an integral part of such a Perspective Plan. In this respect, one of the measures of the success of this Plan should be how it accelerates the growth process and makes easier the transition to a sustained growth over long term. Thus, though the main emphasis of the Second Plan is on short-term gains in output and employment so as to significantly reduce the level of poverty in the country, the Plan also duly emphasizes the need to improve the basic structure of the economy for its sustained growth.

2.50 The Plan is, however, severely constrained by limited resources to lay an elaborate structure needed for a faster growth. Only basic minimum requirements have been provided in the Plan. The main emphasis in this respect is on the development of of physical infrastructures and natural resources base, rural electrification, mass literacy and human resource development, development of local institutions, consolidation of heavy industries base as already laid down and creating engineering facilities at rural level.

2.51 The Plan is based on a simple framework of inter-industry relationship of commodity flows so as to achieve its main objectives of the material balance between demand and supply. Many other essential dimensions such as balanced regional development, technological options and manpower supply are to be fully explored in the process of executing the Plan. As these are basic issues in planned development, a planning technique solely confined to the commodity plan could hardly be sufficient for a balanced regional development or for transition of the traditional economy of Bangladesh to a higher level of technology. These are some of the serious limitations of this Plan. A future Plan will need to integrate spatial, technological and manpower planning with a production plan for a harmonious development of the society.

CHAPTER III

PLAN SIZE, TARGETS AND SECTORAL ALLOCATION

Plan Size

While endemic poverty requires a determined effort for planned development, an intense desire to achieve a visible improvement in the standard of living of people within a reasonable time would not but warrant a search for an optimum size of the Plan. Expectation was reinforced by significant improvement in development performances during the second half of the last decade. Between 1975/76 and 1979/80 Gross Domestic Product (GDP) increased at an annual rate of 5·2 percent. There were substantial improvements in domestic resource situation along with increase in foreign aid. Tax/GDP ratio rose from 7·6 percent in 1975/76 to 7·9 percent in 1979/80 and foreign aid inflow increased from U S $ 808 million to $ 1223 million over the same period. It is against this encouraging background of domestic and external resources the Second Plan of Tk. 25,595 crore (in 1979/80 prices) was launched in July, 1980. The Plan envisaged a public sector development outlay of Tk. 20,125 crore and expected a net external resource inflow of Tk. 13,880 crore. Though the socio-economic imperatives call for a very large Plan, the size is constrained by availability of domestic and external resources and institutional capability.

3.2. The Plan, however, had a very inauspicious start. World trade and aid situation rapidly deteriorated due to recession in the developed world. Aid inflow stagnated and export earning declined; they in turn had adverse effect on government budgetary position. For the first two successive years, 1980/81 and 1981/82 the development programme was adjusted downward under severe resource constraint. Efforts were made first to protect the core of the development programme by avoiding less essential expenditure so that the planned targets would still be attained at a lesser cost. Accordingly public sector's expenditure programme was rationalised and size was reduced from Tk. 20,125 crore to Tk. 15,887 crore. The repetition of shortfall in resources in the second year of the Plan however made it optly clear that even the rationalized public sector programme was not tenable under the resource constraint. In two years (1980-82), about one-fifth of planned outlay were realized. A revision of the Plan was necessary to match available resources.

3.3. The final Plan size is now Tk. 17,200 crore—Tk. 11,100 crore for the public sector and Tk. 6,100 crore for the private sector. This means a substantial reduction in the public sector programme from its original size of Tk. 20,125 crore and the rationalized programme of Tk. 15,887 crore. This reduction in public sector's size has been brought about mainly by dropping and deferring projects having very little impact on growth and output in the medium term. A good number of projects which were necessary for long-term growth prospect were also shelved. The choice was dictated by the need of improving external as well as domestic resource gaps through expansion of output and export to the maximum possible extent given the constraint of resources.

Emphasis on Private Sector :

3.4 As against reduction in the public sector size, that of the private sector has been raised over the Draft Plan allocation. Of the total development outlay of Tk. 17,200 crore, allocation for the private sector is Tk. 6,100 crore. The share of the private sector allocation in the total development outlay has been raised from 21 per cent in the Draft Plan to 35 per cent in the Revised Second Plan. In terms of investment, the share of the private sector will be higher since a significantly higher proportion of public outlay is on account of noninvestment expenses. The increased allocation to the private sector reflects the change in official policy towards the private sector. The new industrial policy has not only expanded the list of industries for private investment but also simplified approval procedure for private investment. Besides these changes, adequate fiscal and financial incentives will be provided to the private sector to encourage both saving and investment so as to reach the investment target which is merely an indicative figure. Since foreign exchange resource will continue to be a serious constraint on undertaking industrial projects, international capital movement will also require greater use of private channel for which basic conditions have already been laid out. Export incentives, import liberalization, repatriation facilities and setting up of the export processing zones, etc., will help stimulate foreign private investment in Bangladesh.

Financing of the Plan :

3.5 The Plan recognizes the basic limitation that at the present low level of income adequate domestic resources cannot be generated to bring about required level of development of the economy necessary for significant improvement in the material basis of life and breaking the poverty trap. Therefore throughout the Second Plan period dependence on external resources will continue as necessary condition for attaining a reasonable growth of the economy. Of the total Plan Outlay, Tk. 7,091 crore is, expected to be received in foreign aid (net) as against Tk. 6,737 crore (in 1979/80 prices) received between 1975/76 and 1979/80 at current prices. Bangladesh may reasonably claim a marked increase in the inflow of external assistance, for Bangladesh is not only one of the L.D. countries which faces growing problems of poverty, illiteracy, malnutrition and unemployment but also receives a very low per capita aid. Recent improvements in development management and general administration have raised the capacity of the country to absorb effectively larger volume of aid. There is need for increased aid to maintain the momentum of growth the economy has acquired in recent years.

3.6 The Plan recognizes that external aid cannot provide a permanent basis for national economic development, but is needed for increasing investment in the various productive sectors so as to create necessary conditions for increased domestic resources. The Plan gives utmost priority to productive investment for expansion of output with a view to overcoming internal and external resource problems and emphasizes the necessity for greater efforts for domestic resource mobilization so that a reasonable proportion of incremental output is available for reinvestment. The Plan has a special focus on balance of payment gap which will be narrowed down through greater effort for export expansion and import substitution, particularly food import.

3.7 The domestic resource need is estimated at Tk. 8,132 crore including Tk. 2,500 crore for non-investment financial outlay of the public sector and private sector. It may be noted here that in addition to planned development outlay there will be investment in Food for Works Programme, food stock and other inventories and in equity

capital of public corporations. The Plan provides for building the official food-stock to 1·5 million tons by 1984/85 in the minimum in view of wide fluctuation in domestic output of foodgrains due to weather. Including investments in Food for Works and food-stock outside-the Plan investment is estimated at Tk. 1,879 crore of which Tk. 332 crore is for equity investment in public corporation. Out side the plan investment includes investment in inventories also. The estimate of investment for the plan period comes to Tk. 16,579 crore. of which Tk. 5,668 crore are in domestic saving. The resource picture is given in Table 3·1.

TABLE 3.1.

DEVELOPMENT OUTLAY (PLAN & NON-PLAN) AND ITS FINANCING

(Tk. in Crore)

Description	Base Year (1979/80)	Plan Period (1980—85)	Terminal Year (1984/85)
1. Plan Outlay	2,717	17,200	4,295
2. Non-Plan Outlay	627	1,879	280
3. Total Development Outlay	3,344	19,079	4,575
4. (a) External Resources	2,544	10,947	2,165
(b) Foreign Aid (net)	1,792	7,091	1,225
5. Domestic Resource Need	800	8,132	2,411
6. GDP (at 1979/80 market prices)	18,206	..	24,210
7. (a) Development Outlay as % of GDP	18·4	..	18·9
(b) Plan Outlay as % of GDP	14·9	..	17·7
8. (a) Investment	2,896	16,579	3,955
(b) Investment as % of GDP	15·9	..	16·3
9. (a) Domestic Saving	789	5,668	1,790
(b) Domestic Saving as % of GDP ..	4·3	..	7·4
10. (a) National Saving	1,196	9,279	2,706
(b) National Saving as % of GDP ..	6·6	..	11·2
11. Marginal Saving Rate (Domestic)	..	14.7	..
12. Tax/GDP Ratio	7·9	..	9·5
13. Foreign Aid (net) as % of GDP	9·8	..	5·1

Note: (i) Non-Plan outlay shows a decline in 1984/85 from 1979/80 bench-mark because in the latter year there was large food stock build-up as well as a large Food-for-Works Programme.

(ii) In 1979/80, national saving (10·b) and foreign aid (13) as percentage of GDP do not equal investment ratio (8·b) because of draw-down of cash reserve which is a dissaving and receipt of I.M.F. resources.

(iii) Gross Foreign Aid on disbursement basis is Tk. 1896 crore in 1979/80, Tk. 9445 crore in 1980-85 period and Tk. 2049 crore in 1984/85 giving shares of 69·8%, 54·9% and 47·7% respectively in the plan outlay.

3.8 The required level of domestic saving implies an average saving rate of 7·4 percent in 1984/85 against the estimated saving rate of 4·3 percent in 1979/80, and a marginal saving rate of 14·7 percent for the plan period as a whole. Reaching an average saving rate of 7·4 percent will not be a formidable task for the reasons that (i) the 1979/80 saving rate was depressed below the normal level due to bad harvest and (ii) a large volume of workers' remittances are expected during the plan period to bolster domestic savings. Nevertheless for effective transformation of saving into investment supply of capital goods and financial assets will need to be ensured. This issue has been discussed in Chapter IV on domestic resources.

3.9 The required saving level will not impose any undue strain on consumption. The consumption fund is estimated to increase at an annual rate of 5·0 percent which is about twice the rate of population growth and somewhat below the estimated GDP growth rate of 5·4 percent per annum indicating that over 80 percent of incremental income of the Plan will be available for consumption so that the basic need goal of the Plan can be realised. Production programme of the Plan emphasizing production of basic need goods and services like food, textiles, primary health care, primary education, etc. will ensure satisfaction of basic needs of people and improvement in the quality of their lives. At the same it will be necessary to pursue a stable price policy so that goods are not only available but also accessable to common man in relation to his purchasing power. An important focus of the Plan is hence on employment expansion and income generation through productive activities.

Development Management

3.10 An important condition for realizing the Plan size and obtaining the required volume of external assistance is the management ability of the country, particularly that of the public sector. Aware of its limitation the Government has already liberalized its policy towards the private sector in order to bring about maximum use of the most crucial factor, *i.e.*, the entrepreneural and managerial potential of the country. The Plan has particularly addressed the problems of public sector management and suggests ways and means to improve its management and implementation capacity. There has been significant improvement in its management ability, but the thrust needs to be maintained as there is no scope for being complacent about recent successes as the Second Plan will make heavy demand on government as well as private institutions for a high level of professionalism in investment management through appropriate policies and strategies. The emphasis on rural development and people's participation necessitating decentralization of administration and development of local will bring into existence the necessity for a new institutious environment in techno-economic management of the development programmes. The management has to effectively respond to the process of diffusion of development. Administrative decentralization is a step in that direction, alongside the Plan also stresses the need for development and strengthening of local governments, not to derate the responsibility of the national government but to create a back-to-back relationship between local administration and institutions so that people's aspirations are reflected in official policies and programmes. Though the Plan size does not mean much acceleration in investment, there will be increased strain on management capacity as a result of

diffusion of the development process. Economic management will improve with increased participation of the private sector, having a higher allocation but this along with diffusion of development process will need greater emphasis by the public sector on monitoring and policy planning in order to ensure fulfilment of planned targets and goals through public initiative.

Sectoral Allocation

3.11 The sectoral allocation has been determined in accordance with the national priorities within the broad framework of a multi-sectoral model of interindustry input-output and investment-output relationships. Except some of the final demand goods and services such as food and textiles and primary education which were autonomously determined as socially desirable goals to pursue and some investment of lumpy nature, output and investment were basically determined endogenously within the model. In case of merit wants like food and textiles and social goods like health and education, income, price and distribution policy implications were worked out to establish their feasibilities. All investments except for flood control, rural electrification, primary education, cement, fertilizers, etc. were determined within the model on the basis of estimated demand for final goods. The investment implications of the model were restructured into institutional programmes for implementation, first into public and private sectors and then into public sector agencies. To arrive at the public sector outlay, non-investment expenditures like fertilizer and other production subsidies, land cost, etc. were added to the public sector investment programme. It may be mentioned that non-investment elements are either pure transfer *e.g.*, subsidies and land purchase or of recurring nature, *e.g.*, salaries of development agents and research, etc. from national point of view but are treated as development outlay under the existing budgetary practices. Sectoral allocation of the Plan Outlay of Tk. 17,200 crore is shown in Table 3.2. Public sector allocation in detail is shown in Table 3.3.

TABLE 3.2

Sectoral Allocation
(1979/80 prices)

[Tk. in Crore]

Sectors	Public	Private	Total
1. Agriculture, Water and Rural Development	3,802	2,257	6,059
2. Industries and Minerals	1,390	1,769	3,159
3. Power and Energy	2,052	..	2,052
4. Transport and Communications	1,524	976	2,500
5. Physical Planning and Housing	574	1,098	1,672
6. Social Economic Sectors	1,758	..	1,758
Total ..	11,100	6,100	17,200

TABLE 3·3

Sectoral Allocation in the Public Sector during SFYP

[Tk. in Crore]

Sectors	Original Allocation (1979/80 prices).		Revised Allocation (1979/80 prices).		Revised Allocation (Current prices).
	Amount	Per cent	Amount	Per cent	
1. Agriculture and Related Activities :	6,500	32·3	3,802	34·3	5,552
(a) Agriculture	2,700	14·4	1,470	13·3	2,149
(b) Water Resources. ..	3,000	14·9	1,850	16·7	2,702
(c) Rural Development and Institutions (including Development Boards). ..	800	4·0	482	4·3	701
2. Industry & Minerals ..	3,275	16·3	1,390	12·5	2,042
3. Energy and Natural Resources :	2,760	13·7	2,052	18·5	3,021
(a) Power	2,000	9·9	1,437	12·9	2,130
(b) Natural Resources ..	760	3·8	615	5·5	891
4. Transport and Communication :	3,239	16·1	1,524	13·7	2,160
(a) Transport	2,635	13·1	1,287	11·6	1,819
(b) Communication ..	604	3·0	237	2·1	341
5. Physical Planning and Housing ..	1,220	6·0	574	5·2	820
6. Education, Religious Affairs & STR :	1,075	5·4	572	5·2	836
(a) Education	905	4·5	470	4·3	692
(b) Religious Affairs ..	15	0·1	10	0·1	15
(c) Scientific and Technological Research (STR). ..	155	0·8	92	0·8	129
7. Health	595	3·0	288	2·6	413
8. Population Control and Family Planning. ..	615	3·0	310	2·8	368
9. Socio-Economic Infrastructure :	601	3·0	202	1·8	280
(a) Social Welfare ..	85	0·4	41	0·4	59
(b) Women's Affairs ..	89	0·4	22	0·2	31
(c) Youth Development ..	101	0·5	19	0·2	26
(d) Sports & Culture ..	95	0·5	43	0·4	60
(e) Mass Media ..	231	1·2	77	0·7	104
10. Manpower and Labour ..	185	0·9	61	0·5	88
11. Public Administration ..	60	0·3	38	0·3	55
12. Thana Development ..	..	..	287	2·6	425
Total ..	20,125	100·0	11,100	100·0	16,060

3·12 In sectoral allocations highest priority has been given to those sectors which have immediate direct effect on the supplies of basic needs, employment generation and resource mobilization. Agricultur, water and rural development sector satisfying all these conditions has, therefore, received the highest priority in the allocation of resources. Over 34 percent of public sector allocation is for agriculture, water and rural development. As poverty, unemployment, illiteracy and malnutrition are pervasive in the rural area a more than a sectoral approach is necessary for rural development. As a part of a comprehensive approach for rural development the Plan emphasizes the development of basic socio-economic infrastructures in rural areas so that its population will have greater access to resources, and employment opportunities to an equitable share of the benefit of planned development. Thus besides supply of basic needs and employment programmes for primary education, population control, rural roads, rural electrification and rural health facilities have been given high priority in the Plan.

3·13 All plans are, however, compromise between diverse ends. The Plan has to seriously address the problem of domestic and external resource imbalances and ensure that given socio-political imperatives and resource constraints investment and output are optimized in such a way that the economy will be to adjust to domestic and external imbalances within a reasonable time without much sacrifices of consumption and employment. The experience of Bangladesh and in many other developing countries show that adjustment process that is pursued together with economic growth is also successful. Hence the sectoral allocation has been made with the ultimate objective of sustained growth centred around these sectors which have much potential in terms of national advantages. Next to agriculture energy and natural resources sector is the most important sector to develop. Even though Bangladesh consumes about 32 kg of oil equivalent of commercial energy per capita a year, imported fuel costs about 58 percent of her export earnings. Bangladesh has adequate natural gas to develop as a substitute energy source. Therefore, the energy sector has been given 18·5 percent of public sector allocation.

3.14 In line with the new industrial policy postulating transfer of juto and cotton textiles mills to the private sector and opening up of other industries in the old reserve list for private investment, the allocation for the public sector industries has been reduced from 16·3 percent in the Draft Plan to 12.5 percent; but at the same time private sector's allocation has been raised from Tk. 1,110 crore in the Draft Plan to Tk. 1769 crore now to meet the need of expanded scope for private investment. The overall allocation for the industries sector, private and public together stands at 18·4 percent of the Plan size of Tk. 17,200 crore.

3.15 Among the socio-economic sectors population control and family planning and universal primary education are considered as areas of high priority in view of their significance for economic development. These two sectors suffered in the past due to two diametrically opposite reasons—family planning from lack of absorbtive capacity due to institutional weakness while primary education was constrained by inadequate resource allocation. While making adequate allocation for both, the Plan emphasizes further

strengthening of family planning organisation so as to make full use of resources allocated to it and efficient use of primary education facilities through cost effectiveness. In both the areas community participation will be strengthened to increase the effectiveness of the programmes.

3.16 While the sectoral allocation has been worked out at a disaggregative level in accordance with the goals and targets of the Plan, the results will, however, depend on the formulation of sectoral investment programmes. In this micro level planning identifying a list of projects and using the right criteria in their selection will be critical to achievement of planned objectives. Project designed must address quick results. The Plan will need to be supported by a list of projects so that their choice is not made on *adhoc* consideration as the extension of the plan process. A second point is that the ultimate resource allocation in the public sector is done through Annual Development Programme. The present manner of it leaves much to desire. Instead of simple being a budget statement as it is now, it needs to be turned into a programming instrument to achieve an efficient allocation of limited resources not only between projects within a sector but also in between sectors. It must be emphasized that the intersectoral allocation shown in Table 3·2 is based on a given volume of resources to be available during the plan period in order to reach the planned goals and targets. Such allocation should not be viewed rigidly if estimated resource picture were different nor a *prorata* allocation be followed year to year even if the estimated resource is available as the technical condition may vary from sector to sector leading to variable gestation lag. The initial condition in relation to project preparation and implementation may also be different in between sectors such that annual allocation looking for maximum benefit may be different from overall Plan allocation.

3.17 The intersectoral allocation for the private sector partly based on past behaviour of private investment has been heavily influenced by the financial institutions which have been discriminately against unorganized sector, particularly agriculture and small and cottage industries. It is emphasized that both the level of private investment and its allocation over sectors are indicative of broad dimension and their realization will depend not only on the adoption of consistent fiscal and monetary measures by the government but also on the mood of the private investors. Fiscal and monetary measures are, however, powerful instruments to influence investment in the desired direction.

Gross Domestic Product, Growth and Consumption

3.18 The Plan envisages an annual growth rate of 5·4 percent. Table 3.4 shows the projection of Gross Domestic Product (GDP) over the Plan period and its composition by major sectors of the economy.

TABLE 3·4

Growth and Composition of Gross Domestic Product for the Second Five Year Plan.
(At 1979/80 Prices)

[Tk. in crore]

Sectors	Value added		Annual Growth Rate %		
	1979/80 (Actual)	1984/85 (Projection)	Over the period (1980-85)	Over the period 1980-82	1982/83
1. **Agriculture**	**8,919·1**	**11,418·5**	**5·0**	**3·2**	**5·1**
(a) Foodgrains	4,931·3	6,278·5	4·9	3·7	5·1
(b) Other Agriculture.	3,987·8	5,140·0	5·2	2·4	5·1
2. Manufacturing	1,421·6	2,124·4	8·4	5·8	0·8
3. Construction	928·9	1,174·9	4·8	1·5	(—)4·6
4. Power & Gas	36·9	77·6	16·0	14·3	17·0
5. Housing	1,146·4	1,329·0	3·0	3·0	3·0
6. Transport	1,127·9	1,486·6	5·7	2·0	2·0
7. Trade	1,265·9	1,670·2	5·7	2·0	2·0
8. Others Services.	2,432·3	3,190·8	5·7	5·4	5·7
(a) GDP at factor cost.	17,279·0	22,472·0	5·4	3·5	3·8
(b)GDP at market prices	1,8206·0	24,210·0	5·8	3·7	4·0
(c) Population (In million)	87·23	98·05	2·4	2·6	2·4
(d) Per Capita GDP (In Taka)	2,087	2,469	3·5	0·8	1·3

Sectoral and Overall Growth

3.19 The estimated rate of GDP growth is based on the investment undertaken in the recent past and planned investment which will be maturing during the Second Plan Period. It is expected that management of the economy which had made some positive gains in the second half of 1970s will improve further with the widening of the role for the private sector and corresponding lessening of the burden of the public sector particularly in the industries sector. Because of these institutional re-arrangement and improved policy environment, the economy will be able to grow faster at an annual rate above that of late 70s. A faster growth, as mentioned before, is necessary to lift the economy from its existing maze of problems and regenerate its vitality. In a country where over 80 percent of people live below poverty line and per capita income is about Tk. 2,087, the scope for tackling the poverty problem through re-distribution of income is rather very limited. There is thus no other option but to aim at

faster growth of the economy to reduce poverty and improve income distribution even at the cost of some long-term interest in view of serious resource constraint. Growth of the economy over a medium-term planning horizon cannot be, however, viewed completely in isolation of its development in a long term perspective. Development is a continuous process which can not be sustained without appropriate emphasis on the development of infrastructures and basic industries. The Plan thus has to commit a significant volume of resources to development of rural organization, improvement of regional and local level planning capability, deepening of the technological base of agriculture through long-term irrigation and flood control projects and consolidation of basic industries for sustained growth though such resource if used for short-term productive purposes would have helped reach a higher growth during the plan period.

3.20 The main emphasis of the Plan is to increase foodgrain output so as to reach self-sufficiency by the end of the plan period. This along with other diet needs implies a relatively high growth rate (5·0 %) for the agriculture sector. Though in value added term foodgrain output will increase at 4.9 percent a year, in absolute term it will increase at the rate of about 5·5 percent per annum. The growth rate for the manufacturing sector has been set at 8·4 percent a year, largely to arise from past investment such as in urea fertilizer and cotton textiles. Improvement in capacity utilization will, however, be the main thrust for the growth of industrial output. Development of growth centres in large markets will encourage small and cottage industries contributing to quick expansion of industrial output. As the Plan has given a very high priority to power and gas sector including rural electrification in order to overcome the rising cost of imported fuel, the energy and gas sector will grow quite fast (16%).

Structure of GDP

3.21 Since the planned emphasis is on the agriculture which has high potential growth, the Plan does not expect any notable change in the structutre of the GDP during the plan period, though it will further strengthen the foundation for long term structural change. Table 3·5 shows the structural position in GDP anticipated to occur over the Second Plan period.

TABLE 3.5

Structure of GDP during Second Five Year Plan

(Based on 1979/80 price) **(In percentage)**

Sectors	Benchmark (1979/80)	Terminal Year (1984/85)
1. Agriculture	51·62	50·81
2. Manufacturing	8·23	9·45
3. Construction	5·38	5·23
4. Power and Gas	0·21	0·35
5. Housing	6·63	5·91
6. Transport, Trade and other services	27·93	28·25

The contribution of Agriculture to GDP will decrease slightly from 51·6 percent in 1979/80 to 50·8 percent in 1984/85 ; whereas the contribution of Manufacturing will increase from 8·2 percent to 9·5 percent. The contribution of construction and housing sectors will decline showing severe constraints of imports. Manufacturing sector will also be subject to similar constraints but industries like urea, jute textiles,

paper, sugar, tobacco, etc. will help export industrial output and attain a higher share of GDP in spite of constraints of imported raw materials. Power and gas sector will improve its share, though it will continue to be a very small sector. Investment in physical infrastructures, energy and education and in some heavy industries will improve the structure of the economy in the long run, though their effects on outputs during the plan period will not be very much visible.

Physical Targets

3.22 The sectoral programmes, goals and targets will be discussed in detail in the sectoral chapters of the Plan ; here some of the highlights of the production programmes are given (Table 3·6). Foodgrain output is envisaged to reach from 134 lakh tons in 1979/80 to 175 lakh tons in 1984/85, ensuring an availability of 15·8 oz., per day *per capita* which is the current level of consumption of food grains. The proposed expansion in real output will be achieved through a rapid diffusion of the modern input technology. Besides foods in the basic need commodity group, the Plan emphasizes next the supply of cotton goods so as to make about 10 yards of cloth available for consumption. The target is to produce about 98 crore yards of cloth, mainly in handlooms. Other consumer goods to expand during the plan period are fish, sugar, tea, etc. In the nonconsumer goods category, the output of fertilizer and jute textile will experience rapid expansions. Fertilizer (urea) output will grow quite fast in support of the agricultural production programmes. To reach the output target for jute textile a more aggressive marketing policy will have to be followed in the international markets. The Plan provides for rapid expansion of basic services like primary education, primary health care and family planning delivery services and rural infrastructure facilities like rural roads and rural electrification. The coverage of rural electrification will increase from 2,181 villages in 1979/80 to about 25,000 villages in 1984/85. This will not only improve the standard of living in villages but also will work as the backbone of the expanded irrigation system needed to achieve food sufficiency.

TABLE 3·6.

Major Physical Targets of the SFYP.

Items.	Unit.	1979/80 (Actual).	1984/85 (Projection)	Percentage increase.
1. Foodgrains (Rice & Wheat)	Lakh Tons	133·5	175	31
2. Jute (raw)	Lakh Bales	59·6	60	1
3. Cotton (raw)	'000' Bales	4	56	1300
4. Tea	Lakh Lbs	807	950	18
5. Tobacco	Lakh Lbs	871	1293	48
6. Potato	'000' Tons	903	1360	51
7. Fish	'000' Tons	647	1000	55
8. Sugar	'000' Tons	93·2	200	115
9. Jute Textiles	'000' Tons	525	650	24

TABLE—3·6 (*Contd.*)

Items		Unit	1979/80 (Actual)	1984/85 (Projection)	Percentage increase
10. Cotton Yarn		Lakh Lbs	950	1830	93
11. Cotton Cloth		Lakh Yards	5924	9800	65
12. Fertilizer		'000' Tons	442	1037	135
13. Paper & Newsprint		'000' Tons	69	93	35
14. Cement		'000' Tons	343	450	31
15. Diesel Engine		'000' Nos	2·41	20·00	730
16. Pumps		'000' Nos	2·11	18·10	758
17. Electricity		Million KWH	2353	4455	89
18. Rural Electrification		No. of Villages	2181	25000	1046
19. Natural Gas		Billion c. f. t	44·97	128·00	185
20. Energy Output (Gas, Elec. & POL products)		Million Tons of oil equivalent	2793	4963	78
21. Primary School Enrolment	(i)	Lakh Student	70·0	129·9	86
	(ii)	% of 6-11 yrs of population	60	92	..
22. Hospital Beds (including private)		'000' Beds	20·93	32·47	55
23. Family Planning: Continued Acceptors	(i)	Couples in in lakhs	23·4	70·8	203
	(ii)	% of eligible couples	14·0	37·5	...
24. Roads (Paved)		Mile	2554	3679	48
25. Telephones		'000' Nos.	138	175	27

3.23 The Plan is primarily basic needs oriented. Therefore, production targets are largely derived from consumption needs. Besides emphasis on production, the Plan recognizes the close interrelationship between basic needs and the production structure on the one hand, and employment and distribution of income on the other. The strategy for rural development and the thrust on food and agriculture will lead to optimal growth of output and employment and reduce poverty, both in absolute and in relative terms. This will increase demand for daily necessaries, to be matched primarily

by increasing domestic productions as far as possible in close proximity to household demand so as to optimize the income effect on rural economy. This will require dispersal of light industries in the rural areas through encouragement of cottage and small indutries. Weaving for example, shall remain the prerogative of the handloom industry. In this drive for dispersal, there will be need for improvement of the technological level of rural industries, skill of village artisans and product quality. In case of period of short supplies caused by nature, import will be necessary to protect consumption level of essential commodities. It is to emphasize that some of the consumption targets have been set normatively on ground of social needs and, therefore, will require, in addition to production programme, positive measures in respect of their price and distribution addressing the disadvantaged social groups in particular. But as the necessary condition for increased consumption opportunites for productive employment will have to be expanded rapidly, an important lever for ensuring access to basic needs will be the continuation of the Food for Works Programme for the landless and marginal farmers, particularly in lean months and in depressed areas.

3.24 Table 3.7 shows proposed increase in per capita availability of basic goods and services.

TABLE 3.7

Per Capita Availability of Basic Goods and Services.

Items	1979/80 (Actual)	1984/85 (Projection)
A. Consumption Goods (Per Capita) :		
1. Foodgrains (Oz/day)	15·8	15·8
2. Fish (Ibs/year)	16·6	22·8
3. Sugar and Gur (Ibs/year)	16·1	16·9
4. Cloth (Yds/year)	7·1	10·0
5. Energy (Kg. of oil equivalent/year)	32.0	51·0
B. Social Services :		
1. Primary Education : Enrolement (% of 6—11 years age group population) ..	60	92
2. Health Services :		
(a) No. of hospital beds (per 1 lakh people)	24	33
(b) No. of graduate doctors (per 1 lakh people) ..	13	17
3. Paved roads (miles per thousand square miles) ..	56	81

Phasing of the Plan

3·25 As the Plan is based on a comparative static framework, only the terminal year's outputs are determined against benchmarks and investment accumulates over time to the terminal year. This does not mean that the Plan will be drifting over time from the benchmark position to the terminal position. The project commitment of the past, the output targets, the technological condition and evolution of internal and external resource situation will determine the investment growth path. However, based on past experiences, an indicative phasing of development outlay with the break-up into Public and Private sector over the five years is presented in Table 3·8 below both at 1979/80 constant and current prices (assuming an annual rate of inflation of 12 percent).

TABLE 3.8

A. Phasing of Financial Development Outlay for SFYP
(At 1979/80 prices)

[Tk. in crore]

Year	Total	Public	Private
1979/80	2,717	2,082	635
1980/81	2,962	2,112	850
1981/82	2,893	1,913	980
1982/83	3,404	2,144	1,260
1983/84	3,645	2,235	1,410
1984/85	4,296	2,696	1,600
Total ..	17,200	11,100	6,100

B. Phasing of Financial Development Outlay for SFYP
(At current prices)

[Tk. in crore]

Year.	Total	Public	Private
1979/80	2,717	2,082	635
1980/81	3,317	2,365	952
1981/82	3,616	2,391	1,225
1982/83	4,800	3,023	1,777
1983/84	5,723	3,509	2,214
1984/85	7,604	4,772	2,832
Total ..	25,060	16,060	9,000

Table 3.8.A implies an annual constant growth rate of 8·8 percent for the total Plan outlay over 1979/80 with 4·3 percent annual growth for the public sector programme and 20 percent for the private sector in real terms. At the escalated price the annual rate of growth of the public sector outlay will be 16·3 percent. It may be mentioned here that the public sector development outlay reached an annual growth rate of 31 percent during the last seven years of 1970s. Annual development outlay in individual years will, however, depend on the evolution of the internal and international economic situations, particularly world inflation and recession which may affect inflow of aid and the level of import and export.

CHAPTER IV

DOMESTIC RESOURCES

4.1 The Plan provides for a total development outlay of Tk. 17,200 crore over the Plan period, 1980/81 to 1984/85. Besides this planned outlay, a further amount of Tk. 1,879 crore will be invested in Food for Works. Programme, in food stock and other inventories in the public and private sectors and in equity capital of public corporations. The total resource need for the plan and outside-the-plan outlays is thus Tk. 19,079 crore of which Tk. 16,579 crore is the estimated investment. Foreign aid which is expected to be available (discussed in Chapter V) is Tk. 8,110 crore gross and Tk. 7,091 crore net, accounting for 41·2 percent of the total of plan outlay. Domestic resources required to be raised are estimated at Tk. 8,132 crore which represents 47·3 percent of plan outlay. The balance is covered by other external resources. The proposed level of domestic resources would require considerable planned effort for raising national savings. Domestic resource constraint is as formidable in Bangladesh as in any other LDC; but the socio-economic imperatives are so compelling for Bangladesh that no effort should be spared for the purpose.

4.2 The domestic resource estimate implies an average savings rate of 7·4 percent in the terminal year of the Plan. Many of the developing countries in the range of per capita income as envisaged in the Plan save more than this implied rate (1). In 1979/80, Bangladesh had a savings rate of 4·3 percent which was in fact depressed by the poor harvest and inhibited by the difficulties of the post-Independence period.

4.3 It may be recalled that the economy recovered its 1969/70 level of output in 1976/77 only, and per capita income remained below the 1969/70 level until the close of the decade. On the other hand, rising expectations of the emancipated people for a higher level of material satisfaction had naturally some dampening effect on savings. All these together with the persistence of inflation made 1970s a difficult time not only for domestic resource mobilization by Government but also for planned saving by households. Yet, beginning 1975, the Government reflecting its commitment for planned development took a number of measures in the fiscal and monetary fields which brought about a substantial improvement in savings and domestic resource position. A short review of these efforts given below would justify the feasibility of the level of domestic resources for the Second Plan period.

(1) Savings rates (% of GDP) in 1980 in some of the neighbouring countries are as follows :

Country	Per Capita Income (US $)	Savings Rate (percent)
1. Nepal	140	7
2. Burma	170	18
3. India	240	20
4. Sri Lanka	270	14

SOURCE : *World Development Report, 1982* (pp 108—118).

4.4 The overall effect of fiscal and financial measures taken during the second half of 1970s on Government finance is shown in table 4.1.

TABLE 4.1

Government Sector Resource Position
(at current prices)
(1974/75 to 1979/80)

[*Tk. in Crore*]

Particulars	1974/75	1979/80	Annual Growth Rate(%)
1. Tax Receipts	534	1,439	22·0
2. Non-tax Receipts	158	332	16·0
3. Total Revenue	692	1,771	20·5
4. Total Revenue Expenditure	566	1,236	16·9
5. Revenue Surplus	126	535	33·5
6. GDP (at current market price)	12,307	18,206	5·3*
7. Middle Class Cost of Living Index (1969/70=100)	..	..	6·5
8. Tax/GDP Ratio	4·3	7·9	..

* GDP growth at 1972/73 prices.

4.5 As the table shows, there has been a significant improvement in tax/GDP ratio during the last half of 1970s, which reflects increasing effort by the Government to mobilize domestic resources. Tax receipts grew at over three times the rate of inflation; and total revenue receipts including non-tax revenue also maintained a high rate of growth. Net of inflation, real resource of the Government sector increased at an annual rate of 14·0 percent; since GDP grew at an annual rate of 5·3 percent, it follows then that the Government mobilized real resources at more than twice the rate of GDP growth. The need to mobilize domestic resource has been pursued seriously and successfully during the period.

4.6 At the same time, however, there has been also quite a rapid growth in public consumption, increasing at an annual rate of 16·9 percent against 20·5 percent growth in revenue resources; in fact, real public consumption increased at an annual rate of 10·4 percent and out of each ten Taka collected as additional revenue six Taka was spent to finance additional public consumption giving a 40 percent marginal rate of saving for the public sector. Additional tax effort was largely expenditure-induced. Government expenditure increased rapidly during the period mainly due to administrative reorganization carried out first in 1972 and then in 1976. Such increase may be considered as a once-for-all shift in the expenditure level; it is, therefore, realistic to assume that Government expenditure will grow at a much slower pace during the Second

Plan period than in the recent past. Nevertheless, it is well to recognise that given the socio-economic imperatives of poverty and unemployment, the development finance cannot be treated as having a residual claim only on public resources and public consumption needs, therefore, to be contained within some strict limits.

4.7 Though the overall fiscal performance improved as a result of strong measures taken in the second half of the 1970s, a number of its features are worth mentioning. First, it lacks a strong secular trend of development towards a rising tax/GDP ratio. There were frequent fluctuations in this ratio between 1975/76 and 1979/80; the ratio reached its peak of 8·2 percent in 1978/79 but declined in 1979/80 to 7·9 percent. This lack of strength in the trend reflects partly a loss of the momentum that was gained since 1975/76 and partly due to fluctuation in trade and aid. While it is difficult to single-mindedly pursue revenue objective of tax policies under conditions of serious economic hardship caused by inflation and rising cost of living, the Second Plan cannot afford any relaxation of efforts for domestic resource mobilization. The Government would need to push up the tax/GDP ratio considerably during the Second Plan period. The Plan envisages tax measures which will raise the tax/GDP ratio to 9·5 percent in 1984/85, a rate that has already been reached by many developing countries. The current tax /GDP ratio of 7·9 percent is low, mainly because agricultural income which accounts for over half of the GDP is very little taxed. It has, therefore, been a subject of fiscal consideration by various authorities including the Taxation Enquiry Commission (1979).

4.8 A second and important feature of the current tax regime is its dependence on customs duties which together with associated sales tax account for over half of the tax revenue, and have grown faster than taxes on domestic output and income as shown in table 4·2.

TABLE 4.2

Composition of Tax Revenue

Tax	1972/73		1975/76		1979/80		Annual Growth(%)	
	Crore Tk.	Per-cent	Crore Tk.	Per-cent	Crore Tk.	Per-cent	1972-1980	1975-1980
Indirect ...	**156**	**86·2**	**665**	**80·6**	**1,207**	**83·9**	**34·0**	**16·1**
Customs ...	70	38·7	350	42·4	625	43·4	37·0	15·6
Excise ...	55	30·4	182	22·1	285	19·8	26·5	11·9
Sales ...	21	11·6	120	14·5	284	19·7	45·0	24·0
Direct ..	**25**	**13·8**	**160**	**19·4**	**232**	**16·1**	**37·5**	**9·7**
Income ...	14	7·7	125	15·2	182	12·6	44·5	9·9
Land Development	3	1·7	17	2·1	19	1·3	30·0	2·8
Total ..	181	100·0	825	100·0	1,439	100·0	34·5	14·9

4.9 The large share of customs duties in total tax revenue reflects the dependence of the tax regime on foreign aid which finances over two-thirds of the import trade. Such dependence exposes customs receipts to fluctuations in foreign trade and aid. On the other hand, it also means a relatively weak relation that exists between the tax regime and domestic output and income. It is this characteristic of the tax structure which explains the instability of the tax/GDP relationship discussed in para 4·5 above. Therefore, reorientation of the tax structure towards the domestic sector will be one of the major concerns of the Second Plan.

4.10 Another rather disquieting feature which table 4·2 reveals is the decline in the share of direct tax in 1979/80 compared to 1975/76. This contradicts the Plan's philosophy of social justice and equity. It was, however, inevitable in a situation of increasing dependence on aid and absence of an effective taxation on agricultural income on the other. Thus, for social justice and fiscal stability, there is need for emphasising tax on domestic output, particularly agricultural tax.

4.11 The picture of domestic resource mobilization efforts cannot be complete without looking into the financial performances of the public corporations and agencies which have had heavy claims on public resources. At the time of rehabilitation of the economy in early 1970s, the financial position of corporations and agencies was generally poor. The situation substantially improved during the second half of 1970s as a result of improvement in capacity utilization and successive upward price adjustments. Industrial output reached its 1969/70 level in 1976/77, except in a few areas; this together with price adjustments enabled most corporations to write-off accumulated losses and earn some profit as shown in table 4·4. The extent of price adjustments for some major public sector commodities and services is shown in table 4.3.

TABLE 4.3

Price Adjustments for the Public Sector Goods

[Price in Taka]

Commodity/Service	1972/73 Prices	1979/80 Prices	Annual increase (percent)
1. Urea fertilizer (per ton)	540	1,877	20
2. Writing paper (per ton)	3,953	16,017	22
3. Newsprint (per ton)	1,214	9,000	33
4. Electricity (per kwh)	0·19	0·65	19
5. Natural gas (per M. c. ft.)	1·27	8·86	32
6. POL products (per gallon)	2·30	13·92	30

4.12 In spite of manifold increases in product prices in response to increased cost, the rate of return on some corporate investments remained very low as shown in table 4.4.

TABLE 4.4

Rate of Return on Corporate Investment
(1979-80)

[Tk. in crore]

Corporation	Capital	1979-80 Profit	Rate of Return(%)
1. Steel and Engineering	254·7	14·7	5·8
2. Chemical	451.0	8·3	1·8
3. Sugar and Food	71·5	14·5	20·3
4. Jute Textiles	367·4	106·3	28·9
5. Cotton Textiles	160·6	(—)18·7	..
Total	1305·2	125·1	9·6

4.13 Reading the above two tables together leads to obvious conclusion that the financial viability of public enterprises cannot be re-established by upward price adjustments alone as there are deep-rooted problems in the public enterprises which cannot be solved by shifting the burden to the consumers. The symptom of the enterprise level problems is manifest in a general decline in labour productivity which is shown in table 4.5.

TABLE 4.5

Labour Productivity Indices in the Public Sector
(1969-70=100)

Industry	1972-73	1979-80
1. Jute Textiles	101·5	56·4
2. Cotton Textiles	74·5	32·7
3. Paper	52·5	30·6
4. Steel	84·6	128·6

4.14 Therefore, efforts to rebuild the financial viability of public enterprises for mobilization of larger domestic resources shall have to be directed towards higher cost consciousness, efficiency and productivity. Improvement of management efficiency, labour productivity and efficient use of machine and materials must constitute the cornerstone of their financial viability.

4.15 In rebuilding financial viability of public enterprises, the questions of effective tariff and management of depreciation fund need close attention. Besides the elimination of fiscal anomalies between imports of raw materials and finished products, a study should be undertaken to evolve an effective tariff structure to ensure not only efficient allocation of resources but also to attain efficient use of existing capacities.

4.16 One of the most neglected elements in the financial management of the public sector resources is the management of the depreciation fund. Corporations and agencies show total lack of awareness about maintenance of their capital stock through provision of adequate depreciation. Some corporations, particularly public agencies, do not at all provide depreciation in their accounts; if this was provided, losses of some agencies would be higher than revealed in their financial accounts. Far worse is the management of the depreciation fund. Whatever depreciation is provided by corporations it remains within the enterprises as circulating capital without any guarantee for being available for eventual replacement of assets; as a result, BMR has become a burden on the Annual Development Programme and is financed out of fresh borrowing. This is an unbearable position as such replacement practice means consumption of capital. Replacement should be self-financed. It will need depreciation fund to be separately maintained rather than being mingled up with circulating capital. Among alternative possibilities to attain this are to adopt sinking fund method and investment of depreciation fund in Government securities or in fixed deposits with banks.

Private Savings

4.17 While fiscal and financial management of the public sector will be the keynote of domestic resource mobilization efforts, it is also recognized that private savings will become more crucial than in the past. This follows from the fact that (i) the private sector has been allocated a greater share of development outlay than under the earlier plans and (ii) the thrust of the Plan on rural and agricultural development has special significance to resource mobilization efforts in the private sector. With emphasis on agricultural development, farm land will become increasingly more attractive for investment than now. If rent continues to be capitalized, high price of land will make agricultural improvement (*e.g.*, irrigation) increasingly less attractive. The success of the Plan in the agricultural sector will depend on the mobilization of rural savings for productive purposes rather than for land speculation. Consideration should be given to an effective use of land transfer tax together with a land-based tax on potential income. Simultaneously, a special campaign for rural savings mobilization through attractive rate of return on such savings will be undertaken by the banking system. Though thrift is a traditional virtue of rural society, it is also to recognize its conservatism. Banking campaign will, therefore, be carried out in a way so that its benefit to the rural people becomes apparent in concrete form through an increased flow of materials to the rural sector.

Fiscal and Financial Objectives

4.18 The experience of 1970s, the prospects and problems of domestic resources mobilization for the Second Plan and socio-economic imperatives call for strong measures in fiscal, financial and banking areas with the following objectives:

(A) *Public Finance*

(i) to attain a higher tax/GDP ratio in the range of 9·5 percent with a greater emphasis on taxes on domestic income and output;

(ii) to contain public consumption (expenditure) so that its growth is sufficiently below that of GDP in order to allow a faster growth of public savings;

(iii) to eliminate all consumption subsidies by 1984/85 except food subsidy to well-defined, socially disadvantaged groups;

(iv) to attain a rational tariff structure for an optimum allocation of resources;

(B) *Financial Management*

(i) to eliminate all implicit and cross-subsidies to public goods and services by 1984-85;

(ii) to attain a reasonable return on investment in public enterprises through improvement in productivity, cost-effectiveness and rational pricing.

(C) *Money and Credit*

(i) to pursue an appropriate positive interest rate policy to encourage household savings;

(ii) to reduce the rate of inflation through a discrete monetary and credit expansion in response to an expanding real (commodity) sector.

I. FINANCING OF THE PUBLIC SECTOR

4.19 The Plan considered various possibilities of raising the required domestic resources. If a tax/GDP ratio of 9·5 percent is achieved in the terminal year (1984-85), the development resource need of the public sector will be met. This target is well below the level prevailing in many of the developing countries. The feasibility of this target and its implications for tax planning will be discussed later. Table 4·6 presents overall picture of the public sector financing.

TABLE 4.6

Public Sector Financing (1980—85)

(at 1979/80 prices)

[Tk. in crore]

A. Resource Need			
1. Planned Outlay	.. ..		11,100
2. Outside Plan Outlay	.. ..		1,453
	Total ..		12,553
B. Financing			
1. Public Saving			
(a) Revenue Surplus	.. ..		2,838
(b) Capital Receipts	.. ..		451
(c) Depreciation and Retained Earnings of Corporations	..		350
			3,639
2. Foreign Aid	.. ..		6,730
	Total		10,369
C. Resources Gap to be financed by	.. ..		2,184
(a) Additional Revenue Measures	.. .. ..		1,367
(b) Bank Borrowing	.. ..		817
	Total ..		2,184

NOTE: (i) Outside Plan outlay includes Food for Work, build up of food stock and other inventories and equity capital of corporations.

(ii) Bank borrowing is for food stock financing.

Projection of Revenue Receipts

4.20 The projection of revenue receipts for the Second Plan period is Tk. 10,040 crore at 1979/80 prices and rates. Of this, tax revenue is estimated to be Tk. 8,141 crore and non-tax revenue Tk. 1,899 crore. The composition of tax revenue is shown in table 4.7.

TABLE 4.7

Projection of Tax Revenue by Source

(1980 to 1985)

(at 1979-80 rates and prices)

[*Tk. in crore*]

Tax	1979/80 (Benchmark)	Up to 1982/83		Total 1980/85 (Projection)		Annual Growth Rate (%)
		1979/80 Price	Current Price	1979/80 Price	Current Price	
1. Customs Duty ..	625	1,855	2,318	3,232	4,618	2·6
Import ..	(582)	..	..	(3,066)	..	3·3
Export ..	(42)	..	..	(166)	..	..
2. Excise Duty ..	294	892	1,120	2,013	3,001	9·5
3. Sales Tax ..	284	865	1,075	1,515	2,162	3·5
4. Income Tax ..	182	584	732	1,046	1,504	5·5
5. Other Taxes ..	54	197	238	335	468	..
Total ..	1,439	4,393	5,482	8,141	11,753	4·8

4·21 *Customs Duty*: By far the largest source of tax revenue is customs duties more specifically, import duties. In 1979-80, import duties accounted for 40 percent of tax receipts. Revenue from import duties is estimated to increase over the Plan period at an annual rate of 3·3 percent though total merchandise import in real term will decline; this is due to reduced imports of non-dutiable items like food and fertilizer leading to a relatively higher growth of dutiable commodity imports. Dutiable imports are expected to grow at an annual rate of 3.3 percent. Since the dutiable import will grow slower, it is likely that overall rate of import duty may tend to decline as import will contain relatively less of high duty luxury goods; however, this tendency will be counter-balanced by import under wage earner scheme which concentrates more or less on essential items. As the Plan proposes additional taxes whose mainstay will be domestic output, the share of import duty in total taxes may as a result decline by 1984-85. During the Plan period, duty rates on manufactures and their raw materials will also need to be rationalized to meet the need of local industries and ensure efficient use of domestic resources.

4.22 *Excise Duty* : Excise duty is mostly collected from a few selected items like cigarettes, POL products, natural gas, sugar and cement, primarily as specific duties. Because of administrative problems, medium and small industries are largely free of excise duty; but as the Second Plan emphasises the growth of these sectors, they can hardly be left out. The problem in broadening the tax base is that an elaborate tax machinery will be needed for agricultural tax. A serious weakness of the present excise duty system lies in its dependence on specific rates which can not respond quickly to inflationary conditions. Unless specific rates are increased along with inflation, excise duties will decline in real terms with inflation. Even where rates are *ad valorem*, the fact that when prices are administered by the Government as in cigarettes and are not changed over time, these *ad valorem* rates are no better than specific rates. This is an issue which will receive further consideration in view of rising price level and consequent fall in real resource of the Government. At current rates, however, collection from excise duty is estimated to rise to Tk. 2,013 crore in 1984-85 as against Tk. 294 crore in 1979-80 as a result of expansion of output of excisable commodities. But it needs to be emphasized that as the general price will rise, the purchasing power of Tk. 2,013 crore will be Tk. 1,420 crore only. Thus in spite of considerable growth in excise revenue at current rates, in constant price terms, there will be in fact a decline in excise revenue over the Plan period as a result of increases in general price level unless the specific rates are adjusted to changing price level. There is, therefore, a strong reason to replace specific rates by *ad valorem* rates or else to raise specific rates with inflation.

4.23 *Sales Taxes*: Sales taxes are partly levied on imports along with import duties, and partly on domestic output. The former is, however, the major component. In 1979-80, sales taxes on import accounted for Tk. 260 crore in a total collection of Tk. 284 crore; therefore, sales taxes share the same weakness as import duties are subject to. Sales taxes on domestic output and services manifests the narrow base of the tax structure. Beside this, there is need to further rationalise sales taxes with excises as alternative tax measures, depending on their relative conveniences and production and distribution systems. The estimate for sales tax is Tk. 1,515 crore for the Plan period at 1979-80 rates; but this can be further augmented if tax administration is strengthened and measures are taken on the basis of recommendations of the Taxation Enquiry Commission.

4.24 *Income Tax* : The Second Plan's estimate for income tax is Tk. 1,046 crore, about 14 percent of projected tax revenue. Its share will thus remain low, which militates against equity principle. However, it should also be recognised that it reflects the character of the economy which is dominated by a subsistence agriculture such that more than half of the national income which arises from agriculture is difficult to reach by the administrative machinery for taxes. But as agricultural development is the core of the Second Plan, it will be necessary also to give greater attention to agricultural taxation to meet urgent need of domestic resources. It should further be mentioned that the current low ratio of direct to indirect tax is partly due to the treatment of Government officials as net of income tax; if these were taxed the share of direct tax would have been higher than it is now. Though tax on such salaries will require

an upward adjustment of salaries, thereby resulting in compensatory fiscal effects, it may still have some beneficial effect from the point of view of incentives for investments and savings as salary recipients may like to take advantage of such incentives. So, on economic grounds, taxing salaries of Government officials alongwith tax adjustment of salaries needs careful consideration.

4.25 *Tax Administration*: Taxation Enquiry Commission had laid considerable emphasis on tax administration. Its recommendations included strengthening of manpower, both numerically and qualitatively, providing physical facilities and logistic support and promotion of tax consciousness through public relation. It is noted that with changes in the structure of the economy which will follow development, the tax structure also should undergo change; therefore, the Commission correctly emphasised the need for tax planning, for which it recommended setting up a research unit in the National Board of Revenue. The Commission also recommended introduction of a land-based presumptive agriculture tax on potential income from land. But as agriculture by nature extends over the length and breadth of the country, administration of such a tax will require setting up an elaborate tax machinery. How elaborate such a machinery should have to be can be measured by existing organisation of land revenue. It is, however, admitted that if income tax has to be broad based and agricultural tax has to be effective, there is no alternative way to do this; but the experience with land revenue administration suggests determined but calculated approach to the problem. A further point to consider in laying an effective tax machinery for this purpose is the fact that excise collection shall have to be widely diffused with the dispersal of industries; it is, therefore, urgently necessary to decide whether at local levels both agricultural tax and excise tax administration should be located in the same office so as to reduce the cost of their administration. In this connection, it also needs to be recognised that there are agricultural crops (*e.g.*, tobacco and sugarcane) which are already under excise or cess. If these two taxes are administrated by a single organisation, significant economy can be achieved in extending both the tax bases to the production level. The essential point is that an altogether new approach to tax administration is needed to match the need of development strategy. For the Second Plan which emphasizes rural development and dispersal of industries, a new type of tax organization should be developed if resources commensurate with development is to be mobilized. Improvement of tax administration also refers to simplification of systems and procedures, rationalization of tax and tariff rates, review of exemptions etc.

4.26 **Revenue Expenditure:** It has been mentioned before that during the 1970s, Government revenue expenditure (public consumption) rose quite fast, faster than the GDP growth and closer to the growth of revenue. In view of increasing severity of resource constraint on expanded development programme, it is necessary to contain revenue expenditure along with measures for additional resource mobilization so that increasing amount of tax revenue is available to meet the needs of development expenditure. Since an upward shift in revenue expenditure needed for setting up the organisation of the national Government had been brought about in 1970s, it is natural to expect that the growth of revenue expenditure will be slower during the Second Plan period than in the past. Creation of additional Governmental machinery or expansion of bureaucracy should be scrutinized very carefully while deployment of existing staff and systematic improvement of efficiency should be given greater attention. It is, therefore,

proposed that against the prospect of real GDP growth rate of 5·4 percent, the revenue expenditure should grow at no more than 4·2 percent a year, so as to allow public savings to grow with development need. A 4·2 percent growth in revenue expenditure means an expenditure of Tk. 1,518 crore in 1984/85 against Tk. 1,236 crore incurred in 1979/80 both at 1979/80 prices. Total current expenditure during the Plan period has been estimated at Tk. 7,202 crore at 1979-80 prices and Tk. 10,278 crore at current prices. Up to 1982/83, total revenue expenditure at current prices was Tk. 5,335 crore. The proposed level of expenditure assumes elimination of food subsidy except for the target groups and provides for inflationary adjustment in salaries of public employees. With total revenue receipts at Tk. 10,040 crore and current expenditure at Tk. 7,202 crore, total revenue surplus during the Plan period is estimated at Tk. 2,838 crore. In the first three years (1980/83), revenue surplus amounted to Tk. 1,886 crore at 1979-80 prices and Tk. 2,297 crore at current prices.

Mobilization of Additional Resources

4.27 *Tax Measures:* Projected tax receipts on the basis of existing taxes as shown in table 4.7 will grow at the rate of 4.8 percent as against the planned GDP growth rate of 5.4 percent; this means if no additional tax measures are taken, the tax/ GDP ratio will decline over the Plan period from 7·9 percent in 1979/80 to 7·5 percent in 1984-85, even if excise rates change with prices. The main reason for this decline, as mentioned already, is that a substantial part of the growth of GDP is planned to arise in the agricultural sector which is currently very lightly taxed. To arrest the decline, additional tax measures will be taken during the Plan period. If Tax/GDP ratio of 1979/80 is to be protected in real terms, Tk. 307 crore shall have to be raised as additional taxes. Against this, the Plan proposes an additional tax of Tk. 1,215 crore only in real terms *plus* Tk. 593 crore for protecting the value of excise duties at initial rates in real term. In order to meet the resource need of the public sector, the Plan is based on the assumption of an additional tax revenue of Tk.1,215 crore and an additional non-tax revenue of Tk. 152 crore to be mobilized through new fiscal measures. Out of Tk. 1,215 crore, Tk. 881 crore is estimated to have been realised as new tax measures taken in the first three years of the Plan. The proposed additional tax will raise the Tax/GDP ratio to 9·5 percent in 1984/85. Admittedly, the success in this respect will depend not just on introduction of new tax and non-tax measures but on the effectiveness of their administration. There exists considerable tax potentials in the domestic sector to explore. The low tax/GDP ratio (7.9 percent) is indicative of such potentials. As mentioned already, agricultural income and outputs of small and medium industries are very little taxed today.

4.28 A major defect of the present tax system in relation to the domestic sector is that it virtually exempts agriculture from direct taxation in spite of recent increase in the taxable capacity of this sector. The integration of agriculture income tax with general income tax in 1976 did not materially change the position mainly because of the problems of administering the tax. The Land Development Tax introduced in the same year in modification of Land Revenue has also proved to be a poor substitute for effective tax on the agriculture sector. The Taxation Enquiry Commission (1979) after careful examination of all the possibilities of taxation of agricultural income recommended introduction of a graduated land tax on the potential agricultural income. In order to collect a some what higher proportion of incremental income during SFYP period so as to make the tax system more dynamic and equitable than at present, agricultural income would need to be taxed broadly on lines recommended by the Taxation Enquiry Commission.

4.29 The above measures will reduce excessive dependence of the present tax system on imports which has been the source of instability and uncertainty in revenue collection. It is desirable that in future more reliance is placed on taxation of domestic income and output. The tax base of domestic goods is particularly narrow because of exemption allowed to a large number of items subject to excise and sales tax. Many of these exemptions cannot be justified either on grounds of economic incentives or social equity. The yield of excise duty can be increased substantially by increasing selectively the tax rates, withdrawing or reducing the exemptions which are no longer desirable and introducing new taxes. In particular, as inflation does not seem to wane out, replacement of specific duties by *ad valorem* taxes should be urgently considered. It should be recognized that because of greater emphasis on small and medium industries, administration of excise duties will be increasingly difficult but if adequate resources are to be raised to finance the Plan, the challenge has to be faced and tax administration improved in line discussed herein before.

4.30 The present tax system provides far too many exemptions, deductions and concessions intended to stimulate private savings and investments, to provide incentive for work, to promote balanced regional growth and to attain social goals through private initiative. All these water down the effective rate of tax resulting in a low tax/GDP ratio. In view of the socio-economic imperatives for development against severe resource limitation, all these concessions should be continuously subjected to critical review to determine their contributions to desired objectives. Another lightly taxed area is urban property which has gained most from the inflation of the last decade. A house rent tax introduced in 1974-75 but discontinued later merits reconsideration under mounting resource problem. The Plan cannot but emphasize the point that while fiscal policy need not be pursued singularly for the interest of revenue, a fiscal concession needs to satisfy the test that not only the non-revenue goal was more desirable to pursue than the revenue goal but also that the revenue foregone could not help attain the non-revenue goal also.

4.31 *Non-tax Measures:* In addition to new measures, efforts will be required to ensure efficient use of resources. Towards this goal, the public sector corporations and public agencies will be called upon to contribute a minimum return on their capital stock. To create an attitude for efficient operation of their subsidiary enterprises, the target rates of profit need to be specified for each corporation. Enterprises should be provided adequate capital structure, reasonable autonomy in purchase and sales policies and freedom in price fixation and labour management. Enterprises which have little prospect of making profit will be gradually disinvested. As mentioned already, the financial performances of some of the corporations has to go a long way to contribute to the nation's overall development efforts.

4.32 Effective and concerted actions would have to be taken during the SFYP period to ensure a satisfactory rate of return on investments in the public utilities also. These would include measures to improve overall management efficiency, to reduce unit cost through improved capacity utilization, production planning, programming of material purchases, and elimination of idle-line and wastages and to raise plant efficiency through proper maintenance and replacement of machineries and equipment. Special attention needs to be focussed on the operation of the power and transport sectors not only because that they become pre-eminently losing concerns but also for the reason that their inefficiency and high cost affect efficiency of industries and other user sectors.

Bank Borrowing

4.33 The Plan envisages that Government would resort to borrowing for purposes of financing its food stock. This kind of borrowing will be free from inflationary effects since it will be resorted to when good crop may lead to a large market surplus; rather, this kind of borrowing is likely to have a salutary effect in maintaining the incentive price for food production. Borrowing from the banking system for financing the Plan is not *per se* inflationary if this is backed by private saving. On the contrary, public borrowing may be necessary for meeting the demand for financial assets and for the expansion of credit base of the banking system in order to bring the large non-monetized sector into market mechanism. If the savings that will arise from additional money income of the rural sector as a result of food procurement can be efficiently mobilized by the banking system, the impact of bank borrowing on money and credit can be managed syncrometically with good harvest.

II. PRIVATE SAVINGS MOBILIZATION

Monetary and Credit Policy

4.34 One of the most unsettling features of the Seventies has been a large monetary expansion adding to inflationary pressure. Narrow money supply (currency in circulation *plus* demand deposits) more than doubled from Tk. 696 crore in June 1973 to Tk.1,698 crore in June 1980. This gives an annual increase of 13·6 percent against a real growth of GDP of 5·8 percent a year over the same period. The ratio of money to GDP (at 1972/73 prices) rose from 15·4 percent in 1973 to 24·5 percent in June 1980.

4.35 Domestic monetary expansion and continued world inflation together with frequent crop failures defeated one of the basic conditions of planned development *i.e.*, price stability. In a developing economy with structural rigidities in the domestic production sector and with heavy dependence on foreign aid, a policy of monetary expansion consistent with growth of output and adequate supply of credit for the productive sectors should be the keynote of monetary policy. The aim of monetary policy of SFYP is, therefore, to ensure liquidity expansion within safe limit, *i.e.*, it must not exceed what is warranted by the growth of GDP, rate of monetization of the subsistence sector and such price increases for goods and services as may be necessary to reflect their true resource cost, rather their scarcity. It is not possible to precisely forecast the extent of likely price increase during the Plan period as some of the features such as import price and weather affecting agricultural output are beyond the realm of economic control, but all efforts will be made through increased supply and productivity and credit and budgetary mechanisms to keep the rate of inflation at a low level.

4.36 As a result of the production plan, the rate of monetization of the economy will increase during the Second Plan period. Though the share of agricultural sector in GDP will remain unchanged at about 51 percent, there will be increasing commercialization of the agricultural sector including food leading to the availability of greater amount of agricultural surpluses in the markets. Agricultural input programme also means more commercial transactions. On these grounds, the liquidity need during the Plan period will grow faster than GDP growth. It is estimated to rise from Tk.3,431

crore in 1979/80 to Tk.6,517 crore in 1984/85. The following table shows the broad dimension of likely expansion of money supply and liquidity during the Plan period.

TABLE 4.5

Expansion of Money Supply and Liquidity

[Tk. in crore]

Component.	1979/80	1984/85	Change.
(1) Money Supply	1,699	3,313	1,614
Currency in Circulation	720	1,432	712
Demand Deposits	978	1,881	903
(2) Time Deposits	1,732	3,204	1,472
(3) Liquidity (1+2)	3,431	6,517	3,086

4·37 The projection of credit requirement assumes that the discipline in the fiscal operation will be maintained and credit to Government sector will not increase except for food operations for price support to farmers. It will be necessary to increase the flow of credit to the rural sector during SFYP in line with the emphasis on agricultural and rural development. Besides the use of modern inputs for attainment of self-sufficiency in foodgrains, substantial increase in non-farm activities also is envisaged during the Plan period. Adequate credit would have to be ensured to small farmers, share-croppers and rural industries. The requirement of investment credit to be financed by the banking system includes debenture financing for House Building Finance Corporation by Bangladesh Bank and commercial banks, debenture financing of a part of the Annual Development Programme by commercial banks and loans to Jatiya Samabaya Bank by Bangladesh Bank.

4·38 The expansion of credit during the Plan period has to be subject to necessary discipline by selective credit control so as to direct it to more productive sectors. With limit on Government sector which often works as pace-setter in the credit mechanism of the banking system, the latter will have to rely more on private savings to build up its resource base for meeting the credit need of the economy during the Plan period.

4·39 **Interest Rate Policy:** In the past low real rate of interest inhibited private savings and also frustrated the efforts of financial institutions to a great extent while savings have been diverted to unproductive investments such as in real estates, speculative trade, hoarding and gold purchase. Calculations show that the real rate of return on fixed deposits declined from 5·3 percent to 5·1 percent between 1976 and 1979 in spite of an increase in deposit rates over higher ranges, savings are interest-elastic; therefore, to attract substantial savings, rate of interest would have to be high. A positive interest rate policy, calling for substantial increase in deposit rates of commercial banks and other financial intermediaries will stimulate savings and help financial institutions to direct a significant volume of private savings to more productive and urgent uses under the nation building programme.

4.40 An active interest rate policy will also take care of the fast growing demand for short-term credit and the need for wider resource base of the banking system in an expanding economy. The switch-over from currency to deposits will on the one hand reduce commercial banks' dependence on borrowings from the Central Bank and will, on the other hand, expand the area of operation and enhance the effectiveness of the monetary policy measures. The reduction in the currency ratio in the economy will also lead to an increase in money multiplier which will correspondingly reduce the need for reserve money and scheduled banks' need for recourse to borrowings from Bangladesh Bank.

4·41 Like the deposit rates, the lending rates also have not been in line with inflation rate; in fact, they are much below the money market rates which has caused excessive demand for institutional credit. Such a cheap money policy is not only inflationary but also often less productive as it distorts efficient allocation of resources. Relatively low lending rates favour uses with low profitability to compete with uses with high profitability for bank funds. Thus low rates which do not reflect opportunity cost of foregoing current consumption inhibit savings on the one hand and interfere with most productive use of savings on the other hand. There is, therefore, necessity to raise both deposit and lending rates. By reflecting the true cost of capital, the positive interest rate policy would also induce the borrowers to utilise their capital more efficiently. High lending rate will also encourage labour intensive activities which is a major development strategy of SFYP as it will make capital-intensive technology to bear the full cost of saving.

4·42 It may not be enough to make once-a-while upward revision in the current deposit and lending rates. The interest rate policy should be flexible as to enable the system to adjust to changes in the rate of inflation and business condition. The reforms in interest rate structure should also reflect social priorities by giving preferential treatment to desired sectors like exports, rural industries, agriculture and self-employed persons.

Private Savings

4·43 The Plan estimate of private savings is Tk.6,234 crore. The estimate of private savings has been derived residually as a gap in investment over the estimate of public savings and foreign capital inflow. Private and public savings together will constitute 8 percent of GDP in 1984/85 against 4·5 percent in 1979/80; from recent experience it appears that this target rate of savings will not be difficult to achieve. Its realization will however, require pursuing positive interest rate policy, greater institutional efforts for mobilization of currency, expansion of opportunities for productive investment and improvement in overall investment climate. Besides bank deposits the scope of holding financial assets such as debentures, shares, stocks and bonds, saving certificates, life insurance policies, etc. will need to be expanded. A sizable amount of private savings during the Plan period is, however, expected to be in the form of time deposits. This component is estimated at Tk. 1,492 crore. Since a significant part of incremental GDP will accrue to the rural sector where banking facilities are not fully developed and banking habit of people is yet to grow, much will depend on how the banking system grows in the rural areas.

4·44 In order to mobilize private savings, the commercial banks, side by side with expansion of branches, should undertake motivation programmes to promote savings habit, introduce special deposit schemes and improve customer services. Besides the commercial banks, an important instrument of mobilizing small private saving is the life insurance policy. Jiban Bima Corporation and other financial intermediaries must diversify their activities and show dynamism in attracting private savings particularly by planning wide choice of savings and insurance schemes. New institutions like Mutual Fund, Investment Trust, etc. should be established to meet their need better. Though reactivated, the role of the stock exchange in mobilizing savings is still insignificant due mainly to the small size of the corporate sector, absence of liquidity of shares and information gap in respect of their operational results such as income and balance-sheet. The role of the stock exchange indeed will depend on how the private sector organises itself. Private enterprises are primarily family enterprises organized as sole-tradership, partnership or private limited companies. Unless private enterprises transform themselves into public limited companies opening thereby the opportunity for public subscriptions, the role of stock exchange as mobilizer of saving will be limited. Therefore, fiscal incentive will be necessary to encourage formation of public limited companies. New instruments for long-term savings including shares with risk of varying degrees may provide avenues for investment by households and saving institutions. In this respect, Government has already taken important steps by disinvesting some of its vested shares in foreign companies. These shares together with few other shares which ICB has already underwritten will provide an initial portfolio of investment for floating mutual funds. With favourable response from investors, more of Government holdings in foreign companies could be unloaded for public subscriptions through the mechanism of mutual fund. Government could also consider disinvestment of minority shares of some of the existing public sector enterprises for public subscription either through mutual fund or issue of unit certificates of ICB. The ICB has recently established a mutual fund with a portfolio of Tk. 50 lakh.

4·45 In all these Programmes, special emphasis should be given to mop up rural savings and savings of the Bangladeshis abroad. Larger development expenditure, more rewarding agricultural price and increased flow of credit to rural areas will raise rural income by a substantial margin. In the absence of adequate investment opportunities, a large part of earnings of Bangladeshi nationals abroad is put to unproductive investment in land and gold purchases. A significant part of such income may be mobilized under various savings schemes.

CHAPTER V

BALANCE OF PAYMENTS AND EXTERNAL RESOURCES

A REVIEW OF THE EXTERNAL SECTOR.

The balance of payments position of Bangladesh has been characterized by a growing deficit and dependence on workers' remittances and foreign aid to finance it. Between 1973/74 and 1979/80, the import bill rose from Tk. 740 crore to Tk. 3,667 crore or from $ 925 million to $ 2,366 million. In current dollars import increased at an annual rate of about 17 percent though in real terms (at 1972/73 prices) 5·6 percent only. Against this, exports increased from Tk. 290 crore ($363 million) to Tk. 1,118 crore ($721 million) giving an annual growth rate of 12·1 per cent in current dollars terms and no growth in real terms (at 1972-73 prices) over the same period. The widening gap was partly needed to absorb an increased flow of external resources in order to finance a level of investment higher than domestic saving, and largely caused by the deteriorating terms of trade. In 1973/74 Bangladesh received Tk. 365 crore in foreign aid, which rose to Tk. 1,896 crore in 1979/80 in nominal terms, but in real terms (at 1972/73 import prices), it increased from Tk. 211 crore ($ 264 million) in 1973/74 to Tk. 590 crore ($738 million) in 1979/80. It financed 49 percent of the import bill in 1973/74 and 52 percent in 1979/80. As a percentage of GDP, disbursement of foreign aid rose from 5·1 per cent to 10·4 per cent over the same period.

5·2 The balance of payments gap itself is not, however, a peculiar phenomenon for a developing country. For the balance of payments gap is not a pure foreign currency payment gap in the current account but is needed to absorb foreign aid for financing investment exceeding the capacity of domestic savings; therefore, the gap is endured in-so-far as foreign aid can cover it and further justified when the gap is widened by deterioration in terms of trade as it implies outflow of resources.

5.3 The terms of trade went down to 71 in 1979/80 (1972/73=100). It reached its lowest point (54) in 1974-75 at the close of which taka was devalued by 58 per cent. The terms of trade detriorated as unit prices of exports failed to keep pace with the rise in the unit prices of imports. The index of export prices rose slowly from 128·9 in 1974/75 (1972/73=100) to 227·0 in 1979/80. This indicates the weakness of the export regime due to an excessive dependence on a few primary commodities and manufactures thereof, which have experienced low demand growth. While the prices of exports failed to take advantage of international inflation, the import price index rose sharply from 173·1 in 1973/74 to 321·3 in 1979/80. The sharp rise in oil prices was undoubtedly an important factor, but does not wholly explain it. Bangladesh imported 10·77 lakh tons of crude petroleum and petroleum products in 1973/74 at a cost of Tk. 66 crore ($ 84 million); in 1979/80 the figures were 17·51 lakh tons and Tk. 596 crore ($ 384 million) respectively. In terms of increase in import prices, crude and petroleum products account for 52 per cent of the rise in the import price index. Inflation in the western industrial economies led to sustained increases in the prices of foodgrains, cotton, fertilizer, industrial raw materials, cement and capital goods which Bangladesh imported during the second half of 1970s.

5.4 Though the imports regime continued to remain basic consumption oriented, a significant shift in favour of intermediate goods to utilise domestic capacities and capital goods to support growth in investment took place in the second half of the 1970s. The foodgrain import averaged 17 lakh tons per annum during 1973/74 and 1979/80, the level fluctuating with domestic production; it accounted for 25 per cent of the import bill on an average. Import of non-foodgrain consumer goods such as edible oil, textiles, milk food, pharmaceuticals, etc. increased from Tk. 142 crore ($ 178 million) in 1973/74 to Tk. 527 crore ($ 340 million) in 1979/80. In 1979/80, 53 percent of non-foodgrain import comprised intermediate goods and 27 per cent capital goods as compared to 48 percent and 22 percent respectively in 1973/74. The share of consumer goods declined to 20 percent in 1979/80 from 30 percent in 1973/74.

5.5 Export earnings in 1979/80 represented about 6 percent of GDP and financed 30 per cent of the import bill. This share of exports in GDP is not only very low compared to the countries of South East Asia, export structure also continues to be dominated by jute and jute goods, which together accounted for 73 per cent of export earnings in 1979/80 and six products namely jute, goods, tea, leather, frozen fish, paper and newsprint for 94 per cent of export earnings.

5.6 Another important thing to note is that there was no significant growth in the volume of exports between 1972/73 and 1979/80; the volume of raw jute shipment actually declined while that of jute goods remained virtually stagnant at 1972/73 level. The growth in export earnings since 1976/77 had been primarily due to price increases. The demand for Bangladeshi products remained strong in the second half of 1970s and more quantities of almost all exportables could have been marketed if greater supplies were available. After devaluation of the Taka in 1975 and exchange rate adjustments in the subsequent years, the price competitiveness of jute *vis-a-vis* synthetic substitutes improved considerably. But supply of raw jute failed to increase due to lack of technological progress in jute cultivation and unattractive returns to farmers from jute relatively to those from rice. Production of raw jute remained below the level achieved in the 1960s, while that of jute goods remained much below installed capacities for lack of balancing and modernization of the mills, power failures, labour indiscipline and low managerial efficiency. Despite a strong demand for jute carpets, export was limited by demestic capacity. The export of tea increased steadily and reached 65 million lbs. in 1975/76 but declined afterwards due to weakening of word demand and inadequate marketing efforts.

5.7 Consequently, foreign economic assistance has been the major source of financing current account deficit. Disbussement of foreign aid has grown over the years; total disbursement amounted to Tk. 1,896 crore ($ 1,223 million) in 1979/80 as compared with Tk. 365 crore ($456 million) in 1973/74. Qualitative change in the utilization of foreign aid also occurred as increasingly more project aid was utilised. Disbursement of project aid rose to Tk. 729 crore in 1979/80 as compared to Tk. 99 crore in 1973/74. Under conditions of growing foreign exchange scarcity commodity aid remained the dominant category of external assistance till 1978/79 and it was increasing utilised for a variety of raw materials import.

5.8 Debt services payments (including short term borrowings) amounted to Tk. 205 crore in 1979/80 despite debt relief provided by several donors, and debt services as a ratio of merchandise export earnings reached 18 per cent in that year. Unless export earnings grow at a faster rate and donors provide assistance mainly in the form of grants, import capacitoy of the economy would be adversely affected by growing debt service payments in the coming years.

B. BALANCE OF PAYMENTS STRATEGIES

5.9 The review in the previous section brings out the basic weaknesses of Bangladesh's external sector and also indicates possible areas to concentrate on in so far as government policies in the Second Five Year Plan are concerned. The major balance of payments objective of the Plan is to restrain export-import gap from widening beyond the level of foreseeable external assistance. This is sought to be achieved by securing a higher growth of exports, substituting imports as far as practicable and containing import of non-essentials and encouraging workers' remittances. It is recognized that structural change of the export regime is difficult in the medium term. Therefore, the Plan, while envisaging laying of a foundation for long term export development emphasizes utilization of existing production potentials for export expansion in jute, jute goods,leather, tea, marine fish and newsprint. For all these traditional items, what will be needed to increase exports is aggressive marketing coupled with quality improvement. The other exportables which have promising potentials for rapid growth in the medium term are vegetables, handicrafts, readymade garments and textiles. At the same time, the emphasis will be on increasing value added by replacing export of raw materials and semi-processed goods (e.g. leather) by manufactured exports. The industrial programme will be oriented toward export of labour intensive manufactures as well as gas-based products in which the economy has comparative advantage such as urea fertilizer.

5.10 It will be necessary to devise appropriate incentives and develop infrastructure for encouraging exports including internal transport, shipping, port and warehousing facilities, improved packaging and strict enforcement of quality control standards. The success of Bangladesh's export development programme will depend critically on most favoured nation treatment for our exports in both developed and developing countries and early negotiation on commodities of vital importance (*i. e.* jute, tea, leather) under Integrated Commodities Programme. To secure an increasing share of foreign trade, services of the Shipping Corporation and the Sadharan Bima will have to be further expanded. Migrant remittances has shown to be a very promising source of foreign exchange earnings. This will need to be promoted by implementing a comprehensive programme for technical training of potential migrant workers in trade, crafts and other vocations and by expanding opportunities of profitable investment of emigrants' savings in Bangladesh.

5.11 All the measures, noted above, for augmenting foreign exchange earnings would not alone be sufficient to reduce the pressure on the balance of payments. Therefore, along with maximum efforts for export promotion, an optimum import substitution programme is required to be implemented during the Plan period. Bangladesh has already achieved some success in this regard and still there are potentials for increasing significantly domestic output replacing import of foodgrains, edible oil, cotton, pulses, fertilizer, petroleum, cement, pharmaceuticals, simple tools and equipments. The Plan attaches high priority to the attainment of self-sufficiency in foodgrains as early as possible. The industrial programme is expected to meet the entire requirement of ureas fertilizer domestically, to provide basic needs like cotton cloth, paper and pharmaceuticals, and to supply irrigation pumps, engines and electrical equipment from the local industry. To protect domestic industries against unfair foreign competition, import of commodities for which domestic capacities exist will be restricted and impirt of luxury consumer goods will be made prohibitively expensive using tariff and exchange policies.

5.12 It is recognised that though the present dependence on foreign capital inflow for financing investment is quite large, foreign aid is not a substitute for domestic resources mobilization efforts. The compulsions of achieving a reasonably high rate of growth in

GDP and per capita income, of securing basic minimum needs of the common man and initiating structural transformation of the economy in the decade of 1980s call for significantly stepping up the level of investment. As indicated in Chapter III, the envisaged growth targets of the Plan would require investment/GDP ratio to rise to 21·2 per cent in 1984/85 from about 16·7 percent in 1979/80. The Plan aims at rising savings/GDP ratio from 4·5 percent in 1979/80 to 9·5 percent in 1984/85 by increasing government revenues and economising on current expenditure, improving financial performance of public enterprises and utilities, and encouraging private savings. Despite the envisaged efforts at maximum mobilisation of domestic resources, implementation of the Plan will crucially depend on the real resource flow from the external sources. Bangladesh, as a least developed country, needs a substantially expanded flow of real resource transfers to make meaningful progress towards alleviation of mass poverty. The Plan envisages aid inflow to increase at about the same rate as in the recent past; the per capita net aid inflow is expected to increase to US $ 16 in 1984/85 from US $ 14 in 1979/80.

5.13 As food aid will decline with a progressive expansion in domestic output, foreign aid will be utilised largely for financing imports of industrial raw materials and capital goods. Therefore, there will be need for more commodity and project aid at concessional terms and with improved modalities. In the recent years, the commitment and disbursement of aid have been unstable, and in order to ensure a steady flow of aid, actions will be required by the Government and the donors for further improvement in appraisal, negotiations and procurement procedures.

C. PROJECTION OF BALANCE OF PAYMENTS AND FOREIGN CAPITAL INFLOW

5.14 The Second Five Year Plan assumes the external sector to be a vehicle for realising domestic production possibilities, expansion of employment and transfer of technology. The production programmes in different sectors have been designed to achieve sustained growth of exports with emphasis on product development, and for maximum possible import substitution so as to ensure best possible use of domestic resources. Details of the balance of payments and foreign capital inflow projections during the Plan are discussed below.

C.I. Import Payments

5.15 Total merchandise imports (at 1979/80 c.i.f. prices) are estimated to cost Tk. 17,802 crore in five years of the Plan; the import bill will amount to Tk. 3,719 crore in 1984/85 as compared with Tk. 3,667 crore in 1979/80. The value of foodgrains import is estimated at Tk. 2,013 crore or 11·3 per cent of total merchandise imports over the Plan period as against 26 percent in 1979/80. Non-food import is projected to increase at an annual rate of 5·5 percent, value of import rising to Tk. 3,525 crore in 1994/85 from Tk. 2,702 crore in 1979/80. The projected growth rate for nonfoodgrain import is substantially lower than the realised growth rate of 11·3 per cent over the past five years.

5·16 The projection of non-food imports takes into consideration (a) the time phasing of development programme over the Plan period and (b) the likely path of growth in consumption and domestic production of various commodities. Non-foodgrain imports are projected to provide (a) a steady flow of essential consumer goods in order to ensure the desired level of per capita consumption; (b) supply of raw materials and maintenance spares for better utilisation of existing and new capacities in agriculture, manufacturing, energy, transport and other sectors; and (c) construction materials and capital goods

envisaged in the investment programmes of the public and private sectors. Forward programming of imports and maintenance of a minimum inventory level of essential commodities will not only avoid periodic scarcities but will also free the administrative machinery from the burden of dealing with temporary but recurring crises. Therefore, in estimating the import requirement of different commodities, a minimum inventory level of important items like foodgrains, fertilizer, cement, steel and iron, cotton, petroleum and coal has been built into the projection.

5.17 Of total non-foodgrain imports, intermediate goods will comprise roughly 51 per cent, capital goods 31 per cent and consumer goods 18 per cent. With increases in domestic production, import of consumer and intermediate goods will gradually decline during the Plan period; the proportion of intermediate goods is expected to decline to 48 percent in the terminal year from 53 percent in 1979/80 and consumer goods 17 percent as compared to nearly 20 per cent in the base year. Import of capital goods will increase as no substantial import substitution capacity in capital goods is expected during the Plan period.

5.18 Projection of merchandise imports by major commodities is presented in Table 5.1.

TABLE 5.1

Projection of Merchandise Imports by Major Commodities (at 1979/80 c. i. f. prices)

[*Value in crore Taka*]

	Unit	1979/80		1984/85	
		Quantity	Value	Quantity	Value
1. Foodgrains	Lakh tons	28	965	6	194
2. Edible oil	Thousand tons	78	105	115	155
3. Oil seeds	Thousand tons	24	13	38	21
4. Petroleum Products	Thousand tons	474	199	460	193
5. Crude Petroleum	Thousand tons	1277	397	1400	435
6. Cotton (including staple fibre)	Thousand bales	182	88	415	201
7. Cotton and synthetic yarn	Lakh lbs.	72	17	160	38
8. Textiles	..	..	53	..	48
9. Fertilizer	Thousand tons	576	207	420	151
10. Cement	Thousand tons	489	56	900	104
11. Capital goods	...	..	736	..	1230
12. Other raw materials	...	...	598	...	700
13. Other cosumer goods	...	..	233	..	249
		Total	3667		3719

5.19 The assumption underlying the projection of imports of different commodities are discussed below :

5.20 *Foodgrains*: The Medium Term Food Production Plan (MTFPP) aims at increasing foodgrains output to 200 lakh tons in 1984/85 from an estimated 133·5 lakh tons in 1979/80. However, in view of the difficulties in mobilizing adequate resources for the implementation of MTFPP, foodgrains output may not exceed 175 lakh tons in 1984/85. Net availability from domestic supplies is estimated at 158 lakh tons in 1984/85 compared to about 120 lakh tons in the base year. Consumption of foodgrains, calculated on the basis of population growth and increase in per captia real income, is expected to rise to 157 lakh tons in 1984/85. Therefore, no import of foodgrains should normally be assumed in the terminal year of the Plan.

5.21 It may be mentioned that the country has gone through experience of importing and distributing large quantity of foodgrains in the year of crop failures while substantial domestic procurement is under taken in the years of good harvest. Emergency import has often been resorted to by the Government straining its limited budgetory and administrative resources. A lesson of this experience is the desirability of maintaining an adequate stock level both for food security and open market operations. Against a terminal year output of 175 lakh tons and consumption of 157 lakh tons, a stock level of 20 lakh tons (including 5 lakh tons security reserve) is needed in 1984/85. A stock level of 20 lakh tons is considered desirable for maintaining steady supply through public distribution system and for intervention purpose. As production increases, an expanded and efficient system of domestic procurement able to prevent foodgrain prices from falling below incentive level (floor price) on the one hand and to undertake open market operations to check excessive price increase in lean months on the other will have to be established.

5.22 Total import requirements of foodgrains are estimated at 64 lakh tons during the Plan period though import will decline to 14 lakh tons in 1983/84 and 6 lakh tons in 1984/85 as compared to about 28 lakh tons in 1979/80. However, vagaries of nature which make outcome of harvests unpredictable may require additional import of foodgrain in the event of a shortfall in domestic output.

5.23 *Fertilizer* : Use of chemical fertilizer has increased on a sustained basis since 1975/76. However, fertilizer is currently used only in 10 percent of cropped acres and there is serious nutritional imbalance. The agricultural programme envisages substantial growth in chemical fertilizer use; fertilizer use is expected to increase to 13·8 lakh tons in 1984/85 from around 8·4 lakh tons in 1979/80. From experience it has been established that a stock equivalent to 5 months distribution target is needed for imported fertilizers in order to make this imporant input available in appropriate time and place. With an expansion of domestic production of urea BADC will be able to manage distribution programme with less stock and domestic supply of urea is assumed to meet entirely the requirement of urea. In order to correct imbalance in fertilizer use an increasingly more quantity of TSP and MP will have to be used. As domestic capacity for production of TSP is limited, an increasing quantity will be imported to achieve distribution targets. Import requirement of fertilizer is estimated at 4·2 lakh tons in 1984/85 as compared to 5·8 lakh tons in 1979/80.

5.24 *Cotton and Textiles* : Under the Industries Programme, domestic production of cloth will increase by around 63 percent during the Plan period; 98 crore yards of cloth may be produced in 1984/85 as compared to about 60 crore yards produced in 1979/80.

About 86 percent of this cloth is expected to be produced by the handlooms and small textile units. The existing spinning units and new capacities that will go into production are expected to produce most of the yarn requirements. Only fine yarn of higher counts will need to be imported.

5.25 Raw cotton and staple fibre, raw materials for textile industry, is now entirely imported. Bangladesh has the potential of substituting import of cotton to a significant extent but in the medium term domestic production will provide only a small fraction of the required cotton. Import of raw cotton is projected to increase to 3·6 lakh bales in 1984/85 from about 1·7 lakh bales in 1979/80. Import of staple fibre is projected to increase to facilitate 80 : 20 mix of cotton and viscose in yarn production.

5.26 *Crude Petroleum and Petroleum Products* : High cost of imported fuels has become the most serious burden on resources of non-oil producing like Bangladesh. With increase in the pace of development demand for commercial energy will go up during the Plan period. Crude petroleum, petroleum products and coal are entirely imported and these constitute over 60 percent of the commercial energy mix. In 1979/80, the cost of crude and petroleum products import was Tk. 596 crore claiming 53 percent of the export earnings. In order to reduce dependence on imported fuels, the energy programme gives priority to maximum use of natural gas. The programme is designed to substitute use of diesel in irrigation through electrification of pumps and tube-wells, that of kerosene in lighting and cooking by electrification of households in the rural and semi-urban areas, and expanding use of gas in power generation to replace use of diesel and furnance oil in the power plants, and replacement of furnance oil and kerosene by gas. The import demand for POL has been worked out taking into account requirements of agriculture, manufacturing, power, transport and other sectors and possible substitution by gas and electricity. As the import substitution and efficiency measures take effect, the consumption of petroleum products will be stabilised at 17·8 lakh tons in 1984/85 as compared to 16·5 lakh tons in 1979/80. In estimating crude import, it is assumed that Eastern Refinery will be able to process 14 lakh tons annually beginning in 1983/84.

5.27 *Cement* : The use of cement is estimated to increase from about 10 lakh tons in 1979/80 to 13·7 lakh tons in the terminal year of the Plan with the growth of construction activities in the public and private sectors. Since domestic production is only 350,000 tons, periodic shortage of cement has been a bottleneck for the construction sector. Import of cement is projected to increase from 4·89 lakh tons in 1979/80 to 9·00 lakh tons in 1984/85.

5.28 *Capital Goods* : Domestic capacities for production of capital goods are limited and some facilities are still in their early stages of manufacture. Consequently, most of the capital goods like irrigation engines and pumps, electrical and non-electrical machineries, transport and storage equipment will continue to be imported in the Plan period. In estimating import requirement of capital goods, possible domestic supply of irrigation pumps and engines, transport and electrical equipment, spares for jute and cotton textile industries has been taken into account. The value of capital goods import is estimated to increase to Tk. 1,230 crore (at 1979/80 prices) in 1984/85 from a level of Tk. 736 crore in 1979/80.

5.29 *Other Raw Materials* : This category includes a wide range of industrial raw materials like pig iron and scraps, dyes and chemicals, clinker, coal and coke, raw materials for pharmaceutical industries, tallow, bubber, rock phosphate, etc. While the requirement of these raw materials will increase for utilizing existing and planned new

industrial capacities, there will be no significant import substitution for these raw materials. Import of this group of raw materials is projected to increase to Tk. 700 crore in 1984/85 from a level of Tk. 598 crore in 1979/80.

5.30 *Other Consumer Goods* : This category covers items like milk food, drugs and medicine, spices, beverages, rubber products, books and periodicals, etc. During the Plan period, their demand is expected to increase, and domestic supply is assumed to meet a substantial portion of the incremental demand. Import of this category of consumer goods is therefore projected to increase at a slower rate than the growth of non-food imports.

C.2. Export Earnings

5.31 The value of merchandise exports is projected to increase to Tk. 1,698 crore (at 1979/80 f.o.b. prices) in 1984/85 from a level of Tk. 1,118 crore in 1979/80, giving an annual growth rate of 8·6 per cent. Earnings from jute and jute goods are estimated to grow at much slower rate; 4·5 percent a year against 18·2 percent for non-jute exports. The growth target for non-jute exports seems achievable considering the low base, but will require well co-ordinated investment programme for creating exportable surplus, quality improvement, appropriate pricing and marketing policies. Both public sector agencies and private enterprises should co-ordinate their production programmes, attach priority to increase supply of exportables, pursue aggressive marketing abroad and pay sufficient attention to quality control. Realisation of export potentials will also depend on availability of complementary services like export finance, efficient shipping, port, warehouse facilities, and packaging services. As a least developed country Bangladesh has special trade and tariff facilities in the industrial countries and it is expected that these preferential arrangements will not only continue over the Plan period, but will be expanded. In addition, Bangladesh will make further efforts to improve regional trade among the developing countries of South and South East Asia.

5.32 The following table presents projection of export earnings by commodities:

TABLE 5.2'

Projection of Merchandise Exports
(at 1979/80 f.o.b. prices)

[Value in crore Taka]

Commodity	Unit	1979/80		1984/85	
		Quantity	Value	Quantity	Value
1. Raw Jute	Lakh Bales.	19.68	222.12	21	237
2. Jute Goods	Thousand tons	455	600.15	590	779
3. Jute Carpets	..	..	0.23	..	16
4. Tea	Crore lbs.	5.27	51.00	7.80	76
5. Leather	..	..	101.47	..	178
6. Fish, Shrimps and Froglegs	..	..	60.61	..	145
7. Fruits, Vegetables and Spices	..	..	2.94	..	14
8. Naptha, Furnace oil and Bitumen	..	..	35.74	..	54
9. Newsprint, Paper and P lp	Thousand Tons.	25.43	16.61	..	261
10. Readymade Garments and Textiles	..	..	1.17	..	70
11. Handicrafts	..	..	5.06	..	9
12. Others	..	..	20.80	..	94
	Total :	..	1117.90	..	1698

5.33 *Raw Jute* : Despite a slow demand growth forecast for the 1980s, Bangladesh is expected to maintain its current level of export and can even improve upon it if domestic production cost of jute can be lowered. In the context of limited foreign demand for raw jute and strong competition from synthetics on the one hand and emphasis on food production on the other, it is essential for Bangladesh to achieve a stable level of production to avoid swings in prices. If the price is too high due to shortage of supplies, substitutes will cut into the jute market; but if it is too low because of over production, farmers will find it profitable to switch to alternative crops. Thus maintaining appropriate jute/rice price ratio and reduction of the cost of jute cultivation through higher productivity are essential conditions for success in jute trade.

5.34 The agricultural programme aims at limiting jute cultivation to around 17 lakh acres and raising output to 60 lakh bales by 1984/85. The main source of growth in output will be an increase in yield in 10 lakh acres under Intensive Jute Cultivation Scheme (IJCS). The export of raw jute, after allowing for consumption by the mills and a reasonable level of inventory is projected to increase to only 21 lakh bales in 1984/85 from about 20 lakh bales in 1979/80.

5.35 *Jute Goods* : Total world consumption of jute goods has remained stable and no significent improvement is foreseen in the first half of the 1980s. An increase in consumption in the developing countries may outset any further decline in demand in the industrialized countries. Against a falling world trade, Bangladesh has succeeded in increasing its market share from about 35 percent in 1972/73 to about 48 percent in 1978·79. Bangladesh is well placed to benefit from any demand growth that may occur. This will, however, depend on the ability of the jute industry to maintain delivery schedule and competitive price of jute goods *vis-a-vis* synthetic substitutes through cost reduction, higher efficiency, and quality improvement. Considering prospective demand, the productive capacity and the action programme of the jute industry, the volume of jute goods export is estimated to rise to 5·90 lakh tons in 1984/85 from 4·55 lakh tons in 1979/80—about 5 percent growth per annum.

5.36 *Tea* : The export of tea from Bangladesh picked up in 1976/77 and remained stable around 63 million lbs. through 1978/79. The present level of export from Bangladesh is about 3 per cent of world tea exports but lower than Bangladesh's global quota of 4 per cent of world trade in tea. This has been due to supply constraint and inadequate marketing efforts. The production of tea reached 79·4 million lbs in 1978/79 and it declined to 78·4 million lbs in 1979/80 as the crop was affected by long drought. The on-going programme of rehabilitation of tea gardens through replanting and intensive cultivation will help increase the supply during the Plan period. Production is expected to reach a level of 95 million lbs in 1984/85. After meeting domestic consumption only a modest increase in exportable surplus is assumed during the Plan period; export of tea is projected to increase to 78 million lbs in 1984/85 from about 53 million lbs in 1979/80. On the marketing side, the Tea Board has already started a marketing and promotional programme in collaboration with the International Tea Promotion Association for export of bulk, packeted tea and tea bags in the market of EEC, Pakistan, Middle-East and Australia. A Bangladesh Tea Centre in London is expected to be established during the Plan period to promote sale of tea in the EEC market.

5.37 *Fish, Shrimph and Frog legs*: The overseas demand for shrimps, particularly fresh water shrimps from Bangladesh is buoyant and the limiting factors are supply of quality product and shipping in peak season. The fisheries programme envisages shrimp culture in the costal areas expansion of trawlers and motorised boats in the public and private sectors with a view to increasing catch of marine shrimps for export and improvement of fish landing, storage and processing facilities. It is expected that the export of shrimps and marine fish will increase during the Plan period to achieve a target of around 25,000 tons in 1984/85. Total export earning from frozen shrimps and frog legs is estimated to increase to Tk. 145 crore in 1984/85, from about Tk. 61 crore in 1979/80. To achieve this target it will be necessary to establish a regulatory mechanism for enforcing quality control and ensuring standards acceptable to the overseas buyers.

5.38 *Leather*: The export of leather has enjoyed a steady growth since 1975/76. World demand forecast indicates a shortage of leather supplies over the present decade. Export in this sector is constrained by the capacity of domestic tanning industry, supply and marketing limitations, though Bangladesh produces high quality goat skin which is in high demand for the production of fashionable upper and glove leather. Her cowhide also enjoys a premium as this is similar to large calf skin in the Europe. The strategy is to maximize earnings through improvement of the quality of 'wet blue' leather and production of high value items such as crust, finished leather and leather goods.

5.39 Export earning from leather is expected to reach Tk. 178 crore in 1984/85 as compared to Tk. 101 crore in 1979/80. The growth in export earning is projected to arise primarily from export of high value tanned leather and leather products; but improved slaughtering, flaying and curing of hides and skins will also be necessary to attain quality. Because of style changing rather fast, close contact with the overseas markets will be equally important for a move towards export of high value products. To this end, technical and financial collaboration including marketing arrangements with foreign investors who are able to provide technical know-how and market opportunities for finished products should be encouraged.

5.40 *Export of other Products*: Paper and newsprint, fresh fruits, vegetables and spices, readymade garments and handicrafts together contribute about 5 percent of merchandise exports, but they have excellent prospects for export expansion. For this group of commodities, constraints to export growth are insufficient supplies for export, lack of product development, and poor marketing efforts rather than export demand. Bangladesh's newsprint is in good demand in the neighbouring countries. After balancing and modernization, the Khulna Newsprint Factory should be able to deliver about 26,000 tons of newsprint to the export market. Similarly, on completion of the BMR programme, the Karnafuli Paper Mill will be in a position to export about 19,000 tons of paper in 1984/85 after meeting domestic requirement. The domestic production of pulp is expected to increase to 30,000 tons in 1984/85 with an exportable surplus of 15,000 tons. Marketing efforts including establishing direct links with buyers, maintaining shipment schedules, improvement in product quality and packaging, etc. will have to be initiated. Export for this group of commodities is expected to rise to Tk. 119 crore in 1984/85 from Tk. 26 crore in 1979/80.

5.41 Market surveys show that the Middle-Eastern countries particularly Saudi Arabia and gulf states provide significant market opportunities for Bangladeshi fruits, vegetables and spices. These opportunities can be exploited provided enough exportable

surplus is generated in an organised way for regular deliveries. It will be necessary to establish regular supply lines, cold storage and transport facilities and distribution channels. A programme has been initiated for promoting intensive cultivation of fruits and vegetables in selected areas.

5.42 The export of readymade garments, household linens and specialized textiles can be increased significantly by utilising market access to EEC, Middle-Eastern and African countries. Earning from garments and textiles is projected to increase to Tk. 70 crore in 1984/85. Export of handicrafts has been growing but this sector needs technical and financial assistance for production on an economic scale; particularly, supply of raw materials, designs and organised marketing can substantially increase export of handicrafts. To assist these activities a Handicraft Export Product Development Fund has been set up.

5.43 Export of naphtha is assumed to remain stable at 74,000 tons during the Plan period. With a well co-ordinated marketing programme the cable factory at Khulna is expected to increase export of telephone cables to 1·90 lakh km. in 1984/85 from about 44,000 km. in 1979/80. Export of urea fertilizer in some limited quantity shoud be possible during the Plan period. A serious effort has to be made to build export oriented urea fertilizer plant during the Plan period. Export earnings from some other minor items like hard and particle boards, canned fruits and vegetables, etc. are projected at Tk. 38 crore for 1984/85 as compared to about Tk. 20 crore in 1979/80. Export earnings from non-traditional items can be significantly higher than projected if Bangladesh exporters can undertake co-ordinated effort to expand domestic production and take advantage of foreign market opportunities.

C.3. Invisibles

5.44 Invisible receipts consist of foreign exchange earnings of the Biman and the Shipping Corporation for their services, and the receipts from supply of aviation fuel and bunker oil to foreign air and shipping lines, expenses of foreign shipping companies for vessels calling at Bangladeshi ports, tourist expenditure in Bangladesh, investment income of Bangladesh Bank on securities and bonds held in international money makets and expenditures of foreign missions located in Bangladesh. Invisible receipts are projected to increase to Tk. 447 crore for 1984/85 from a level of Tk. 392 crore is 1979/80. On the otherhand, invisible payments are projected to increase from Tk. 387 crore in 1979/80 to Tk. 591 crore in 1984/85, growing at an annual rate of 8·8 percent. Increased foreign exchange expenditures of the Biman and the Shipping Corporation and interest payments on foreign loans (including short-term borrowings) will be the major factors contributing to increase in invisible payments. As invisible payments will be rising more rapidly than the receipts, net invisible payments will increase to Tk. 144 crore in 1984/85.

C.4. Private Transfers

5.45 Remittances of the Bangladeshi nationals from abroad have grown rapidly over the past few years; in 1979/80 inflow of remittances amounted to Tk. 407 crore. The foreign exchange available from this source has helped to liberalize the import policy considerably and create a partially free foreign exchange market. Remittances of Bangladesi nationals are linked primarily with a Wage Earner's Scheme (WES); the operation of the WES has undergone considerable revisions and adaptations to the need of income earners and recipients since introduction of the scheme in 1975.

5.46 The future level of remittances will depend, among other things, on the net outflow of migrant workers and the available opportunities for investment by them in Bangladesh. The outflow of migrant workers on a significant scale is a recent phenomenon for Bangladesh and her share in total migrant workers around the World is less than 1 per cent. While this indicates some significant potential for increasing the flow of semi-skilled and skilled workers from Bangladesh, especially in the Middle-Eastern and North African countries, responding to the demand for specific categories of manpower in these countries without affecting internal development will depend on a well-designed manpower policy. Bangladesh has a reservoir of cheap but young labour force which can be trained in simple trade, crafts and vocations in a relatively short time for employment at home and abroad. The training programmes which are now undertaken on *ad hoc* basis need to be pursued on a sustained basis and based on appropriate market surveys so as to ensure a steady supply of manpower of required skill. The Bureau of Manpower will have to be strengthened both for co-ordinating inter-agency training facilities and placement of workers abroad.

5.47 The total number of Bangladeshi migrants abroad at the end of the Second Plan is estimated to rise to about 3·4 lakh, growing at an annual rate of 8 per cent. Remittances are expected to grow at a higher rate because of possible increases in earnings of the existing migrants and also because of transfer of accumulated savings by the migrants returning home. This is estimated to grow to Tk. 916 crore in 1984/85 from Tk. 407 crore in 1979/80.

5.48 In the light of the estimated exports and and imports the balance of payment position for the Second Five Year Plan (1980-85) is projected in Table 5.3 below:

TABLE 5.3

Balance of Payments Projection
(at 1979-80 prices)

[Tk. In Crore]

Items	1979-80	1984-85	Total (1980/85)
1. **Imports**	**—4,054**	**—4,310**	**20,377**
a. Goods (c.i.f.) ..	—3,667	—3,719	—17,802
b. Services ..	—387	—591	—2,575
2. **Exports**	**1,510**	**2,145**	**9,458**
a. Goods (f.o.b.) ..	1,118	1,698	7,425
b. Services ..	392	447	2,033
3. Balance of Goods and Services (1+2) ..	—2,544	—2,165	—10,919
4. Terms of Trade Adjustment ..	..	—682	—2,710
5. Net Remittances from abroad ..	407	916	—3,611
6. Current Account (3+4+5) ..	—2,137	—1,931	—10,018
7. Debt Repayments (excluding IMF) ..	—104	—118	—864
8. Required Change in Reserve (— = increase)	183	..	36
9. Foreign Exchange Gap (6+7+8) ..	—2,058	—2,049	—10,846

C.5. **Foreign Capital Inflow**

5.49. The projected gap between foreign exchange earnings and import payments is required to be met by foreign capital inflow which includes Official Development Assistance (ODA), assistance from multilateral agencies, and foreign private investments. The foreign exchange gap has been estimated at Tk. 10,846 crore ($ 6,997 million at 1979/80 constant dollars) and an aid inflow of Tk. 9,445 crore ($ 6,094 million at 1979/80 constant dollars) from bilateral and multilateral sources for the five years. The projection of external resources takes into account the present difficult aid environment and assumes only a marginal increase over the current disbursement level. Two qualifications are to be noted. First, since all exports and imports are valued at 1979/80 prices, the deterioration that has already been experienced in the terms of trade is not reflected in this calculation. In fact there was a sharp deterioration in the terms of trade in the first two years of the Second Plan period and only a modest improvement from the very low level of 1981/82 can be expected in the remaining years. Terms of trade loss for the five years is estimated at Tk. 2,710 crore. Second, the debt services burden has considerably increased as the government resorted to costly short-term commercial borrowing to finance essential imports in the face of a decline in concessional official development assistance. Both these factors would increase the foreign exchange gap in current prices; the gap is estimated at $ 7,563 million in current prices (Annexure I).

5.50 During the first two years of the implementation of the Plan, the Government had to draw its limited foreign exchange reserve and resort to short-term borrowing to offset shortfall in aid disbursement. As a result, in the beginning of the fiscal year 1982/83, the country's foreign exchange reserve has came down to a precariously low level. Due to divergences in the flow of receipts and payments as well as the lag between negotiations and disbursements of aid, it is essential to maintain a minimum reserve level for smooth operation of the import and production programmes. Therefore, in the projection of the foreign exchange gap, some re-building of reserve has been assumed.

TABLE 5-4

Production of Exports, Imports and Foreign Exchange Gap (at 1979/80 Prices)

[Tk. in Crore]

Year	Export of goods and services	Import of goods and services	Foreign Exchange Gap[1]
1979/80 ..	1,510	4,054	2,058
1980/81 ..	1,711	4,057	2,574
1981/82 ..	1,751	3,769	2,308
1982/83 ..	1,841	3,990	1,906
1983/84 ..	2,010	4,251	2,009
1984/85 ..	2,145	4,310	2,049
Total 1980—85 ..	9,458	20,377	10,846
Annual Growth (%) ..	7.4	1.2	—0.5

[1] Foreign exchange gap includes current account deficit *plus* debt repayment and required change in foreign exchange reserve.

D. COMPOSITION AND MODALITIES OF FOREIGN ASSISTANCE

5.51 *Food Aid*: As mentioned earlier, the Plan envisages self-sufficiency in foodgrains by 1984/85 and a very small quantity of import is planned for that year to build up stock. Disbursement of food aid is thus projected to decline to $ 107 million in 1984/85 from the level of $ 375 million in 1979/80. It is expected that the entire import of foodgrain will be funded under the food aid programme.

5.52 *Commodity Aid*: Commodity assistance has been by far the most important category of the aid programme in Bangladesh; except in 1973/74, disbursement of commodity aid was larger than either food or project aid and this has grown steadily over the years. Commodity aid finances import of a wide range of raw materials and some essential consumers goods. It has also been an important source of budgetary support., In general, commodity assistance has helped liberalize imports aimed at better utilization of productive capacities. A large range of commodities, namely, cotton, edible oil, milk food, pig iron and billets, fertilizers, clinker, cement, tallow, soda ash, dyes and chemicals, diesel, raw materials for pharmaceutical industries, spares and accessories for jute and cotton textile mills, spares and raw materials for engineering industries, power and transport sectors, etc., are imported under commodity aid. Commodity aid is projected to increase to $ 476 million in 1984/85 from $ 378 million in 1979/80. Timely commitment of commodity aid and maintaining its pipeline at a satisfactory level is essential for a smooth supply of raw materials to various industries in order to maintain their production programmes. Further, with food aid declining, commodity aid can alone make up the loss of counterpart funds, while ensuring supply of basic needs of people such as cotton textiles, edible oil, milk food and medicines.

5.53 *Project Aid*: The disbursement of project assistance is projected to increase at a higher rate from $ 470 million in 1979/80 to $ 740 million in 1984/85. The experience of project aid utilization indicates that the economy is poised for absorbing an increasing volume of project aid. It has increased from $ 124 million in 1975/76 to $ 469 million in 1979/80. However, in view of the decline and ultimate projected elimination of food aid, shortage in local resources will be a limiting factor to increased project aid utilization unless commodity aid fully takes account of local currency requirement or donors finance part of the local cost of projects as well. Indeed, project aid has to be stepped up to ensure sustained growth of the economy, coupled with increased commodity aid and local financing of the projects.

5.54 Negotiations and disbursement of project aid are much more complex and intricate operations than either food or commodity aid. Project aid negotiation is particularly a time consuming process; it involves a great deal of time to set out the overall borrowing programme, to prepare specific projects and arrange suitable lines of credit for different priority projects/programmes. In view of a considerable lag in disbursement of project assistance, it is necessary to establish a portfolio of projects so that negotiations can start in time and disbursement for projects can proceed at the desired pace. It is also necessary to reduce the time lag between project formulation, aid negotiation and approval to the minimum and to this end procedures should be streamlined.

5.55 Such a time phased procedure may be difficult to maintain, if demand by donors in matters of appraisal and review, variety of commitment, payment mechanism and procurement procedures is not also relaxed. Some harmonization of procedures and

improved co-ordination among donors can be of considerable help saving cost and time, and in stepping up aid utilization. While delegation of more authority to the resident missions can lead to a great deal of time saving, adoption of a co-ordinated procedure will save time and money involved in fielding more than one, often competing, appraisal missions. The donors can be helpful in relaxing conditions related to projects by allowing procurement of local goods (or from cheaper sources) and hiring of local consultants for feasibility studies as well as for construction.

5.56 Project and commodity assistance includes technical assistance in the form of services of consultants, training facilities as well as equipments for research and training institutes. Technical assistance will be needed on an increasing scale both from bilateral donors and multilateral agencies in order to prepare feasibility studies for aid-financed projects, to improve functioning of public sector enterprises and technical institutions. Considerable improvement is needed in the utilization of technical assistance in the direction of relating technical assistance to country's development programme, training of personnel in priority areas and progressively using competent local consultants. As some donor countries do not maintain any distinction between commodity and project aid, it is assumed that some commodities may be available for project financing. Such flexibility helps improve aid utilization.

5.57 Joint ventures, direct private investment and suppliers' credit are expected to increase considerably in view of the incentives provided to the private sector including foreign private investment in manufacturing, oil and gas exploration, banking, etc. Projected commitment and disbursement levels of foreign capital during the Plan period by major categories are shown in Table 5·5.

TABLE 5.5

Projected Commitment and Disbursement of Foreign Capital Inflow During SFYP (1980—85)

(at 1979/80 constant dollars)

[U.S. dollars in Million]

	Opening Pipeline	Commitment	Total	Disbursement
1. Food Aid	55	882	937	883
2. Commodity Aid	398	2,252	2,650	2,156
3. Project Aid	2,153	4,867	7,020	3,055
Total	2,606	8,001	10,607	6,094

E. TRADE POLICY ISSUES:

5.58 Various aspects of trade relating to both imports and exports have been covered in earlier sections. A few areas of trade policy where improvements will be needed during the Plan period are discussed below.

5.59 *Import Trade*: The import policy will undergo some fundamental changes to reflect the national development priorities. Imports will be used to attain consumption, production and export targets. Within the broad framework set by the strategies of the Plan, the tariff policy should be rationalised to discourage non-essential import and provide effective protection to domestic industries against foreign competition as well as to remove unintended elements of protection. An integrated study on trade and industrial policy reforms will be completed during the Plan period.

5.60 The formulation of an annual import policy which links the import programme with the budget and annual development programme was introduced in 1978/79. It will be necessary to continue this practice and also to establish a forward programming of import and monitoring system at least for important commodities like fertilizer, cement, iron and steel, coal, POL, cotton, etc., to avoid shortages or gluts. Maintenance of a pipeline of imports will stabilize domestic supplies and release administrative attention from dealing with short term crises.

5.61 Bangladesh has entered into bilateral trade and payments agreements with a number of countries and a significant proportion of foreign trade is covered under such arrangements, particularly under barter agreements. In recent years, commodity flows have undergone changes resulting in surpluses and thereby creating a pressure on the country's limited foreign exchange. In view of this, future barter trade agreements should particularly avoid inclusion of commodities which enjoy strong world demand. Barter protocols should particularly take into consideration two norms that (a) the size of protocol should be bassed on an essential level of imports at competitive prices, and (b) the flows of exports and imports should be matched over shorter periods to avoid blocking of export earnings.

5.62 The performance of the Wage Earner's Scheme will have to be reviewed periodically with a view to eliminating non-essential and luxury imports without sacrificing flexibility and incentives of the Scheme.

5.63 *Export Trade*: To promote exports and to achieve desired diversification, it will be necessary to pursue a flexible exchange rate policy. In general, the exchange rate policy should be directed to encouraging a shift of resources more into the sectors which produce traded goods in order to achieve a structural adjustment in the external sector. However, while the exchange rate should reflect the opportunity cost of foreign exchange, it must be evaluated against the existing objective conditions in regard to the production structure and supply constraints. Where structural rigidities and institutional factors limit intersectoral transfer of domestic resources, the price alone cannot succeed to bring about the desirtd result. Other incentives being given to the exporters, in terms of the concessional rate of interest, the Export Performance Licence (XPL) and tax rebates, should also be reviewed in the light of their effects on export expansion. The XPL system should particularly address to such considerations as net foreign exchange earning, labour-intensive production, use of indigenous raw materials and contribution to export diversification. The Duty Drawback Scheme so far has offered very limited incentives to the exporters because of its complicated and time consuming procedure. The working of the scheme needs simplification to ensure speedy processing of documents for purposes of re-imbursement of duties and taxes.

5.64 The public sector corporations and enterprises handle a major part of the manufactured exports but they are either insensitive to price and market advantages or respond, slowly to export opportunities both for lack of business attitude and bureaucratic enterprising. Target setting for public corporations and reviewing of results can help overcome these problems and improve their export performance. As traditional markets such as those for jute goods, tea and leather saturate and export in new areas is to be explored, collection and dissemination of information on export potentials, and organizing trade fairs are not enough; serious consideration should be given to set up export houses in collaboration with the private sector to pursue aggressive salesmanship. The Export Processing Zone, though helpful in attracting foreign capital and know-how leaves the initiatives to the foreign investors.

ANNEXURE-I.

Balance of Payments Projection

(at current prices)

[*U.S. dollars in Million*]

	1979/80	198/081	1981/82	1982/83	1983/84	1984/85
1. **Imports:**						
(a) Goods (c. i. f.)	—2366	—2533	—2300	—2377	—2730	—2998
(b) Services	— 152	— 260	— 307	— 355	— 353	— 370
2. **Exports:**						
(a) Goods (f. o. b.)	721	711	626	700	784	880
(b) Services	165	271	239	245	268	288
3. Balance of Goods and Services (1+2)	—1632	—1811	—1742	—1787	—2031	—2200
4. Net Remittances from abroad	263	357	385	500	600	700
5. Current Account	—1369	—1454	—1357	—1287	—1431	—1500
6. **Debt Repayments :**						
(a) MLT Debt Amortization	—46	—34	—44	—92	—69	—76
(b) Other Debt Repayment	—21	—43	—51	—99	—50	..
7. Change in Reserve (— = increase)	118	25	139	—70	—70	...
8. Foreign Exchange Gap (5+6+7)	—1318	—1506	—1313	—1548	—1620	—1576
9. **Aid Disburesement :**	**1223**	**1147**	**1235**	**1345**	**1510**	**1660**
(a) Food ..	375	194	230	260	240	140
(b) Commodity ..	378	393	421	475	520	600
(c) Project ..	470	560	584	610	750	920
10. Net IMF Resources	117	155	79	36	—64	—73
11. Other Capital and Borrowing	72	149	103	30	30	..
12. Reserves at the end of the year	274	249	110	180	250	250
13. Exchange Rate ..	15·50	16·34	20·00	23·00	23·00	23·00

CHAPTER VI

RURAL DEVELOPMENT

Rural Bangladesh

Bangladesh is overwhelmingly rural and its economy is predominantly agricultural. About 87 percent of its population live in the rural areas and over 70 percent of the labour force is engaged in agriculture. Contribution of agriculture to G.D.P. is about 55 percent. It is the main economic activity in the rural sector and growth of non-agriculture or non-farm sector has been quite low.

6.2 The underdevelopment of the rural economy is reflected in low productivity, high population pressure and unemployment, lack of working opportunities outside agriculture and the resultant deteriorating living condition of the rural poor. Magnitudes of landlessness has increased and it is about 51 percent of the rural population (absolute landless and those having land up to 0·50 acre) and unemployment and underemployment is more than 30 percent of the labour force. Though agriculture has appreciable scope for expansion of employment opportunities, yet, it cannot provide sustained employment to the growing labour force. Employment situation is worst in the lean season when employment opportunity outside agriculture is less. As a consequence of landlessness and unemployment on the on hand and less working opportunities, on the other, poverty in the rural areas is widespread and increasing.

6.3 The farm sector shows a highly skewed distribution of land holdings giving rise to the problems of share cropping, low productivity and income of the small farmers. Whereas 9 percent of holdings above 7·5 acres covers 32 percent of farm areas, 50 percent of holdings below 2·5 acres covers 19 percent of the farm areas. Holdings less than one acre constitute 16 percent covering only 2·6 percent of farm areas. The socio-economic process has further led to the diminishing of the smaller holdings (less than one acre) and growth of medium holdings (from 2·5 acres to 7·5 acres) and contributed to the process of landlessness, unemployment and poverty. Smallness of holdings and share cropping system adversely affect adoption of higher technology resulting in lower productivity.

6.4 Besides the economic underdevelopment, there are also severe dearth of infrastructural facilities like roads, drainage, markets, storages etc. and social service facilities, like health, education, sanitation and others.

6.5 Rural development has received priority in development plans and programmes but the strategies and the programmes followed have mainly been for agricultural growth benefitting mostly the land owning class. The rural poor had only the marginal or peripheral benefit. The two most important country-wide programmes are the Integrated Rural Development Programme (IRDP) in the form of two-tier cooperatives and the Rural Works Programmes (RWP). The cooperatives covering 350 out of about 480 thanas are agricultural cooperatives for promotion of improved agricultural operation. Participation of small farmers in the cooperatives is small and that of landless labourers insignificant. The RWP has a twin objectives of development of physical infrastructure and employment creation but its scope to provide sustained employment to increasing labour force is limited owing to its size and seasonality of work. Employment provided is also purely temporary in nature.

6.6 Since 1976, area specific projects have been adopted and three such projects (Rural Development Project-1, Serajganj IRD project and Noakhali IRD project) have been under implementation for a period of over 5 to 6 years. The projects at a total cost of Tk. 133 crores cover only 14 thanas or one thana at an average cost of Tk. 9·5 crores. The projects cover a long range of activities over a small area leading to coordination and management problems and the resultant time over-run of implementation targets. Major investment of these projects are on infrastructure, buildings, irrigated agriculture and limited areas of social service.

Review of FFYP and TYP

6.7 The FFYP aimed at reduction of poverty and envisaged both production and institutional programmes for development. It visualised a need for restructuring rural institutions to meet the problems of organisation of rural people, utilisation of resources and development of local planning system. It identified weaknesses in the institutional system as one imposed from the top, non-representative in character and a channel for distribution and utilisation of resources from outside without adequate emphasis on mobilisation of resources from within. The plan proposed to build up the cooperative institutions on a broader base, with representation from different groups, capable of being self-managed and self-financed within a specific period of time, free from bureaucratic control and fully oriented towards increasing production and facilitating equitable distribution of income.

Cooperatives

6.8 The FFYP set the following targets for the cooperative movement:

a. Broadbasing the cooperative institutions and protection of the poorer groups like landless and marginal farmers in the cooperatives through proportional group representation in management. The IRDP two-tier framework would encompass these groups.

b. The primary cooperatives would be given dealership in distribution of inputs.

c. The cooperatives would help the local government institutions to plan and implement projects and would mobilise labour for such purpose.

d. A Cooperative Development Board consisting of representative of TCCA members, government and non-government officials would be formed and IRDP would be placed under the Board.

e. Cooperative in other fields like fisheries, transports, weaving, etc. would be promoted by the Cooperative Department.

Local Government and RWP

6.9 The FFYP envisaged institutions of local government with the following tasks for them:

a. Local Government would ensure effective planning, coordination and mass participation in development programmes at the lowest level.

b. An informal people's council at the village level would be set up to discuss problems, make plans of actions and take collective decision.

c. Local Government Institutions would be responsible for building and maintaining infrastructure, irrigation, public health, sanitation, educational and social welfare services and maintenance of law and order, promotion of cooperatives.

d. The RWP would be financed on loan and grant basis and the beneficiaries would share the cost of benefit by repaying the loan. The Union Panchayets would be responsible for realisation of loans.

6.10 The Two Year Plan (TYP) was virtually a transitional plan towards the SFYP with a view to completing the on-going programmes and projects. For the fields of rural development and institutions it did not envisage any major change in policy and programme.

6.11 The TYP included the programmes like expansion of IRDP cooperatives to 300 thanas, expansion of cooperatives of fishermen and weavers etc., of Cooperative Department, expansion of Rural Works Programme, development of self reliant (Swanirvar) programmes in villages, organisation of landless farmers for distribution of lands and multisectoral location specific development programmes called Area Development Programmes.

6.12 The basic principles and policy recommended in the FFYP were not realised. The institutional structure as it operated earlier remained the same. Local Government structure remained non-representative of people (above the union level) and could not ensure peoples' participation, specially of the disadvantaged group. The proposed Cooperative Development Board was not set up and IRDP continued to expand and its scope to meet the institutional requirements of the small farmers or landless remained restricted. The vast pool of purely unskilled wage earners had no organisation or programme for skill development and employment. The training programme had been confined to TTDC and other institutes for training of local government members, government officials, cooperative members and others. The area development projects as mentioned earlier suffered from institutional and managment deficiencies leading to the shortfall in the targets of project implementation. Moreover, the programmes had little scope to provide employment and income benefits for the landless and the poorer groups.

6.13 Formulation and implementation of the development programmes remained centralised. The functions of TTDC, as an institution for local planning and coordination gradually deteriorated due to leadership crisis, conflict among the agencies and absence of a strong local government.

The Second Five Year Plan

6.14 In the background of the performance of FFYP and TYP and unequal distribution of the benefits, some bold steps would be necessary to reorganise the existing institutions, redirect the existing programmes and develop new ones for the development of rural areas. The SFYP period will lay a base for the realisation of the objectives of the perspective plan. A productive and socially desirable welfare process would be initiated during the plan period which would involve a wide range of activities in the fields of both agriculture and non-agriculture, skills development, cottage and rural industry, welfare services like health, sanitation and nutrition, development of rural women and children and development of infrastructure and institutions.

6.15 More specifically the basic objectives of SFYP will be—

(1) To reduce rural poverty and for such purpose increase production and income of the rural poor and at the same time ensure proper distribution of benefits to all.

(2) To reduce unemployment and underemployment specially of the target group of marginal and small farmers, farm labourers and artisans.

(3) To build and maintain both physical and socio-economic infrastructural facilities.

(4) To develop local institutions for organisation of rural people and development of leadership, skills and potentials with a view to initiating decentralisation of the planning process and devolution of administration.

Strategies and Policies

6.16 The Plan assumes growth of viable institutions of Local Government as already politically decided. This should be influential in local development. The functions that these institutions will discharge, will be entirely their own responsibilities and Central Government will not have any parallel jurisdiction over such functions. For discharging such functions these institutions must be provided with sufficient resources in men and money. These institutions should have both planning as well as implementation capability. They should not only plan on the basis of local resources and needs but also make efforts to mobilize local resources for implementing such plans. The process would necessarily mean devolution of government from the Centre to the districts and thanas and decentralisation of administration along with this. This will ensure local level planning and implementation process and peoples' participation in this process.

6.17 A system of elected Local Government would be established at Union, Thana and District levels. Some of the functions of Central Government will be transferred to the Local Government bodies at different tiers. Development of rural roads, market places, warehouse and workshop, responsibility for primary education, health and sanitation, management of water resources within the jurisdiction of a thana and such other activities can be performed by Thana level institutions of Local Government. An activity-wise plan for such devolution will be worked out and implemented during the Plan Period. Institutions of Local Government will have some revenue raising authority but their main source of revenue will be pre-determined shares of central revenue as well as a share of national development funds.

6.18 The institutions of Local Government will have to be invested with planning capability in association with various economic organisations at local levels. They will undertake survey of resources in men and materials, identification of needs of development, fixation of priorities and goals and finally preparation of plans. The preparation of Thana and District plans will require careful matching of macro-national plan with local level plans. It would be necessary to develop a decentralised planning process and a system of regional planning within the national plan-frame.

6.19 The cooperatives will be developed as economic organisations in the rural areas for production planning, processing, marketing and other economic activities. Three such cooperatives or pre-cooperatives or informal groups will be fostered and promoted in the village: (a) Krishak Samabaya Samity (K.S.S.) for agriculture, (b) Bittayheen Samabaya

samity. (B.S.S.) for the rural poor and (c) Mohila Samabaya Samity (M.S.S.) for the disadvantaged women. The B.S.S. will be fromed with the landless or who own less than 0·50 acre of land.

6.20 For cooperatives, a uniform structure on the basis of the existing two-tier TCCA-KSS system will be developed. The village based primary groups/cooperatives of KSS, BSS and MSS will be federated at the thana level with a central organisation (TCCA). Initially, the BSS and MSS will be federated with the TCCA at the thana till they develop their own organisations at the higher level. The Ministry of Local Government has taken necessary steps in classification of the cooperatives for their reorganisation into a uniform structure.

6.21 The Government has set up Bangladesh Rural Development Board with the objectives of formulation of rural development policies, coordination of programmes of various agencies and supervision of implementation of various rural developments projects. The Board will also promote the cooperatives and lay down policies for their development into viable institutions. The Cooperative Department will perform the statutory and regulatory functions.

6.22 The Union Parishad, Thana Parishad and District Parishad will be political bodies representative of people while the cooperatives will be economic organisations representing economic interests and working for economic purposes. In production planning, in providing credit support, in organising formation of rural capital these economic organisations will provide a very important input in local level planning. In addition, there will be agencies of the Central Government, both departments and autonomous bodies, which will be engaged in providing technical assistance, supplies, service facilities and standards for implementation of local plans. In areas where Central Government will be functioning within the geographical jurisdiction of a unit of Local Government, the appropriate unit of Local Government will play a coordinating role for the Central Government agencies. Thus national development activities at the local level will interact with local plans and respond to local needs and activities.

6.23 Essentially there will be three levels of development activities. Some functions will be performed directly by the agencies of Central Government. Some functions will be entirely within the competence of Thana Parishad. And some fuctions of inter-Thana importance will be discharged by District Parishad. Between these three kinds of activities it will be necessary to obtain a high level of coordination. Provision of experts at the disposal of Thana Parishad will greatly facilitate this job of coordination, as at the grass-roots level the actual operators will be officials of Thana Parishad. The real problem will be ensuring that national targets and objectives are not dilutated by divergence of outlook among local councils and there is a kind of uniformity of standard in the delivery of services by various institutions of Local Government. Planning, coordination and inspection function in the Central Government will, therefore, assume crucial importance.

6.24 One critical area of development under local level planning will be the utilization of idle labour force. Intensive agriculture and irrgation technology will no doubt absorb a great deal of additional labour but it will not be enough to provide employment opportunities to the vast army of unemployed labour. Agricultural production, however, will be impeded unless unemployed rural labour is some way enabled to have increased income. It will be important, therefore, to impart skills to the rural

unemployed population and provide opportunities for their skills to find productive employment. Training, extension and credit for non-farm activities will have to be emphasised for growth of income in the rural areas.

6.25 Women constitutes almost half of our population. The energy of such a huge populace should be tapped for social education and productive purposes. Rural mothers will be organised and imparted training in family planning, health, nutrition, childcare. They would be given the scope and facilities (skill, credit, inputs) for earning while doing household work. These activities will include weaving and printing, processing and preservation of foods and crops, livestock and poultry rearing, horticulture gardening and home sewing, etc.

6.26 Development of integrated service centres in the rural areas has the catalytic potentials for overall rural development. In the first instance all Thana Headquarters will be developed as such service centres. Necessary physical facilities will be developed in these centres. They will be linked up by means of transport and communication with District Headquarters and important trade, business and industrial centres. They will be provided with electricity connection. Warehousing and workshop facilities will be developed there. Storage for production inputs and centres for service delivery will be located there. Service delivery points of different agencies like BADC, BKB, IRDP, REB and NCB etc. will be located in close proximity in these growth centres. Simultaneously important market places *i.e.* rural hats and bazars will be developed as growth centres and provided all the facilities needed for uplift of rural people. The development of these growth centres on the one hand will disperse economic activities to rural areas and on the other prevent the push towards urban slums. In these growth centres agro-based and agro-process industry as well as service industry will be encouraged to flourish.

CHAPTER VII

EMPLOYMENT AND HUMAN RESOURCE DEVELOPMENT

Bangladesh faces a chronic unemployment problem as an acute manifestation of the syndrome of poverty. Numerically, the level of unemployment for 1979/80 is estimated at 31·3 lakhs but this calls for several qualifications. First, as subsistence agriculture and informal rural and urban sector as the main areas of employment are characterized by self-employment, even numerical estimation of employment per se faces definitional and enumerational problem. This is reflected in the existence of sharp differences among various estimates. Secondly, agricultural employment which is by far the largest occupation of people continues to be seasonal in character, reaching its peak in the autumn during the harvest of the main rice crop (aman) and its trough in the dry season when acreage under cultivation declines. Besides seasonality, cropping cycle is interpersed with spells of idle days because of the discontinuous nature of agricultural production process. Thirdly, as the overwhelming dependence of people on agriculture has increased pressure on land, there is considerable disguised unemployment in the farm occupations. Finally, paradoxical in a situation of unemployment, child labour is in extensive use both in farm and non-farm sectors. All these-seasonality of employment, underemployment and child employment make arithmomorphic concept of employment operationally meaningless. In spite of all these conceptional difficulties, it is not difficult to comprehend the employment problem when over 90 percent of the population directly and indirectly continues to depend on land with a declining land-man ratio while the share of the modern industrial sector continues to remain as low as 6 percent of GDP. With the frontier of employment virtually closed by scarcity of land and lack of investment, unemployment problem could not but have worsened with the increase in population in recent decades.

7.2. Subject to the above qualifications about its estimation, employment in 1979/80 was 253 lakhs or 28 percent of the total population. On the basis of formal definition of civilian labour force by age group, the estimated labour force in that year was 284·3 lakhs which means that 31·3 lakh people were unemployed straight away: that is even on a simple statistical calculation 11 percent of the labour force was unemployment in 1979/80. The real magnitude would be, however, much higher because of seasonal unemployment and underemployment in agriculture. According to the occupational breakdown of employment of 1979/80, 200 lakh people were engaged in agriculture activities on which on an average a person spends only 115 days in a year. The level of work opportunity in agriculture is so low that an average farm worker has also to supplement his income by engaging in noncrop and nonfarm activities. Even then he has hardly any work for more than 185 days in a year. Thus, the extent of underemployment across the agriculture sector is estimated to be twice as high as the statistical measure of unemployment giving an effective level of unemployment of 85 lakhs. In terms of total labour force, it means that about one-third of the labour force of 1979/80 could be rated idle.

7.3. This is a serious problem to start with. In addition to this, 38·2 lakh people will enter the job markets by 1984/85. Thus, the total number of people who will be looking for some kind of job during the Second Plan period will number 69 lakhs, while another 50 lakh people will search for more effective or full-time jobs.

Nature of Unemployment Problem

7.4. *Agricultural Employment*—It is important to discuss the forces which determine the nature of employment problem. First, agriculture being the main occupation of rural people, distribution of land determines the distribution of employment opportunities for individuals. Because of ownership structure of land, different social groups exhibit different employment structure, landless group working as hired labourers while small and marginal farmers partly work on their own land and partly as hired labourers. Land Occupancy Survey of 1977 shows that 33 percent of rural households had no arable land and another 17 percent had landless than half acre; thus 50 percent of the rural households may be considered as virtually land less. The landless faces a serious problem, because the frontier of employment failed to unfold with population growth for lack of investment. Such condition persisting, the percentage of the landless farm population could not but increase after 1977. The growing trend of landlessness is observed between the two agriculture censures of 1960 and 1977. From 1960 to 1977, the percentage of small farms declined by 3·7 percent, much more dramatic was the decline in the number of tenant farms, declining by 64·6 percent along with about the same rate (63·2%) of decline in their land-hilding. This group of landless people will be the prime target in the employment programme of the Second Plan.

7.5. Secondly, agricultural employment opportunity significantly depends on the rate of expansion of the modern bio-chemical technology which is considered to be labour intensive. This technology requires more labour not only for the application of its new inputs but also for improved cultural practices and for harvest. The technology is estimated to require twice as high labour input as the traditional method of cultivation but as it is also land-augmenting, the demand for farm labour increases at about half the rate at which output increases. Between 1971/72 and 1978/79 irrigated acreage has increased from 27·1 lakh acres to 36·9 lakh acres at an annual rate of 4·5 percent and food output at less than that of population growth; as such agriculture could not employ more than half the increase in rural labour force. Both changes in land distribution and expansion in technology support the view that rural employment situation in 1970s deteriorated. The Second Plan envisages an expansion of food production from 134 lakh to 175 lakh tons, an increase of 30 percent. As this increased output is to be achieved through the expansion of the modern technology it is expected that labour demands in the agriculture sector will increases by about 15 percent. In 1979/80, crop sector employed roughly 124 lakh people; (a 15 percent increase in the demand for farm labour due to technological expansion implies an additional employment opportunities for 18.7 lakh people in the crop sector). Against this, the rural labour force will increase by 24·81 lakhs from 249·6 lakhs in 1979/80 to 274·4 lakhs in 1984/85. In other words, crop sector alone cannot provide employment for all the new entrants in rural labour market by technological expansion alone though the irrigated area will be more than double. Rural employment situation will thus further worsen, if employment opportunity in the non-farm sectors such as fisheries, livestock, construction of physical infrastructures and rural industries is not rapidly expanded. Without these measures the burden of worsening rural unemployment situation will severely fall on the landless and the marginal farmers whose number will tend to swell, if past trend continues.

7. 6. It is in order to make two observations about use of farm labour. First, if the decline in share-cropping as observed between 1960 and 1977 continues, it will increase labour input per acre of land as share-cropping is known as making less intensive use of inputs. Secondly, the trend in land distribution during the same period also shows a

larger contraction of land holding in larger farms than in smaller farms. Consequent concentration of land in medium farms will improve average intensity of labour use. There is a strong possibility that the expansion of the new technology will increase landless labour through reduction in share-cropping; that will also mean further swelling of labour market. With this grim prospect it is to recongize that thrust on food production cannot be sustained unless non-farm employment is increased, for foodgrain output is likely to expand at twice the rate of agricultural employment.

7.7. The Second Plan has, therefore, given highest priority on rural development, which is discussed in Chapter VI. The main features of the rural development programme are (i) decentralization of administration down to the Thana level to make development more effective, (ii) development of rural infrastructures, (iii) development of rural industries, and (iv) development of rural institutions. But in view of the direct impact of land distribution and tenancy on labour supply and landlessness, the Plan recognizes the urgency of making a more direct approach to unemployment problem through a rational land reform. The issue should squarely face both the Plan's objectives of output and employment.

7.8. Because of limitation of resource for investment in agriculture and in the non-farm sector, it will be necessary to step up Rural Works Programm eand Food for Works Programme, as well as change their contents so that they become more effective as vehicle for rural development and social equity. The special focus of rural development should be on access to resources by the landless and the socially disadvantaged groups.

7.9. *Women Employment* : Among the socially disadvantaged groups women labour force needs special consideration. Their employment requirement is hardly recognized because of family and social tradition, though they constitute about half the labour force. The share of female employment is not only extremely low but has in fact suffered a decline with the deterioration of rural employment situation in 1970s. Only in recent years the value of their participation in development activities has been recognized, because in a traditional society like Bangladesh development is conditioned by the system of value and belief of the family. The role of women as agent of change is self-evident in family planning. The Plan foresees more positive role for women in other areas of life like health and education, and above all recognize their right to equal opportunity in productive activities. As a prelude to changing culture, education of women is recognized as necessary for re-orientation of family environment. There is need for special thrust on female education and training. For this purpose women-oriented special programmes are provided in the Plan (*vide* Chapter XVIIIB) However, only a small expansion in women labour force is expected during the plan period because of inertia of a traditional society and gestation lag of education. It is estimated that about 10 percent of the total labour force of 1984/85 will consist of women. Yet their employment will face difficulties because of the labour market situation and therefore, will clain preference in education, health, family planning and office works.

7.10. **The Youth Employment** : One of the paradox of the current labour market as already mentioned is that while those below the accepted age limit of labour force work in farm and non-farm sectors, a large number of able bodied youths go unemployed. There are two main explanations for this paradox; first, the access of families to resources determines the access to employment in both subsistence agriculture and rural and urban informal sectors; and secondly, because of the pervasive nature of under-employment the age difference is of little significance from the point of view of incremental

output. Though this points to the need for skill differentiation through education and training,, there is already an employment problem of the educated youth. A large number of the educated youths are either unemployed or employed in jobs which could be done equally well by people with less education. Partly because of lack of expansion in employment opportunities in the past and partly because of an education planning lacking market-orientation, an imblance between education and job has been created. But unlike under-employment in agriculture, under-employment of the educated youths implies a wastage of investment in education and a damage to education itself as the value of education turns out low in the job market. This problem of imbalance has no simple, short-term solution, because education by nature is a lengthy process and has a long gestation lag. A long-term manpower planning is suggested as the only solution of the problem; but as the job market operates in a dynamic situation, there is need not only to constantly update a man-power plan but also to provide short-term training to youth to adjust to changing market situation, for cognitive education has high obsolecence risk both in terms of knowledge and practice.

Employment and Technology

7.11 In pursuing employment and income objectives of the Plan, a question that has to be invariably faced is the choice of technology. Under conditions of surplus labour and scarcity of capital, the universally accepted view is that Bangladesh should use labour-intensive technology. As mentioned earlier, the modern agricultural technology satisfies this rule because of its bio-chemicical character; but where a mechanical technology is involved such as in industry and transport and in some phases of agricultural activities, conflict between a modern technology and employment goal is unavoidable except where such a technology is unique, *e.g.*, in chemical industry. Even where technological possibility of this substitution is continuous, there may be some objective limitations to substitution of labour for capital. If more and more labour is used per unit of capital, less and less will be added to total product such that at certain stage average productivity will fall coming in a direct conflict with the income objective of the Plan. Technology is thus a central issue in the pursuit of income and employment objectives of the Plan. What the Plan, therefore, seeks is productive employment, not employment per se. On ground of income and productivity, consideration of industrial technology has to be very discreet.

7.12 Relevant to the issue of employment, productivity and technology is the question whether, in the context of the extended family system in Bangladesh, an individual or his family should be taken as a unit of employment. Though employment and unemployment are measured traditionally in terms of individual, in the peasant agriculture of Bangladesh, however, it is the family that is implicitly used as a unit in pursuit of maximum family income, not the individual. This is perfectly a rational approach in a labour surplus household economy. There are two alternative ways of achieving this goal, either through employment of more of family labour or through greater labour productivity. The traditional agriculture is found to follow the first alternative but the imperatives of the planned objectives of higher per capita income and higher employment will require use of both the alternatives in a given situation.

7.13 The Plan postulates two distinct strategies in optimizing income with limited resources. It is first to recognize that without significant augmentation of resources sustained expansion of employment opportunities in a meaningful way is not possible and resource cannot be augmented without expansion of output. So any relaxation of the principle of efficient use of resources in the short and medium terms will be contrary to both income

and employment objectives but as both should be pursued there are two strategic choices. First, to substantiate labour with such technology that will enhance labour productivity in terms of current and near-term output so that the labouring population has higher material satisfaction; that is, in case of directly productive activities the technology should be output oriented, not employment oriented. Where such a choice is limited by real situation, efforts should be made to upgrade the available technology and skill such as introduction of semi-automatic looms in the handloom industry. Where technological choice is limited because the nature of product, quality and product development should be emphasized to increase income of labourers. The second strategy is to use very labour-intensive technology in indirectly productive activities which will create resource to reach higher output level at some distant future, not in the immediate term. Such activities of high gestation lag include building infrastructures like embankments, large scale land reclamation, water conservancy, drainage, cannals, roads, etc. These activities do not have immediate output effect; so use of labour intensive technology involves no sacrifice of output. The current output will thus be at its optimum. In order to ensure that two rules, technological dimension must be built in individual projects and where technology is uniquely defined for a project as in case of a chemical plant, option will be applied activity-wise to ensure maximum use of labour for even in case of highly sophisticated plant, auxiliary activities can be labour intensive.

Human Resource Development

7.14. Income and productivity approach to employment, while adding a technological dimension to it, also will require continuous improvement in the technical capability of the labour force. This is necessary to ensure smooth diffusion of new tecnologies on the one hand and development of appropriate technologies on the other. In the context of prevailing un-employment, the short-term plan and programmes will focus on upgrading the skill of workers and artisans and infusion of new skill among youths through training courses. The Plan, however, recognizes the fact that a long term, sustained improvement in the technical capability of people is not feasible without an all-round approach for development of human resources. In a more positive sense, a change in subsistence knowledge that inheres in a subsistence economy of Bangladesh is a pre-condition for a change in such an economy. Compared with many of the developing countries in the South-east Asian region, Bangladesh suffers from a high rate of illiteracy which not only precludes access to new, rewarding jobs but also perpetuates the traditional, subsistence knowledge and the subsistence economy. Education is, therefore, central to the development of the economy, it only can change an individual into human capital to match technological demand. Education is the foundation of human resource, and the fulcrum of technology.

7.15 While, in the short run, training an up-grading of skill will be emphasized to put the unemployed to productive use, in the long-run perspective, universal primary education is recognized as cornerstone of development of human resources and it will, therefore, receive the greatest emphasis in the education programme. The school curricula will be redesigned to make primary education not only first step in moving to higher level of education but also relevant to real life conditions of the students' homes and communities.

7.16. Secondly, school drop-outs and uneducated adults who know no more than same inherited traditional skills will be organized into groups under non-formal programmes for training in new skills, trade and crafts to make them self-reliant. In such programmes, literacy will also form an important part as foundation for better social communication and

greater awareness. Further, the two worlds of formal and nonformal education will be linked through the development of Community Schools' so that knowledge and reality can reinforce each other. The community schools to be chosen out of Secondary Schools will also actively participate in community development. The community schools will emphasize the knowledge aspect of real life in order to improve the technical capability of people. Its inverse, *i.e.*, down-to-earth question of application of knowledge in real life will be catered through the development of the system of Training and Visit (T & V) by the extension workers in agriculture, small and cottage industries, public health and family planning. The T & V system will permit reification of knowledge in practical life. Since it is a new approach to rural problems, it has to be selectively used initially.

7.17. For a balanced development of technology and human resources, it will be necessary to identify technological options in different areas of economic development in relation to both employment and income generation and assess their feasibility in the background of manpower and other resource endowments for interfacing the two profiles of technology and skill. Since the ultimate goal of planned development is to raise per capita income through productivity, shifts in both the profiles should be brought about in a planned way. The shortcomings of the existing situation in this respect are recognized to be a severe drag on resource use. Modern sophisticated technologies received from developed countries suffer for lack of efficient management and maintenance. On the other hand, traditional technology dominating most of the economy is of low productivity, local technological base is too thin to support a growing economy and needs to be deepened and broadened through concerted Research and Development (R & D) efforts. While this will require strengthening of the R & D institutions, there is also need for consolidation of R & D programmes and reorganization of the institutions for prompt and effective response to the problems of the country. First step in this direction is to develop a structured programme on the basis of urgency of the problems, identify available technological solutions and concentrate R & D efforts on empty boxes. Where available options are incompatible with resource endowments, adaptive research should be undertaken. The Plan emphasizes formulation of a technological plan along with the human resource development and manpower planning. Such a plan will be the frame-work for technological development of the economy over longer term and R & D efforts focus on correction of factor price distortions, skill formation, career prospect and reward system and institutional strength for optimal use of scarce resources. As to the latter point, it is noted that Bangladesh has a large number of research institutions but few of them have been so far effective for lack of resource planning. Scarce resource is too thinly spread over too many projects to be effective. The Plan emphasizes the need for rationalization of existing R & D programmes.

Employment and Population

7.18. Employment problem is in the last analysis closely related with population problem, for the supply of labour force in the medium term depends on the size of the population and its structure. Though in the short and medium terms these are given, the size of the labour force can be yet affected through socio cultural parameters. Thus, for example, an effective schooling system will mean reduced number of drop-outs and hence a reduced number of job-seekers as well as a qualitative improvement of labour force. Similarly, nonformal education, youth training, etc., focusing on skill formation and self-employment will mean lesser number of people in the job markets. Nevertheless, the long run outcome in the labour market will depend on the events taking place in the areas of population control and family planning as they will affect both the size of the population and its age structure.

Besides their direct effect on the absolute size of the labour force, they will also raise the ratio of labour force to population as a result of change in age structure and so in all likelihood, will lead to a higher per capita income. While emphasizing population control and family planning to contain the future size of the population and the labour force, the Plan regards the existing population as a potential resource for development. Human resource development programme will help them play a positive and creative role.

Employment Prospect and Investment Programme

7.19. Given the technology, growth of employment opportunities will depend on the investment level during the plan period and its sectoral composition. The Plan envisages an investment of Tk. 15,134 crore, excluding investment in inventories amounting to Tk. 1,113 crore. Agriculture which has both low capital-output ratio and intensive use of labour will have the highest allocation including investment in water and rural institutions. Besides direct investment in agriculture, a significant part of investment in physical infra-structures will be located in the rural sector. In addition to planned investment the Rural Works Programme and Food for Works Programme will be continued during the Plan period to provide employment to the landless, share-croppers and the marginal farmers. Further, the thrust on rural development will require special measures in such other areas as development of cottage and small industries for processing agricultural commodities, supplying simple tools and equipment to farmers and meeting household demand for various consumer goods.

7.20. In the agriculture sector opportunity for employment will be created through increased cropping intensity and intensive cultivation. It is estimated that as a result of expansion of irrigation, cropping intensity will increase cropped land from 319·75 lakh acres in 1979/80 to 344·02 lakh acres in 1984/85. The area under irrigation will increase from 36 lakh acres to 72 lakh acres. Since irrigation will be the mainstay of increased output of foodgrain, it will raise farm-level employment by 15 percent on the basis of an approximate estimate of elasticity of employment with respect to output of foodgrain. This will mean an additional employment of 18·6 lakh people. A recent study on the effect of irrigation and drainage on labour use intensity shows that demand for farm labour will increase by over 30 percent if total cropped acreage goes up by 20 percent. As total cropped acreage is expected to increase by 7 percent, labour demand for such latteral expansion of acreage will go up by 10·5 percent. Besides this, there wil be also increased labour demand because of intensive nature of modern technology requiring more labour for irrigation, fertilizer use, inter-culture, etc. It is estimated that a 10 percent change in irrigated area induces a 0·84 percent increase in the use of labour per acre of cropped area. The corresponding effects of a 10 percent change on the use of HYVs and fertilizers are 0·30 percent and 0·53 percent respectively. Thus possible direct and indirect effects of the planned doubling of irrigation area on employment will consist of the following components:

	[%increase in employment/acre]
(a) Cropped acreage ..	10·5
(b) Fertilizer use	5·3
(c) HYV seed use	3·0
Total increase ..	18·8

This means an increase in agricultural labour demand from 12·4 million in 1979/80 to 14·7 million in 1984/85, an increase of 23 lakhs. Thus new farm employment may range between 18·6 and 23 lakhs, against an increase of 25·6 lakhs (net of migration) in rural labour supply. Beyond the crop sector, there will be increased employment opportunity in fisheries, livestock and forestries; the extent of this opportunity may be around 6·0 lakh. Agriculture Sector may thus be able to absorb around 24·6 lakh people in the minimum.

7.21. An important support of the rural employment programme is the Food for Works Programme (FWP). The Plan envisages distribution of 14 lakh tons of wheat for this purpose. The estimated work involved is equivalent to 3669·90 lakh man-days or 1·98 million man-years, taking 185 working days a year as the standard spread of rural employment. In fact, from actual employment point of view, the effect of FWP will be more comprehensive since the Programme is focused on the lean months only. Considering the relative agricultural slack in the winter and summer months (February to May) the FWP will actually employ over 3 million of people for 120 man-days as against 115 man-days a farmer works in agriculture proper. On an annual basis thus Food for Works Programme can employ 1 million people over the Plan period; but as the works involved are for construction rather than for continuous operation, the number of effective employment on a continuous basis will be 2 lakh only. However, Food for Works Programme as envisaged will only provide short term outlet to excess labour supply in the rural economy.

7.22. It is obvious that agriculture will not be able to absorb all the unemployed rural lobour force. Therefore, alternative avenues for rural employment has to be sought. One area which has considerable employment generating potential is development of infrastructures like schools and roads. The Plan has put considerable emphasis on all these areas. The decentralization of administration will also lead to new building construction.

7.23. Development of agro-processing, labour-intensive industries in selected growth centres will increase employment opportunities in the rural sector. This will, however, require a conscious promotion of small scale and cottage industries. The main vehicle in this area will be the handloom industries, where the number of idle looms were 1,77,000. These looms if reactivated can employ 4·46 lakh people on weaving alone at the rate of 2·5 persons per loom. Increased demand for cotton cloth will be satisfied by an expansion of handloom industries, while confining large scale cotton mills to spinning only. During the Plan period the possibilities of setting up small scale industries in rural areas for leather and shoemaking, bicycle and radio assembling, fine and exotic handicrafts, rice huller mills, agricultural equipment, etc. will be methodically pursued to expand opportunity for optimizing rural employment as well as for improving labour productivity.

7.24. The rural industries development policy will be directed towards fully meeting rural demand to have full effect of rural expenditure and its income growth. Output in many of the rural industries is limited by the level of demand, particularly due to ingress of products of large industries. The intensity of competition from large industries must be reduced to the minimum in the interest of small and cottage industries. In the past, incentive system and factor pricing came to favour large capital intensive industries of urban areas against the small and cottage industries. Such distortions will be eliminated. There has been also undue discremination against small firms in allocation of financial resources. The credit policy will, therefore, be restructured to the benefit of small industries and small borrowers. A recent study shows that capital can be more effectively used in small and cottage industries where marginal product of capital is found to be several times higher than

the interest rate. The problem is thus not one of return on capital but the lack of confidence between the bank and small borrowers, or simply the credit worthiness. It is also found that marginal product of labour in small industries is higher than the going wage rate indicating the productive employment potential of the sector.

7.25. The Rural Industries Study of 1979 shows that cottage industries need to invest at most Tk. 4,000 to create a job while large and shall industries need Tk. 2,00,000 and Tk. 66,800 respectively for the same at 1979/80 prices according to the 1976/77 Census of Manufacturing Industries. Assuming that public sector investment under the Plan will all be in large industries while only 3 percent of planned investment will be in cottage industries the most conservative estimate for new industrial employment is 5·20 lakh. Reactivation of idle handlooms numbering 1,77,000 unit may create upto 4·46 lakh jobs; but as a substantial part of this will in fact be used for curtailing idle time, new jobs for 1·7 lakh weavers only are taken into calculation of new employment opportunities. Thus the most conservative estimate of new industrial employment is 6·9 lakh.

7.26. Agriculture and industries together will absorb 31·5 lakh people. The rest of the economy consisting of construction, trade, transport and services is estimated to create 5·0 lakh new jobs, giving a total of 36·5 lakhs for the plan period against the estimate of new labour force of 34·3 lakhs.

Overseas Employment

7.27. With its cheap and abundant supply of labour Bangladesh has scope to meet the overseas demand for unskilled and semi-skilled labour in large quantity. From a small base Bangladesh has been able to expand its export of manpower quite first. In 1979, for example, such migrant workers numbered 24,485; for 1982 the estimate is 62,000. If this growth is maintained the volume of manpower export for the plan period will reach 3·40 lakh. However, this must be backed by training programmes in different fields to increase the acceptability and the worth of Bangladeshi workers. The total employment prospect, at home and abroad, for the plan period thus comes to be 39·9 lakh. This indicates prospect of marginal improvement in unemployment situation.

CHAPTER VIII

ROLE OF THE PRIVATE SECTOR

Role Assigned To The Private Sector Over Time

Historically, private sector has played relatively a minor role in Baagladesh in planned development efforts because of lack of private capital and entrepreneurship. In order to overcome these limitations, the private sector was nurtured in various fields including agriculture before Independence. The First Five Year Plan (1973—78) assigned a relatively limited role to the private sector allocating to it Tk. 503 crore, only 11 percent of the total financial resource of Tk. 4,455 crore. The private sector was supposed to supplement rather than compete with the public sector. However, in recognition of the important role that the private sector could play in the development process there has been substantial shift in the policy regarding the scope of the private sector in the economy. The scope of private sector participation has been widened in stages through enlargement and diversification of investment opportunities. At the same time, the Government has offered liberal fiscal and monetary incentives in the form of investment allowances and long-term finances to the private sector. During the Two Year Plan (1978—80), the share of the private sector was raised to 16 percent with an allocation of Tk. 600 crore in the total plan size of Tk. 3,861 crore. Further incentives were given through abolition of investment ceilings and extension of backward areas for preferential customs duty and other concessions. Government started selling of abandoned units under its management outside the reserve sectors to instil confidence in the private sector and provide it with immediate investment opportunities. Encouragement of foreign investment has been an important element in the policy package for attracting private investment. To this end, establishment of Export Processing Zone has been undertaken for setting up private industries, severally or jointly with foreign investors.

Changes In Industrial Policy

8.2 After Independence, with nationalization of large industries, the private sector was relegated relatively to a very minor role. The first Industrial Policy Statement issued in January 1973 left the private sector virtually to operate in small and cottage industries within the investment ceiling of Tk. 25 lakh which could be expanded to Tk. 35 lakh through reinvestment of profits. It, however, ensured a ten year moratorium on nationalization and provided fiscal and other incentives to potential investors.

8.3 In July 1974, the Investment Policy was revised and in consideration of a sharp rise in the prices and costs, investment ceiling was enhanced from Tk. 25 lakh to Tk. 3 crore and private investors, both local and foreign, were allowed to set-up enterprises alongwith public sector corporations except in some basic industries. In addition, some relaxations in the form of extending the period of moratorium on nationalization from 10 to 15 years and tax-holiday for less-developed areas from 5 to 7 years were made. Also a Priority List of Industries (PLI) was published in October 1974 for liberal tariffs. But inadequacy of foreign exchange allocations together with domestic and international stagflation made private investment sluggish.

8.4 In view of the poor response of the private sector the Industrial Policy was further revised in December 1975 and the Government began to accord recognition to a greater role of private sector in the development process. Since then a series of important changes in policies and institutions were initiated to improve the investment climate and better utilize the private sector's potential in the field of industrial development. These measures included:

(i) Further enhancement of investment ceiling from Tk. 3 crore to Tk. 10 crore ending in the final withdrawal of ceiling in September 1978; widening of investment scope by permitting private investment, both local and foreign, in all industries, except a hard-core consisting of six categories of industries reserved for the public sector;

(ii) withdrawal of moratorium on nationalization and declaration of fair and just compensation in case any industry was ever nationalized in special situation;

(iii) measures were initiated for development of capital market to mobilise private savings for industrial investment by (a) recommissioning of the Dhaka Stock Exchange in 1976; (b) setting up the Investment Corporation of Bangladesh (ICB) in October 1976 for providing equity finance and underwriting facilities; and (c) by establishing the International Finance and Investment Company in October 1976 to conduct banking and other financial business in the outside world;

(iv) decision for gradual disinvestment of smaller public enterprises to provide immediate investment opportunities to the private sector;

(v) improvement and simplification of investment approval and loan disbursement procedures were made; 22 sub-sector of industries were left to investors' decisions where no formal permission was necessary to set up industries provided capital machinery is imported under wage earners' scheme or non-repatriable foreign investment;

(vi) reduction of import duty on capital machinery from 20percent to 2·5 percent in respect of less-developed areas; extension of tax-holiday period from 5 and 7 years to 7 and 9 years for developed and less-developed areas respectively; declaration of import policy on an annual basis in 1978/79; expanded facilities for imports under Wage Earners' Scheme and Export Performance License (XPL) and the introduction of Open General Licenses (OGL) for raw-materials;

(vii) establishment of Priority Development Areas in September 1978 which, besides having concessionary rate of 2·5 percent import duty on machinery, would enjoy a higher debt-equity ratio of 70:30 and an interest celling of 11·5 percent;

(viii) 2·5 percent *ad valorem* duty was also allowed to export industries irrespective of their location and 5 percent duty was allowed on capital machinery imported under Wage Earners' Scheme and for industries in BSCIC Industrial States, even if located in the developed areas; and

(ix) to provide promotional services to the private entrepreneurs the Investment Promotion Centre was set up in 1976 with the purpose of identifying investment opportunities and providing general guidelines to private investors; similarly, the Investment Advisory Centre of Bangladesh (IACB) was revitalized in 1977 to undertake feasibility studies for the private sector.

Policy Changes in Private Sector during Fiscal Year 1981 and 1982.

8.5 Between July 1980 and June 1982 further improvements in policy environment for private sector investment was brought about. These were as follows :

(i) in July 1980 the scope of private investment was further expanded by opening up cotton textile mills upto 12,500 spindles each and sugar mills with an effective crushing capacity of 200 tons per day in the private sector;

(ii) in the same Fiscal Year (1980/81), another important policy decision was taken to allow private commercial banks to operate side by side with the nationalised commercial banks; and

(iii) to promote industrial growth in the private sector including foreign private investment, an Industrial Promotion and Development Company was set up in November 1981 in collaboration with a group of four internotional development agencies. Authorised capital of the company is US$ 6 million. Bangladesh Government has 30 percent share in enquity in the Company.

Changes in Policy in Fiscal Year 1983

8.6 The official policy towards private sector has further been articulated in FY 1983 to allow the private sector to have a more pronounced role in the economy. Encouragement of private investment has become one of the main economic objectives of the Government. In this direction, a review of the implementation of the industrial projects sanctioned during 1976/77 April 1982 was undertaken by a Special Committee, which is expected to provide a clear understanding of the problems of private investment. On June 1, 1982 Government announced a New Industrial Policy (NIP). The New Policy expanded the areas of manufacturing industries for private investment, while limiting the public sector to basic, heavy and strategic industries. The main features of the New Industrial Policy are :

(a) Six basic sectors are classified as the Reserved Area for the public sector and thirteen sectors have been placed in the Concurrent List where both public and private investments are admissible. The Reserved list covers the following sectors of industries: (i) Arms and Ammunition and Allied Defence Equipment (ii) Atomic Energy (iii) Air Transport (iv) Tele-communication (v) Generation (excluding stand-by generation) and Distribution of Electricity (excluding rural electrification by Palli Bidyut Samity) and (vi) Forest Extraction (mechanised). The Concurrent List includes, *inter alia,* jute industry and cotton textiles. This will give a fillip to private investment as these two sectors had been the main areas of private investment activities before Independence. In pursuance of this policy, it was decided to return the jute and textile mills to their former Bangladeshi owners. In fact, as of March 2, 1983, 28 jute mills and 22 textile mills have been returned or resold to the original sponsors.

(b) To protect and promote local industries, import of some industrial goods were banned, *e.g.,* PVC compound shoe grade, electric bulbs (15—100 watts), electric ceiling fans, dry cell battery, locks and padlocks (upto 2½" size), etc. Besides, prior to procurement of any goods from abroad, Government Departments/Corporations are required to obtain the first right of refusal, certificates from the Industries Division of the Ministry of Industries and Commerce about non-availability of domestic manufactures.

(c) Reflecting the objectives of the NIP, a Revised Industrial Investment Schedule covering the remaining period of the Second Five Year Plan was issued in July 1982. It envisages an investment of Tk. 1,359·35 crore with a foreign exchange component of Tk. 644·77 crore. The revised investment schedule includes 110 sub-sectors of industries under 13 major groups. The number of sub-sectors have been reduced from 194 to 110 to allow greater investment flexibility. Separate Investment Schedules for small and cottage industries and handicrafts have also been issued with a reserved list of 40 sub-sectors. The investment allocation is Tk. 400 crore for these industries.

(d) The New Industrial Policy has also liberalized sanctioning procedure for private investment. The number of industries in the Free List where no permission will be needed have been increased from 22 to 49, allowing for import of machinery under wage earners' scheme, suppliers' credit or non-repatriable foreign investment. The expanded sub-sectors include certain important areas such as specialised textiles, ready-made garments, light engineering work-shops, dairy farming and dairy products, footwear and finished leather goods.

(e) Procedures for government sanction have also been streamlined. To provide *'One Stop Service'* facility regarding processing of projects, acquisition of land, arrangement for power/gas, etc., an Investment Assistance Unit has been set up in the Department of Industries. Issues that cannot be resolved at the One Stop Service will be looked into by a high powered committee known as the Working Committee set up with Director General of Industries as Chairman and representatives of the concerned agencies as Members. Maximum time limits for processing of investment applications and disbursement of loans have also been fixed. Further, regional offices of loan giving agencies and government and semi-autonomous organisations have been given enhanced power to dispose of investment applications without references to their head offices.

(f) To promote regional development, the country has been redefined into developed and less-developed areas (instead of the existing three categories) for preferencial fiscal and monetary incentives for the sake of administrative simplicity and operational efficiency. Duty on import of capital machinery is 15 percent ad-valorem for developed areas comprising the metropolitan zones of Dhaka, Narayanganj, Chittagong and Khulna, and 2·5 percent for less-developed areas in the rest of the country. Concessionary duty of 2·5 percent for import of machinery is also allowed for industries to be set-up in the BSCIC industrial estates (even if located in the developed areas) and for industries using 70 percent or more indigenous raw-materials (called priority industries). Besides, tax holidays for 5 and 9 years are given for industrial undertaking in the developed and less-developed areas respectively.

Foreign Private Investment

8.7. Under the NIP, foreign private investment will continue to be encouraged particularly in new enterprises requiring specific foreign technology, making intensive use of natural resources and having export potential. In order to attract foreign private investment, an "Investors Forum" was organised by the Ministry of Industries in Dhaka in February 1982 in collaboration with the UNIDO. The Forum provided the foreign investors with an opportunity to come in direct contact with the local investors and entrepreneurs, explore

investment opportunities and acquiesce with Government policies towards private investment in Bangladesh.

To expedite the process of sanctions of foreign private investment including joint ventures, a Foreign Investment Cell has been set up in the office of the Head of the Government. Fully documented proposals of foreign private investment will be received in the office of the Minister for Industries and Commerce and after the initial appraisals made in the Ministry, sanctions will be accorded by the Cell.

Export-Oriented Industries

8.8 Promotion of export-oriented industries (industries with prospect of export of 80 percent of their products) was given high priority in the NIP. Towards this end, additional monetary and fiscal incentives such as discount of 1 percentage point for interest on investment loans, lower interest rate in the case of pre-shipment and packing credits and bank credit upto 90 percent of working capital requirement against irrevocable letter of credit are provided. Allocation of cash foreign exchange for import of capital machinery will also be considered in deserving cases of export industries.

Export industries will also continue to be entitled to a concessionary rate of duty (2·5 percent) on import of capital machinery, expanded facilities in export performance licensing in case of 120 exportable items and income tax rebate ranging from 30 percent to 50 percent of tax attributable to export sales.

8.9 As a result of the relaxation of investment policy and liberalization of fiscal and credit policies, the amount of sanctions of industrial investment during the First Plan and the Two Year Plan period as a whole rose to Tk. 1,036·28 crore for 4,059 industrial units against the investment allocations of Tk. 759·00 crore provided in the Investment Schedules. In fact, the growing confidence of the private sector reflected in 1979/80 sanctions which accounted for about 57 percent of the total sanctions made during 1973/74—1979/80. During the first two years of the Second Five Year Plan (1980—85), sanctions amounted to Tk. 955·80 crore. Actual investment in private manufacturing industries made by way of institutional credits only during 1973/74 to 1981/82 is shown in Table 8·1.

TABLE 8·1

Private Investment In Manufacturing Industries

[*Taka In Crore*]

Year	Allocations of Investment.	Sanctioned of Investment.	Number of Units Sanctioned.	Sanctions as % of Allocation.	Actual Investment.	Actual Investment as % of Sanctions.
1973/74	30·00	8·74	308	29	8·24	94
1974/75		15·05	304	..	13·32	89
1975/76	70·00	70·11	323	122	19·80	28
1976/77		80·99	548		62·00	77
1977/78	191·00	209·14	899	152	97·50	47
1973/78	291·00	384·03	2382	132	200·86	52
1978/79	..	217·92	749	139	98·20	45
1979/80	468	434·33	928		148·13	30
1980/81	400	668·25	1740	167	210·00	31
1981/82		287·55	607	74	226·00	79

8.10 Broad features of this investment in the manufacturing industries is that most of it went to the creation of new capacities. It appears that during a seven-year period since 1974/75 only Tk. 350·76 crore or about 20 percent of the total sanctioned investment was made in completely export-oriented industries. A little less than half of this investment was made in 1980/81. As selling of output is relatively easier in the local market, most of the entrepreneurs seemed to have preferred either 100 percent local market oriented enterprises or partly so. The overall debt-equity ratio was found to be 62 : 38 and of the total equity of 38 percent, a little over 18 percent was financed by the sponsor's own contributions and the balance constituted bridge financing or underwriting through the consortium organised by the Investment Corporation of Bangladesh in collaboration with Bangladesh Shilpa Bank, Bangladesh Shilpa Rin Sangstha, Sadharan Bima Corporation and the nationalised Commercial Banks.

8.11 In sharp contrast to the above pattern of investment, equity capital seems to be largely financed from foreign private investment. Of the total sanctioned investment of Tk. 152·17 crore during 1973/74 to 1981/82, foreign equity investment comprised Tk. 100·96 crore or over 66 percent and the balance was in local equity participation (34 percent) and foreign investment under Pay As You Earn (PAYE) Scheme. As Bangladesh has a low level of local private manufacturing investment, inflow of foreign private capital through equity or direct investment may be preferred to capital inflow through loan or portfolio investment. Light engineering industries, jute and textile mills, machinery and accessories, drugs and pharmaceuticals, readymade garments, deep sea fishing, ship-building, modern hotels, diesel engines, leather and footwear, etc. were the major fields of foreign investment in Bangladesh during the past few years. Most of the investment have originated in firms of Japan, Singapore, South Korea, Switzerland, the United Kingdom and India.

8.12 Private investment for 1979/80 is estimated at Tk. 799 crore in current prices corresponding to the public investment of Tk. 1,915 crore. Thus the private sector accounted for about 30 percent of the total investment. The estimates of private investment do not, however, include non-monetized investment.

8.13 The sectoral composition of private investment as estimated for 1979/80 is summarised in the following table :

TABLE 8.2

Private Investment In 1979/80

Sectors	Investment (Tk. in Crore)	Percentage of Total
1. Agriculture	200	25·03
2. Manufacturing	170	21·28
3. Transport	115	14·39
4. Physical Planning and Housing	164	20·53
5. Trade and Other Services	150	18·77
Total	799	100·00

Agriculture was thus the largest recipient of private investment but its share was much below its share in GDP, while manufacturing sector received much higher share than its

share in GDP. The same is true for other sectors All these indicate that private investment is mainly urban and modern sectors oriented. This pattern of allocation of private investment is of serious concern for the Second Plan which will centre around rural and agricultural development; that is, private investment has to undergo a reorientation so that it works as an effective instrument for attaining socio-economic objectives of the Plan. Not only more of private investment has to be directed to agriculture but to the rural sector as a whole. Development of rural infrastructures and mobilization of rural savings by the banking sector will be crucial for these purpose; nevertheless the investment schedule which controls private investment will have to act as the linchpin to direct private investment to rural sector on a large scale.

8.14 The time series related to private investment as shown in Table 8·3 shows that disbursement of credits by banks and specialized financial institutions to private sector, particularly to agriculture, manufacturing and housing, have increased considerably over the years. Therefore, both the financial and banking institutions will have increasing role to guide private investment to the rural sector. The reorganised thana administration and establishment of growth centres with net-works of roads, power supply and workshop facilities will create the most congenial condition for private investment in the country-side. Government policy also has undergone considerable change to widen private investment opportunities.

TABLE 8.3

Disbursement of Institutional Credits To Private Sector During 1979/80—1981/82.

[Taka In Crore]

	1979/80	1980/81	1981/82
1. **Agricultural Credits**	**268·88**	**352·28**	**398·85**
Bangladesh Krishi Bank ..	142·00	209·74	271·00
Nationalised Commercial Banks ..	101·30	116·84	109·85
Bangladesh Jatiya Samabaya Bank ..	25·58	25·70	18·00
2. **Industrial Credits**	**141·31**	**145·80**	**136·02**
Bangladesh Shilpa Bank	34·41	52·25	48·80
Bangladesh Shilpa Rin Sangstha ..	48·83	56·58	30·37
Investment Corporation of Bangladesh ..	16·45	24·77	8·71
Bangladesh Krishi Bank ..	3·59	12·20	2·04
Nationalised Commercial Banks ..	38·03	71·74	54·81
3. **Housing Credits**	**84·50**	**82·41**	**54·53**
Bangladesh House Building Finance Corporation	75·08	66·01	47·17
Nationalised Commercial Banks ..	9·42	16·40	7·36
4. **Transport Credits**	**21·39**	**32·98**	**16·51**
Bangladesh Shilpa Bank ..	6·22	5·88	6·35
Bangladesh Shilpa Rin Sangstha ..	3·77	9·87	1·96
Nationalised Commercial Banks ..	11·40	17·23	8·20
Total ..	516·08	613·27	605·91

Private Investment in the Second Five Year Plan

8.15 As the economy of Bangladesh is characterised by low level of savings, the private sector will continue to play a significant role during the Second Five Year Plan. Estimates of domestic savings show that private saving constitutes the major component of domestic saving and its share will increase under the Second Plan because of the emphasis on the private sector, particularly in the agricultural and rural sector. It is also recognized that the private sector has a pool of entrepreneurial potential which will have to be drawn upon in larger number than before because of the natural constraint of bureaucracy for public sector management.

8.16 During the Second Plan period, private investment in the monetized sector is projected at Tk. 6,100 crore. This accounts for over 35·5 percent of the total planned outlay of Tk. 17,200 crore as compared to 11 percent allocated in the First Five Year Plan and 16 percent in the Two Year Plan. The private sector is thus entrusted with a much higher role in the Second Plan period, than everbefore. Compared with the estimated private investment for 1979/80, the planned allocation for the private sector is about eight fold bigger. It is to note that the private sector's allocation is largely indicative, but the government will provide necessary policy support in the form of fiscal and credit incentives to attain it. Sectoral break-up of the envisaged gross investment reflecting the relative priorities is presented in Table 8·4. The investment allocations made in various sectors are discussed below:

(a) *Agriculture*: Investment in agriculture refers to capital expenditures mainly on installation of shallow, deep and hand tubewells and low lift pumps, small irrigation and drainage structure, storage facilities, draft power and cattle sheds. The other areas of private investment in agriculture include both inland and marine fishing, afforestation and poultry and dairy farming. In the Second Plan, a sum of Tk. 2,257 crore or about 37 percent of the total projected private investment is estimated to be invested in agriculture. The higher investment in the agriculture sector reflects the Plan's strategy of attaining a high target in food production and rural development.

TABLE 8·4

Private Investment in the Second Five Year Plan

Sectors	Investment Estimate For 1979/80.	Investment Allocations in SFYP.
1. Agriculture, Water and Rural Development.	200 (25·03)	2257 (37)
2. Manufacturing	170 (21·28)	1769 (29)
3. Transport and Communication	115 (14·39)	976 (16)
4. Physical Planning and Housing	164 (20·53)	1098 (18)
5. Trade and Other Services	150 (18·77)	..
Total:	799 (100)	6100 (100)

Figures in parenthesis indicate percentage of total.

(b) *Manufacturing* : Private investment in manufacturing industries is envisaged to be Tk. 1,769 crore or 29 percent of the expected total private investment. Although priority will be given to the development of small, cottage and rural industries, considerable investment will also be made in medium and large scale industries. As a guideline to private sector investment under the Plan, an industrial investment schedule has been issued by the Ministry of Industries. The schedule is the fifth investment schedule under the third industrial investment policy for the private sector. It provides for an investment sanction of Tk. 2,650 crore with a foreign exchange component of Tk. 1,390 crore for 194 sub-sectors of industries under 14 major groups. Sub-sector of industries has been reduced to 110 under 13 major groups in the NIP. Of the proposed investment outlay of Tk. 2,650 crore, Tk. 2,391·02 crore or over 90 percent is intended to be utilized for creation of new industrial capacity and the rest for balancing, modernization and replacement. A sum of Tk. 680 crore or 26 percent of the envisaged investment allocation of Tk. 2,650 crore is allocated for development of small and cottage industries.

In implementing the investment schedule, priority has been accorded to export-oriented industries and those catering to the basic needs of the common man. Opportunity for export-oriented industries will be fully exploited and where necessary, in collaboration with foreign capital. Implementation of the investment schedule will be continuously reviewed in making allocations effective. The private sector investment programme provides for foreign private investment in new ventures, particularly in export industries and in a selective way, in high technologies. While foreign private investment will be encouraged, equity or direct investment will be preferred.

(c) *Transport* : Private sector has been the main stay of the transport sector. Except railways, airways, and part of mechanised road and water transport, almost the whole of transportation is handled by the private sector. In fact, in road and inland water transport, the private sector plays the dominant role. While provision of infrastructural facilities in these areas is the prime responsibility of the public sector, modern transport services would continue to be dominated by the private sector. During the Second Plan period, both the passenger and freight traffics will grow faster than the growth of the economy alongwith its increased commercialization. To meet the increased traffic load, carrying capacity of the private sector shall have to be enlarged. So, a sum of Tk. 976 crore, about 16 percent of the stipulated private investment, is expected to be invested by the private investors in the transport sector. Over half of the stipulated investment will take place in road transport.

(d) *Physical Planning and Housing* : A great bulk of the construction of residential housing, commercial buildings and industrial establishments take place in the private sector. In view of the greater participation of the private sector in the field of construction, a fairly large investment, Tn. 1,098 crore, is envisaged in the physical planning and sousinv sector. This represents over 18 percent of the total Second Plan anticipated investment in the private sector.

Besides these four major areas, private investment will also take place in trade and other services through construction and maintenance of business and functional buildings and addition and repair of capital equipment. A small amount of investment is also expected to occur on account of education and health services. Private investment in education will take place largely through voluntary contribution of labour and materials by the households for establishing or maintaining educational facilities in the

community, while establishment of health clinics and maternity and medical services will account for investment on health facilities. As these investments are of the form of housing and construction, allocation for investment under these areas is included in the housing sector.

Some General Policy Issues

8.17 While the policy incentives already initiated to utilize full potential of the private sector in the economic development of the country will be pursued during the Second Plan period, the investment climate is expected to become more conducive to private enterprise with continuing economic stability. The policy package will be regularly reviewed keeping in view the potential of the private sector and the constraints affecting the growth of private investment. The major constraints and their policy imperatives are discussed below:

(i) Since inadequate infrastructural facilities may act as an impediment to diffused investment, there is need for substantial complementary investment by the government in these fields. Public investment in developing an effective irrigation system, an expanded rural electrification, programme for building growth centres and in improvement of roads, railways, waterways and ports will induce investment in the private sector.

(ii) As entrepreneurial initiative has been below the desired levels, a larger flow of concessional credit and equity support can help build industrial entrepreneurship and managerial ability. Tax credit may be allowed to extend equity support to investment in view of the shortage of equity capital market which would work as a mobilizer of small savings. The Dhaka Stock Exchange has to be given support through encouragement to the formation of Public Limited Companies. Also the scope and functions of the Investment Corporation of Bangladesh (ICB) has to be widened in order to attract small and medium savers to invest in shares and securities. The equity support facilities of the Underwriting and Debenture Finance Consortium sponsored by the Investment Corporation of Bangladesh in association with Sadharan Bima Corporation, Bangladesh Shilpa Bank (BSB), Bangladesh Shilpa Rin Sangstha (BSRS) and the Nationalised Commercial Banks may also be extended to all types of entreprises having bankable projects.

(iii) To encourage private investment, both capacity and operational efficiency of the basic infrastructural and utility services such as power, transport and tele-communications shall have to be increased. Also efficiency of the financial, technical and other institutions should be improved to increase profitability of private investment. Overall operational efficiency in private sector can be increased by augmenting local manufacturing capacity for regular supply of spares and intermediate raw materials and building up of a working inventory through necessary allocation of foreign exchange under the import policy and timely issuance of import licenses by the Chief Controller of Imports and Exports (CC & IE) Implementation of a rational labour policy with a fairly satisfactory wage structure would help increase productivity in the private sector by reducing industrial unrest.

(iv) Contrary to the desired objective of geographical dispersal, most of the industrial activities have continued to concentrate in the developed zones of Dhaka, Chittagong and Khulna. The Census of Manufacturing Industries (1976/77) shows that over 86 percent of the total industrial fixed assets have found accommodation in Dhaka and Chittagong Divisions, while only 10 percent and 3·86 percent of the capital formation took place in Khulna and Rajshahi Divisions respectively. An initial technological base shall have to be developed in the less developed areas, particularly in the northern region through public investment such as in engineering industries as backbone of private investment. For promotion of small industries the BSCIC may construct factory sheds/buildings or part thereof in the industrial estates and may lease out to small entrepreneurs in addition to allotment of industrial plots developed with ancillary infrastructural facilities. There should be a total effort to develop the less developed areas, rather than trying to solve their problems in a series of disconcerted measures initiated by individual institutions in their own domain.

(v) Regulatory and control functions of government agencies have to be relaxed to promote private investment. Investment sanctioning procedure has to be prompt and simple. Provision of credit has to meet the full requirement. Streamlined arrangements have to be made for provision of working capital. Some mechanism for burden sharing on account of exchange risk has to be found. Appraisal of project proposals has to be efficient and objective and for this, use of services of local consultancy houses has to be institutionalised. Clearance formalities as well as licensing requirement have to be minimised. Some developments have taken place as in introducing a large free list of investment sectors, provision of working capital and the like. But a change in the orientation of the burcaucracy is required on a priority basis.

Policies for the Industries Sector

8.18 Private industrial investment is guided by Investment Schedule and in most cases dependent on administrative and financial sanction. Problems concerning the procedures for investment proposals and disbursement of loans can be satisfactorily solved if the sanctioning and financing authorities take more active interest from the very beginning of project formulation. These organisations do have a section for promotion of private investment, but they need to be technically strengthened. Besides, local consultancy services including market survey, technical and economic feasibility studies and related matters for the prospective investors have to be geared up through strengthening the relevant organisations such as the Investment Advisory Centre of Bangladesh (IACB), Investment Promotion Centre, Bangladesh Small and Cottage Industries Corporation (BSCIC), etc. In view of the low utilization (only 14 percent of the developed plots as of June 1981) of the industrial estates, the promotional role of the BSCIC has to be more intensified. Information about Government policies and regulations as well as scope and opportunities for investment have to be made available to the citizen of Bangladesh serving abroad through the Embassies and High Commissions, and positive measures for mobilizing their foreign exchange savings should be taken. The International Finance and Investment Company Limited, set up to conduct banking and other financial business outside Bangladesh, should play its role in this field. The Chambers of Commerce and Industries and the Investment Promotion Centres also would have to take a more promotional and forward looking role than before. While in identified cases of existing fiscal

discrepancies between imports of raw materials and finished goods that discourage growth of import-subtituting industries prompt action should be taken, for the subject as a whole a comprehensive study on effective protection should be undertaken without delay. With a rational tax system, reasonable and an efficient tax administration is a pre-condition for healthy growth of private investment.

8.19 The country suffers huge loss due to unutilized capacity in the manufacturing sector, mainly because of power failure, labour indiscipline, shortage of raw materials, competition from liberal import of finished products under wage earner's scheme, tied loans and barter and lack of adequate allocation of cash foreign exchange. In 1980/81, annual production in some private sector industries such as tannery industries particularly finished chrome leather, and in soaps, tooth-paste, hollow glass, baby food, vegetable ghee, non-alcoholic beverages, paints and varnishes, dry cell batteries, stainless steel cutlery, steel re-rolling mills, etc. was relatively low although there has been a significant improvement in the utilization of installed capacity in some private sector industries in the past few years. For instance between 1978/79 and 1980/81, capacity utilization in cigarettes rose from 64 percent to 87 percent; safety matches from 52 percent to 67 percent and T.V. assembling 40 percent to 63 percent. The liberal imports under Wage Earner's Scheme should be dovetailed to specific requirement consistent with the industrialization policy of the country. Bangladeshi organisations like the Biman, hotels and restaurants use sugar, drinks and other food products which are imported. Their domestic production at an international standard deserves to be encouraged in the private sector.

Role of Department of Industries

8.20 The Department of Industries with its branch offices in Divisional and District headquarters has been directly concerned with private industries. Other organizations such as BSCIC, BSB, BSRS and Divisional Development Boards are also involved in the development of small industries. These organisations should depend more on policy instruments rather than on direct controls while stepping up their promotional efforts for rapid development of industries in the private sector and unnecessary administrative procedures should be avoided. The New Industrial Policy has brought about significant changes in this respect but its working needs to be continuously reviewed to make further improvements. There is need to ensure effective coordination among the investment sanctioning and financing institutions in carrying out detailed appraisal and establishing linkage effects of the investment projects. Besides, the relative order of priority among various sub-sectors of industries, between creation of new capacity and balancing, modernization and replacement, between import-substituting and export-oriented industries, etc., will have to be correctly set through the process of review of investment policy and schedules.

Promotion of Agro-Based Industries

8.21 Since absence of professional entrepreneurial ability has been a handicap in the private industries, small traders and entrepreneurs will have to be groomed under the rural industrialisation programme through providing ideas, training and institutional support. For this, adequate institutional capability will have to be developed. As a part of the strategy of industrialization, agro-processing small scale labour intensive industries would be promoted in the Growth Centres at rural thana head-quarters and major market places. These centres will have network of transport, power and other related facilities. The agro-processing industries would be linked up with local production plans for supply of farm products.

Foreign Private Investment

8.22 All industries in Bangladesh, except a hard-core of six reserved for the government sector, are open for private investment, both local and foreign. Foreign private investments are allowed in collaboration with both government and local entrepreneurs. During the Second Five Year Plan period, foreign equity participation will continue to be particularly encouraged in those industries where raw materials are entirely local but technical know-how is not available locally, technology involved is complicated or capital intensive and the output is export-oriented. Foreign technical collaboration without equity participation will, however, be allowed in almost all types of industries. There is no rigidity about the extent of equity capital participation by foreign collaborations. Government will continue to provide liberally monetary, fiscal and other incentives to induce foreign investment. In order to promote foreign private investment the Foreign Private Investment (Promotion and Protection) Act was enacted in December 1980. It ensures legal coverage against non-business risk and would provide further confidence to the potential foreign investors. Already a number of foreign investment promotion agreements have been signed with foreign governments.

8.23 Publicizing official policies and regulations regarding foreign investment and areas of industrial activities open to the foreign entrepreneurs needs to be intensified abroad. Under the New Industrial Policy diffusion of industrial culture will be expedited while political stability will inculcate tolerance of a way of life recognised as the most important condition to attract foreign investment. There is also need for industrial peace and tranquillity between labour and capital for increasing domestic employment and output.

8.24 To attract the flow of foreign investment an Export Processing Zone (EPZ) is being set up at Chittagong. Legal framework entitled the Export Processing Zones Authority Act has been enacted for setting up duty-free EPZs. This contains necessary procedures governing the type of investment to be set up in the zones and provision for suitable incentives to be offered to the prospective investors regarding foreign exchange transactions, taxation, customs, etc.

8.25 Export industries which are likely to be set up in the EPZs are wearing apparel and textiles, leather goods and footwear, furniture and wood products, medical and surgical instruments, optical goods, engineering and electronic products, scientific equipment, toys, musical instruments, sports goods, jewellery, arts and handicrafts, glass and ceramic products, plastic products, pottery, pharmaceutical products and the like.

Policies for Agriculture, Transport and Housing

8.26 In order to achieve the target of investment in agriculture, adequate provision for agricultural credit from the institutional sources would have to be ensured. Studies show that marginal propensity to save is quite high in the rural areas and, therefore, rural saving is expected to increase quite fast with increased income. To make such saving productive, financial institutions should be expanded in rural areas to promote both banking and saving habits among the rural population. While capital goods like irrigation equipment and construction materials would need to be increasingly supplied to rural areas for fractuation of savings into investment.

8·27 In transport, in addition to better credit, fiscal incentives may be allowed to the potential investors to augment the flow of private investment into this sector. In order to induce private investment in shipping, a concessionary import duty @ 2·5 percent was allowed to ocean going vessels of 7000 DWT and above engaged in international trade in the financial year of 1981/82. Ocean going ships registered in Bangladesh, fishing trawlers and passenger vessels plying on inland water will be allowed depreciation allowances @ 40 percent, 30 percent and 30 percent of the original cost in the first, second and the third years respectively.

8·28 For improving efficiency of transport services, Government should encourage private training institutions to develop their efficiency and promote regulatory practices as private training institutions are developing in the country in large number. They certainly merit the encouragement and support from the government but also need to be regulated.

8·29 For stimulating the level of investment in physical planning and housing, adequate and sustained supply of construction materials such as forest products, cement, M.S. rods, fixtures, etc. would have to be ensured. The revival of the policy of providing cheap loans for multi-storied small flat houses should be considered. It is important to encourage private housing society within some legal norms to be satisfied by them, so that the interest of small savers and safety standards are protected.

Rural Industry, Trade and Services

8.30 Nearly 50 percent of rural population is landless and about 40 percent of rural labourers are engaged in some form of non-farm activities. Rural trades, services and small industries suffer from two deficiencies viz, lack of credit and lack of adequate technology. Productivity tends to be low and unemployment tends to be high. Experimental programmes in rural credit and industrial extension service have been under implementation for quite a while. Non-government organisations have been active in selected pockets. Bangladesh Bank also started Rural Experimental Finance and Grameen Bank projects some time ago. These experiments have successfully demonstrated the great worth of credit and extension programmes in funding non-farm jobs and augmenting rural incomes. Supervised credit is very important in such programmes and group philosophy seems also to be at a premium. But expansion of coverage of such useful programmes have necessarily, to be slow. Yet institutional arrangements for expanding rural credit for trade, services and small industry will be specially attended during the Plan period.

Mobilization of Private Savings

8.31 A sum of Tk. 6,234 crore is envisaged to be generated as domestic private savings during the Second Plan period. This will be partly realised through the banking system-both commercial banks and specialised financial institutions in the form of deposits and sale of securities, shares, debentures, bonds, etc.

8.32 Besides, private savings will be accumulated through public savings schemes like Postal Savings Accounts, Pratirakha Sanchaya Patras, Government Employees Provident Funds, etc., as well as through the insurance corporations. Of the projected amount of private savings, Tk. 1,792 crore is likely to accrue in the form of time deposits in which

the deposits of the private households will account for about 70 percent and the balance by corporate and other sectors. The various government savings instruments will attract a net private savings of Tk. 199 crore.

8.33 It is expected that of the estimated savings, a significant part will accrue in the rural sector. In the rural areas of Bangladesh lending process is presently dominated by non-institutional lendings. Such lendings are generally inefficient and unproductive. Therefore, during the Second Plan period the process of substitution of this system by formal institutional lending such as credits from the Commercial Banks, Bangladesh Krishi Banks, Post Offices and the Co-operative Banks should be accelerated. Alongside the expansion of branches, the commercial and financial institutions should also undertake motivational drive to encourage banking and savings habit among rural population and introduce special savings media with adequate appeal to different groups of savers.

8.34 On the face of a rising price level, rates of interest on different types of deposits proved to be little effective. Thus in order to step up mobilization of household savings and to attract the small savers to invest in various types of financial assets such as bonds, debentures, savings certificates, etc., a positive interest rate policy should be pursued. A reasonably upward adjustment of deposit rates for commercial banks and other financial institutions would make the real rate of return on deposits adequately attractive and provide a promising outlet for substantial amount of private saving. In October 1980, the interest rates were suitably revised upwards. Results of this revision have proven to be positive as in 1981/82 total time deposits of the commercial banks increased by Tk. 726 crore compared to an increase of Tk. 273 crore during the preceding year of 1980/81 and Tk. 121 crore in the year before.

8.35 Apart from the banking system, there is need to develop an effective capital market to mobilize savings of the community. In this respect, Government securities offering attractive returns, fiscal concessions and other incentives would continue to be effectively pursued. Besides, instruments like mutual fund and investment trust certificates will have to be used on an expanded scale. Also new instruments for long-term savings like company shares may also offer opportunities for long-term investment of household and institutional savings. Government's minority shares in some of the existing profitable public sector enterprises can provide an effective support to issues of ICB.

CHAPTER IX

IMPLEMENTATION AND MONITORING OF THE PLAN

A plan is ultimately as good as its implementation since it is the actual achievement, and not merely the targets set or the resources allocated that determines the impact of a plan on the economy. A plan that fails to take into account difficulties in its implementation is as much fraught with failures as lack of commitment and institutional support can forestall its implementation. Therefore, for the success of a plan, it is necessary that the objectives of a plan and its policies are determined after a close and intensive analysis of the national problems and reflect the collective wisdom of planners, policy makers and administrators.

Planning and Programming Process

9.2 In Bangladesh the responsibilities from planning to execution are shared between the administrative ministries and the Planning Commission; but as the administrative ministries are responsible for their respective sectors of the economy, Planning Commission is entrusted with the functions of preparing national plans and programmes according to the directives of the National Economic Council (NEC). The planning process starts with the mapping of economic trends and identification of alternative possibilities by the Planning Commission, leading to formulation of the technical framework of a plan with alternative models. Ministries and agencies participate indirectly in these technical work as sources of information particularly, their experiences are of great value in identifying various technological options. Their involvement is, however, intensive in the formulation of programmes and policies. And their contribution is unique in the formulation of projects. With a view to enhancing their participation in plan formulation, ministries also enjoy the authority of sanctioning projects up to a certain cost (Tk. 2 crore). Thus the present planning process can be characterized as one by consultation and consent.

9.3 Though Bangladesh has quite a long experience in development process, it needs to be emphasized that the plan philosophy has changed in recent times significantly from the doctrinaire approach taken just after Independence. There has been increasing emphasis on the private sector and people's participation. The first, expansion of the role of the private sector, particularly in the Industries Sector, has changed the character of the plan substantially. This is reflected in the fact that the allocation for the private sector has been steadily raised from 11 percent in the First Plan to 16 percent in the Two Year Plan to 21·4 percent in the Draft Second Plan through to 35·5 percent in the revised Second Plan. This shift will call for greater emphasis on policy planning and, use of indirect methods such as fiscal and monetary instruments to guide the private sector towards socially desirable goals rather than direct controls on investment and production programmes. The Plan will have to depend more on policy prescriptions than on commands. Along with this shift there will also be need for greater emphasis on monitoring of developments. As no longer the public sector will have same command on the economy as it had in the past, it follows, therefore, that the Planning Commission as well as the ministries will have to use and strengthen their analytical capability for solving national problems through effective policies in realizing planned objectives.

9.4 In expanding the scope for people's participation in planned development, the Government has taken a significant step by decentralization of administration down to the thana level. Thana administration which is in the process of being strengthened will be

the vehicle for rural development which is the prime objective of the Plan. Thana Executive Officer called Thana Nirbahi Officer (TNO) will have the coordinating role for people-oriented programmes such as supplies of agricultural inputs and minor irrigation equipment, development of small and cottage industries, establishment of education, health, and family planning facilities and promotion of employment and infrastructures through Works Programme or Food for Works Programme to ensure that these programmes reflect people's need. The Government has also decided to reinvest the local government at union level with a development role and then constitute the Thana Parishad as an elective body to oversee thana level development. For local level activities, the intention is to transfer to the Thana's development funds which they would use on plans prepared by them within the national plan frame and promoting national objectives. This diffusion of planning process will necessitate greater coordination of planned activities inasmuch as there will be greater necessity for flexibility in plan implementation.

9.5 Currently, the principal instrument for ensuring flexibility in the implementation of Five Year Plan is the Annual Plan. The Annual Plan is based on an evaluation of past performance and assessment of resource position for the year keeping in view the targets and the size of the Five Year Plan. With reduction in the overall size of public sector programme and consequent shift for policy planning, there will be greater need for long term perspective, to be revised annually for necessary adjustments for realizing planned. targets. One important issue in policy planning is to ensure its consistency between the public and the private sectors. As the role of the private sector will enhance, the Plan will have to ensure that the policies are addressed effectively to the need of the private sectors. In meeting this goal a new industrial policy has been announced, while a study on trade and industrial policy (TIP) with emphasis on comparative advantage and effective tariff has been undertaken in the Industrial Sector. A public policy oriented study on food and agriculture is in progress under the Food Planning and Monitoring Unit (FPMU), while a Financial Sector Study, which is in its advanced stage will enable the Government to strengthen its monetary policy during the Plan period.

Annual Development Programme

9.6 Though the investment programme of the Public Sector will constitute a reduced percentage of the Plan size, it is necessary to note that this was partly due to difficulties that the public sector has increasingly faced in mobilizing resources in recent years and partly due to management difficulties of public sector enterprises. For these reasons the Annual Development Programme (ADP) will need to be more pragmatic as it is the ultimate instrument for resource allocation in the public sector. The Plan recognizes several weeknesses in this respect. First, it suffers from inadequate financial planning. Resources for Annual Development Programmes are either under-estimated or, as a more frequent phenomenon, overestimated. But the reason is same that there are too many competing projects in the ADP to legitimately claim too little resources. The pressure of the unsatisfied demand of relatively large number of projects sometimes leads to search for new resource in the middle of a year but more often to overestimating of resources in the beginning of ADP exercises. The problem has in recent years deteriorated due to uncertainties in world trade and aid climate and the gap between actual development expenditure and Annual Development Programmes has widened. During the first two years of the Plan *i.e.*, in 1980/81 and 1981/82 shortfall was 12·4 percent and 20·7 percent respectively. Though the revision of the public sector Plan size from Tk. 20,125 crore to Tk. 11,100 crore will help contain the pressure of projects for fund from the demand side, there is no question that estimate about the supply of fund be realistic. To this end, a technical level working secretariat has been set up to help the Resource Committee in

estimating resource and reviewing resource position frequently. Also a core programming technique has been adopted for the ADP to make sure that adequate resources are allocated to priority projects at the beginnning of the year. While revenue reporting is quite uptodate expenditure reporting is still difficult.

9.7 The main cause for the widening gap is that ADP contains too many projects. In 1973/74 the number of schemes were 1385 and increased to 1519 by the end of the First Plan (1977/78). As the number expanded too fast and consequently demand for resources increased, restrictions were introduced in respect of inclusion of new projects while on-going projects were subjected to screening. In fact, because of the overbearing nature of on-going schemes, the Two Year Plan was adopted to complete as many of the on-going schemes as were possible with allocation of adequate fund. These brought down the number of schemes to 1406 in 1979/80. But the expectation that the Draft Plan generated in the background of improved development performance in the second half of 1970s led to a substantial increase in project numbers in 1980/81, rising to 1550 in the first year and to 1691 in 1981/82. In 1982/83 the number has been brought down to 1128 (original number 1580) through severe rationalization efforts. The pattern shows a definite cycle; the pressure on resources gradually builds up through enlargement of number till it becomes unbearable when pruning has to be drastic as it happened in 1978/79 under TYP and this year (1982/83). The salutary effect of including too many schemes in the ADP is that scarce resources—both fund and managerial capabil'ty, are thinly spread over many schemes. This creates a second gap, the gap between targets and achievements in project completion as shown below:

Years	Projects in ADP	Completion target.	Achievement
1974/75	1352	21	12
1975/76	1359	55	41
1976/77	1477	175	85
1977/78	1519	391	145
1978/79	1475	261	116
1979/80	1406	512	357
1980/81	1550	321	160
1981/82	1691	228	133

The increase in the number of schemes in the face of resource constraint has reduced the effectiveness of ADP as an instrument for development as crowding of too many schemes could not but put many schemes on subsistence level, in 1981/82, for example, 36 percent of schemes used 84 percent of allocation, while 64 percent schemes had 16 percent allocation only.

9.8 A side effect of over-programming is reflected in the inflow of schemes into ADP before their proper evaluation; in some cases even projects at their stage of conception have been included in ADP. During the TYP period and the first two years of the Second Plan, the number of unapproved schemes increased from 459 to 796 accounting for 47·1 percent of ADP projects in 1981/82 against 33.8 percent in 1978/79. As the number of unapproved projects increased more than proportionately, the quality of ADP has also suffered along with its effectiveness. The rationalization of 1982/83 ADP mentioned earlier, has reduced the number of unapproved schemes drastically to 313 or

27.7 percent of the total number. Mid-term detailed plans for various sectors like food production, education, population and energy have been drawn up and this is helping project identification and preparation. It seems possible now to maintain strict control on inclusion of non-approved schemes in the ADP. Such a development is conducive to making the ADP an effective instrument of development. It is stressed that even approval of schemes does not justify its inclusion in ADP unless the scheme can justify its claim for limited resources over other schemes.

Processing of Schemes

9.9 One reason for inclusion of unapproved schemes has, however, been the slow process of project approval. In the past, *ad hoc* steps were taken for approval of schemes rather than simplifying the approval procedure and cutting down the time spread between formulation of a project and its final approval. A number of steps have been taken in recent years in this direction. First, the authority for approval of schemes has further been decentralized by increasing the competence of administrative Ministries for approval of schemes from Tk. 50 lakh to Tk. 200 lakh, while at the same time a time-phased schedule for processing of schemes has been adopted. According to this schedule, a project costing more than Tk. 5 crore and so requiring approval of the highest authority (ECNEC) will take 180 days only from the day of its formulation. It needs no saying that increased power of the ministries to approve schemes will be exercised in the overall national interest rather than for a greater share of limited resource for, since intersectoral allocation is made by the Planning Commission, failure to discreetly use their power can ultimately affect their sectoral interest.

Release of Fund

9.10 After inclusion of individual projects in the ADP, the most important step in their implementation is release of funds. Procedural and administrative formalities with respect to release of funds have been responsible to a great extent for slow/delayed implementation of programmes projects in the past. So, to ensure smooth release of fund, the Government set up a high powered committee and its recommendations have been put into effect from Fiscal 1982/83. The major thrust of the new procedure is on delegation of financial authority to implementation Ministries, Departments and Project Directors (depending upon the investment cost of the projects) with respect to creation and retention of temporary posts, re-appropriation of funds, administrative approval of approved development schemes, administrative approval of works under development schemes, purchase of stationery and equipment for approved projects, etc. Secondly, as debt service liabilities of autonomous bodies have been a constant drag on development budget, it has been decided to allow moratorium on debt repayment by on-going project in case of time over-run, while the problem of debt service liabilities for completed projects is under review by a special committee.

9.11 In further simplification of fund release without distorting national priorities and efficient allocation of limited resources, a new development has been the introduction of the concept of core programme in the ADP of 1982/83. Since projects of the highest national priorities only are included in the core programme, there will be no constraint on release of fund for those projects. Allocation of Taka funds for core projects of Government Department/Agencies except for customs duty and sales tax (CDST) can be made in one instalment for the whole year by the Administrative Ministries/Divisions provided the detailed break-up of the total budget provision has been reflected in the "Demand for Grants". For core projects belonging to Autonomous and Semi-autonomous Bodies, fund

will be released by the Administrative Ministries/Divisions on quarterly basis up to 3rd quarter of the financial year without any reference either to the Finance Division or the Planning Commission. All releases for the fourth quarter will be made with prior clearance of the Finance Division.

9.12 Under-provision of customs and sales tax (CDST) has been impeding project implementation in the public sector due to delay in getting customs clearance of machineries, equipment and supplies. It has now been decided to place budget allocation to customs authorities in lump for individual autonomous bodies against which actual CDST will be charged. It will enable advanced assessment as soon as shipping documents are received by agencies. The Development Budget will provide for block allocation for meeting excess customs demand against agencies. Since it is found that CDST allocation is over-budgeted in some instance, this new procedure will provide flexibility for inter-agency adjustments.

Technical Assistance Programming

9.13 Technical assistance programming has been causing problems particularly in respect of the difficulties in accommodating requirements that are somewhat unforeseen. There is also the allegation of wasteful studies and advisory services. A third issue is employment of indigenous consultants or at least associating them with expatriates. A new procedure for considering technical assistance projects and including them in th ADP has been made to provide a flexible and speedy system. A Technical Assistance Coordination Cell equipped to monitor technical assistance projects and ensure avoidance of duplication is being set up in the ERD. A policy and guidelines on use of local experts are under preparation.

Delay in Placing Orders

9.14 Delay in placing orders for goods or services is still a serious bottleneck in speedy project implementation. Separate guidelines on tendering procedure for goods and services and on appointment of Consultants have been there for quite a while. Additional efforts are being made to make project authority and executing agencies not only aware of these guidelines but also practitioners of the same.

The Planning Cells.

9.15 The Planning Cells have now been functioning in various ministries for some time. An evaluation is being made of their performance in order to see how these can be integrated in the regular set up of the Ministries. It is recognised that it is in the executing agencies that strong planning outfits should exist. At the level of the Ministries these cells have important functions like co-ordination, implementation, monitoring and project processing. Keeping this in mind they are being streamlined. It is not necessary that such cells should be there in every Ministry as in some of them development responsibility is only peripheral and on some others that is the only job. It is in Ministries where coordination's rather important and activities other than development claim near equal attention that there should be planning cells. The overriding intention is to place these cells in the regular set-up of a Ministry where they are required before the end of the Plan period.

Implementation Monitoring and Evaluation

9.16 A system of progress reporting alongside field inspection of physical progress of projects to remove the bottlenecks in the way of speedy implementation of projects is in

use by the Implementation, Monitoring and Evaluation Division. Problems and progress of projects are reviewed quarterly at the NEC level and monthly by the Ministries. However, the monitoring system should be further improved through the use of net-work analysis, CPM and other evaluation techniques but they will require improvements in project design and project proforma (PP) also. Moreover as the outcome of a project depends on its implementation and commencement in time and at planned cost, ex-post evaluation of projects in terms of their planned goals and targets and costs for explanation of deviations thereof is necessary. That is an area which received very little attention in the past as a part of planned development and will have to be emphasized.

Implementation in the Private Sector

9.17 For efficient implementation of private sector investment programmes, a number of measures have already been effected during the Second Five Year Plan. These have been discussed in Chapter VIII in detail. Their main features are as follows :

(a) Investment sanctioning procedures have been liberalised with simplication of application forms and fixing up of time limits for sanction;

(b) maximum time limits have been fixed for disbursement of loans by the loan giving agencies;

(c) further decentralisation of the sanctioning authorities and loan giving agencies at regional and district levels have been effected with enhanced power;

(d) provision for 'One Step Service' facility in respect of processing of industrial projects and other allied services has been introduced by setting up an Investment Assistance Unit in the Department of Industries;

(e) to attrack foreign private investment, a Foreign Private Investment (Promotion and Protection) Act has been put into operations;

(f) to expedite the sanctions of foreign private investment proposals, a Cell has been set up in the office of the Chief Martial Law Administrator;

(g) to augment the flow of foreign private investment, the Export Processing Zone at Chittagong is being completed on a priority basis with all the infrastructural and allied facilities;

(h) to facilitate equity financing of private sector investment, ICB has been strengthened through sale of shares of public sector enterprises and introduction of mutual fund and unit certificates;

(i) an Industrial Promotion and Development Company (IPDC) with participation of international financial agencies has been set up to promote private industries;

(j) a number of agro-industries centres will be set up in rural areas with power, transport and other infrastructural facilities to encourage small private investors;

(k) agricultural credit programme has been boosted up and a simplified procedure for credit sanctioning has been introduced. The problem of collateral has been effectively tackled;

(l) the cost of foreign exchange risk is a sore issue with the private sector investors. The matter is being examined with a view to reducing the burden of exchange rate fluctuations.

PART II
SECTORAL PROGRAMME

CHAPTER X

AGRICULTURE, WATER AND RURAL DEVELOPMENT

A. AGRICULTURE

The predominantly agrarian character of the economy of Bangladesh is looked upon as a symptom of her economic backwardness, yet agriculture of Bangladesh has great development potential and strategically, most of the development thrust needs to be concentrated there. Experience of modern economic developments shows that few countries have achieved sustained economic growth without first, or simultaneously, developing agriculture. Agriculture in Bangladesh despite some notable progress made in the recent past, still continues to have low-productivity compared with international standards, a fact which suggests the scope for its further development. Only 16 percent of land is irrigated and only about 40 kg. of chemical fertilizer is used per acre of land. These facts combined with the need for increasing domestic production of foodgrain to meet the country's chronic food deficit are important considerations necessitating a major emphasis on agricultural development. An early development of agriculture will also help alleviate endemic poverty of people as the vast majority of the poor people depend on agriculture for their livelihood both as producers and wage earners. The SFYP has thus assigned highest priority to development of the Agriculture sector of the economy in the frame-work of overall rural development.

Sectoral Objectives

10.2 The central piece of the agriculture, water and rural development programmes will be a rapid expansion of irrigation water-fertilizer-seed technology with a view to attaining food self-sufficiency over the shortest possible time. The foodgrain production target for the terminal year (1984/85) of the Plan has been set at 17·5 million tons from the bench-mark figure of 13·4 million tons in 1979/80. At the same time, development of winter crops and diversification of agriculture will be encouraged so as to create a broad and stable base for substituton of imports and promotion of exports. Besides, expansion of agricultural outputs, the Plan's employment objective will be pursued largely in the agriculture sector. This is necessary because most rural households depend on land and have a very strong attachment to land; it is also considered feasible as modern agricultural technology is found to be labour-intensive. In agriculture both output and employment objectives of the Plan happily coincide. Thirdly, the national objective of better social justice and more equitable distribution of income has also to be mainly realised through agricultural development as the main resource of the country is agricultural land and the prevailing high rate of rural unemployment and under-employment. Expanded agricultural output and employment along with improved land and other resource management are expected to alleviate distribution of income in the farm sector and lead to an overall improvement in the quality of life in the rural areas of Bangladesh. To ensure this, the Plan stresses the need for devolution of government administration on the one hand, development of local government and productive organizations of people on the other.

Problems of Agricultural Development Strategies

10.3 Today agriculture in Bangladesh faces a number of problems which can be solved only through planned development. The most serious problem is that agriculture is extremely vulnerable to hazards like droughts, pest attacks and floods. Cyclones and storm surges also damage crops occassionally. During the last decade in almost every alternate year it suffered from some kind of major natural hazards. As only about one-sixth of land is irrigated, it remains precariously dependent on weather and runs a high risk of failure because of unpredictable character of the monsoon weather which dominates the main cropping season (kharif season). The main strategy for agricultural development will, therefore, consist of a rapid expansion of irrigation facilities. A second problem that has only been lately realised is the serious loss of soil fertility as a result of lack of attention to its proper management. Increasing population pressure has reduced the availability of fallow land to such a level that land does not find rest to naturally recuperate, although on an average, only about one and a half crop is raised a year from a plot of land. Bangladesh started using chemical fertilizers about two decades ago for intensive cultivation, yet the soil has become so poor in micronutrients that its response to chemical fertilizer has begun to decline. Except for some successes in rice and wheat, genetic development in case of a large number of agricultural crops has not yet taken place to take advantage of modern inputs. Even in case of high yielding rice and wheat, the genetic base continues to be narrow and runs a high risk of obliteration from viruses. Since in Bangladesh development of irrigation facility is relatively costly, the key to agricultural success lies in the development of high yielding varieties. Genetic research, improved soil and water management, development of rational cropping system, use of micro-nutrients alongwith inorganic and organic fertilizers will be emphasized to accelerate agricultural development.

10.4 Prevailing distribution of land, however, militates against intensive use of modern inputs. About one-fifth of the land is cultivated by sharecroppers who because of the tenural system can ot but stop short of using of modern inputs to the optimal point. About another 51 percent of farmers own land below half an acre. Such marginal farmers do not have means to reach modern inputs, while their cost has gone up in recent years. On the other hand, large farmers appear to use less of fertilizers per acre of land compared with the small farmers. Agricultural development centering on a rapid expansion of the new technology will require a rational *land reform*. It has to address both equity and output within the limit of available technology. The Agricultural Census of 1977 shows that significant changes have taken place in land distribution since 1960. Not only sharecropping has declined since 1960 but there has also been greater concentration of land in the medium group of farms. This implies increase in landlessness. In order to ensure wider use of modern inputs by the small farmers, agricultural credit in increasing volume will be made available during the plan period.

10.5 Finally, it is recognized that agriculture in Bangladesh is predominantly subsistence in character. This tends to severely limit the use of market mechanism for propagation of the modern technology. On the contrary, the mechanism may prove to be counter-productive if input prices are determined through market forces. So until the subsistence farmers reach the threshold of surplus output with the help of the new technology, a rational policy for input pricing will have to be followed. At the threshold point, the

problem switches from input pricing to output pricing and the uninitiated subsistence farmers will then be exposed to a new kind of uncertainty—from uncertainty of nature to uncertainty of market. This problem will be handled through a price support policy. Such a policy besides being based on incentive prices will have to provide for intramural relationship of competing crops. Price stability of a crop under condition of expanding output will tend to be destabilized by events in the competing crop sectors. The classic example of such intramural relationship is that of rice and jute. There may be similar relationship between boro and oil seed when the latter achieves a genetic breakthrough and between aus paddy and sugarcane. The intramural relationship is likely to be accentuated with the progress of agriculture and therefore will have to be resolved through rational price policies.

10.6 Since the agricultural development will depend on the rate of diffusion of the new technology, it will require development of local institutions and farmer's organizations on the one hand and establishment of the Training and Visit system for the extension work on the other. The farmer is needed because the majority farms are too small in size to be individually effective in planning and development processes; the latter is necessary to overcome communication gap between experts and farmers and between knowledge and practice. A prerequisite for both is devolution of government and decentralisation of the development process. Institution of local government will not only exercise expanded administrative and financial powers but also undertake local level planning and co-ordinate execution of development activities. This will forge a back-to-back relationship between local institutions and government agencies, particularly those in the field of development and help reflect people's needs and aspirations in official policies and programmes.

CROPS

Foodgrain

10.7 One of the prime goals of the Second Plan is to reach food self-sufficiency as early as possible in order to save scarce foreign exchange and avoid people's suffering and discomfort. The terminal year (1984/85) production target has accordingly been set at 17·5 million tons as against 13·4 million tons produced in 1979/80. This implies a per capita daily availability of 15·8 oz. of food grains, same as in 1979/80. The strategy for attaining this goal is based on the modern bio-chemical technology consisting of irrigation water, seeds and fertilizers. To accelerate the rate of technological diffusion the farmers will be organised into groups and provided with complete package of inputs and credit. As the backbone of the technology, the extension services will be restructured in line with the Training and Visit (T&V) System. For maximum impact, effort will be concentrated in areas of high potential, particularly in irrigated blocks, and at the same time minimum basic facilities like irrigation will be ensured to the rest of the country in order to maintain regional equity. The Plan envisages doubling of irrigation area from 3·6 million acres in 1979/80 to 7·2 million acres in 1984/85 and almost doubling of fertilizer use from 8·50 lakh tons to 16·0 lakh tons over the same period. Most of the planned expansion in food grain output will come from high yielding varieties (HYVs) and local improved varieties (LIVs) of rice and wheat. The acreage under HYV rice will be increased from 30·85 lakh acres in 1979/80 to 58·00 lakh

acres in 1984/85. Since the cornerstone of the proposed output is irrigation, additional output will mainly be achieved through rapid expansion of winter (boro) rice and wheat. The break-down of foodgrain production is as follows :

[*Lakh tons*]

Foodgrain	1979/80 (Actual)	1984/85 (Projection)
(i) Aus	28·09	38·90
(ii) Aman	73·03	83·50
(iii) Boro	24·27	34·00
Total Rice	125·39	156·40
(iv) Wheat	8·10	18·60
Total Foodgrain ..	133·49	175·00

10.7.1 *Aus* : Aus covers 78 lakh acres or 28 percent of rice land but accounts for 24 percent of rice crop. The crop is prone to natural hazards like early flood, drought, and hailstorm; because of high risk farmers use relatively less of modern inputs like fertilizers and therefore, the yield is low. But through expansion of irrigation in the winter season, output of early variety of aus called IRRI variety can be substantially increased. The Plan envisages expansion of HYV variety from 8·30 lakh tons in 1979/80 to 15.00 lakh tons in 1984/85. With the expansion of aus output one aspect that will need special attention is drying facilities as its harvest coincides with the monsoon.

10.7.2 *Aman* : Of the two aman varieties, deep-water variety locally known as broadcast aman has not received much attention in the past from the researchers and agronomists because of difficult topographical conditions under which it is grown .There is need to accord it due attention as it covers 16·2 percent of rice land. Because of natural limitations no expansion in B. Aman output is feasible. The other variety, called transplated aman (T.Aman) which grows under rainfed condition will be supported by supplementary irrigation to raise its output from 57·23 lakh tons in 1979/80 to 67·30 lakh tons in 1984/85. The area under HYV T. Aman will be increased from 11·26 lakh acres in 1979/80 to 18·00 lakh acres in 1984/85.

10.7.3 *Boro* : Boro accounts for 10 percent of rice area and 16 percent of production. Its acreage has been increasing with the expansion of winter irrigation facilities, being the first crop to attract modern technology including nigh yielding seeds. It responds well to modern technology since the environment is controlled under irrigation and plenty of sunshine allows efficient photo-synthetic activities leading to better utilization of applied nutrients. There is also enough land available to bring under cultivation if irrigation water can be made available. The irrigated HYV Boro will increase to 25·00 lakh acres by 1984/85 from about 15·65 lakh acres in 1979/80. The traditional irrigated area (11 lakh acres) with local varieties will decline marginally by 1984/85 as more of such areas will go under HYV as a result of expansion of irrigation.

10.7.4. *Wheat*: The rapid increase in wheat cultivation in recent years is one of the most promising developments. The potential for its further growth is considerable. Grown in the dry season, wheat is relatively disaster free and less dependent on irrigation. Farmers' response to the Government seed distribution and extension efforts have also been favourable. As there is virtually no limit to availability of land in the winter season, it is estimated that at least 21 lakh acres can be brought under wheat cultivation by 1984/85 to produce 18·60 lakh tons against 8·10 lakh tons produced in 1979/80.

10.8 *Coarse Grains* : Coarse grains as a group consist of the following minor cereals, maize, barley, sorghum (jowar) bajra and millets. Though these crops are not yet popular as major food item, these crops have tremendous importance for the development of agro-industry in the country. These crops are grown in marginal lands and they offer a strong buffering effect in case of unusual crop failures. The yield of these crops can be substantially increased by using better varieties and management practices. These crops were neglected in the past but deserve more attention now. In order to identify constraints to production, marketing and farmers' attitude towards the increased cultivation and home consumption of these coarse grain crops, a study needs to be undertaken during the Second Plan for exploring the potentiality of these crops in the country.

Food Policy :

10.9 Increased output of food grain as envisaged in the Plan will require a strong policy support of the Government in respect of input-output pricing because of experiences of the recent past. In late Seventies, the growth of fertilizer off-take grew at an annual rate of 13·30 percent but during the Two Year Plan period, the growth rate declined to 8·3 percent, partly due to weather condition, *e.g.* drought of 1979 but largely due to the increases in fertilizer prices, leading to significant deterioration in commodity terms of trade between rice and fertilizer (urea). In 1972/73, 5 maunds of rice could buy about 13 mds. of urea; in 1977/78, the ratio declined to 5:11 and further to 5: 9 in 1979/80. In other words, for the increased cost of fertilizer, farmers have not received adequate compensation through higher prices of rice. Therefore, in order to achieve the food target and its underlying target for fertilizer distribution, a rational input-output price policy will be pursued during the Plan period and at the same time efficient use of fertilizer and all other inputs will be stressed. The objective of the input-output price policy is to ensure an incentive price for paddy and rice to farmers. This policy will be supported by a procurement programme, particularly at the harvest times when foodgrain prices reach a low level.

10.10 It is, however, recognised that in spite of necessary price and input supply supports, agriculture of Bangladesh will continue to remain vulnerable to vagaries of nature until its dependence on weather can be substantially reduced through the irrigation programme; as such, the Plan cannot preclude the possibility of major crop failures during the plan period. Such food emergencies may arise too abruptly to ensure timely arrival of food assistance from abroad. The Plan, therefore, sets a target to build-up food stock to 15 lakh tons by 1984/85 through internal and external procurement. Besides the food security plan at the national level addressing emergency situation, it is recognised that many a household of Bangladesh cannot buy food even in normal times when food is available in the market because of lack of purchasing power. Therefore, a food security plan, extending to house-hold level is needed to ensure food for all.

In order to provide access to food by all households, the official policy will have to be reviewed to weigh the relative implications of input subsidy *vis-a-vis* the support price for output on the one hand and the entry of the Government in the domestic food market on the other. The option of providing wage goods when employment is slack or provision of food to vulnerable groups will be employed to reach food to the needy. Within such limits, the Plan basically sees the problem of household food security as one of turning normative demand of people into effective demand through income and employment programmes. It is stressed that while food security at national level centres on output and supply, that at household level is focussed on household demand. Thirdly, food policy has also to recognize that there is considerable seasonal stress on house-holds due to fluctuation in market prices. This requires the food security plan to include also a general stabilization programme. While procurement will ensure the incentive price to farmers in harvest season, a lean period stabilization programme will ensure food to a larger number of households. The content of the stabilization programme will be open market sales by Government of food procured at harvest time, as a logical corollary of the procurement programme.

Other Crops

10.11 *Jute* : Jute is the main commercial crop of Bangladesh; it supports the largest industry (Jute Textile) of Bangladesh and directly and indirectly, accounts for about three-fourths of export earning. Traditionally the economy of Bangladesh has legitimately been called a rice-and-jute economy. In the recent past, however, jute has suffered a serious decline in terms of both acreage and output. Compared to 1969/70 jute acreage has declined from 24·7 lakh acres to 18·7 lakh acres in 1979/80 and output from 71·7 lakh bales to 59·6 lakh bales over the same period; correspondingly, raw jute export declined from 36·4 lakh bales to 19·8 lakh bales and that of jute goods from 5·1 lakh tons to 4·5 lakh tons. The malaise of jute and jute industry is the product of both domestic and external situations. On the domestic front, jute has become increasingly less remunerative relative to rice. In 1969/70, the commodity terms of trade (grower prices) between jute and rice was 0·94 ; in 1979/80, it was 0·74 only. While the position of jute *vis a vis* rice weakened in the domestic economy, in the world market also jute and jute goods suffered from competition with synthetic fibres. In 1970's, the competition was hard because of continued recession in developed economies. In both situations, the exacerbating factor was the lack of technological development in jute which weakened its competitive strength. With low yield and high cost of production, jute could not compete with rice at home and with synthetic fibre abroad. The solution has been sought in improving jute yield with the use of modern inputs and development of quality seed. In 1977, intensive jute cultivation project was initiated and 8·8 lakh acres of land good for jute cultivation was brought under the scheme to produce 37 lakh bales of jute. Besides institutional weaknesses of the scheme, the market environment also failed to provide adequate incentive to farmers for jute cultivation as the official price support policy continued to suffer from administrative difficulties.

10.12 Jute poses a grim problem for the country; it concerns the fate of 3 million farmers and 2 hundred thousand workers of jute mills and the future of country's export earnings. There are several alternatives which can be conceived at this stage. The alternatives range from export bonus to jute to effective price support policy. But because of the importance of the crop to the economy and its intramural relation with rice, the

problem needs to be seriously pursued both from the technological and policy points of view in order to improve yield and provide necessary financial and price support. Formulation of a consistent jute and rice policy and its implementation is urgently needed. The Plan, even with its modest production target of 60 lakh bales of jute in 1984/85 cannot but emphasise the importance of jute of the economy of Bangladesh and recommends an indepth study of the problem for the formulation of a rational policy.

10.13. *Tea* : Next to jute, tea is the most important export crop of Bangladesh. But unlike jute its cultivation has been traditionally well organized as plantation industry. Tea has been an indigenous plant though Chinese variety was introduced in 1939 (Ref : Sir P. J. Griffiths, A History of Joint Steamer Companies, 1979, p-13). Tea is now grown in Sylhet and Chittagong districts but mainly in the former. Since independence tea production has increased rapidly, after early setback following the War of Independence. In 1969/70, tea production was 62·9 million lbs., against this output in 1979/80 it was 80·7 million lbs. which was below 1978/79 output of 84·4 million lbs. because of drought. This growth was achieved in late Seventies through improved yield while acreage remained almost unchanged. With higher output, export also rose from 49·1 million lbs. in 1976/77 to 52·7 million lbs. in 1979/80. The improvement in yield was achieved through replantation and intensive cultivation in 20,000 acres and 81,000 acres respectively out of a total acreage of 106,000 acres. Bangladeshi tea has a good demand overseas for its strong liquor ; so to take advantage of this product preference auction of tea at Chittagong was initiated in late Forties. The tea output target for 1984/85 has been fixed at 95 million lbs. and that of export at 78·0 million lbs. One frequent problem with tea export is the supply of plywood and tea chests. Because the country's forest resource is very limited, alternative possibilities of using PVC chests should be explored and export of packet tea on a large scale should be further pursued. The quality of tea depends partially on its processing in the factories. Rehabilitation of he factories and ensuring power supply to them are among the major programmes of SFYP.

10.14. **Sugarcane** : Sugarcane is an important commercial crop. It is cultivated widely but intensively grown around the sugar mills. In 1979/80, 63·40 lakh tons of sugarcane were produced from 3·59 lakh acres of land. Of the total acreage, 1·06 lakh acres were under intensive cultivation in the mill zones producing 21·2 lakh tons. Supervised credit and input programme have helped bring some improvement in yield in the intensive cultivation area. The Plan envisages further expansion of intensive sugarcane cultivation to cover 1·62 lakh acres in total in the mill zones to produce 35·6 lakh tons of sugarcane to achieve the sugar output target of 2 lakh tons in 1984/85. Though intensive cultivation has raised yield, compared with many other countries in the South-east Asian Zone the yield is still low in spite of the fact that climate of Bangladesh is excellent for sugarcane cultivation. Therefore, during the Plan period greater emphasis will be given on varietal improvement, while proven varieties already released for mill zones will be introduced in non-mill zone areas.

10.15. *Tobacco* : During the First Plan, a crash programme was undertaken for production of virginia tobacco to meet the demand of the local cigarette industry. By 1977/78 significant improvement was also achieved. In 1979/80 34,240 acres of land were brought under virginia tobacco cultivation and 35·83 million lbs. of tobacco were produced. Because

of the prospect for export, the 1984/85 target output for virginia tobacco has been fixed at 67·5 million lbs. which will allow an export surplus of 19 million lbs. after meeting domestic demand estimated at 48·5 million lbs. To achieve the export target greater emphasis will be laid on improvement of quality through modern curing process and better storage facilities. Output of local variety leaves *e.g.* matihari, jati, etc., will be expanded from 51·3 million lbs. to 61·8 million lbs.

10.16. *Cotton* : The Plan attaches high priority to increasing cotton cultivation. Medium staple (American) type cotton can be grown in varied types of soil and it has been successfully cultivated by many farmers in the districts of Jessore, Kushtia, Rangpur, Bogra, Dinajpur, Dhaka and Tangail. Raw cotton utilization in the existing textile mills is around 3·50 lakh bales and almost the whole quantity is imported. With the growth of income and population raw cotton requirement will rise along with cloth. During 1979/80 about 15,000 acres of land were put under medium staple cotton cultivation with a production of 4,000 bales. The on-going programme for medium staple cotton cultivation will be expanded to cover 75,000 acres to produce 56,000 lakh bales of lint cotton during the Second Plan.

10.17. In expanding cotton cultivation discrete use will be made of country's land resources so that its adverse effect on efficient use of land is minimized and weather and soil conditions are exploited. Accordingly cotton cultivation will be concentrated mainly in areas where fallow land exists and alternative crops have less economic return than cotton. These conditions exist mainly in the west zone where 84 percent of cotton area will be located and as the area will be irrigated, comprehensive package of modern imputs and support service including credit, extension and marketing facilities will be made available. This is still a new crop and all efforts shall be made to establish it.

10.18. The other variety of cotton (Comilla) is mainly grown in Chittagong Hill Tracts along with other crops like paddy, maize, sesamum, vegetables, etc. The area under this crop has declined sharply due to shortage of quality seeds and marketing problems. This cotton is suitable for mixing with wool. The planned target is to bring about 33,000 acres of hilly lands under this crop to produce about 13,000 bales of Comilla Cotton.

10.19. *Potato* ; In recent years potato cultivation has expanded quite fast. In 1979/80 over 9 lakh tons of potato were produced from 2·38 lakh acres of land. There has been both rapid expansion in acreage and significant improvement in yield. This has raised the prospect of using potato as a substitute food crop rather than as a vegetable and also for export. In order to maintain the tempo for potato cultivaton, modern input supply including quality seed will be ensured to farmers, cold storage capacity will be expanded and the export market will be vigorously explored. There is also prospect of growing sweet potato as a supplement of food crops. The output target for potato has been fixed at 13·60 lakh tons.

10.20. *Pulses* ; Pulses are important sources of protein, particularly for the low income families. During First Plan no significant efforts were made to increase the production of pulses. Only 8·19 lakh acres were under pulses in 1979/80 with a total production of 2·14 lakh tons. Per capita availability of pulses from local production was about 8 gms. per day. In order to alleviate protein supply situation, production target has been fixed at 3·00 lakh tons in 1984/85 against the benchmark level of 2·14 lakh tons.

This will help save valuable foreign exchange from importing pulses. The programme emphasises research in high yielding varieties and selection and multiplication of LIV for distribution among farmers.

10.21. *Oil seeds.* In 1979/80 domestic output of edible oil was 0·55 lakh tons and could meet only 27 percent of the domestic requirement which was 2·07 lakh tons a year. Large quantity of edible oil and oil seeds are, therefore, imported every year. Even with substantial imports, the present consumption level is much below what is considered the basic minimum. The requirement of odible oil in the terminal year of Second Plan is estimated to rise to 2·50 lakh tons. In order to narrow down the gap between local production and the demand for oil seed a comprehensive programme for the production of oil seeds will be undertaken during the Plan period. The programme will be strengthened with the introduction of HYV mustard and due emphasis on the expansion of groundnut cultivation.

10.22. The area under all sorts of oil seeds will be expanded from 7·68 lakh acres in 1979/80 to 8·25 lakh acres in 1984/85. Production target has been fixed at 3·60 lakh tons in 1984/85 as against 2·46 lakh tons in 1979/80. Because oil seeds are mainly grown as robi crops land is available for the planned expansion. To achieve the target it is proposed to initiate package programmes for HYV mustard, groundnut and other oil seeds in areas of intensive cultivation with marketing and processing facilities and introduce sunflower and soyabean cultivation in selected areas, particularly into coastal areas. Cultivation of industrial oil crops like linseed and castor will be continued and encouraged. Due attention will also be given for development of HYVs in research institutes.

10.23. *Fruits and Vegetables* : Bangladesh has excellent weather condition to raise both ordinary and exotic winter vegetables which have great export potential. Bangladesh also grows a large variety of fruits which enjoy strong overseas demand *e.g.* pineapple, leechees, banana, etc. At present 1·4 million tons of fruits and 1·4 million tons of vegetables are grown annually ; but supplies are less than the domestic requirement. As a result past efforts to export them faltered due to occasional scarcities. So efforts to supply the planting materials for expansion of fruits and vegetables cultivation will be intensified during the Second Plan. At least about 14 lakh acres of land will be put under fruit and vegetable cultivation. Half of the acreage will be available from the home-stead vegetable and fruit gardens. The other half will be raised on road-side, canal embankments and agro-forests. Intensive fruits and vegetable production programme will be organised also around large cities and in selected enclaves of high potential for export purpose.

10·24. *Spices* : Bangladesh grows large varieties of spices some of which are important cash crops like chillies, onion, ginger, turmeric and garlic. Some of them are widely cultivated as field crops and have good export potential. In 1977/78 an area of 3·87 lakh acres were used for spices cultivation having an output of 3·03 lakh tons. With the introduction of HYV paddy, farmers' attention has been diverted to a large extent from those short durations crops to paddy. Area, yield and production of these crops also undergo considerable fluctuation depending on weather and market conditions. The main concern of the Second Plan is, therefore, to stabilize productoin, stimulate expansion of output

of common spices like onion through improvement of seeds and encourage development of storage and processing facilities to overcome seasonal fluctuations. It is also intended to grow selected spices like ginger, chillies or turmeric specially for export in pre-determined markets.

Land Use :

10.25. The current rate of land utilization is considered low and can be raised through irrigation. About 52 percent of land remains uncultivated in winter for lack of water. The Plan envisages to bring part of this land under irrigation, increasing net cultivated area in winter, without disturbing the crops now grown under residual moisture conditions. A more intensive use of land will be followed through inter-cropping of oil seed, pulses and spices with sugarcane and cotton which will help stabilise farmer's income by spreading risk. Since land in Bangladesh is scarce, special efforts will also be made to expand fruits and vegetables cultivation along the road-sides, embankments, etc. Benefits from this will go largely to the landless and marginal farmers. Even with new acreage under irirgation it will not be possible to allocate as much land as is needed by each crop specially in the winter season on conditons of constant yield. It is imperative to increase yield per acre and only then production increase can take place significantly. A Table on winter land use and yield rate is given below :

TABLE 10.1

Land Use Programme of Important Winter Crops during SFYP.

[*Area in '000' acres, Production in '000' tons & Yiled in tons.*]

Crops.	1979/80 (Actual).			1984/85 (Projection).		
	Area.	Production.	Yield/ Acre.	Area.	Production.	Yield/ Acre.
1. Boro	2,839	2,427	0·85	3,000	3,400	1·13
HYV	1,788	1,882	1·05	2,500	3,000	1·20
Local	1,051	545	0·57	500	4,000	0·80
2. Wheat	1,070	809	0·76	2,100	1,860	0·89
Irrigated ..	1,014	791	0·78	1,700	1,700	1·00
Non-irrigated ..	56	18	0·32	400	160	0·46
3. Sugarcane ..	354	6,340	17·66	380	7,700	20·03
(Supervised Area) ..	(106)	(212)	(20·00)	(162)	(3,560)	(21·98)
4. Potato	238	903	3·79	320	1,360	4·25
5. Tobacco ('000' lbs.).. (Virginia).	34	35,831	0·47	45	67,500	0·67
6. Cotton ('000' bales).. (M. Staple).	15	4·0	0·27 (bales)	75·0	56·0	0·75 (bales).
7. Oil Seeds ..	768	246	0·32	825	360	0·44
8. Pulses.	819	214	0·26	830	300	0·36
9. Winter Vegetables ..	185	490	2·65	250	675	2·70

Cropping Pattern

10.26. The existing croping pattern is basically determined in rainfed condition. Premonsoon showers and monsoon rains along with the topography of land of varying flooding level to a great extent dictate the type of crops to be grown and croppoing practices to be followed. In 1979/80, out of 20·84 million acres net cropped area about 11·3 million acres were single cropped, 7·9 million acres double cropped and 1·6 million acres triple cropped, giving a cropping intensity of 153 percent. Double cropping is more common in high and intermediate land. There is a large concentraction of double-cropped land along the river banks which is most intensively cultivated.

10.27 Except sugarcane which is an annual crop, cropping pattern centres around rice because of the subsistence character of agriculture. Flooding condition in the monsoon season also determines the choice of crops, when rice and jute are grown. On relatively high land the common pattern of rotation is Aus or Jute followed by transplanted Aman; sometimes, as in Barind tract, only a single crop (T. Aman) is grown. T. Aman followed by pulses and oilseeds are also common in certain high land areas. In the intermediate land, cropping intensity is higher and the more common pattern is Aus or Jute or T. Aman followed by pulses and oilseeds or alternatively, Aus or Jute followed by wheat, vegetables or coarse grains. In low lying areas broadcast Aman or mixed Aus and B.Aman are grown. In saline coastal areas either a single T.Aman is grown or it is followed by oilseeds in more favourable areas. Spread of high yielding varieties of rice from boro to T.Aman has already brought about some changes in cropping pattern.

Irrigated Agriculture

10.28. In the winter season only 20 percent of net cropped area is cultivated though the weather is ideal for growing a large number of crops such as boro rice, wheat, millets, barley, potato, oilseeds, pulses, tobacco, flax, cotton and vegetables which need a temperate climate; but the major limitation to winter cropping is water. Expanded irrigation in the winter season can lead to high cropping intensity as well as more rational cropping pattern and efficient use of land. Provision has therefore been made to bring about 7·2 million acres of land under irrigated crops out of which the major proportion will be under boro, wheat and other winter crops. Since most crops are now grown in the monsoon, irrigated agriculture in winter will be the main vehicle of agricultural development under the Plan. With a view to realising the full benefits of irrigation, intensive agriculture will be pursued in the irrigated areas. Cropping of high-value crops (*e.g.* oil seeds and pulses) and high yielding food crops will be introduced in these areas. To make irrigation facilities available to the largest number of farmers, lowcost irrigation technology discussed in detail later on will be followed. These will mainly consist of hand tube-wells, shallow tube-wells and low lift pumps.

Rainfed Agriculture

10.29. Expansion of HYV and LIV rice in flood free, secured rain-fed areas will remain a priority objective and at least 23 percent of the areas now covered by Aus and T. Aman will be replaced by HYV. But since monsoon climate is unreliable, supplementary irrigation will be necessary in these areas.

The Technology-Input Programmes

10.30 The modern agricultural technology consists of seed (high yielding varieties), water, fertilizers and pesticides. The programmes for inputs other than water are discussed below.

Fertilizers

10.31. Along with water, fertilizer has a crucial role to play in the development of cereal and commercial crops. In spite of quite rapid increase in the use of fertilizer during the Seventies, the overall level of use of chemical fertilizers in Bangladesh is one of the lowest among the developing countries having a poor land man ratio. Moreover, the use of chemical fertilizer continues to remain unbalanced. In 1979/80, 0·54 million tons of urea, 0·21 million tons of TSP and 0·10 million tons of MP were used though agronomical studies normally recommends a balanced dose in the ratio of 2:1:1. Such imbalance along with the application of less than the threshold dose has produced a rather poor crop response to seed-fertilizer technology. A balanced use of fertilizer will be promoted through changes in relative prices of various fertilizers. Another problem with the present fertilizer practice is the nitrification of urea due to technique of its application. Instead of surface application through broadcasting, chemical fertilzers give better results, if furrowed into the soil or applied as mudballs. Further, in view of high cost of energy and rising prices of fertilizer, greater emphasis should be given on using farm yard manure and composit than in the past. Deficiency in micro-nutrients noticed at several places calls for proper research and survey to detemine the nature and extent of this prblem and to formulate a comprehensive programme to have maximum benefit from the use of chemical fertilizers. Cultivation and use of leguminous and green manuring crops would be intensified to help fixation of atmospheric nitrogen to enrich the soil as well as to improve the soil texture and humous content of the soil, while the use of organic manures will help micro-organisms to grow which are necessary for fixation of micro-nutrients.

10.32. In order to reach the targets of agricultural outputs through the new technology, fertilizer use is estimated to increase to 1·60 million tons by 1984/85 as shown below:

TABLE 10.2

[In '000' tons]

Fertilizer	1979/80 (Actual)	1984/85. (Projection)
1. Urea	536	700
2. TSP	206	600
3. MP & Others ..	96	300
Total ..	838	1600

10.33. To create and sustain an increased demand for fertilizer of this magnitude, incentive prices for both crops and fertilizer will be maintained and support services such as adequate credit facilities, extension work, transport, storage, marketing facilities, etc, will

be ensured to facilitate timely availability of fertilizer. To cope with the volume of business retail trading through the private sector will be aimed during the Plan period while BADC will concentrate more on procurement, movement and storage.

Improved Seeds

10.34. As already mentioned, agriculture in Bangladesh is characterised by low yield. No significant change in this can be brought about without seed development. In fact use of high cost inputs like fertilizer and irrigation water will have little or no effect on yield without improvement in seed. Seed requirements for achieving the production targets will require : (i) development of HYV seeds of appropriate properties to meet local conditions, (ii) multiplication, certification and supply of modern seed varieties to farmers, (iii) dissemination of technological knowledge of seed to the farmers and (iv) encouraging farmers or farmer's co-operative to enter into modern seed business. The strategy for improved seed programme during the Second Plan will concentrate on developing HYV or improved seeds of paddy, wheat, jute, potato, oilseeds, pulses and other selected crops. A number of public sector agencies like Bangladesh Rice Research Institute (BRRI), Bangladesh Agricultural Research Institute (BARI), Bangladesh Agricultural Development Corporation (BADC), Bangladesh Jute Research Institute (BJRI) and Sugarcane Research Institute are engaged in the development of improved seeds of rice, wheat, jute, oilseed, potato and sugarcane.

10.35. The Plan provides for the supply of certified seeds for 10 percent of the area under HYV. Of the total 20·50 thousand tons of seeds to be supplied by BADC 7000 tons only will be produced in BADC's own farms, leaving behind the balance to be produced through registered growers. Following is the year-wise HYV/LIV seeds of rice and wheat to be supplied by BADC:

TABLE 10·3

[In '000' tons]

Crops	1980/81	1981/82	1982/83	1983/84	1984/85
1. Rice ..	6·00	7·00	7·60	8·00	8·50
2. Wheat ..	5·00	8·00	10·00	11·00	12·00

10.36. About 45,000 mds. of quality seed will be produced annually through contract growers by BJRI in support of the intensive jute production programmes.

10.37. Since public agencies like BADC, BJRI and Sugarcane Research Institute will cover only a small part of seed requirement, the programme for seed production and marketing at private level will be strengthened. With private sector's role enlarged, certification of quality seed and processing of seed will assume greater importance. National Seed Board and Seed Certification Agency are working under Ministry of Agriculture to release innovated seed varieties of different crops. Emphasis will be placed on organizing contract growers for production of certified seed. Equipment like thresher, precleaner, tractors etc. will be provided to the seed growers. Precleaned seed will be processed and preserved

in the Seed Processing Centres. New seed processing centres will be established in and around the zones of contract growers. As seed marketing is presently the weakest link in the whole of the seed development programme, at least one seed sale centre in each Thana will be established during the Plan period.

Plant Protection

10.38 With the introduction of new varieties of seeds, an efficient and effective plant protection service will become very critical. The current programme for plant protection is based on the use of chemical herbicides, insecticides and pesticides, all of which have some undesirable effect on the eco-system, particularly fish and birds. Therefore, the use of chemicals will have to be very selective while biological, cultural and mechanical means will be explored to protect the crops against pests and diseases. For efficient and cost-effective pest control system, greater emphasis should be laid on the development of a warning system along with surveillance and regulation by the central agency, particularly so because the distribution of pesticides is done by the private sector.

Storage Programme

10.39 *Foodgrain Storage:* With the rapid expansion of food output, the internal procurement of foodgrain will need increased storage facilities. In 1979/80 Ministry of Food had a total foodgrain storage capacity of about 11·59 lakh tons. Food storage capacity will be expanded to 22·50 lakh tons by 1984/85, largely at Thana Level. Construction will be taken up in a phased way with priority to surplus areas. In addition to Food Department's godowns, the Ministry of Local Government will also undertake construction of relatively smaller godowns for procurement of food at the Sub-Thana level.

10.40 *Fertilizer Storage:* BADC has a storage capacity of 3·97 lakh tons of which 1·56 lakh tons is owned by them. It is proposed to build an additional 3·44 lakh tons fertilizer storage during the plan period bringing the total capacity to 5·0 lakh tons. The hired godowns will gradually be released.

10.41 *Seed Storage:* BADC possesses 15,000 tons of seed storage capacity in its seed processing centres. In order to provide adequate seed storage facilities for different crops and to ensure steady timely availability of improved seeds to farmers throughout the country, additional storage capacity for 33,000 tons of all types of seeds will be created during the plan period.

Farm Implements

10.42 The gradual technological change of agriculture has already created demand for various agricultural implements in the country. Improved indigenous and new implements which economise on capital and energy use like plough, weeder, seed drills, hand tube-wells, threshers, sprayers, etc. will be introduced on a large scale in intensive cultivated areas. The implements must satisfy three basic conditions that (i) they help improve labour productivity & quality of product conjointly with labour, (ii) they promise rapid diffuson of skill and knowledge among the farming population and (iii) they are energy efficient. Promising local manufactures of such implements will be given all support and enouragement. Bangladesh Krishi Bank's credit package will include farm implements. A National Standardization Committee will be set up in the Ministry of Agriculture to test and recommend suitable designs for use by the farmer and an Appropriate Technology Centre will be established during the Plan period.

Agricultural Education and Training

10.43 The rural development will require application of modern science and technology to the problems of agriculture. In a country where general literacy rate is 22 per cent only, much will, however, primarily depend on the achievement under mass education programme as it only can over come existing communication gap between the technocrats and the field specialists and the users and beneficiaries of modern science and technology.

10.44 Promotion, development and expansion of agricultural education at all levels will be attempted to meet the demand for qualified and trained personnel in different disciplines of agricultural science. Agricultural education will be strengthened by linking teaching in agricultural institutions to actual practices farming condition. Thirteen Extension Training Institutes will train personnel at sub-technical level. The present extension work is basically centered round laboratory results and unidirectional lacking in feedback. Training and Visit (T&V) method will be extensively used to overcome this gap and ensure interaction between research and practices.

Agricultural Research

10.45 Physical infrastructure and manpower for agricultural research have been significantly improved during the First Plan and Two Year Plan. During the Second Plan efforts will be made to consolidate all agricultural research activities with emphasis on adaptive research for an integrated extension service, this cannot remain effective for long unless there is research back-up Adaptive research will be based on the use of field stations.

10.46 Agricultural Research efforts have suffered from lack of national plan and priorities, dispersal of authority among as many as nine Ministries, lack of resources support and inadequate man-power. To meet some of these problems inter-disciplinary co-operation in research will be encouraged and co-ordination of research activities in the field of agriculture will be ensured through the Agricultural Research Council.

10.47 Agricultural Research will concentrate on the following areas:

(a) varietal improvement of important crops, taking into consideration regional variations in soils and climate and the need for developing varieties that incorporate labour intensive cultural practices and have short life cycle or quick maturing;

(b) improvement of cropping systems with special emphasis on cereal crops, pulses, oilseeds, fruits and vegetables for providing better nutritional food to people and optimal use of the scarce land;

(c) soil and water management with emphasis on environmental conservation and integrated pest management; and

(d) development of farm technology including post-harvest ones, evaluation of most intensive cropping patterns monitoring their long term effects on fertility, ecology, economic and overall benefits on the areas under consideration.

Agricultural Extension

10.48. To achieve the desired rate of technological diffusion, Agricultural Extension Service will play a vital role. There already exists an elaborate extension organization down to the village level consisting of subject matter specialists and extension agents. During the SFYP, extension service will be strengthened and where production

potentiality justifies, more than one extension agent will be placed in one union. In order to make best use of local resources including labour, extension work will be directed towards field level studies through regular visits to contract farmers by the extension agents, regular in-service training of contract farmers on the basis of field experience and upgrading the skills of extension agents in turn. The method known as Training and Visit (T&V) will be introduced on an experimental basis first.

Agricultural Marketing

10.49 With the expansion of agricultural output, millions of small farmers will come to depend on markets which, in turn will greatly influence their decisions about production of crops, allocation of resources among various crops and use of modern inputs. But markets in developing countries are in many ways imperfect to bring about efficient allocation of resources. Therefore, it will be necessary to improve marketing facilities through the development of transport, storage, processing facilities and information dissemination so as to ensure remunerative prices to the growers. In selected cases, support price operation will be launched.

Agricultural Credit

10.50. Modern agricultural technology, while holding great hope for increasing output and income of marginal and small farmers, also exposes them to the serious problem of access to credit. The technology is mainly based on commercial inputs like fertilizer, seeds and irrigation water, but the rate of expansion of the technology and the achievement of food self-sufficiency target depend not just on the availability of modern inputs but along with it on the accessibility of small and marginal farmers to agricultural credit. Though there has been rapid expansion of agricultural credit in the second half of 1970s, it has not been fast enough to meet the expanding need of farmers for fertilizer and other inputs. As a result, the mainstay of agricultural credit is still the village money-lenders who charge an interest rate as high as 50 percent or even more. The level of institutional credit in 1979/80 was Tk. 352·3 crore only, including the credit of Tk. 60·7 crore given to the tea gardens. Institutional credits are provided mainly by Bangladesh Krishi Bank (BKB) and the nationalised commercial banks. Agricultural credits are organised into programmes to meet the specific needs of farmers at different times. BKB, established in 1973, is the largest source of commercial credits in 1979/80 it accounted for 59·9 per cent of total agricultural credit. Though the nationalised commercial banks have expanded their branches in a large way, they accounted for 6·0 percent only of agricultural credit. IRDP which is based on a two-tier co-operative system, distributed only 7·2 percent of the credit. Bangladesh Jatiya Samabaya Bank had a similar share. Overall level of agricultural advances by scheduled banks was also low, Tk. 318 crore in a total of Tk. 2564 crore or 12·4 percent of the total advances though agriculture accounts for more than half of the GDP. In view of the Plans' emphasis on agriculture and rural development, a much higher proportion of institutional credit must be made available to the agriculture sector. The Plan envisages to raise its share from 12·4 percent to about 25 percent by the end of the Plan period.

10.51. Besides, the low level of agricultural credit, the structure of loan is also heavily top-sided in favour of short-term production loans. In 1979/80 such loans accounted for 47 percent of total agricultural credit. Though production loan is important for current

inputs, it is important to recognise that the pace of technological diffusion will depend on the expansion of irrigation facilities; so the medium and long-term credit for access to irrigation equipment will need to be stepped up. This cannot be done by reshuffling credit from short term production loan to medium/long-term loan for equipment and increase in capital stock. Agricultural credit programme should simultaneously meet both the demands of inputs and equipment at expanded rates.

10.52. The age-old rules of deposit banking inhibiting advances to small borrowers like share-croppers and marginal farmers and the lack of dynamism of the traditional co-operative system led to the establishment of a new system called IRDP co-operative system in early 1960's. In 1979/80 IRDP system had 40,000 Krishi Samabaya Samity of which near about 17,000 were borrowers during the year. IRDP credit increased from Tk. 6·6 crore in 1976/77 to Tk. 25·5 crore in 1979/80. Along side the IRDP system, there are about 3000 village-based traditional Co-operatives organised into Central Co-operative Banks (62) which are affiliated to Bangladesh Samabaya Bank Ltd. (BSBL). The existance of the two parallel systems BSBL and IRDP, has become a source of confusion which will be avoided.

10.53. Another aspect of agricultural credit that needs immediate attention is the diversity of interest rates charged by different institutions. It varies sharply between institutions and programmes, depending on the sources of finance and *guarantee*. IRDP charges 17·5 percent interest rate while others charge 12 percent rate of interest. There is a strong reason to bring uniformity in the interest rates from the farmers point of view and also to co-ordinate credit programmes of different agencies. The latter can be achieved either through specialization by types of credit or by geographical areas. What ever method is used, co-ordination is necessary to avoid credit layering.

10.54. Since institutional credit depends on savings and deposit, the need for expanded agricultural credit can be met only through the expansion of deposit banking in the rural areas in order to tap rural saving. To this end, the Government has pursued a policy of rapid expansion of commercial bank branches in the rural areas. As a result, the number of rural branches increased from 828 in June, 1976 to 2103 in June, 1980. There has also been improvement in rural deposit; the share of rural deposit has increased from about 10 percent in 1976 to 17 percent in 1980/81. But this growth failed to bring about a corresponding improvement in rural advances. In spite of improvement in the ratio and advance to deposit in rural brances, the ratio was only 0.63 in 1979/80. This shows greater emphasis on rural deposit mobilization than on rural advances. Though the 2:1 rule for new rural-urban bank branches was adopted by the Bangladesh Bank with the hope of subsidizing rural banking operations, in reality the reverse has happened. This anomaly needs to be rectified through policy measures to stop the drain of resources from the rural areas.

FORESTRY

10.55 Compared with other countries in South-East Asia, Bangladesh has a very small area of land under forests, about 9 percent of total area and its contribution to GDP is also low-estimated to be around 5 percent. But as it is a renewable resource, and a main source of energy for rural people, forestry has a critical role to play in alleviating rural energy problems. Its contribution to the economy also can be substantially increased by scientific management of extraction and planting. Besides, it works as a green barrier against cyclones and tidal bores in the coastal zone.

Forest Area

10.56. There is a great scope for development of forest resources. In addition to reserve forests of 3·25 million acres, there are 2·4 million acres of unstocked hill forest land known as Unclassed State Forests (USF), administered by the district authority of Chittagong Hill Tracts. This land is completely denuded due to repeated shifting cultivation by the local people and reduced to scrub lands. Of this, about 1·80 million acres are useable for forestry. Besides the forest land, there is new accretion of 1·20 million acres of land in the coastal areas which require fixation. This includes about 0·3 million acres which is already fit for tree plantation. There are also vast areas of khas land, particularly in Chittagong and Sylhet districts, which should be partly used for development of forestry in view of rural energy problem and continued degradation of soil and environment due to heavy pressure on land for crop cultivation. Highways (2,900 miles) railways (1,800 miles), coastal embankments (2,500 miles) and District Council Roads (4,000 miles) also offer opportunities for strip plantation along their sides. This will be equivalent to 80,000 acres.

Consumption and Production of Forest Products

10.57. The present level of forest output is rather low. Though estimate of output and consumption of forest products lack reliability, it is probable that consumption of fuelwood which constitutes the bulk of use of forest products has fallen since 1960s, The Bangladesh Energy Study estimated fuelwood consumption at 0.4 cft. per capita per annum in 1975. Forest Department estimates timber consumption around 0·3 cft per capita per annum. The recent FAO/Planning Commission wood consumption study based on data collected from whole of the country suggests fuelwood consumption at 2·79 cft. and timber consumption around 0·4-0·5 cft. per capita per annum. Taking into account branches, twigs and leaves, the energy from tree sources amounts to about 40 percent. The study shows that fuelwood constitutes something in the order of 80 percent of all wood volume consumption in Bangladesh, but accounts for only about 15 per cent of rural energy use. In Nepal and Burma located in the similar climatic belt and having similar level of per capita income, the fuelwood consumption is much higher and is estimated to be over 20 cft. The low share of fuelwood in Bangladesh has serious implications for her agriculture. Firstly, the land is exposed to severe erosion due to scarcity of trees and secondly, land is deprived of crop residues, cowdung needed for microbial growth and formation of humus since crop residue and cowdung are mostly used as domestic fuel. Under pressure, even fruit bearing trees are cut. The situation warrants a quick solution of rural energy problem through plantation of fast growing species.

10.58. The plants of natural forests are of lowyielding type because of their slow growth to maturity. The present production is extremely low. During the last few years, on an average 16·00 million cft. of timber and 20·00 million cft. of firewood have been produced from the government forests. However, the existing forests resources are capable of yielding higher output than those currently obtained. Since the natural forests consist of plants of low economic value, there is need for their systematic clearing so that they can be reforested with plants of higher values as well as of shorter rotation. This will need updating the forest inventory on the one hand and strengthening of the management capability of the Forest Directorate on the other.

Objectives and Strategies of SFYP

10.59. In view of potential danger to ecological balance between land and climate due to the ever-increasing pressure on land on the one hand, and increasing demand for fuelwood and timber on the other, the following objectives will be pursued during SFYP :

(i) To maximise production of forest produces from the existing stock of the forest in a planned way;

(ii) to develop the forest resources in the government forests as quickly as possible to stop further decline in forest land;

(iii) to help develop the tree resources particularly fast growing species and fruits trees, in the private homesteads and public places including strip plantation of roads, highways, railways, canal and embankment sides; and

(iv) to provide protection against cyclones, tidal bore, and soil erosion and maintain overall natural balance of the ecospher.

Development Programmes

10.60. *Forest Production* : In view of existing gap in demand and supply of forest products, and its undesirable effect on homestead woodland and field crop residues, forestry programme emphasizes quick expansion of output. The potential source of expanding production is the forests of Chittagong Hill Tracts, which can yield an output of 10.6 million cft. per year against the base-year production of about 2·1 million cft. To achieve this potential increase, current infrastructural, technical and management problems will need to be overcome. Due to high rainfall and unstable soils in these areas, roads or alternative transportation method will be carefully planned. During the plan period, output can be raised from 36·0 million cft. in 1979/80 to 50·0 million cft. from Government forests.

10.61. *Plantation* : The Plan provides for raising a total of 3·59 lakh acres of plantation, which includes replanting of 94,000 acres in the exploited hill forests, afforestation of 1·00 lakh acres each in the USF and coastal areas, and reforestation of 65,000 acres of denuded forests areas. An important aspect in this programme will be selection of appropriate species and varieties of trees for plantation. Some early trials in the hill forests have indicated that fast growing domestic and exotic species are highly promising.

10.62. *Special Plantation* : This category of plantations cover high priority non-wood materials like bamboo, rubber, mulberry, oilpalm and medicinal plants. Bamboo has got both industrial and domestic uses. But this important resource has been much depleted due to overcutting during the last few years. The programme for plantation of this resource and its quality development is of utmost importance.

10.63. Although Bangladesh is located in latitudes outside the traditional rubber growing areas, the crop can be grown well in the country. At present about 20 per cent of the domestic raw rubber requirement is met out of domestic production. The rubber plantation programme provides for a moderate expansion (13,000 acres) of the plantation acreage, and rehabilitation (12,000 acres) of existing areas where physical production is sub-optimal due to inadequate stocking. Total area under rubber plantation will be 25,000 acres at the end of the plan period.

10.64. Oil palm and mulberry plantation will be raised on 10,000 acres each during the plan period. Mulberry plantation will have significant effect on rural employment and development of sericulture.

10.65 *Agro-Forestry* : An important element in the rehabilitation of hill area denuded by shifting cultivation will be the development of agro-forestry, combining forestry with agriculture as an alternative to plantation forestry. This alternative use of the USF is very desirable for permanent settlement of the local tribal people and provision of regular income for them. To ensure successful plantation and maintenance of the plantation also, involvement of local tribal people is important. The Plan provides for development of about 3·00 lakh acres of agro-forestry.

10.66. *Rural Forestry* : Forestry is intimately related to rural life in mainly three ways : (1) it provides food, fuel and other essential items of rural life including construction materials and agricultural implements, (ii) it helps maintain environmental stability on which continued food production depends, and (iii) it generates employment opportunities for the rural people. But little has been done in rural forestry extension so far. A modest programme of rural forestry development has been drawn up for implementation during the Second Plan period. This includes plantation of 20,000 acres of protected forest and khas lands (which are mostly fallow now) by involving the local communities.

10.67. *Homestead Woodlots* : Homestead woodlots are the principal source of timber and fuelwood to the rural population. During the last few years, this resource has been considerably depleted due to heavy demand for wood. According to a recent study, about 20 percent of the homesteads has got no trees at all. Though the average homestead size in the rural areas is small, still there exists opportunities for planting more trees through appropriate species selection. To meet the homesteasd need, about 59 new nurseries would be established and 1·16 crore seedlings would be distributed among the members of the public in the terminal year of the Plan as compared with 68·00 lakh in the bench mark year. In addition, the programme includes planting of trees in 8000 selected villages under intensive supervision. Besides, private nurseries will be encouraged. Necessary training will be imparted to public and inputs will be provided.

10.68. *Linear Plantations* : In Bangladesh where it is increasingly becoming difficult to keep lands reserved for forestry only, the roads, railways, canals and embankments provide an excellent opportunity for planting trees. 1,361 miles of linear plantations along side these structures has been set for the plan period.

Education and Research

10.69. *Education and Training* : As mentioned earlier, management constituted a serious problem for forestry development. This can be relates in part to inadequacies in education and training facilities in the forestry sector. For successful execution of the programme, it is proposed to train about 2,870 professionals and sub-professionals in the filed of forest management by 1985, in addition to the existing 1,303 personnel. The experience of forest management has been limited to the fields of planting and exploitation of reserve forests. The concepts of "Rural Forestry and Agro-Forestry" are new; hence motivation, training and extension will be newly added as an important and

significant part of the present forest management practices and will be included in the new forestry education curricula. Besides, existing inadequacies and inconsistencies at various levels of education and training will be removed and a graduate training course will be introduced during the Plan period.

10.70. *Forestry Research* : In general, reorganization of the Forest Research Institute with greater emphasis on goa-oriented research is necessary. Research will concentrate on filed activities and integrate the management aspects of forestry. Although research is needed over a wide spectrum of areas, for achieving the major forestry development objectives in the shortest possible time, the focus will be laid on the following areas : high quality seeds for plantation species; selection and evaluation of species; indigenous and fast growing exotic species; selection and improvement of mangrove species for coastal afforestation, economics of plantation extraction and transportation; and processing technology. Standardization of forest product and processes will be undertaken on a priority basis.

10.71. *Forestry Inventory* : For scientific management, an updated and extended inventory of the forest resources is indispensable. In case of homestead forest, a joint Forest Department/FAO/UNDP study project has been concluded. In respect of the government forest which is the mainstay of forest resources, an inventory survey is overdue, the last inventory having been taken in 1960s. A full inventory of the forest resources will, therefore, be carried out during the SFYP period.

10.72. *Fauna and Flora* : Inventory of various types of wildlife resoruces, assessment of development options for their protection, and preparation and implementation of specific management plan including development of game sancturies, botanical gardens and national parks will be taken up.

Policy Issues

10.73. For continued and long term development of forest resources, the following important policy issues are emphasized :

(i) **Forest land utilisation** : Bangladesh has a low land-man ratio, yet considerable areas of land is either denuded, understocked or fallow and encroachments of virgin forest land is taking place. It is an urgent priority that all legal and institutional barriers to use of these potential forests be removed. Redistribution of some of these lands belonging to absentee land lords to local community or to the Forest Department (depending on specific type of usage to which it can be put) will be necessary to achieve this aim.

(ii) New accretions in the coastal area should be managed for speedy afforestation for both production and protection purposes and transfer of their management to the central forestry authority will be necessary.

Institutional Issues

10.74. The Forest Department will be appropriately reorganized and strengthened to achieve the targets of the Plan. The past experiences of the Forest Department have been on protection, management and harvesting of forest resources and not on development of rural forestry. With the present emmphasis on communiy forest and homestead plantations, fundamental changes are necessary in attitudes, training and structure of forest service particularly for extension work. The presrent extension circle of the Forest Department will need strengthening for rural and community forestry development.

10.75. Secondly, existing institutions of forest research, education and training will be rationalised and integrated under a single agency. These institutions include the existing Forest Research Insittute, Institute of Forestry, Ranger's College, Forest School and the Forestry Development and Training Centre.

10.76. Thirdly, because of the scale of the problem of efficeintly managing and exploiting the forest resources and emphasis on village and community forests, it will be necessary to supplement government programmes with private initiative and investment to the maximum extent possible. Rural institutions and local government will be involved in community forests. The opportunity for direct private investment will be expanded with commercial plantation of oilpalm and rubber. The Plan calls for establishment of rubber plantation over 20,000 acres in the USF of Hill Tracts. Setting up of private nurseries will be encouraged through extension works and supply of seedlings.

FISHERIES

10.77 The importance of fish in Bangladesh diet is unique. It is by far the most important source of animal protein for majority of the rural people and has also great potential for development. One seventh of the land area of Bangladesh consists of perennial water bodies like ponds, lakes, streams, rivers, etc. In addition, the areas of inundated paddy fields and other flood lands which remain under monsoon water for 4—6 months every year are estimated to be about 7 million acres, thus making the water area available for fish production during monsoon months equal to about one-third of the total area of the country. As such, inland fish has always been the major source of animal protein in Bangladesh, contributing more than 80 percent of the total fish production of the country. Water area available for marine fisheries is also quite significant, but because of the abundance of inland fish until recent times it remained almost untapped.

10.78. During 1979/80 the fisheries sector contributed about 4·1 percent to GDP and more than 6 percent to export earning and employed directly and indirectly 6 percent of the population.

Prseent Physical Endowments and Constraints to Production

10.79. In the recent past, a combination of factors, man-made and natural, has adversely affected production of inland fish. Overfishing due to high growth rate of population and lack of proper culture of the fish resources have been the major causes for the reduction of fish production in the country. In addition, large scale shoaling of the rivers, water control structures, irrigation, large-scale reclamation of 'haors/beels' and other low-lying areas for crop production and use of chlorinated pesticides have contributed to the general deterioration of inland fisheries.

10.80. While the above factors inhibited the natural growth of fish population, absence of adequate compensatory programmes and institutional weaknesses failed to make up for the losses. Major institutional deficiencies are:

(i) Shortage of appropriately trained and motivated manpower;

(ii) inadequate extension services including technical advice and support at the farmer/fisherman level;

(iii) insufficient facilities for large-scale production of fish fry and fingerlings; and

(iv) multiplicity of control over the management of inland water bodies,

Objectives of the Second plan

10.81. The production of fish (6·47 lakh tons) in 1979/80 was far below the minimum requirement. Average per capita per day fish intake has fallen during the last two decades from 36 gms. in 1964/65 to 20 gms. in 1979/80. During this period, population increased rapidly, while fish production instead of increasing proportionately, decreased significantly. Since fish is the major protein food in this country, the main objective of the Plan is to improve the supply of fish to reach a per capita consumption target of 27 gms. a day by 1984/85.

10.82. The specific objectives of fisheries development are:

(i) to improve nutritional level of the people through increased production and consumption of fish;

(ii) to expand employment opportunities and to improve the socio-economic conditions of rural people in general and fishermen and fish farmers in particular;

(iii) to accelarate the development of selected fishery products such as shrimp, crab, frogleg, turtle, sharkfin, aquarium fish, etc. mainly for export;

(iv) to improve traditional technologies as well as introduce simple tested and employment oriented technologies to accelerate utilization of local resources;

(v) to organise and mobilise the rural labour force in the development of fisheries through fisheries extension services; and

(vi) to intensify research activities in both inland and marine fisheries.

Targets of SFYP

10.83. The Second Plan envisages achieving the following targets by the end of the plan period (1984/85):

(i) Increase of fish production from the present level of about 6·47 lakh tons to 10·00 lakh tons (Inland 8·20 and Marine 1·80). Of this, the public sector projects will contribute only 0·83 lakh tons to the total targetted production;

(ii) bring under acquaculture 6·44 lakh acres of water bodies in place of the existing 2·74 lakh acres which are at present only lightly and occassionally utilised for fish production;

(iii) provide additional employment to the extent of at least 4,080 lakh man-days (11 lakh persons) in the terminal year of the Plan; and

(iv) export 17,000 tons of shrimp; 1,600 tons of froglegs and 1,500 tons of selected fish and fish products.

Strategies and Policies of SFYP

10.84. The following strategies will be followed to achieve the targets set for the Plan:

(i) Completing the work of on-going hatchery projects and establishing new hatcheries in different parts of the country to increase production of fingerlings through artificial spawning from 26 million. in 1979/80 to 320 million. in 1984/85;

(ii) providing necessary facilities and incentives to the private sector for setting up and operating nurseries for increased production of fingerlings;

(iii) rearing of fingerlings (3—4 inch size) through local entrepreneurs under the leadership of local government with technical guidance of the fisheries experts of the Government;

(iv) intensifying demonstration and training of private individual in the production of fry/fingerlings and fish culture in the existing fish seed multiplication farms and in the experimental stations;

(v) conservation and development of local fish species by enforcing appropriate conservation measures and culture of fishes;

(vi) intensifying training of field officers and staff in the form of workshops, seminars, regular training programmes to improve their professional efficiencies so that they can contact, motivate and train fish farmers and local youths in scientific methods of fish farming and conservation practices;

(vii) setting-up of adequate number of fisheries extension training institutes for production of mid-level extension workers;

(viii) ensuring the adequate supply of production inputs such as extension services, fish seed, fish feeds/fertilizer, chemicals, fishing crafts and gears including provision of insurance and credit facilities for the fish farmers/fishermen;

(ix) dividing large water areas into smaller units for fish farming by private entrepreneurs and co-operatives on commercial lines;

(x) expanding facilities for landing, processing, icing, cold-storage, marketing and distribution of both inland and marine fish.

(xi) establishing fish inspection and quality control Laboratories in selected areas for ensuring the export of quality shrimp, fish, fish by-products and froglegs; and

(xii) propagating the modern culture techniques and benefits of conservation through mass-media.

Inputs Programme For Fisheries

10.85. *Water Bodies*: During the SFYP, water bodies such as ponds, haors, cannals lakes, coastal/tidal flats, paddy fields etc. approximately 22,309 acres under the public sector projects and 6,21,681 acres under the private/co-operative sector will be made available for fish culture. Intensive aquaculture will be initiated under the private sector by setting up cages, fencing, etc. in the open waters, namely lakes, rivers, etc. Besides, fish will be captured from rivers, haors, paddy fields, kaptai lakes, estuaries etc. covering a total area of 10092500 acres. Coastal fisheries (for a band of at least 30 miles across the shore) will be encouraged through small entrepreneurs, while deep sea areas (to the extent of 200 miles) will be utilised by mechanized boats and trawlers. Since inland water resources have other uses like irrigation, it will be essential for co-ordination of irrigation, inland water transport and inland fisheries programmes.

10.86. *Fish Fry/Fingerlings*: To augment production of sufficient quantity of fingerlings for achieving the planned target of fish production, the action programmes include the following;

(i) Charting all the natural carp, "geol" fish and shrimp breeding grounds and protecting them from any harmful human activities;

(ii) Production of fry of both exotic varieties of fish like grass carp, silver carp, etc. and local varieties like magur, koi etc. in large quantities for distribution among the interested fish farmers;

(iii) introducing improved methods of collection, rearing and transportation of the naturally produced fries;

(iv) up-grading and rehabilitation of existing Government fish seed multiplication farms with facilities for induced spawning and for rearing fry to stocking size;

(v) development of rearing facilities for fingerlings (5-6 inch long) at local levels through local initiative with technical support from fisheries experts; and

(vi) supplying necessary inputs including credit and technical know-how to fry and fingerling producers.

10.87. *Feeds* : Fish seed is an essential item for culture of both carp and carnivorous fish species. Slaughter house waste, fish waste; trash fish etc. will be suitably used in the preparation of feeds for culture of cat-fish. Necessary steps will be taken to set up some fish feed mills associating private parties in some intensively fish capturing coastal areas for the utilization of trash and other fish wastes.

10.88. *Fertilizer*: Presently nitrogenous fertilizer is applied on a very limited scale mostly in the water bodies of public sector. Fertilizers at the normal subsidised rates will be made available to the interested fish farmers through Thana Fishery Officers for the application of the same in the cultured ponds, lakes, haors, etc.

10.89. *Chemicals* : To prepare the ponds for fish culture, lime, rotenon, etc. will be supplied to the interested fish farmers in time under the supervision and technical guidance of fisheries personnel. Other necessary chemicals will also be made available for the use of the fish farmers against fish diseases, fish parasites, etc.

Harvesting, Processing and Marketing

10.90. To partially meet the requirement of fishing nets both for inland and marine fishing, arrangements will be made to set up three new net factories in three locations while the existing one at Comilla will be strengthened. For deep sea fishing, additional 62 trawlers and 2,600 motorized boats under both public and private sectors will be introduced during the plan period. The existing fish harbour at Chittagong will be rehabilitated and one more fish harbour and 16 marketing centres with icing and cold-storage facilities will be set up in the appropriate locations for efficient handling of marine fish. For quick transhipment of fresh/frozen fish, more refrigerated vehicles will be introduced.

Fisheries Education and Training

10.91. Introduction of modern science and technology is essential for development of fisheries. For this, education, training and research facilities will be developed. Presently the faculty of fisheries in Bangladesh Agricultural University, Mymensingh, is producing graduates in fisheries. Besides, an adequate number of Fisheries Training Institutes will be set up to produce intermediate level fishery technicians with Diploma in Fisheries, to act as grass root level fisheries staff and to impart training to the fish farmers. Existing facilities will be expanded also to train more marine cadets to man the mechanized fisheries boats and trawlers.

Fisheries Research

10.92. Till to date, no serious attempt has been made to develop adequate research facilities and as such reliable research data are not available to support large fish production programmes within the country. Very recently, the fisheries scientists have keenly felt the need for undertaking adaptive and basic research on the different aspects of fisheries. During the second plan period, fisheries research would mainly be concentrated in the following areas:

(a) Collection of detailed field data on various fisheries resources including socio-economic conditions of the fishermen and others involved in fisheries activities;

(b) carrying out the adaptive research on the improvement of techniques for augmenting production of the finfish, shell fish, crustaceans, etc. in suitable inland and brackish water regions;

(c) development of techniques for artificial spawning and extension of selected local varieties of fish like magur, koi, shinghi, pabda etc;

(d) organizing detailed research and surveys in the economic zone of Bangladesh all the year round, for collection of data on the potentials and possibilities of commercially exploitable marine living resources, both pelagic and demarsal; and

(e) establishment of closer co-operation and collaboration between the technological research unit and fish processing industries to facilitate the transfer of result of research to the industries;

Fisheries Extension Service

10.93. During the Plan period fisheries extension services would be strengthened with trained graduates depending on the intensity and fish production potential. For the optmum use of production, potential fishery advisory service will be strengthened by appointing adequate number of extension personnel. The Training and Visit system, as followed in case of crop extension programme, will also be introduced for fish production programme. Further, since there exists a knowledge gap between the fisheries personnel and the fish farmers, fisheries information service through mass media will be initiated.

Insurance

10.94. In view of the fact that fisheries specially marine fisheries is a costly operation with a risk of financial loss due to storm, cyclone and other natural hazards and fishermen individually or in groups are of limited means, possibility of introducing fisheries insurance scheme will need to be explored.

Credit Facilities

10.95. Bangladesh Krishi Bank and other nationalised banks now extend credit to the fish farmers. Existing procedure for credit to the fish farmers/fishermen would further be simplified.

Financial Outlay

10.96. To implement the above programmes a total financial outlay of Tk. 174·30 crore (at current prices) has been allocated for Fisheries Sector with the break up— Tk. 21·84 crore for Fisheries and Livestock Division, Tk. 81·80 crore for Fisheries Directorate and Tk. 70·66 crore for Fisheries Development Corporation. In terms

of 1979/80 prices, total allocation for fisheries sector would be around Tk. 119·00 crore. It is expected that about Tk. 400·00 crore will be invested (at current prices in fisheries sector by the private sector including co-operatives. Agency and programme wise break-up of the SFYP allocation is shown in Table-10·4.

TABLE 10.4

Break-up of the Financial Outlay
(At current prices)

[Tk. in crore]

Heads/Programme	Public Sector			
	F & L Division (Proper)	DOF	BFDC	Total
1	2	3	4	5
(i) Research, Survey and feasibility ..	21·84	3·96	0·24	26·04
(ii) Training		1·78	1·34	3·12
(iii) Fish seed and Extension ..		48·26	..	48·26
(iv) Fishing crafts, gears and Net factory ..		55·38	55·38	55·38
(v) Fish landing, processing, storage, and distribution facilities. ..		—	10·70	10·70
(vi) Production (including dev. of water bodies, fish feeds, fertilizar etc.) ..		27·80	3·00	30·80
Total ..	21·84	81·80	70·66	174·30

Production Targets

10·97. Actual fish production in 1979/80 and target for 1984/85 according to type of water and source of production, are given in Table 10·5. It would appear from the Table that out of the expected fish production of 10 lakh tons, major share *i.e.* about 8·2 lakh tons will come from inland water and the remaining 1·8 lakh tons from marine water.

TABLE 10.5

Target of Fish Production from Different Sources

Type of Water	Source of production.	1979/80 (Actual) Number of fishing craft/area in acres of water bodies	1979/80 (Actual) Production (in tons)	1984/85 (Projection) No. of fishing craft/area in acres of water bodies	1984/85 (Projection) Production (in tons)
1	2	3	4	5	6
Inland	**Public sector (DOF)**				
	Culture				
	Pond	25,200	2,799	7,000	9,100
	Baor	2,616	138	2,616	1,438
	Cage, Pen, Fenced area, Dyked haor etc.	Nil	Nil	1,504	2,518
	Irrigation canal ..	NA	NA	5,689	2,275
	Coastal water	600	141	5,500	3,300
	Sub-total (DOF) ..	28,416	3,078	22,309	18,631
Inland	**Private Sector**				
	A. Culture				
	Mini pond ..	100,000	2,000	100,000	33,000
	Pond	88,620	5,188	164,000	82,000
	Baor	37,384	5,235	37,384	13,084
	Cage, Pen and Fenced areas.	Nil	Nil	10,986	14,280
	Coastal water	20,000	4,851	200,000	100,000
	Irrigation canal ..	NA	NA	9,311	3,104
	Paddy fields, and flood lands	NA	NA	100,000	10,000
	Sub-Total (A) ..	246,004	12,276	621,681	255,468

Table 10·5 (Contd)

Type of Water	Source of production.	1979/80 (Actual) Number of fishing craft/area in acres of water bodies	1979/80 (Actual) Production (in tons)	1984/85 (Projection) No. of fishing craft/area in acres of water bodies	1984/85 (Projection) Production (in tons)
1	2	3	4	5	6
	B. Capture				
	River	2,051,200	199,970	2,040,000	193,800
	Haor	684,000	63,929	682,000	88,960
	Paddy fields and flood land	7,000,000	237,675	69,00,000	234,600
	Kaptai Lake ..	224,000	2,000	224,000	9,000
	Irrigation canal ..	15,000	1,000	..	..
	Estuaries ..	452,000	4,852	246,500	19,680
	Sub-Total (B) ..	10,426,200	5,09,426	10,092,500	546,040
	Sub-total (Private)	10,672,204	521,702	10,714,181	801,508
	Inland Total (Public+Private) ..	10,700,620	524,780	10,736,490	820,139
Marine:	**Public Sector (BFDC)**				
	Trawlers ..	9	3,500	8	4,000
	Motorised Boats ..	700	14,000	3,000	60,000
	Sub-Total (Public) ..		17,500	..	64,000
Marine:	**Private Sector**				
	Trawlers ..	3	1,500	66	33,000
	Moforised Boats ..	700	14,000	1,000	20,000
	Sail Boats	12,000	89,000	9,000	63,000
	Sub-Total (Private)		104,500	..	116,000
Marine Total (Public and Private)		..	122,000	..	180,000
Public (Inland+Marine) Total ..		..	20,578	..	82,631
Private (Inland+Marine) Total ..		..	626,202	..	917,508
Grand Total (Inland and Marine) ..		..	646,780	..	1,000,139 (Say 10·00 lakh tons)

conservation programme and better management practices. The objectives of the Second Five Year Plan are:

(a) To increase draft power through introduction of large number of improved cattle;

(b) to increase production of protein of livestock origin, and

(c) to provide adequate veterinary coverage and modern feed,

Highlight Of The Programme

Draft Power

10.104. About 11·4 million cattle and buffaloes (including 3·4 million cows) were in use in 1979/80 for tillage operations and carting. Power realised from these animals is inadequate compared with the need for proper tillage and post-harvest operations. During peak season, shortage of draft power has effected cropping patterns. Draft power would be improved through prevention of mortality and morbidity, breeding of improved animals supply of adequate feed and fodder and improved extension and management practices and introduction of an improved harnessing system.

Conservation

10.105 Mortality of animals and birds due to various factors including diseases cause substantial annual loss. In case of animals, mortality is about 10 percent and in case of birds, it is about 33 percent. A well-organised and efficient preventive and curative system is essential. Vaccination is the most effective means of preventing fatal diseases. The infrastructure so far created is inadequate for the need but even this has not been fully utilised. In 1979/80, only 45 million doses of vaccines against a requirement of 550 million doses were produced within the country; but for lack of storage and transportation facilities, these could not be fully utilised.

10.106. During the Plan period, availability of vaccine will be increased to about 300 million doses in 1984/85, of which about 280 million doses will be locally produced. The Plan provides for establishment of hospitals in all district headquarters and dispensaries at all thana headquarters. Drug production will be raised from 10 million doses in 1979/80 to 50 million doses in 1984/85.

10.107. There are about 800 veterinarians in the Directorate of Livestock Services, of whom about 100 are in supervisory position. Some of them will be placed at the district level for supervision and monitoring the diseases control programme. For management of preventive and curative activities, about 300 veterinarians attached to hospitals and dispensaries will be utilised for training of farmers on poultry vaccination and in-service training of veterinary field assistants. In addition, about 400 Thanas Livestock Officers will be used for preventive and curative work. Since the capacity of public sector personnel is limited, this will be supplemented by private sector agents and local bodies:

Breeding

10.108. *Large Animals*: Research results indicate that production potential and draft power of local breeds can be improved through the use of improved exotic blood Breeding through artificial insemination and direct method has been in practice since 1958

and some improved cattle are now available in the country. There are over 600 improved bulls placed at remote localities for direct breeding. It is proposed to import 250 Hariana bulls. In addition, about 500 large animal bulls will be produced in the breeding farms for distribution.

10.109. The level of artificial insmination in 1979/80 was 2 lakh. There were 17 district level and 84 thana level artificial insemination centres in 1979/80. By 1984/85, all districts and thanas will be provided with adequate facility for artificial insemination. Semen production will increase from 2·0 lakh doses in 1979/80 to 5·0 lakh doses in 1984/85.

10.110. *Small Animals*: Breeding of small animals like goats and sheep will remain confined to research level to evolve improved meat animals through fattening. The excellent quality of Black Bengal goats will have to be maintained while crossing this animal with exotic breed is tried. Artificial insemination will initially be introduced on a small scale in case of goats for studies and research.

10.111. *Poultry*: The poultry population in the country was 6·3 crore in 1979/80. The birds produced through crossing the local birds with exotic breed are being introduced since the mid-forties. During the Plan period, 1·4 million cockerels will be raised on government farms. Incubators and brooders required for the purpose will be manufactured locally. Sale of hatchable eggs will be controlled to increase production of chicks.

Feed and Fodders :

10.112. There is acute mal-nutrition among animals and birds resulting in loss of animal protein. Agricultural by-products are the primary sources of livestock feed. But straw from dwarf varieties of rice and wheat are inferior in quality due to silica content and they need to be processed into better feed for cattle.

10.113. Experiments conducted at the Dairy and Cattle Improvement Farm at Savar and field trials conducted so far have indicated that there are some promising varieties of fodder which can economically compete with other crops. Area under such fodder will be gradually increased through extension. Increase in production of leguminous crops will provide additional fodder and will also serve to enrich soil. Spare land, marginal land, embankment sides etc. can be used for fodder production. Manufacture of feed concentrate will be undertaken in the public sector on a pilot basis. The private sector will be encouraged with credit and other facilities to set up feed mills to produce balanced feed mixture.

Extension and Management:

10.114. Livestock is reared in mixed-farming alongwith crop production. Out of 6·85 million agricultural holdings, 5·83 million rear animals while almost all farmers rear some birds. There are only 0·6 million exclusive livestock holdings. The productivity of birds and animals raised by these farms is low as the farmers lack knowledge of scientific management. So the SFYP envisages to extend modern management practices to the farmers by training them in elementary husbandry techniques. All the existing facilities such as dispensaries, veterinary training institutes, Govt. Livestock Farms, Agriculture Extension Training Institutes and Thana Training and Development centres would be used to organise short duration farmers' training courses.

Education and Training

10.115. The Agricultural University, Mymensingh, will continue to impart graduate and post graduate education on animal sciences. While technical education is adequate there is acute shortage of field level technical personnel. At present only one livestock training institute is imparting technical training. During the plan period, 4 training institutes will be established and facilities will be provided for training of 400 persons per year. To meet the shortage of lower level technical personnel, about 3,000 progressive farmers and rural youths will be trained in simple work like vaccinating the birds and livestock management.

Research

10.116. Agricultural University, Mymensingh, Agricultural Research Council and various research sections of the Directorate of Livestock Services conduct work on different aspects of livestock problems. These sections will be reorganised and better equipped to take up further work on breeding, nutrition, poultry husbandry, livestock economics and other important problems.

Input Programme :

10.117. The following are the physical targets of inputs for Second Five Year Plan :

TABLE 10·7

Physical Targets of Inputs

Items	Unit	Bench mark 1979/80.	Target in 1984/85.	Increase over bench mark in percentages.
i Vaccines	Crore doses	4·5	30·0	567
ii Medicines	do.	1·0	5·0	400
iii Insemination	Lakh No.	2·0	5·0	150
iv Cockerels .. .. distribution.	do.	0·1	14·0	
v Chicks distribution	do.	0·8	5·0	525
vi Eggs distribution	do.	6·5	20·0	208
vii Feed distribution	(000 tons)	5·0	500·0	
viii Fodder distribution	do.	12·5	100·0	700
ix Dispensaries and hospitals	(Cumulative No.)	337	400	19
x Artificial Insemination Centres	do.	101	404	300
xi Large Animal Farms	do.	3	8	167
xii Poultry Farms	do.	16	28	75
xiii Private Livestock Farms.	(Lakh No.)	1·0	5·0	400

Some Policy Issues

10.118. In addition to programmes and activities mentioned above policies on the following issues will have to be firmed up during the Plan period :

(i) The Animal Act in force now is out-dated; this should be modified to suit the present needs.

(ii) Availability of credit and other inputs for small farmers and for entrepreneurs who like to go for livestock production and marketing should be ensured.

(iii) Organisational arrangements should be made for various input production and supplies.

Financial Outlay

10.119. To implement the above programmes an amount of Tk. 123·46 crore (curren prices) has been allocated for Livestock Sector. Year wise phasing of the allocation by major programme is shown in table 10·7.

TABLE 10.8

Financial Outlay
(at Current Prices)

[Tk. in lakh]

Programme	1980/81	1981/82	1982/83	1983/84	1984/85	Total
1. Conservation :						
(a) Prevention ..	7·22	66·19	299·24	324·25	233·22	930·12
(b) Treatment ..	219·81	72·06	320·64	1469·42	1452·69	3534·62
2. Breeding :						
(a) Poultry ..	390·77	566·86	502·45	279·00	183·50	1922·58
(b) Large animal ..	158·17	549·27	734·28	501·62	503·35	2446·69
(c) Small animal ..	—	—	—	125·00	128·00	253·00
3. Training and Research ;	8·70	223·32	584·99	399·04	281·00	1497·05
4. Fodder/Feeds ..	11·12	46·51	134·25	174·69	183·65	550·22
5. Others	47·21	163·81	392·76	360·74	247·20	1211·72
Total ..	843·00	1688·02	2968·61	3633·76	3212·61	12346·00

Output Targets

10.120 For full utilisation of the inputs credits will be made available to livestock farmers. At the end of the Plan period production of milk, meat, eggs and draft power are estimated to be as shown in Table 10·9.

TABLE 10·9

Production Targets of SFYP

Items	Bench-mark 1979/80.	Target in 1984/85.	Increase over benchmark. (Percentage).
(i) Milk (1000 tons)	.. 1036·00 (32·55)	1259·90 (35·20)	21·6
(ii) Meat (1000 tons)	.. 330·35 (10·55)	386·14 (10·79)	16·9
(iii) Eggs (1000 tons)	.. 47·30 (1·48)	50·58 (1·41)	6·9
(iv) Draft power (Lakh H.P.)	.. 22·00	25·38	15·4

Notes—Figures in the parentheses indicate Production in grams per head per day.

Fiancial Outlay of Agriculture Sector

10·121. To implement the development programme of the Agriculture Sector, an amount of Tk. 1,470 crore at 1979/80 Prices (Tk. 2,149 crore at current prices) has been allocated during the SFYP. The sub-sector wise break-up of SFYP allocation both at 1979/80 prices and current prices are given in Table 10.10 A. Besides, annual phasing of the total allocation both at 1979/80 prices and current prices are shown in Table 10.10B.

TABLE 10.10

Financial Outlay by Sub-sector

[Tk. in crore]

Sub-sector	Allocation in SFYP	
	At 1979/80 prices.	At current prices.
Crops	1138·36	1666·33
Forestry	129·00	184·86
Fishery	119·00	174·30
Livestock	83·64	123·45
Total (1980-85)	1470·00	2149·00

TABLE 10·10B

Annual Phasing of SFYP Allocation

[*Tk. in crore*]

	1980-82	1982/83	1983/84	1984/85	Total (1980-85)
At 1979/80 prices	506	271	319	374	1470
At current prices	597	393	501	658	2149

B. DEVELOPMENT OF WATER RESOURCES

10.122 Agriculture of Bangladesh operates under two severe natural constraints namely, scarcity of land for extensive cultivation and lack of adequate rainfall in winter. There are about 35 million acres of land out of which 23 million are cultivable. Of this cultivable area, more than 21 million acres are cultivated during the Kharif (rainy) season, thus having very little scope for expansion of cropped area during this season. In contrast, for lack of rain in the Rabi (winter) season only about 7 million acres are used for cropping, leading to a low cropping intensity of 153. There is no significant area of virgin land to be opened up, so that increased production that is needed to make the country self-sufficient in foodgrains must come from further intensification of cropping; and introduction of high yielding varieties (HYV) both of which depend on expansion of irrigation facilities. Even during the monsoon season, there happens to be frequent droughts when standing crops are liable to suffer damage unless supplementary irrigation is provided.

10.123 A further exacerbating factor in the monsoon season is flooding. It is estimated that about one-third of the land is low-lying such that it needs protection and drainage facilities. Against all these constraints, only 16 percent of land is irrigated. Bangladesh has thus both physical scope and technical potentialities to increase crop acreage through irrigation and water management. But a far more important role of the modern irrigation system lies in the expansion of the modern technology for which water is an essential input. The main thrust of the Second Plan agricultural production programme, particularly foodgrain production, is on the rapid diffusion of this seed-water-fertilizer technology. In fact, adoption of HYV seeds and use of chemical fertilizer by farmers will depend on the availability of irrigation water. Therefore, irrigation has been given a very high priority in the Second Plan.

The Actual Position

10.124 Bangladesh Water Development Board (BWDB) and Bangladesh Agricultural Development Corporation (BADC) have been the two major public sector agencies responsible for development of water resources of the country. Only in recent years, private farmers have become directly interested in the development of irrigation facilities, individually as well as in groups, but their share in the total irrigated acreage is still very small. In June, 1980, total irrigated acreage was 2.5 million acres (excluding 1 million acres under traditional system of irrigation); in this the share of the private

sector was 1 lakh acres only. Supply of irrigation water through Low Lift Pumps (LLP), Shallow Tubewells (STW), Deep Tubewells (DTW) and Hand Tubewells (HTW) is one of the main functions of BADC, while BWDB's functions include supply of irrigation water through development of surface water sources, provision of flood protection and drainage facilities. Several other public sector agencies are also involved in the promotion of irrigation facilities among the farmers, *e.g.*, Krishi Bank (BKB) and Intergrated Rural Development Programme (IRDP). Bangladesh Bank (BB) has recently been involved in the development of irrigation.

PERFORMANCES DURING FFYP AND TYP

10.125 Performances in water sector during First Five Year Plan and Two Year Plan period are discussed in brief below by major agencies.

First Five Year Plan

10.126 *Bangladesh Water Development Board (BWDB)* :—During the First Five Year Plan (FFYP), BWDB aimed at providing flood protection and drainage facilities to 21·40 lakh acres and irrigation facilities to 1·19 lakh acres of additional area by 1977/78. As against these, 15 lakh acres of land were actually provided with flood protection and drainage facilities while only 38 thousand acres of land were provided with irrigation facilities. A cumulative total area of 45 lakh acres of land were provided with flood protection and drainage facilities as against the target of 51·40 lakh acres by June, 1978; similarly, cumulative total area of 1·60 lakh acres were provided with irrigation facilities as against the target of 2·41 lakh acres during the same period (table 10.11). Attempts were made to increase command area of some completed projects.

10.127 *Bangladesh Agricultural Development Corporation (BADC)*:—In order to have quick impact of investment on irrigation, emphasis was given to relatively small scale and fast pay-off programmes of irrigation by LLPs, STWs and DTWs during the First Plan. Though considerable expansion in the irrigation coverage by LLPs, STWs and DTWs was planned, the actual achievement fell short of target (Table 10·11). Review of the irrigation programmes of BADC are given below:

10.127.1 *LLP*: The target of cumulative irrigation coverage was 22·50 lakh acres through fielding a total of 45,000 LLPs by June, 1978. As against this, 36,730 LLPs were actually fielded and 13·55 lakh acres were irrigated. However, additional irrigation beyond what was achieved at the time of launching FFYP was 3·05 lakh acres against the target of 12·00 lakh acres.

TABLE 10· 11

Physical Target and Achievement during First Five Year Plan and Two Year Plan

[Area in lakh acres]

Agency/Programme.	Benchmark coverage as of June, 1973 (Cumulative).	First Five Year Plan (1973-78)					Two Year Plan (1978-80)			Total Coverage as of June, 1980 (11=6+ 9)
		Target		Achievement		Percentage of Achievement of Target	Target (Addl.)	Achievement (Addl.)	Percentage of Achievement of Target	
		Additional	Cumulative	Additional	Cumulative					
1	2	3	4	5	6	7	8	9	10	11
A. BWDB										
I. Flood Protection and Drainage	30·00	21·40	51·40	15·00	45·00	70	7·00	2·90	41	47·90
II. Irrigation ..	1·22	1·19	2·41	0·38	1·60	32	0·80	0·47	59	2·07
B. BADC Irrigation										
I. LLP	18·50 (30,000)	12·00 (15,000)	22·50 (45,000)	3·05 (6,730)	13·55 (36,730)	25	4·45 (8,270)	0·85 (1,970)	19	14·40 (38,600)
II. STW	0·16 (2,000)	2·09 (13,000)	2·25 (15,000)	0·43 (4,631)	0·59 (6,631)	21	1·41 (13,399)	0·81 (5,099)	57	1·40 (11,700)
III. DTW	1·25 (2,900)	10·19 (16,100)	11·44 (19,000)	2·10 (4,970)	3·35 (7,470)	21	2·70 (3,530)	2·53 (2,325)	94	5·88 (9,795)
IV. HTW	..	..	..	..	..	..	0·70 (140,000)	0·06 (20,000)	9	0·06 (20,000)
Sub-Total (B)	11·91	24·28	36·19	5·38	17·49	23	9·26	4·25	46	21·74
C. Private Sector (Irrigation)										
I. BKB—STW	.. ..	1·50 (15,000)	1·50 (15,000)	0·41 (6,012)	0·41 (6,012)	27	1·09 (8,988)	0·39 (5,748)	36	0·80 (11,760)
II. IRDP-HTW	..	0·28 (60,000)	0·28 (60,000)	0·25 (60,000)	0·25 (60,000)	89	0·23 (60,000)	0·83 (30,000)	15	0·28 (90,000)
III. Traditional	10·00	..	10·00	(—)1·00	9·00	..	1·00	1·00	100	10·00
Sub-Total (C)	10·00	1·78	11·78	(—)0·34	9·66	21	2·32	1·42	61	11·08
Total: Irrigation (AII + B+C)	23·13	27·25	50·38	5·62	28·75	21	12·38	6·14	50	34·89

NOTE : Figures in parenthesis indicate number of equipment.

10.127.2 *STW*: BADC had a programme of sinking 13 thousand shallow tubewells during the First Plan period in addition to 2 thousand already sunk upto June, 1973. The progress in implementation of this programme was very slow. Total number of STWs in operation was about 6,600 only which irrigated 0.59 lakh acres of land by the end of the Plan. About 6,000 STWs were sunk by BKB during the First Plan period irrigating 0.41 lakh acres. Programme for BKB was 15,000 STW's.

10.127.3 *DTW*: Since the beginning of DTW programme in 1967/68 till June, 1973 BADC had sunk a total of 2,900 DTWs. The First Plan target was to have a total of 19,000 DTWs. However, only 7,470 DTWs were in operation to irrigate an area of 3·35 lakh acres of land as against the cumulative target of 11·44 lakh acres. Additional area brought under irrigation was 2·10 lakh acres only against the target of 10·19 lakh acres.

Financial Performance

10.128 An investment of Tk. 578 crore was proposed in this sector during the First Plan. BWDB and BADC—the two major public sector agencies were allocated Tk. 321 crore and Tk. 257 crore respectively. The actual expenditure in current prices during the plan period was Tk. 244 crore by BWDB and Tk. 281 crore by BADC. Considering the rate of inflation during this period, the shortfall of expenditure in real terms was in the order of 50 percent.

Two Year Plan

10.129 By the end of the Two Year Plan in 1979/80, a cumulative total area of 47·90 lakh acres has been provided with flood control and drainage facilities as against the target of 52 lakh acres. A cumulative total of 34·89 lakh acres of land has been brought under irrigation in 1979/80 as against the plan target of 41·13 lakh acres.

10.130 The financial allocation for the water resources sector was increased to Tk. 469 crore from the original allocation of Tk. 325 crore (BWDB Tk. 245 crore; BADC Tk. 219 crore and others Tk. 5 crore).

10·131 Targets and actual achievement of various water resources development programmes undertaken during FFYP and TYP are shown in Table 10·11.

Water Resources Potentials

10.132 *Surface Water*: The country suffers from the twin probelms of floods and droughts. During the monsoon, the combined discharges of the rivers total about five million cusecs, but this dwindles down to only about a quarter of a million cusecs during the dry season. The rivers carry an annual total run-off of about 1100 million acre-feet. For six months from mid-November to mid-May, the country suffers from inadequate supply of water. The distribution of the annual rainfall is also very uneven, more than 80 percent occuring during the rainy season from May to October. Ironically, water requirements are highest when supply of surface water both through river flows and rainfall is minimum.

10.133 Several studies indicate that existing surface water potentials can accommodate about 52,000 two-cusec LLPs.

Groundwater

10.134 Groundwater for tubewell irrigation is available specially in the north-west region. The depth of suitable acquifer for installation of tubewells is, in general, less in the north and the west than in the eastern and the southern regions.

10.135 Nationwide position of ground water availability and the number of equipment that can be installed for its exploitation is yet to be ascertained with accuracy. Surveys and investigations of overall ground water potentials of the country have been undertaken by BWDB. BADC is also involved in the study of the ground water potentials of the country. A few project based intensive studies of the ground water resources have been completed in Northern areas of Bangladesh. These studies are expected to provide more accurate information on ground water resources and also the number, capacity and possible spatial distribution of DTWs and STWs. However, pending availability of more elaborate and sufficient data, ground water development should proceed with margin of safety and be carefully monitored to ensure that the ground water resources are not over-exploited to create problems of drinking water, navigation, fisheries, etc. Hand pumps for irrigation and drinking water supply and shallow tubewells may not be operative within the zone of influence of deep tubewells. Ponds, lakes, khals, small streams, etc., may also be affected by deep tubewells, if not properly spaced.

Objectives of the SFYP

10.136 One of the principal aims of the Second Five Year Plan is to accelerate agricultural production, specially cereal production. Specific aim is to increase food production to at least 17.5 million tons by the end of the plan period from the benchmark level of 13·4 million tons in 1979/80.

10.137 Water resources development, particularly irrigation, drainage and flood control will be the main instrument to bring about rapid changes in agricultural practices and productivity. In order to help achieve the food production target, specific objectives of water resources development for the plan period are :

(i) to provide irrigation, drainage and flood control facilities sufficient to increase foodgrain production to at least 17·5 million tons;

(ii) to help achieve optimum crop-mix through appropriate diversification of crop production;

(iii) to complete the on-going surveys and studies of the ground water resources in the country so that the total availability of water for irrigation from these sources may be known with more accuracy and for more areas;

(iv) to continue the surveys, investigations and studies of the water resources so that data/information on various aspects of water resources development are maintained on continuous basis;

(v) to protect coastal areas from saline water inundation and to control and regulate floods in affected areas; and

(vi) to develop water resources in all parts of the country so that a balanced development in all areas takes place. Programmes will be undertaken to provide irrigation to at least 20 percent of the cultivable area in each zone, if not otherwise barred by physical constraints.

Target of SFYP

10.138 To achieve the target of foodgrain production, extension of irrigation to total area of at least 72 lakh acres and provision of drainage and flood control facilities to an area of 64.70 lakh acres by June, 1985 from the 1979/80 level of 34.89 lakh acres of irrigation and 47·90 lakh acres of flood control and drainage facilities will be required. Table 10·12 shows the source and target of irrigation, drainage and flood control during the Second Plan.

TABLE 10·12

Summary of Flood Control, Drainage and Irrigation Programme during SFYP

(Area in lakh acres)

Sl. No.	Agency/Programme	Actual as of June, 1980.		Second Plan Target			
				Additional		Cumulative	
		Number in Operation	Area	Number	Area	Number	Area
1	2	3	4	5	6	7	8
A.	**Flood Control and Drainage:**						
	BWDB		47·90	..	16·80	..	64·70
B.	**Irrigation:**						
	I. **Gravity Flow**						
	BWDB		2·07	..	2·93	..	5·00
	II. LLP:						
	BADC	38,600	14·40	1-cusec 24,000	3·60	30,000	6·00
				2-cusec (−)2,600		30,000	12·00
	III. STW:	23,469	2·28	226,540	29·05	250,000	31·25
	BADC	11,700	1·40	171,300	21·47	183,000	22·87
	BKB	11,769	0·89	28,240	4·20	40,000	5·09
	BB	..	..	27,000	3·38	27,000	3·38
	IV. DTW:						
	BADC	9,795	5·88	8,205	3·12	18,000	9·00
	V. HTW:	110,000	0·34	340,000	1·01	450,000	1·35
	BADC	20,000	0·06	160,000	0·48	180,000	0·54
	IRDP	90,000	0·28	180,000	0·53	270,000	0·81
	VI. **Traditional**	..	10·00	..	−2·50	..	7·50
	Total area under FC & D ..		47·90	..	16·80	..	64·70
	Total area under Irrigation ..		34·89	..	37·21	..	72·10

Strategy for Achievement of Target.

10.139 *Short-term Strategy* : To achieve the objectives, and targets of the Plan, the following short-term strategies will be pursued :

(i) To derive maximum benefits from the existing water resources development programmes and projects, their operational and management efficiency will be increased through appropriate measures. As considerable under-utilisation of capacity exists, planned efforts will be made to increase the command area under each irrigation facility;

(ii) Short gestation period and quick-yielding, more cost-effective projects will be taken up to help increase food production at the shortest possible time. For this LLPs, STWs, DTWs, HTWs, and small irrigation, flood protection and drainage projects will be given top priority;

(iii) Self-sufficient units of big divisible projects will be identified and taken up for implementation in stages. Likewise, certain phases of big projects may be identified for earlier implementation though the entire project may not be completed during the plan period; and

(iv) Appropriate water price policy will be evolved. Usually, large scale projects are more subsidised than the small ones. Gradual reduction of subsidy is one of the policies of the Govt. Without uniform and judicious pricing of water, efficient use of this costly input cannot be ensured. It will, therefore, be the policy of the Government to reduce subsidy on water by gradually increasing the rentals of LLPs and DTWs and sale price of STWs and HTWs. LLPs and DTWs will also be sold to the users at subsidised price in the beginning. The rate of subsidy will be gradually reduced by increasing the price. The water rate of gravity irrigation will also be increased.

Long-term Strategy:

10.140 Though the strategy of water resources development during the Plan will be to lay emphasis on small and medium projects, ultimate solution of water resources development problem in Bangladesh lies mainly in long term basin-wise development of surface and groundwater. Therefore, investigations, surveys and studies will be continued so that a balanced programme for long term development of water resources is implemented during the present and subsequent plans. Preparation of a National Water Plan will be undertaken within the Plan period. Work on long term projects like Teesta Barrage will be continued while barrage projects for other major rivers will be taken up gradually for irrigation and flood protection. Medium type sub-basin-wise development projects such as Karnafuli Irrigation Project, Manu River Project etc.,which are under execution will be completed during the Second Plan period.

The Programmes of SFYP

10.141 Brief description of physical programme that will be undertaken during the Plan period is presented in the following paragraphs.

Bangladesh Water Development Board (BWDB)

10.142 BWDB is to irrigate 5.00 lakh acres out of the Plan target of 72 lakh acres. This means that BWDB has to increase its share of total cumulative irrigation

from 2·07 lakh acres in 1979/80 to 5·00 lakh acres in 1984/85. In addition, BWDB will provide flood protection and drainage facilities to a total cumulative area of 64·70 lakh acres or an additional area of 16·80 lakh acres.

10.143 The major programmes/projects of BWDB are given below:

TABLE 10.13

	Irrigation Programmes	Benefitted Area by 1984/85 ('000' acres).
1.	Barisal Irrigation Project Phase-I	80
2.	Barisal Irrigation Project Phase-II	30
3.	Karnafuli Irrigation Project	30
4.	Manu River Project	20
5.	Barisal-Patuakhali Irrigation Project	10
6.	GWD, LLP in Northern Districts	61
7.	G.K. Phase-I	90
8.	G. K. Phase-II	80
9.	DFC-II	9
10.	Dhaka-Narayanganj-Demra Project	10
11.	Buri-Teesta Project	10
12.	Chandpur Irrigation Project	70
	Total	500

10.144 A programme of excavation and re-excavation of canals and channels on self-help basis with local participation throughout the country was initiated in 1979/80. About 675 miles of canals were excavated/re-excavated. These projects, however, were not engineered adequately and many of them soon became dry. The canal digging programme will continue during the Second Plan but it will be better engineered and dovetailed to local planning. Where perennial flow of water will not be available in these canals, water will be pumped into them from nearby flowing rivers. The farmers will utilize water from these canals for irrigation either by using small Low Lift Pumps or by lifting water manually by buckets or other means. A large area of cultivated land is expected to be brought under irrigation through canals excavated at local initiative involving a great deal of self-help efforts.

10.145 Water control structures which include regulators, sluice, gates, etc. will be constructed in these canals as well as in existing channels in suitable locations. These structures will create facilities for storing and regulating water for irrigation, drainage and flood protection. Therefore, proper planning of water control structures should be done considering availability of water, area to be irrigated, method of irrigation, and other related factors. Equitable distribution in the various districts and sub-divisions will also be considered for planning and constructions of these structures.

10.146 Other programmes under BWDB during the Second Plan will include on-going flood embankment projects, important protective works from river erosion, hydrological/hydrographic and other surveys, data collection and feasibility studies.

Bangladesh Agricultural Development Corporation (BADC)

10.147 BADC is to increase its share of irrigation from 1979/80 level of 21·74 lakh acres to 50·41 lakh acres by 1984/85. About 45 percent of the irrigation target of BADC will be achieved through STW, 18 percent by DTW and 36 percent by LLP. HTW irrigation will also be increased considerably.

10.147.1 *STW*: Special emphasis has been placed on shallow tubewell irrigation in view of availability of water at shallow depths, its comparatively low unit cost and relatively easy sinking, operation and maintenance technology. It involves less organisational problem than DTW irrigation as the command area is much smaller and lesser number of farm families are involved. It is planned to operate a total of 250,000 STWs by 1984/85 of which BADC will sink 183,000, BKB 40,000 and Private Sector 27,000 under a project of Bangladesh Bank.

10.147.2 *LLP*: To tap 90,000 cusec of available surface water, a total of 60,000 LLPs—30,000 1—cusec and 30,000 2-cusec would be in operation for irrigating 18 lakh acres of land by 1984/85 against 38,600 in operation during 1979/80. This shows that about 21,400 additional LLPs will be operated and an additional area of 3·60 lakh acres of land will be irrigated.

10.147.3 *DTW*: DTW irrigation is essential for areas where neither adequate surface water is available nor suitable acquifer exists for STW and HTW irrigation. On the other hand, DTW will be successful only in the area where there is large storage capacity and good transmissibility in the acquifer. Sufficient and elaborate data on the ground water resource potentials are not yet available. A minimum target of 18,000 DTWs has been fixed for the Plan against 9,795 in 1979/80. This will irrigate 9·00 lakh acres of land as against 5.88 lakh acres in 1979/80.

10.147.4 Efforts will be made to increase the number of hours of operation significantly of all irrigation equipment and commensurate with this, timely supplies and services will also be ensured.

10.147.5 *HTW*: The recently introduced hand tubewell irrigation has created great enthusiasm among the small farmers for its low cost, simple technology and easy operation. Moreover, there is no organisational problem for operating HTW. It is estimated that 180,000 HTWs under BADC will be operated for irrigating 0.54 lakh acres of land by 1984/85. Privately another 270,000 HTWs will be installed.

Private Sector

10.148 The private sector will play a bigger role in water resources development during the Plan than in the past. Supply and services in the form of procurement, distribution, installation, repairs, credits, etc. are now provided by the public agencies. However, these services are planned to be gradually transferred to the private sector during the Plan period. 67,000 STWs and 270,000 HTWs are scheduled to be installed in the private sector with the help of BKB, BB and IRDP. In addition, 7·50 lakh acres of land are expected to be irrigated in 1984/85 through conventional methods.

Financial Programme

10.149 An amount of Tk. 1,850 crore (1979/80 prices) has been allocated for Wate Reso.rces Sector during the Plan period (Table 10.14). Of the two major agencies responsible for water resources development, BADC's programme of irrigation will require Tk. 775 crore. Programme-wise cost of irrigation may be seen in Table 10·14. A provision of Tk. 1,041 crore has been made in the Plan to implement BWDB's programmes/projects.

10.150 In addition, a sum of Tk. 19 crore a has been allocated as subsidy for the private sector programmes.

Development Issues

10.151 *Irrigation Coverage:* Unit coverage of different irrigation equipment and facilities is an important element in the achievement of overall irrigation target by the end of the Plan period. Available studies indicate that there is shortfall in the utilization of irrigation facilities, *i.e.*, actual coverage under each installed irrigation facility is below their design capacity. Improper location of the pumps and wells, operation of equipment at less than optimum hour per day, internal conflicts among the members of irrigation groups, seepage loss, less efficient water management, irregular availability of supply and services, etc. are the major factors responsible for under-utilisation of capacity. However, it is believed that significant expansion in irrigation coverage may be brought about with small additional expenditure by improving the above factors. Taking all the factors into consideration the target by the end of the Second Plan has been estimated at 72·10 lakh acres.

TABLE 10.14

Summary of Financial Outlay

[Tk. in crore]

Agency/Programme	Financial Outlay				
	Non-Recurring	Recurring	Gross total (2+3)	Net total excluding recovery	Foreign exchange component
1	2	3	4	5	6
A. BWDB					
I. Irrigation and Flood Control Projects.	375	..	375	375	123
II. Small and Medium Flood Control and Drainage Projects.	375	..	375	375	96
III. Development of Major Water Resources-Barrage Projects.	130	..	130	130	20
IV. Town Protection	30	..	30	30	12
V. Misc. Services	20	..	20	20	12
VI. (a) Surveys, Investigations and Feasibility Studies.	75	..	75	75	30
(b) Study and Design of Long term Projects including Barrages.	30	..	30	30	12
VII. Command Area Development	6	..	6	6	1
Sub-Total (A)	1041	..	1041	1041	305

TABLE 10·14

Summary of Financial Outlay

[Tk in crore]

Agency/Programme	Financial Outlay				
	Non-Recurring	Recurring	Gross total (2+3)	Net total excluding recovery	Foreign exchange component
1	2	3	4	5	6
B. BADC					
I. LLP	200	358	558	241	220
II. STW	457	110	567	115	200
III. DTW	355	55	410	326	246
IV. HTW	50	6	56	22	14
V. Command Area Dev. ..	20·14	6	26·14	26·14	..
VI. Private Workshops ..	0·30	..	0·30	0·30	..
VII. Ashuganj Sabuj Prokalpa ..	4·65	1	5·65	5·65	..
VIII. Pumps under Canal Digging	38	..	38	38	26
IX. Development of Agril. Implements.	0·26	..	0·26	0·26	..
X. Conservation and Development of Surface Water. ..	0·65	..	0·65	0·65	..
Sub-Total (B) ..	1126	536	1662	775	706
C. Private					
I. B K B—STW	93	..	93	14	..
II. B B —STW	84	..	84	5	..
III. IRDP—HTW	24	..	24	..	..
Sub-Total (C)	201	..	201	19	..
D. MISCELLANEOUS					
Miscellaneous Projects	15	..	15	15	5
Total : (A+B+C+D) ..	2383	536	2919	1850	1017

10·152 *Recovery of Irrigation Cost* : Various studies indicate that rate of return of different types of irrigation methods in Bangladesh is quite high. This shows that the farmers in general derive considerable surplus. In spite of this, they bear only a fraction of the cost of irrigation. For the equipment under BADC's rental programme recurring costs in the form of petroleum, lubricants and operator's salaries are fully borne by the farmers, but they bear only a small portion of the annual capital cost The overhead cost of BADC's headquarters and that of its projects are fully borne by the Government. In case of irrigation facilities under BWDB, the users pay only nominal charges. For the equipment supplied by BADC under its rental programme, the charges paid by the users varies from 40 to 75 per cent of the total annual cost of irrigation depending on the type of equipment. A policy has been taken to put all new minor irrigation equipment on sale directly to the farmers at a subsidised price from the beginning of the Plan. Even the equipment under the existing rental programme are also being sold to the farmers at depreciated value. Subsidy is also being gradually reduced to bring the price equal to full cost. Repair and service facilities will continue to be provided in the public sector at a minimum cost till such facilities are fully developed in the private sector.

10.153 *Management* : Key to success of increased production by irrigated agriculture is dependent also on efficient water management at the farm level. Programmes of water resources development during the Plan include proposals for integration of extension services, provision of training for both the farmers and the operators of irrigation equipment, strengthening of irrigation groups, etc., so that an efficient management to operate and maintain the irrigation facilities is gradually built up.

One of the main defects of the present system is the lack of effective coordination among various agencies, directly and indirectly involved in the extension and operation of irrigation system. There are also policy differences between agencies directly engaged in the development of the system. These differences will be eliminated to evolve a consistent policy in the interest of efficient use of water resources as well as for rapid expansion of the system.

10.154 *High Energy Cost* : Currently, low lift pumps and STWs are mainly operated with diesel fuel. But because of high cost of imported fuel in 1970s, a programme was undertaken to switch pumps and tubewells to electricity. However, upto June, 1980 only 4,406 pumps and tubewells were electrified. Most of the pumps and tubewells are still run on diesel and hence costing the country much in scarce foreign exchange. The programme for electrification of irrigation equipment needs to be accelerated. The Plan envisages electrification of 12,000 pumps and tubewells only.

10.155 *Employment Effect* : Irrigation and water sector activities particularly drainage and embankment construction activities against flood have a very high potential for labour use. Their maintenance works also are very labour intensive. It is estimated that the proposed expansion of irrigation by 37·21 lakh acres of land during the Plan period will create additional full time direct employment opportunities for about 7 lakh men in operation and maintenance of the projects. In addition there will also be considerable direct part-time employment opportunities at construction stages.

Financial Outlay

10.156 To implement the programmes of the Water Resources Sector, an allocation of Tk.1,850 crore at 1979/80 prices (Tk 2,702 crore at current prices) has been made in the SFYP. Annual phasing of SFYP allocation by major agency both at constant and current prices are shown in Table 10·15.

TABLE 10·15

Allocation for Water Resources Sector in SFYP

[*Tk. in crore*]

Name of Agency	1980-82		1982/83		1983/84		1984/85		1980-85	
	Current Price	Constant Price	Current Price	Constant Price	Current Price	Constant Price	Current Price	Constant Price	Current Price	Constant Price
1	2	3	4	5	6	7	8	9	10	11
(i) BWDB ..	365	307	167	119	428	273	601	342	1561	1041
(ii) BADC ..	382	323	180	129	240	160	287	163	1089	775
(iii) Others ..	10	8	3	2	22	14	17	10	52	34
Total ..	757	638	350	250	690	447	905	515	2702	1850

C. RURAL DEVELOPMENT AND INSTITUTIONS

10.157 With about 87 percent of the people living in rural area and depending primarily on agriculture, for livelihood, Bangladesh is overwhelmingly rural. The rural sector is underdeveloped and trapped in poverty with low productivity in agriculture, lack of sustained working opportunities outside agriculture, increasing population pressure, landlessness and unemployment. The women who constitute about half of population have also little economic activities outside their households. Rural poverty is deep and widespread. Besides, there are also severe dearth of infrastructural facilities like roads, drainage, markets and social service facilities like health, sanitation, education and the others.

10.158 Importance of rural development had been recognised in the previous development plans but the strategies and policies adopted mainly supported agriculture. Importance of this sector for food, employment, exports and contribution to GDP claimed its priority for development. Growth of non-farm sector, on the otherhand remained low. The major rural development programmes included Integrated Rural Development Programme (IRDP co-operatives), Rural Works Programme, Food for Works Programme and other rural development projects. The programme and projects contributed to development of physical infrastructure, increase in productivity and employment. But the institutions and programmes thus developed largely benefitted those who had assets and technology. The landless or the poor had the marginal benefit or little sustained employment and income benefit.

10.159 The objective for rural development will be increased production, employment and income in the rural areas and in the process alleviation of rural poverty. Special emphasis will be needed for improvement of the condition of the rural poor for w om sustained work and income opportunities will have to be developed in bot farm and non-farm sector. The non-farm sector provides enough scope for developing such opportunities. Chapter VI states the SFYP objectives, strategies and policies for rural development. The programmes and projects are detailed below.

PROGRAMMES OF SFYP

10.160 Programmes for overall rural development will consist of activities in the productive sector involving production, employment and income on the one hand and social welfare sector like health, family planning, education, sanitation etc. on the other. The programmes for the social sector will continue as sectoral programmes of the concerned line Ministries while the rural development sector will take up programmes for production, employment and income generation of the rural people. These will include (i) development of infrastructure, (ii) development of irrigated agriculture and (iii) direct production and employment programmes specially for the rural poor. These will generally be covered under three categories of programmes:

(a) Rural Development Projects (RD Projects), (b) Rural Works Programme (RWP), and (c) the Programmes of Local Government Bodies.

R.D. Projects

10.161 A national framework and strategy for Rural Development Projects will be developed and the future RD Projects would be designed within that framework and strategy. The RD Projects would cover large geographical areas and must cover one or more full administrative districts with a view to covering the entire country within about decade. The projects will consist of the following core components to achieve the objectives of increased production, employment and income:

(i) Infrastructure development (communication net work, markets and storages).

(ii) Irrigated agriculture, small drainage and flood control.

(iii) Direct production/employment programmes specially for the rural poor. (Rural poor will include absolute landless and those having land less than 0·50 acre).

10.162 Agriculture will be the priority area for development but sufficient emphasis will be given on development of non-farm sector where rural unemployeds and under-employed would find sustained sources of employment and income. High potentials for development of this sector with diversification of activities exist. Some of these would be in the fields of rural and cottage industries (including weaving, printing, coir, bamboo and cane works, pottery), repair and servicing of minor equipment, pisciculture, livestock and poultry, sericulture, production, processing and preservation of fruits, vegetables and spices, rural forestry, etc.

10.163 While RD-I, Serajgonj RD and Noakhali RD Projects will be completed, new projects according to the strategy outlined above will be designed and initiated during the SFYP period. Such projects will focus more sharply on limited activities easing the problems of coordination to some extent. They will also include the three elements of investment of RD Projects as stated above.

10.164 The on-going RD-I, SIRDP and NIRDP projects will be completed at a plan allocation of Tk. 103·6 crore. A new RD project, namely, South West Rural Development Project in 44 thanas in the districts of Faridpur and Jessore will be implemented during SFYP and plan allocation for the project is Tk.16·98 crore Another two projects, namely, North West Rural Development and RD-II, will be taken up during SFYP after detailed appraisal of the project proposals.

Rural Works Programme (RWP)

10.165 The components of RWP will be :

(a) development of rural infrastructure in terms of roads and embankments, culverts and bridges, and developing a system of maintenance for them;

(b) improvement of rural hats and bazars including warehousing;

(c) building flood protection structures, irrigation and drainage channels, small dams and appurtenant structures;

(d) developing administrative and planning infrastructure in rural areas such as TTDC complex, its planning and implementation capacity, TIP workshops, community centres, and accommodation for Thana officials;

(e) reclamation of derelict tanks or setting up tank fishing programmes; and

(f) developing rural forestry in backyard woodlots, roadside or embankment planting, etc.

10.166 The following on-going projects will continue and in some cases be expanded:

(i) The typical rural works programme developed in early sixties for building rural infrastructure concentrating on roads and embankments, canals and drainage channels. These will be continued where other programmes are not taken up to cover these activities.

(ii) Improvement of hats and bazars where large volume of trade takes place.

(iii) Intensive RWP in 100 flood prone and distressed Thanas; under this programme will be built infrastructure for flood protection, drainage and irrigation, communication links like roads, culverts and canals, administrative buildings like TTDC complex and Thana administration blocks and direct production activities like development of fish ponds, rural forestry, livestock farming, cottage industry, etc.

(iv) Small irrigation project that involves construction and operation of small scale irrigation system at least cost to be undertaken in six districts (*e.g.* Chittagong, Dhaka, Khulna, Rajshahi, Rangpur and Tangail). This programme includes irrigation by LLP, tubewells, small dams and also conveyance systems and appurtenant structure construction.

(v) Special Public Works Programme in four districts that aims at building planning and implementation capacity in districts and thanas, preparation of engineering and operational manuals for public works and construction of physical facilities like roads, irrigation and drainage channels, embankments, bridges, culverts, TTDC, TIP workshops and godowns, community centres, tank fishing etc, in the districts of Dhaka, Sylhet, Rajshahi and Jessore.

(vi) Zilla road maintenance and reconstruction project in the districts of Sylhet, Faridpur and Rangpur that aims at building institutional capability in the districts for construction and maintenance of feeder roads.

10.167 The SFYP allocation for Rural Works Programme including the special public works programmes, development of hats and bazars and others is Tk.307 crore.

Cooperatives

10.168 The cooperatives will be the main economic institutions or organisations for the rural sector. Besides agriculture, the coverage of cooperatives will be expanded to include the landless and the rural poor, and the disadvantaged women folk. For such purpose, special efforts will be made for organising them in income generating activities. The institutional structure will be a two-tier cooperative with village based societies at the primary level and their federation at the thana level as the present two-tier cooperative structure of TCCA-KSS. The Bangladesh Rural Development Board will be responsible for organisation, promotion and development of cooperatives and the Cooperative Department will perform the regulatory functions.

10.169 Three types of cooperatives or informal groups or pre-cooperatives will be developed. They will be: Krishak Samabaya Samity (K.S.S.) for agriculture; Bittayheen Samabaya Samity (B.S.S.) for the landless and the poor; and Mahila Samabaya Samity (M.S.S.) for the women. Initially, the village based B.S.S. and M.S.S. will be federated along with KSS at one central organisation at the Thana level (TCCA) till they develop their own organisations at higher levels,. The TCCA-KSS cooperative will be expanded to cover the entire country while the others will be organised along with it. The B.S.S. and M.S.S. being relatively the new organisations may initially be of small coverage. Initially also, the economic activities of B.S.S. and M.S.S. will have to be based on the skill they possess but later developed with higher technology and training. M.S.S. in addition to their engagement in economic activities, will undertake educational programmes in family planning, family health and nutrition and child care.

10.170 The plan investment for projects for cooperative development is about Tk. 59 crore. This allocation is for promotional activities and the necessary financial requirements for production purposes as credit will be met from institutional credit sources.

Programmes of Development Boards

10.171 Divisional and Regional Development Boards inherited from the TYP will continue to function till they are replaced by effective institutions of Local Govt. These boards now undertake projects of small cost in almost all sectors *e.g.*, agriculture, horticulture, fisheries, livestock, irrigation, roads, education, sports and culture, social welfare, small and cottage industry, health and sanitation, family planning and recreation.

10.172 As a policy measure, the boards will not undertake new activities in urban areas such as district or subdivision head quarters. They will generally take up projects that can be completed in one year.

10.173 Gradually thana based activities will be transferred to Thana Parishads as the new institutions come into existence. Similarly district based work will be taken

over by District Parishads. In fact the scope of operation of Thana Parishads will be widely expanded so that substantial development funds will be deployed by them according to Thana plans. SFYP allocation for the Regional/Divisional Development Boards is Tk. 116·1 crore

Chittagong Hill Tracts Multi Sectoral Development Project

10.174 Chittagong Hill Tracts Development Board was set up to undertake a multi-sectoral development programme in the unique terrain and community of the Hill Tracts. A multisectoral project has been taken up in Chittagong Hill Tracts covering activities like intensification of crop farming, promotion of horticulture and plantation crops, utilisation of forest reserves, afforestation of steep slopes, support to fisheries, livestock and cottage industries, development of Jhumia families, health and family planning and the like. The Chittagong Hill Tracts Development Board and the Government Departments and agencies implement the project. Of the above project components, two, namely, strengthening of CHT Board and Upland Settlement Programme, fall under the Rural Instutions Sector and have an allocation of Tk.13 crore in the Plan.

Development of Thana Administration

10.175 A decentralised administrative and planning process is essential for effective local level planning, resource mobilisation and development, and people's participation in decision making and development process. A new decentralised administrative process has started with upgradation of thanas and strengthening their administrative and planning capabilities. The elected Local Government bodies, assisted by the services of experts at the thana (Thana Parishads) will be responsible for planning and coordination of development work. They would prepare and implement plans for development of various sectors/activities like rural roads, local irrigation, drainage, markets, primary education, population control, health care, sanitation and water supply, rural forestry and other community work. Thana development has been discussed elaborately in chapter XXI.

Training and Research

10.176 Training and research activities will be of special importance in promoting rural development. Training activities will be as follows:

(a) The cooperative education and training at the grass-root level would be intensified. The training for membership education should be extended as far as possible to the village level.

(b) The functional or special group of people like the landless, the artisans, the fishermen, the weavers and the women would be trained at the village level to help build their organisations and skills.

(c) The members and the office-bearers of the Union, Thana and District Parishads will be trained to discharge their duties properly.

(d) The existing teaching facilities of different institutes would be developed to take full advantage of the institutes.

10.177 To meet the increasing need of training for the members and officials of the Local Government and pourashavas, four Local Government Institutes (LGI) including the existing one at Dhaka will be developed. The physical and training facilities of other esisting training institutes would also be developed.

10.178 The Bangladesh Academy for Rural Development (BARD), Comilla and the rural Development Academy (RDA), Bogra would intensify their training and research work. Only minimum physical facilities for functional purposes may be developed durine the plan period.

10.179 The training institutes will be developed with an allocation of Tk. 7 crore in the Plan.

Financial Outlay of SFYP

10.180 Allocation of SFYP for Rural Development and Institutions sector is given below both in terms of constant and current prices.

Yearwise Phasing of SFYP Allocation

[Tk. in crore]

	1980/81	1981/82	1982/83	1983/84	1984/85	Total (1980—85)
(a) Allocation at constant prices	87·33	79·96	83·72	1,06·16	1,24·83	4,82·00
(b) Allocation at current prices	97·81	99·95	1,17·21	1,66·67	2,19·36	7,01·00

CHAPTER XI

INDUSTRIES AND MINERALS

Though the industrial sector contributes only 8·8 percent of the GDP, it plays a strong supportive role in the country's agricultural and infrastructural developments; accounts for about 70 percent of the foreign exchange earning and 30 percent of the off-farm employment and provides a wide range of essential consumer items. For a country like Bangladesh with a low per-capita income and a heavy population pressure and agrarian base, development of manufacturing holds the major long term hope for alleviating both poverty and guaranteeing high-level, self-sustaining income growth. While current resource constraints and productivity considerations warrant for the medium term and initial development push of the agricultural sector, development of the manufacturing sector should not be neglected.

Performance During 1973—80

11.2 The industrial base of the country, which was not very large to start with, suffered a heavy set-back during the War of Independence. Development policies and programmes in the initial years after Independence, therefore, deliberately concentrated on repairs, rehabilitation and consolidation so as to restore health of the sector at pre-Independence level and also on some new investments in such priority areas as would establish firm agro-industrial linkages through provision of essential agricultural inputs (*i.e.*, fertilizer, tools and implements, etc.) and processing of agricultural output, reduce dependence on import of essential consumer goods and provide job-opportunities.

11.3 The overall performance of the industries sector during this period fell short of the targets. Value added increased from the depressed level of Tk. 329·80 crore in 1972/73, to a mere Tk. 536·50 crore in 1979/80, registering an annual growth rate of 7·2 percent over the period. Some of the important indices of public sector performance (*e.g.*, capacity utilization, labour productivity, return on investment, etc.) were clearly depressing when compared with those of 1969/70. In Jute industries, for example, the mills were still to catch up with the production level achieved in 1969/70. Production of cotton yarn, mill-made cloth, cement, steel ingot and fertilizer, however, showed considerable improvement (Table 11·1).

11.4 In terms of increased export earnings and additional employment generation, the Sector's performance showed an encouraging trend. Foreign exchange earning from export of manufactured goods increased from Tk. 190 crore in 1973/74 to Tk. 834 crore in 1979/80 recording an annual growth rate of 10 percent in real term. Employment increased by 3·2 percent, but some at the expense of labour productivity.

11.5 As stated earlier, investment policy aimed at consolidating the existing industrial base through balancing and modernization programmes and strengthening the agro-industrial linkages. Consequently, a major share of public sector investments, totalling about Tk. 1,134·00 crore in current prices, went for establishing new capacities for manufacturing chemicals and fertilizers, as well as for processing agricultural products. Financial allocations and utilization by the main sub-sectors are given in Table 11·2.

TABLE 11·1

Production Targets and Achievements in Selected Industries under Public Sector.

Sl. No.	Production	Units	Bench-mark Production		Production 1979/80	% of col. 6 to col. 4
			1969/70	1972/73		
1	2	3	4	5	6	7
1	Jute Textile	Lakh tons	5·60	4·46	*5·38	93·39
2	Cotton Yarn (32 count)	Mill lbs.	105·60	80·90	112·87	106·88
3	Mill made cloth (54 pick)	Mill yds.	59·90	58·40	92·43	154·31
4	Sugar	'000 tons	93·39	19·00	93·22	99·82
5	Cement	Lakh tons	0·53	0·32	3·43	647·17
6	Steel (ingot)	Lakh MT	0·54	0·68	1·33	246·30
7	Ship Building	Ton of Steel	7,297	3,747	5,890	80·72
8	Fertilizer	Lakh MT	1·01	2·77	4·42	437·62
9	Paper including News-print.	'000' MT	74·48	49·14	48·15	64·65
10	Rayon and Dilphane	MT	2,747	1,900	2,564	93·34
11	Shrimps and Frog Legs.	Lakh lbs.	38·00	23·00	44·06	115·95

* Including 15,000 tons produced in the Private Sector.

TABLE : 11·2

Financial Allocation and Utilization in the Public Sector During 1973—80.

[Tk. in crore]

Sl. No.	Sub-sector	Allocation made through ADPs	Estimated utilization (current price)
1	2	3	4
1	Jute Textiles	97·87	70·72
2	Cotton Textiles	164·79	150·54
3	Engineering and Ship Building ..	269·29	226·37
4	Chemical and Fertilizer	573·63	550·89
5	Sugar and Food	32·44	22·47
6	Small and Cottage Industries ..	23 57	20·64
7	Mineral Industries	23·37	17·30
8	Forest Industries	41·41	47·57
9	Others	19·12	16·06
	Total ..	1,245·49	1,122·56

Management and Other Problems in the Public Sector

11.6 By virtue of the Nationalization Order of 1972, the public sector owned the largest share of the country's industrial assets after Independence. The newly established public sector corporations were made to administer a very large number of heterogeneous enterprises with the help of inexperienced managers and unskilled operators who had to be inducted fresh to fill up the vacuum created by the departure of the non-nationals. As a result, from the running of plants to the management of stocks, responsibilities fell on inept hands. This, combined with the shortage of raw materials, spare parts, consumables, etc. and the recurring power failures contributed directly to the low rate of capacity utilization. Problems were further compounded by factors such as the small size of the domestic market rendered even smaller by the aversion of buyers to local products; indiscriminate use of foreign aided imports and in certain cases inadequate protection of local manufactures against imports; intervention of the Government in the freedom and flexibility of corporation needed for commercial operation; and the declining purchasing power of a vast majority of the population aggravated by inflation.

11·7 In order to arrest the the deterioration in the public sector performances, some administrative measures were initiated towards the end of First Five Year Plan (1973/74 to 7977/78). The most important ones were : (i) restructuring of ministerial level activities, (ii) re-organization and strengthening of the sector corporations through merger, (iii) disinvestment of enterprises taken over for management after Independence, (iv) de-centralisation of financial authority and (v) strengthening of the planning activities in the ministries. Comprehensive training programmes were also organized for developing operational and managerial skills in the industrial undertakings so as to improve labour productivity and implementation capability.

Private Sector Performance

11.8 The low level of savings, small base of commerce and industry and very scanty and unevenly dispersed infrastructural and service facilities had been major impediments against the growth of a viable private sector. After Independence, as the Government pursued socialist ideals, the First Five Year Plan (1973 to 1978) assigned relatively a minor role to the private sector. Besides, lack of labour discipline in the industrial sector, scarcity of foreign exchange and the more profitable outlets in trade and commerce acted as negative factors and inhibited the growth of the private sector.

11.9 The policy environment surrounding the private sector started improving with the liberalization of the industrial policy in July, 1974 and subsequent introduction of a series of promotional measures. These included virtual elimination of the investment ceiling, extended tax holidays, concessional rates of import duty on machinery, curtailing of the reserved list of industries for public sector investments, introduction of a free list of industries for which no prior approval was required, enactment of an Act for promotion and protection of foreign private investment, reactivation of the Dhaka Stock Exchange and revival of the Investment Corporation of Bangladesh for underwriting public issues of shares and for providing bridge finance to private industrial units, etc. Perhaps, the most salutory effect had been the Government decision for progressive disinvestment of the industrial units which, following the Independence, had to be taken over for management. During the period 1973—80, a total of 199 industrial units were disinvested by the Government at a total sale price of Tk. 11·58 crore.

11.10 Simultaneously, with the implementation of the above policies, intensive promotional efforts were launched, particularly in the area of small, cottage and rural industries, which employ about 75 percent of the total industrial labour force and contribute about 37 percent of the total value added in the industries sector. These promotional measures include offer of industrial plots with requisite infrastructural facilities in the existing 20 Industrial Estates as well as counselling and extension services, providing industrial profiles and briefs, training, marketing supports, supply of inputs, assistance to solve operational and maintenance problems, and liberal credit under special programmes.

11.11 Private sector's response to various liberal policies and promotional measures cited above was very encouraging as was demonstrated by the sharp rise in the amount of investment sanctioned—from about Tk. 9 crore in 1973/74 to Tk. 434 crore in 1979/80. While the total investment sanctioned during the period under review stood at Tk. 1,036 crore, the actual investment is estimated at Tk. 430 crore. Details are given in Table 11·3. Out of 4,059 industrial units sanctioned during this period, 2,323 units went into operation, 569 units were in the process of being installed and 1,167 units were at various stages of implementation.

Second Five Year Plan (1980—85)

11.12 With the completion of the First Year Plan (1973—78) and the Two Year Plan (1978—80), the Industries Sector made substantial recovery from the effects of the War of Independence and also achieved some expansion. Having consolidated the gains made over the second half of the 1970s and with the completion of a number of basic industries capable of producing capital goods, the stage is set for achieving sustained industrial growth.

11.13 Since agriculture has been accorded highest priority in the Plan, the industrial programme has been oriented towards supporting agricultural development. However, overall resource constraints will limit investment in the industries sector and require it to be more selective. Therefore, the Plan envisages a modest industrial growth, although for the long term structural change and sustained growth of the economy a faster development of the sector is extremely desirable. The planned growth rate for industries is 8·3 percent only.

Objectives of the Plan

11.14 The following major objectives will guide the investment decisions in the industries sector and determine the priorities of investment:

(i) supporting the rapid expansion of the Food and Agriculture Sector through the establishment of agro-support and agro-based units;

(ii) meeting the basic needs of people by increasing production of essential consumer goods like clothes, medicines and utility goods;

(iii) improving the balance of payment position through accelerated growth of export-oriented and import-substitution industries with focus on maximum use of labour and indigenous resources;

(iv) creating employment opportunities with a special emphasis on rural employment through promotion of rural industries;

(v) promoting a balanced and harmonious regional development through rational dispersal of industries; and

(vi) laying the foundation for an all round growth of the economy by consolidating the base of basic industries already established.

TABLE 11·3

Sanction and Actual Investment in Private Sector
(At current prices)

[Tk. in crore]

Year	Provision made in Investment Schedule.		Investment sanctioned.		Estimated Investment.	
	Total	F. E.	Total	F. E.	Total	F. E.
1	2	3	4	5	6	7
1973/74	30·00	18·14	8·74	3·96	8·24	3·76
1974/75			15·05	6·36	13·32	5·51
	70·00	32·91				
1975/76			70·11	56·45	19·80	8·92
1976/77			80·99	38·22	62·00	28·29
	191·00	112·50				
1977/78			209·14	87·83	97·50	30·44
1978/79			217·92	93·11	98·20	36·50
	468·00	232·60				
1979/80			434·33	165·13	130·67	40·67
Total ..	759·00	396·15	1036·28	451·06	429·73	154·09

Strategies for Industrial Development

11.15 Some of the important considerations leading to the formulation of industrial programmes under the SFYP are briefly discussed in the following paragraphs:

11.16 *Development of Rural Industries*: With a view to creating off-farm employment and income opportunities, promoting dispersal of industries down to the 'Growth Centres' and production and supply of basic need goods, industrial policy will be directed specially towards the development of medium, small and cottage industries in the rural areas. These industries, most of which will be agro-support and agro-based, will help make optimal use of local resources and labour intensive technologies. The establishment of industries in the rural areas will essentially be the responsibility of the private entrepreneurs but the Government will undertake extensive motivational, promotional, counseling and ancillary activities including development of rural infrastructures, supply of utilities, training of artisans to upgrade their skills and product development on a sustained basis. A special effort will be made to provide credit in rural areas for promotion of industry and services.

11.17 *Promotion of Self-Reliance*: To reduce dependence on imports and promote self-reliance, necessary programmes will be undertaken to diversify the industrial base and go into progressive manufacture of agricultural equipment; machinery and spares for jute, cotton, sugar, tea and leather industries; components for electrical and electronic instruments and appliances; basic and intermediate chemicals; etc. Manufacture of workshop equipment, diesel engines, pumps, etc., which has already started within the country will be improved and expanded further during the Plan period so that most of these requirements may be met locally. Similarly, programmes will also be undertaken to fabricate domestically as much of the machinery required by medium, small, and cottage industries as feasible.

11.18 *Diversification of Exports*: The range of manufactured goods for export is very narrow as the preference has been largely for import substitution. Uncertainties concerning export markets due to changing consumers' preferences, need for maintaining high quality and standards to be internationally competitive, shortage of capital and skill, inappropriate factor and product prices and lack of innovative ability, etc., are some of the factors which constrained expansion of production for export. Continuously shrinking opportunities for import substitution and an increasing balance of payment gap require more emphasis on the expansion and diversification of export oriented industries in which Bangladesh has comparative advantage. In particular, rapid expansion of those export oriented industries which are based on local resources, *e.g.*, fertilizer, newsprint, leather, processed fruits and vegetables, specilized cotton and jute textiles, readymade garments, handicrafts and novelties, etc., will be aimed at.

11.19 *Improvement of Capacity Utilization* : The immediate means of increasing industrial output is to improve capacity utilization of existing industrial units in both the public and private sectors, mainly by ensuring timely supplies of raw materials and spares at the required level and adequate supply of power. This will ensure quick increase of output with little or marginal investment and thus reduce the unit cost of product, increase sales and profitability of enterprises and help mobilize higher level of domestic resources. In 1979/80 utilisation of capacity was 68 percent in the manufacture of jute goods; 67 percent in cotton yarn, 81 percent in urea, 47 percent in TSP; 53 percent in steel ingot and 30 percent in diesel engines. Thus, substantial increase in production can be achieved through improving the utilisation of capacity.

11.20 Idle capacity exists where current output is significantly below the rated capacity of a plant and secondly, where the opportunity for running additional shift(s) is not utilized for various constraints. In both cases, optimum capacity utilization will, however, require strengthening of management capability; introducing appropriate incentive schemes related to productivity; improvement of factory environment; implementing comprehensive training schemes for skill development and making investments for balancing, modernization and product diversification, where necessary.

11.21 *Development of Technical Skills*: To maximise the benefits from available technologies all round efforts will be made for the development of skilled manpower; simultaneously, efforts will be directed towards having an appropriate local technology base also to reduce technological dependence. For this purpose, besides strenthening the existing institutions engaged in research and development of technologies, specific programmes such as (i) establishment of an institution of metallurgy with the specific objectives of developing the country's metallurgical base and (ii) introduction of specialised post-graduate courses in design and production engineering in the Bangladesh University of Engineering and Technology will be undertaken during the plan period.

Highlights of Programmes

11.22 *Jute Textiles* : It is the largest industry of Bangladesh and accounts for 53·7 percent of export earning. In recent years, oil price-hike has improved the competitive advantage of jute goods *vis-a-vis* synthetics but prevailing recessionary conditions along with high rate of inflation has dampened demand for jute textiles, particularly, that of carpet. So a modest expansion of production of jute goods is planned, from 5·38 lakh tons in 1979/80 to 6·50 lakh tons in 1984/85, while the export of jute goods is envisaged to increase from 4·40 lakh tons to 5·90 lakh tons over the same period. The development programmes comprise of comprehensive training schemes for improving the labour productivity, development of managerial capacity, balancing of machinery, where needed, improvement of product quality and development of new products. International co-operation in jute production, processing and marketing will be promoted to ensure a safe future for the commodity.

11.23 *Cotton Textiles*: Next to food, cotton textiles has the largest domestic market. As a basic need, it is planned to make available about 10 yards of cloth per capita in the terminal year of the Plan. The industry will be used as a propellant for employment generation and rural development. It will provide employment to handloom weavers spread all over the country, when modern mills will be producing yarn to meet their need. Spinning mills will be dispersed as far as possible to promote regional development. Accordingly, the target for cloth output has been set at about 98 crore yards. Out of this, 87·8 crore yards will be available from domestic production, largely from handloom. The total spinning capacity will increase from 10·62 lakh spindles in 1979/80 to 12·64 lakh spindles by 1948/85 leading to an increase in yarn output by about 7 crore lbs. Development programmes in the public sector include, *inter alia,* setting up of 6 new spinning mills; balancing and expansion of 3 old mills, rehabilitation of 21 old mills; establishment of cotton ginning plants and and a Textile Industry Development Centre. Production of finished fabrics, specialised textiles and ready-made garments shall continue to be the responsibility of the private sector. Under the New Industrial Policy, private sector can set up cotton spinning mills and the Government has already denationalised a number of cotton textile mills. 72 cotton spinning mills have already been sanctioned for the private

sector. Specialised textiles like terry towels, bed sheet, bed cover, pillow cases, table cloth, napkins and also hosiery products and ready-made garments have good prospect for expansion to meet overseas demand.

11.24 Apart from ensuring supply of yarn to the handlooms, promotional investments for reactivation of the idle looms and conversion of pitlooms into semi-automatic looms will be undertaken to increase productivity and income of weavers. It will be also necessary to organize weavers' cooperatives, promote research and training and provide extension work for improving productivity and product quality and efficient marketing and distribution facilities.

11.25 Bangladesh has good potential for development of sericulture. To promote the industry the public sector programme will concentrate on supplying mulberry saplings, healthy layings of improved varieties, expanding rearing facilities and providing extension services to the private parties for which pilot reeling units will be set up.

11.26 *Steel*: Steel is the backbone of modern industries. The current per capita consumption of iron and steel in Bangladesh is, however, hardly 4 Kg per annum against the world average of 185 kg. It reflects the relative economic backwardness and the low level of industrial development of Bangladesh. There is a small steel mill with a capacity of 250,000 tons only, but because of technical imbalance and operational difficulties, the mill has hardly run even at half its capacity. Necessary, balancing of the Chittagong Steel Mills for achieving the rated capacity of production, will therefore, be taken up on priority basis.

11.27 As the country has no known iron ore deposit and its internal scrap market is too small to support a modern steel mill, the development of the sector will have to be entirely dependent on imported raw materials as well as intermediate products like billets. The relative abundance of natural gas in the country, however, gives an advantage for the use of direct reduction process in steel making based on imported iron ore. Under the direct reduction process, natural gas can be used directly as a process ingredient and, indirectly, as energy. The resulting product, sponge iron, can either be exported or processed further for steel making. To take this advantage a detailed techno-economic study for the establishmtnt of sponge iron mill will be undertaken.

11.28 Manufacture of capital goods and spares will require considerable quantity of special steel. Besides, the construction of lattice structure for transmission of electricity as well as the transmission towers for telegraphs, radio and television will need a large quantity of high tensile steel. Manufacture of surgical equipment, laboratory and work-shop equipment and instruments, hand-tools, household wares and cutlerics, etc. will need considerable quantity of special/stainless steel. At present, all special/stainless steels are imported. In order to substitute imports, an alloy steel plant with a capasity of 50,000 tons per annum should be established, preferably in the private sector.

11.29 *Engineering*: The demand for engineering products will expand quite far though the Plan focuses on food and agriculture and rural development. In support of the irrigation programme in the agricultural sector, Bangladesh Diesel Plant will not only raise its capacity utilization but will also effect complete transfer of relevant technology. In addition, a new production line for manufacturing 10,000 low-HP diesel engines per annum will be established.

11.30 During the Second Plan period efforts will be made to meet domestically the replacement needs of existing indutries as far as possible. To this end, capacities for casting, forging, heat treatment, metal working and fabrication available in the country will be mobilized for manufacturing machinery and spares for textile mills, sugar mills, tea factories, cotton ginning mills, rice mills, flour mills, oil mills, cold storage, railway wagons, etc. Some textile machineries and spares needed by the jute and cotton textiles industries are already being manufactured locally; for meeting their demand in larger quantities the SFYP programme proposes expansion of Galfra-Habib Ltd., Chittagong, and a new production line will also be established at the Bangladesh Machine Tools Factory.

11.31 For housing, water supply and gas distribution, the demand for mild steel pipes, both plain and galvanised, will go up considerably during the Plan period. Therefore, besides the capacity expansion of National Tubes Ltd., new capacity to manufacture pipes/tubes of diameter 4" and above will be created at suitable locations.

11.32 For meeting increasing demand from the rural electrification programme, production of electrical cables/conductors will be raised to 9,000 tons per annum by 1948/85 through necessary expansion of Eastern Cables Ltd., Chittagong.

11.33 For meeting increasing demand from the transportation sector, Khulna Shipyard and Narayanganj Dockyard and Engineering Works will undertake accelerated production programmes for water transport vessels, fishing trawlers and other miscellaneous vessels to effect considerable import substitution.

11.34 The Second Plan's central theme is rural development. In recognition of the inadequacy of the 'trickle-down effect' of the urban-based economic development, the Government has decided to set up 'Growth Centres' in important market places as catalytic agents for rural development. A large variety of rural industries for catering to local and national needs are, therefore, proposed to be established in and around these 'Growth Centres'. These industries will include, manufacturing of rural transport equipment like improved bullock carts, bicycles, tri-cycles, three-wheelers, etc.; simple pre- and post-harvest agricultural implements/machineries like husking and threshing machines; oil expellers; textile weaving machineries; etc. As a backbone of these rural industries, some basic facilities such as foundries and repair shops will have to be established at central places, depending on scale and nature of works. Accordingly, some 400 small foundries and workshops are planned to be set up in the rural areas during the Plan period. 200 of these are to be established under the public sector sponsorship as pioneering ventures so as to overcome the inertia of the private sector at the initial stage. After successful completion and operation of these workshops for three years or so, these should be disinvested to interested private entrepreneurs.

11.35 Rural electrification programme combined with the normal growth in the urban electrification will generate a huge demand for electrical appliances and accessories like sockets, plugs, switches, ceiling rose, fuses, bridges, cut-outs, wires and cables, switch gears, electric bulbs, fans, transformers, energy meters, voltage stabilizers, distribution boxes, etc., and provide an extensive base for private investment in numerous medium and small scale electrical industries.

11.36 The use of electronic equipment in industry, transport, communication, scientific research laboratories and homesteads is steadily increasing in Bangladesh. The country has few assembly units for electronic equipment but value added is relatively small.

Therefore, the establishment of a plant for manufacturing basic components as well as simple electronic equipment has been proposed. The typical simple components to be manufactured will include resistors, transistors, capacitors, power pack, regulators, voltage stabilizers, rectifiers, intermediate frequency transformers, amplifiers, TV tuners, TV coils, hearing aids, battery eliminators, etc. The component manufacturing plant will supply components to rural household industries for assembling radios, TVs, transistors, amplifiers, record players, etc. on sub-contract basis.

11.37 *Fertilizer*: Terminal year production target for chemical fertilizer (urea, TSP and ammonium sulphate) has been set at 10·37 lakh tons of which urea alone is expected to account for 9·27 lakh tons. The domestic requirement of urea in the terminal year is estimated at 8·30 lakh tons, leaving small surplus of about 0·35 lakh tons for export. Development programmes of the fertilizer sub-sector comprise of completion of the urea plant under construction at Ashugonj; establishment of a new urea plant at Ghorasal with installed capacity of 100,000 tons per annum; and rehabilitation of the existing fertilizer plants at Ghorasal (urea) and Chittagong (TSP). Implementation of two more urea plants with installed capacity of 560,000 tons each per annum will be taken up during the Second Five Year Plan period. One of these will be undertaken jointly with foreign private investors for export purpose.

11.38 *Pulp and Paper* : With a view to making large exportable surpluses available, the capacity of the pulp and paper industry will be more efficiently utilised. Possibilities for further expansion of capacities in pulp, newsprint, printing and writing papers for export markets should be examined, keeping in view the prospect of supplies of indigenous raw materials as well as the export potential.

11.39 *Pharmaceuticals* : Production facilities will be created for basic pharmaceutical raw materials and fine chemical to manufacture human and vaterinary drugs with indigenous raw materials and waste products of industries as well as imported intermediates. Production capacity will also be rationalised to exclude production of unnecessary and harmful drugs and medicines. This will include manufacture of starch, glucose, pharmaceutical sugar, glycerine, sorbital, citric acid, some antibiotics and vitamins, steroids and hormones.

11.40 *Sugar* : Consumption of sugar during 1979/80 was estimated at 1·50 lakh tons as against a domestic output of 0·93 lakh tons. Because of limitations to expansion of sugarcane supply, the Plan envisages a modest expansion in sugar output. Target for sugar production has been set at 2.0 lakh tons for 1984-85. Development programmes include creation of additional capacity to the tune of 60,000 tons in the Public Sector through replacements of two old sugar mills; expansion of four existing mills and establishment of one new mill of 15,000 tons capatity per annum. The programmes also include inprovement of per acre yield of sugarcane; plantation of improved variety of sugarcanes having higher sucrose content and improvement of transporation of sugarcanes from fields to factories.

11.41 *Cement*: For meeting the increasing demand from construction sector for cement, existing capacity at Chhatak Cement Factory (90,000 tons per annum) will be raised to 1.65 lakh tons per annum through necessary balancing and modernization. Further, with a view to becoming self-sufficient in cement, implementation of Jaipurhat Limestone Mining and Cement Project with planned capacities for mining 17.00 lakh tons

of limestone and manufacturing 10·00 lakh tons of cement per annum will be initiated during the Second Plan period. In the private sector, development of additional capacity will be encouraged.

Issues in Industrial Development

11.42 *Improving Management Efficiency in the Public Sector* : In view of the dominant position the public sector holds in the industries sector, improving and maintaining management efficiency of this sector will remain an important factor in ensuring an overall improvement of the economy. This issue will be kept under constant review and sustained efforts be made to resolve problems affecting the performance of the public sector. Some specific problems are lack of freedom on the part of enterprises and corporations to remunerate their employees according to their talent, skills and output; practical difficulties in maintaining discipline; lack of production planning, appropriate purchase and inventory management, financial plan, market research and maintenance programme, etc. An examination of such issues as the relationship between the Government and the Corporations; the distribution of functions and responsibilities amongst the various hierarchies within the Corporations; relationship between the Corporations and enterprise level managements including the extent of powers and authority to be delegated to different tiers is urgently called for. For purposes of ensuring management efficiency, the Government should consider all feasible options including appointment of managing agents on appropriate terms and conditions. Many of the public corporations and enterprises suffer from inadequate capital structure and are usually overburdened by debt. Capital restructuring of public enterprises will be carried out in a phased manner to provide a reasonable debt equity ratio to them and then allow them to function on an autonomous basis without looking up to Government for subsidy or funds for even maintenance, balancing and modernisation.

11.43 *Labour Relation* : Industrial discipline and peace are necessary conditions for smooth operation of organised industries. During the last decade and a half, labour-management relation has gone through strained phases due to spiralling inflation adversely affecting workers' real wages and leading to industrial unrest. As a result there was a significant fall in overall industrial output and labour productivity. Compared to 1969/70 level, productivity per worker in 1979/80 declined to 56·4 percent in the jute textile; 32·7 cent in the cotton textile and 30 percent in the paper industry; at the same time real wage in the manufacturing sector also declined to 69·6 percent. Labour productivity thus declined faster than real wage and in the end country lost valuable output and the workers lost their welfare. Though a larger number of factors contributed to this situation, it has also brought to the surface the basic fact that without an increase in labour productivity there cannot be real wage gain for labour also. Wage increases should, therefore, be indexed to productivity and formulated in such a manner as to enable the worker to increase his remuneration very significantly over a guaranteed basic wage, proportionately with the increase in his output. Other related issues, such as extent of workers' participation in management, welfare facilities, skill development opportunities, factory environment, etc. need to be kept under constant review.

11.44 *Marketing and Pricing of Products* : The present marketing and distribution system of the public sector enterprises is highly unsatisfactory and is alleged to have bred many malpractices as it happens to be discriminatory. While scarcity of supply continues, freeing the market entirely from all controls does not also seem feasible. In some cases distribution through the own sales windows or centres of the manufacturers had limited

success but this system is not practicable for all kinds of products, particularly when country-wide distribution is needed. It will be advisable for the enterprises to appoint accredited sales agents, regionally dispersed, fixing quotas of supplies for each region and where possible, the existing Consumers' Supplies Corporation's outlets may be used for this prupose. Consumers' Co-operatives may also be organized on institutional basis in large organisations. The producing enterprises should have a system of monitoring markets to ensure that goods meant for different regions/districts do reach their destinations.

11.45 Governments in developing countries are often required to regulate the prices of essential goods in order to safeguard the interests of the common man. Whereas the public sector industries can not be allowed to impose a burden on the consumers either because they enjoy monopolistic position or their cost is high due to inefficient operation, it is also important that they exercise legitimate freedom in fixing the price of their products in response to changes in the cost of inputs specially of imported components; freedom of the enterprises for prices should be accompanied by their cost effectiveness. Commercial goals of an enterprise making profit may not necessarily be compatible with various social goals such as employment, regional development, income distribution, etc. Where the government wants the enterprises to sell certain products at less than economically justifiable prices for distributional reasons, it should provide an explicit subsidy to the enterprises concerned to pay for the cost of such social goals. Such a practice will not only help improve operational efficiency of the public enterprises; it will also vindicate their profitability situation.

1.46 Though wages and prices are interrelated, the Government of Bangladesh formulate and administer periodic wage policies, while prices continue to lag behind. There is need for automatic adjustment in prices to avoid loss by public enterprises. A guideline may be issued by the Ministry of Industries.

11.47 *Role of the Private Sector*: One of the major issues underlying the Second Five Year Plan industrial development programme is concerned with the role of the private sector in an economy which, inspite of the nationalisation of the major industries, largely retained its mixed character and has also assigned increasingly greater rolo to the private sector, but the opportunity for private investment has been limited by the reserved list, inhibited by administrative bottlenecks in getting investment sanctioned and is constrained by inadequate finance including foreign exchange. These issues need to be vigorously pursued during the Plan period to enable the private sector to play a more active role in industrial development.

11.48 Local institutions/firms will be encouraged to strengthen and improve their capability to independently undertake feasibility studies and prepare technical and project reports on new investment proposals. Even where foreign consultancy and contracting services are unavoidable, foreign firms will be asked work in collaboration with the local firms so that local capability develops quickly.

11.49 Measures should be taken to strengthen local capability for acquiring and absorbing foreign technologies as well as for developing local appropriate technologies.

11.50 In the background of continued exodus of experienced and trained industrial manpower, appropriate remuneration and incentive policies should be formulated so as to attract and retain experienced, highly skilled and technical personnel. Besides, continuous and comprehensive training programmes should be undertaken so that the adverse effects of brain drain could be met internally.

11.51 Imports have to be made unattractive in case of all machinery, equipment and spares which will be manufactured locally to meet fully domestic needs. A national level Committee is required to control and regulate import of all those items which are already produced or can be produced within the country.

11.52 Financial institutions need to be strengthened for more effective promotion of medium, small, cottage and rural industries.

Productive Use of Private Remittance from abroad :

11.53 Private transfers including home remittance which were in the order of about Tk. 20·00 crore ($ 2·25 crore) till 1974/75 sharply rose to Tk. 220·29 crore ($ 14·57 crore) in the terminal year (1977/78) of the First Plan. The amount further went up to Tk. 405·98 crore ($26·23 crore) at the end of the Two Year Plan in 1979/80. Private remittances from abroad, no doubt, have a salutory effect on the balance of payment position of the country and complement domestic resources. But at the same time these create some undersirable pressures on the economy including an inflationary effect. Some of these remittances are channelled to unproductive uses such as import of luxury goods, ostentatious living, purchase of land and buildings and gold and jewelleries, etc. The Government has recently introduced Wage Earners' Development Bond and also other suitable institutional facilities should be created to channel these remittance to productive purposes. Possible mechanisms to tap these resources could be setting up of an Overseas Trust Fund, floating special debentures, setting up sterling companies, etc.

Foreign Investment :

11.54 The economy of Bangladesh has been heavily dependent on foreign aid most of which has been coming from bilateral and multilateral official sources. The volume of private foreign investments has been historically very small and that also is limited to a few specific fields like pharmaceuticals, electronics, etc. Bilateral and multilateral official aid directed to the private sector far exceeds the volume of private investment. But as the qunatum of foreign aid available to Bangladesh has not grown in step with her needs, rather as it has declined in real terms, the widening gap between the need for foreign aid and its availability at official level may well be filled up to some extent by private capital inflow particularly because the other alternative, *i.e.* borrowing in the commercial market is not a feasible proposition. Besides, for transfer of technology and development of management skills as well as for helping entry into export markets foreign private investment must be encouraged, particularly in export-oriented and high technology industries. In general, flow from foreign capital markets, financial institutions or private investors should be encouraged in order to improve balance of payment position through growth rather than to take advantage of the large domestic market and cheap local labour only.

11.55 In order to attract foreign capital fair incentives are provided in the form of facilities for repatriation of capital, remittance of post-tax dividends, remittance of approved royalties and technical fees, family remittances, exemption of tax on interest on foreign loan, etc. To facilitate the process of foreign private investment, the Government has promulgated the Foreign Private Investment (Promotion and Protection) Act, 1980 and Export Processing Zones Authority Act, 1980.

Role of Financial Institutions and Stock Exchange :

11.56 Absence of adequate facilities for financing of equity capital has often been a handicap for the promotion of industries in the private sector. In addition to advancing long-term loans, the financial institutions should also participate in enquity capital as well as

provide bridge finance to overcome initial constraint of private capital. The equity capital may be used in the promotion of Stock Exchange to ultimately open up the opportunity for participation of small investors. The lending procedures should be simplified and monitoring of implemention of projects should be strengthened to ensure removal of administrative and financial bottlenecks. Working Capital required by private sector enterprises should be rationally provided for in the credit programme.

11.57 The existing arrangements for financing of small-scale and cottage industries under the Small Loan Scheme and Special Credit Programme of the Bangladesh Bank need further strengthening and expansion and the network of commercial banks and other financial institutions should be extensively used for this purpose. Soft-term credit should be made easily available to small entrepreneurs, marginal farmers who run cottage industries also or can do so for augmentation of their income and to youth and womenfolk through regional lead banks at Thana level.

Production Targets in SFYP

11.58 Estimated output resulting from the investments envisaged during the Second Plan period for selected Public Sector industries are given in Table 11·4. Main sources of output expansion are envisaged to be (i) fuller utilization of installed capacities; (ii) more than one-shift operation of plants where feasible; (iii) improvement of labour productivity; and (iv) early commissioning of projects which are in their advanced stage of implementation through allocation of resource in their favour. But in expanding output, absorbtive capacity of the markets, both domestic and international, should be carefully assessed to avoid allocation of scarce resources, particularly foreign exchange, to unwarranted uses. It is estimated that industrial output in value added terms will rise from Tk. 1,421·00 crore in 1979/80 to Tk. 2,124·00 crore in 7984/85.

Export Earning :

11.59 As mentioned before, the thrust of the Second Plan industrial strategy is to help develop agriculture and export. Export earning at the close of the Second Plan period in 1984/85 is estimated to be Tk. 1,698·00 crore of which Tk. 1,375·00 crore is from the export of manufactures. The share of manufactures in export earning will increase from 79 percent in 1979/80 to 81 percent in 1984/85. Jute manufactures will continue to remain the largest export earner. Earning from jute goods including jute carpet is projected at Tk. 795·00 crore in 1984/85. The next major export earners are food and allied products which will contribute Tk. 221·00 crore mainly from export of tea, shrimp and froglegs. This will be followed by tanned and semi-tanned leather accounting for 178·00 crore in 1984/85.

Employment :

11.60 As mentioned earlier, employment generation is one of the major objectives of the Second Five Year Plan. Though technological improvement in agriculture will lead to increased demand for labour, it alone cannot take away the slack in the labour market. In fact, farm employment will expand at a slower rate than agricultural output, thereby putting agricultural expansion, particularly food, under varitable demand constraint. As employment and income cannot be adequately generated in the farm sector to sustain agricultural development in spite of the fact that modern agricultural technology is quite labour intensive, non-farm employment opportunities should be created. The dispersal of industries and the emphasis on rural industries will help attain this goal. It is estimated that industrial employment will expand by about 450 thousand mainly in the private sector, in medium, small and cottage industries.

TABLE 11·4

Production Targets for Selected Industrial Goods in Public Sector

	Items		Unit	1979/80. (Actual)	1984/85. (Target)
1.	Jute Goods	..	Lakh ton	*5·25	*6·50
2.	Textiles :				
	(a) Cotton Yarn	..	Crore lbs.	9·50	*18·30
	(b) Cotton cloth (Mill made)		Crore yds.	9·24	*14·86
3.	Limestone	..	Lakh tons	0·60	0·80
4.	Cement	..	Do.	3·43	4·50
5.	Fertilizer	..	Lakh M.T.	4·42	10·37
	(a) Urea	..	Do.	3·61	9·27
	(b) Ammonia sulphate		Do.	0·10	0·10
	(c) TSP	..	Do.	0·71	1·00
6.	Paper	..	'000' M.T.	30·61	45·00
7.	Newsprint & Mechanical print		Do.	41·27	48·00
8.	Pulp	..	Do.	12·27	30·00
9.	Sheet Glass (2 mm basis)		Lakh Sft.	90·48	200·00
10.	Steel Ingot	..	Lakh M.T.	1·33	2·25
11.	Water Transport Vessels		'000' tons of Steel	5·89	12·60
12.	Motor Cycle		'000' Nos.	2·54	4·85
13.	Bi-cycle	..	'000' Nos.	22·64	227·00
14.	Bus, Truck & Car	..	Do.	2·05	5·00
15.	Diesel Engine	..	Do.	2·41	20·00
16.	Pumps	..	Do.	2·11	18·10
17.	Radio	..	Lakh Nos.	0·53	2·33
18.	Television	..	'000' Nos.	1·30	8·80
19.	M.S/G.I. Pipes	..	'000' M.T.	8·72	30·00
20.	Electric Fans	..	Lakh Nos.	0·39	1·00
21.	Flourescent Tube Light	..	Do.	5·41	12·50
22.	Super Enamelled Copper Wire & HDBC.		Tons	321	750
23.	Welding Electrodes	..	Lakh rft.	145	342
24.	Electric Cables/Conductor	..	'000' Tons	2·36	9·00
25.	Sugar	..	Do.	93·22	200·00

*Figures include private sector also.

Financial Outlay :

11.61 To implement the programmes of the Industries Sector, a total public sector allocation of Tk. 1,390 crore (at 1979/80 prices) has been earmarked in the SFYP. Besides, it is expected that Tk. 1,769 crore (at 1979/80 prices) will be utilized by the Private Sector. Annual phasing of the public sector outlay and agency-wise allocation at both 1979/80 prices and current prices are given in Tables 11·5 and 11·6 respectively. Of the total public sector outlay, on going projects will account for 64·3 percent while new projects will account for 35·7 percent. Highest allocation, *i.e.*, 52·6 percent of the total public sector outlay, has been provided for fertilizers and chemical industries in which the country has clear advantage as to raw material supplies. The shares of other sub-sectors are: 12 percent for steel and engineering, 12·4 percent for cotton textiles including handloom and sericulture and 5·6 percent for sugar and food industries.

TABLE 11·5

Annual Phasing of Public Sector Outlay

[Tk. in Crore]

Year	Second Five Year Allocation	
	At 1979/80 Prices	At current prices
1980/81	247·87	277·61
1981/82	215·97	269·96
1982/83	220·45	308·63
1983/84	296·40	465·40
1984/85	409·31	720·40
Total ..	1,390·00	2,042·00

TABLE 11·6

Sub-sector/Agency-wise Distribution of SFYP Allocation

[Tk. in Crore]

Sub-sector/Agency	SFYP Allocation.	
	At 1979/80 Prices	At current Prices
1. BSEC	166·65	250·00
2. BCIC	339·68	485·20
3. Zia Fertilizer Co.	160·55	193·80
4. Chittagong Urea Fertilizer	230·53	401·91
5. BSFIC	78·34	115·00
6. BSCIC	37·95	56·00
7. BITAC	9·86	15·00
8. BMDC	2·56	3·75
9. IACB	0·50	0·71
10. Planning Cell (Industries Division, Ministry of Industies & Commerce.)	0·27	0·40
11. EPZ	15·06	22·00
12. Deptt. of Industries	0·03	0·04
13. BTMC	151·82	208·00
14. Handloom Board	8·54	13·00
15. Sericulture Board	11·20	16·00
16. Textiles Deptt.	2·07	3·06
17. BJMC	32·95	44·51
18. Jute Division	2·28	3·14
19. BMEDC	87 23	135·09
20 BFIDC	12·13	17·37
21. BFFWT	12·32	16·32
22. FDC	9·99	14·60
23. Deptt. of Printing & Stationery	2·98	5·00
24. M/o Homo Affairs	2·15	3·00
25. EPB	1·00	1·50
26. Planning Commission (Industries Division.)	8·26	12·80
27. IBA	2·17	3·50
28. BUET	0·26	0·36
29. ERD	0·67	0·94
Total ..	1,390·00	2,042·00

CHAPTER XII

ENERGY AND NATURAL RESOURCES

Bangladesh has one of the lowest per-capita commercial energy consumption in the world—32 Kilogram of oil equivalent. But even at this level, the country faces serious problem of providing adequate amount of fuels to meet the basic needs of people and the economy. The problem arises from the inadequate development of indigenous energy resources limited import capability to supplement domestic energy supply and very low purchasing power of the population.

12.2 People of Bangladesh, particularly in rural areas, still heavily depend on traditional fuels like cow dung, vegetable wastes and firewood. However, demand for commercial energy is fast increasing. From 1972 to 1980, per capita consumption of commercial energy increased from 24 kilogram to 32 kilogram of oil equivalent. It is expected that the figure will increase to 51 kilogram of oil equivalent by 1984/85. Projection of traditional energy consumption is difficult because of lack of adequate and reliable data, but there are indications that supply of traditional fuels is falling behind the increasing demand because of depletion of forest and homestead wood-lots. The situation is aggravating with the increase of population.

12.3 Natural gas is the most important and immediately available indigenous commercial energy resources of Bangladesh. The main thrust of the country's energy policy is on substitution of imported fuels by gas and improving the efficiency of energy use. But as the gas fields are located in the eastern Bangladesh and there is no gas pipeline across the Jamuna-Padma river, scope of having a country-wide gas network is limited at the present moment. Expanded use of gas *via* electricity is, therefore, the strategic choice in energy planning. At the same time, extension of gas pipeline to Chittagong, Comilla and some other places in the eastern Bangladesh is underway. Thus there will be greater emphasis on utilization of gas during the SFYP which is expected to reduce the share of imported fuels from over sixty percent to about thirty percent by 1984/85 as shown in Table 12·1.

TABLE 12·1

Present and Projected Consumption of Commercial Energy

	1979/80			1984/85	
	Quantity in trade unit	Quantity in thousand TOE	Percentage	Quantity in thousand TOE	Percentage
Natural Gas	45·4 billion CFT	1042	37·3	3374	68·0
Hydropwer	586 million KWH	62	2·2	79	1·6
Petroleum	1·52 million M. Ton	1550	55·5	1341	27·0
Coal	247000 M. Ton	139	5·0	169	3·4
		2793	100	4963	100

Note: T.O.E.=Tons of Oil Equivalent.

12.4 A 12·2 percent yearly growth in commercial energy consumption is expected over the SFYP period, yet the share of traditional fuels will be more than half of the total consumption. In view of this, there is also a strong need to develop the traditional and renewable energy resources during the plan period and improve the efficiency of their use. The hot and humid climate of the country provides a good environment for the development of bio-mass and solar energy. Though these are extensively used at present with primitive and in-efficient technology and without proper management of the resources, there is need for greater attention to this area.

12.5 The allocation for the Energy development under the Second Five Year Plan is 2052·00 crore at 1979/80 prices (Tk. 3021 crore at current prices) which is 18·5 per cent of the total public sector allocation. The power sector will receive the largest share (70 per cent) followed by the Natural Resources sector (29·8 percent). The allocation for the rural and renewable energy sector is very small, but this sector has also been allocated fund under the forestry and Scientific and Technological Research Sectors. Table 12·2 shows the details of Subsector-wise allocation for different years.

TABLE 12·2

Financial Allocation for Energy and N.R. Sector

(Tk. In crore)

Year	Power		Natural Resources		Renewable & Rural Energy	
	Current Prices	1979/80 Prices	Current Prices	1979/80 Prices	Current Prices	1979/80 Prices
1980/82	527·47	443.03	222·29	187·49	—	—
1982/83	308·87	220·62	183.85	131·32	—	—
1983/84	561·21	357·46	292·65	186·40	1·00	0·64
1984/85	729·86	414·89	192·21	109·30	1·59	0·85
Total :	2127·41	1436·00	891·00	614·51	2·59	1·49

A. POWER SECTOR

12.6 Bangladesh has a relatively small electric power generation and distribution system. The total available capacity from the plants in operation was about 554 MW in June, 1980. In addition, there is about 190 MW of captive capacity in various industries. The total length of transmission lines which operate at 132 KV is about 1100 miles, and the length of the lower voltage (33 KV, 11 KV and 0·4 KV) lines is about 12000 miles. These facilities are at the moment divided into two main grids in the east and west zones and a few small isolated systems or off-shore islands. The two grids which are now separated by the Jamuna-Padma river is expected to be interconnected by December, 1982.

12·7 The total generation of electricity in the public utility was 2353 million kilo watt-hour in 1979/80. There were about 5,22,000 registered consumers in that year, most of whom were in urban areas. The three main metropolitan areas, namely, Dhaka, Chittagong and Khulna accounted for approximately 60 per cent of the total consumption of electricity. Industries are the most important category of consumers, receiving over half of the total sales.

12·8 The electricity utility is managed by two public agencies, namely, (i) the Bangladesh Power Development Board (BPDB) which owns and operates all power stations, transmission lines as well as all urban and some rural distribution system, and the Rural Electrification Board (REB) which has been set up to promote rural distribution of electricity through consumers cooperatives (Pally Bidyut Samity—PBS) on the principle of area coverage. Thirteen such cooperatives have been developed in the country so far, and more are being organized. It is expected that by 1995, most of the rural areas of the country will be brought under cooperative electricity utilities.

12·9 Rapid development of electricity production and distribution capacity is necessary in order to (a) achieve greater energy autarky through increased use of natural gas-based power and (b) to facilitate economic development of all the parts of the country. Until very recently, all development in the Power sector were mainly urban-oriented. As a result large and town-based industries and urban population mainly benefitted from these developments. This trend is now being corrected through wider dispersal of power facilities. Lack of reliability of supply and large system loss have been two major problems for a long time. These need to be resolved quickly for healthy growth of the sector as well as the economy.

Objectives of the SFYP

12.10 The objectives of the Power Sector Plan, therefore reflect the above priorities. These are :

(i) Facilitating national development through increased and diversified use of electricity in productive sectors all over the country;

(ii) Substitution of imported fuels by extensive use of electricity generated from indigenous fuels, where technically and economically feasible;

(iii) Improving reliability of power supply;

(iv) reducing the cost of generation and supply through planned investment and efficient operation of the system; and

(v) Extension of power supply to rural areas to support industrial dispersal and electrification of irrigation in an all-out effort for rural development.

12.11 The above objectives will be fulfilled through a number of projects and policy actions, most of which are already underway. The strategies and priorities underlying the formulation of projects and policies are as follows:

(i) Integration of local and regional power systems at high voltage in order to achieve maximum generation of electricity from gas.

(ii) Better planning, design and construction of distribution system.

(iii) Promotion of consumer connection and power use, particularly in rural areas.

(iv) Reduction of electricity loss and pilferage.

(vi) Rehabilitation of the existing plants and equipment for better system operation.

12.12 There are several other issues, such as pricing of electricity and least-cost system expansion programme which could not be adequately addressed so far. But studies will be taken up during the Plan period in order to formulate appropriate policies and actions for implementation during the next Plan. The basic objectives of the pricing study are to determine economic cost of primary energy resources and long run marginal

cost for pricing of different forms of energy. Development of a least-cost system is necessary to keep long run marginal cost low and enable the electricity utilities to run as commercial establishments without any direct or indirect subsidies.

Load Projection

12·13 Peak demand for electricity grew at an average rate of sixteen per cent per year during the sixties. The first half of the seventies was entirely taken up to recover from the dislocation suffered during the War of Independence. During the five years from 1975/76 to 1979/80, electricity demand increased at an average rate of 11·7 per cent. Thus, during the past two decades growth of electricity demand gradually slowed down This was mainly due to inadequate capacity of the system, stagnation of the economy high cost of supply and saturation of traditional markets in urban and industrial sectors.

12·14 Recently, however, relatively higher rates of growth have been registered among small commercial and industrial consumers. Higher growth rate is also expected among rural consumers because of large capacity expansion taking place in rural areas. It is, therefore, expected that smaller consumer will provide considerable scope for market expansion of electricity in near future. However, a small consumer oriented expansion programme would require much higher investment than a larger consumer oriented programme for any given amount of sales. Actual load growth will therefore, be constrained by the availability of investment fund.

12·15 Peak demand recorded in 1980/81 and 1981/82 were 545 MW and 601 MW respectively. The share of the PBSs in this figure was about 5·5 MW and 10·5 MW REB has estimated that PBS load will increase to 69 MW in 1984/85. If demand in BPDB distribution areas is projected at an yearly growth rate of 13 percent from the 1981/82 level of 594·5 MW the BPDB load will be 853 MW in 1984/85.

12·16 The total load in the country will be 922 MW in that year implying an overall growth rate of 15 percent per year from July, 1980 onward. Detailed yearly load projection is shown in Table 12·3:

TABLE 12·3

Projected Growth of Peak Demand (In M W)

Year	East Zone			West Zone			Whole Country		
	BPDB	REB	Total	BPDB	REB	Total	BPDB	REB	Total
1979/80	338	..	338	124	..	124	462	..	462
1980/81	396·3	2·5	399	145	1·0	146	541·5	3·5	545
1981/82	442·5	6·5	449	148	4·0	152	594·5	10·5	601
1982/83	502	13·0	514	167	13·0	180	668	26·0	694
1983/84	566	21·0	587	189	23·0	212	755	44·0	799
1984/85	639	31·0	670	214	38·0	252	853	69·0	922

12.17 One of the unsatisfactory features of the power system is high system loss Therefore, with the growth of the system measures would need to be taken to reduce it substantially to improve systems profitably. System loss has been planned to be reduced from 40 percent during 1979/80 to 23 percent of gross generation by 1984/85. At the total system load factor of 55 percent, the projected peak demand will imply a total sales of about 3430 million kilo-watt-hour of electricity. This will imply an average compound sales growth rate of 19·5 percent annually over the SFYP period as against 11 percent during 1975—80 period.

Development Programme of SFYP

A. *Generation*

12·18 Almost the entire power system of Bangladesh will be integrated into a single grid with the completion of the East-West Interconnector in 1982/83. The basic objectives of the Generation programme is to minimize generation cost in the whole system, ensuring, however, reliable supply in the western zone. The following two criteria have accordingly been followed to develop the programme:

(i) The firm capacity of the combined grid, defined as the total capability without the largest and the third largest units, must be greater than the peak demand.

(ii) The total capability of the western grid will not be allowed to be less than the peak demand of the grid so that large load shedding does not become inevitable in case the East-West Interconnector suffers long outage.

12.19 Table 12·4 shows the maximum capability of the existing and under-construction plants in different years. It may be seen from this table that a total of 96 MW in the east zone and 61 MW in the west zone will be available from rehabilitation of the existing derated plants, while 28 MW of old diesel units will be taken out of service. Derating of some older units has been considered in the table. All of the power stations to be commissioned within the Plan period are already under implementation. The generation programme for the Plan includes new project, *viz.*, (1) 90MW Ashuganj Combined Cycle Power Station, (2) 210 MW Ghorasal Plant, (3) 20 MW Barisal Power Station,, (4) 60MW Bargo-Mounted Plant for East Zone, (5) Ashuganj 300 MW, Extension, (6) 100MW West Zone Power Station and (7) Kaptai 4th and 5th Units. The last three project are scheduled for commissionig after the Plan period.

TABLE 12.4

Maximum Capability of Existing and Under-Construction Power Plants.

[In MW]

Station.	1979/80.	1980/81.	1981/82.	1982/83.	1983/84.	1984/85.
A. East Zone :						
1. Kaptai Hydro P.S.	92	92	142	142	142	142
2. Ashuganj 128 MW S.T.P.S. ..	100	128	128	128	128	128
3. Ghorasal 110 MW S.T.P.S. ..	110	110	110	110	110	110
4. Siddhirganj 80 MW S.T.P.S. ..	66	74	74	74	74	74
5. Shahjibazar 108MW S.T.P.S. ..	40	40	53	90	90	90
6. Chittagong TG-7 G.T.P.S. ..	..	..	..	10	10	10
7. Ashuganj 90 MW C.C.P.S. ..	..	..	..	60	90	90
8. Chittagong 60 MW S.T.P.S. ..	..	..	..	60	60	60
9. Ghorasal 210 MW S.T.P.S. ..	..	..	..	..	..	210
10. Shifting of 56 MW BMPP from Khulna. ..	..	..	..	..	56	56
11. 60 MW New BMPP ..	..	..	..	..	60	60
Total Capability (A) ..	408	444	507	674	820	1030
Zonal Peak Demand (A') ..	338	399	449	514	587	670

B. West Zone :							
1. Khulna 60 MW S.T. P.S.	..	45	45	60	60	60	60
2. Khulna 16 MW S. T. P. S. ..	..	8	8	16	16	16	16
3. Khulna 8 MW Diesel P.S.	..	4	4	6	6	..	..
4. Khulna TG-14, G.T. P.S.	..	..	10	10	10	10	10
5. Khulna TG-35 GT. P.S. ..	..	10	10	10	10	10	10
6. Barge-Mounted 56 MW G.T. P.S.	..	..	56	56	56	..	..
7. Bheramara 60 MW G.T. P.S.	..	58	58	58	58	58	58
8. Saidpur Diesel P.S. ..	..	7	10	10	10	10	10
9. Thakurgaon Diesel P.S. ..	..	4	4	8	8	8	8
10. Barisal Old Diesel P.S. ..	..	3	3	6	6	6	..
11. Barisal 2-6 MW Diesel P.S.	..	..	..	2.6	2·5	2·5	2·5
12. Bogra TG-7, G.T. P.S. ..	..	4	5	5	5	5	5
13. Bogra Diesel P.S. ..	..	..	5	6	6	6	..
14. Rajshahi Diesel P.S. ..	..	2·2	2·2	2·2	2	..	..
15. Serajganj Diesel P.S. ..	..	1·2	2·4	2·4	4·0	..	..
16. Khulna 110 MW S.T. P.S.	..	..	..	..	110	110	110
17. Barisal G.T. P.S.	..	..	..	..	..	20	20
18. Smaller Diesel P.S. ..	..	..	..	6·3	4·5	2·5	2·5
Total Capability (B)	..	146·4	222·6	264·4	374·2	324	312
Zonal Peak Demand (B')	..	124	146	152	180	212	252
Integrated System Capability (A+B)	..	..	..	..	1,048	1,144	1,342
System Firm Capacity ..	..	..	..	..	874	910	1,068
System Peak Demand (A'+B')..	..	..	..	..	694	799	922

TABLE

Generation Schedule

Year	East Zone				West Zone
	New plant to be commissioned	Maximum capability	Peak demand	*Dependable margin for peak time power transfer to west	New plant to be commissioned
1979/80		408	338	—	
1980/81	Rehb. (36)	444	399	—	BMPP (56) Rehab. (20·4)
1981/82	Kaptai (50) Rehab. (13)	507	449	—	Rehab. (39·3) Barisal Diesel (2·5)
1982/83	Ashuganj CC (60) Chittagong (60) Rehab (47)	674	514	96	Khulna (110) Rehab. (1·6)
1983/84	Ashuganj CC (30) BMPP (60+56)	820	587	169	Barisal (20) BMPP (—56)
1984/85	Ghorasal (210)	1030	670	150	—
1985/86	Ashuganj (150)	1180	770	200	—
1986/87	Ashuganj (150)	1330	886	234	(100)
1987/88	Kaptai (100)	1430	1019	201	—
1988/89	Ghorasal (210)	1640	1172	258	—
1989/90	(200)	1840	1348	282	(100)

*Dependable Margin—Max Capability—Peak demand

12·5

for 1980—90

(In MW)

West Zone			Whole System			
Capacity to be retired	Max. capability	Peak demand	Maximum capacity	Firm capacity	Peak demand	Reserve capacity as percentage of max. capacity
—	146·4	124	Grids are not yet interconnected			
—	222·6	146				
—	264·4	152				
1·8	372·2	180	1048	874	694	34%
14·2	324	212	1144	970	799	30%
12	312	252	1342	1068	922	31%
3	309	290	1489	1169	1060	29%
—	409	333	1739	1379	1219	30%
—	409	383	1839	1479	1402	24%
—	409	441	2049	1689	1613	21%
—	509	507	2349	1939	1855	21%

—capacity of largest plant.

B. *Transmission*

12.20 Sixteen transmission projects are included in the programme of this sub-sector. With the completion of these transmission projects included in the programme every district of the country will be connected with the grid system. Besides, some of the projects will augment the capacity of existing lines and sub-stations. A total of 402 miles of transmission lines will be commissioned during the Plan period. Out of this 79 miles will be completed under Greater Dhaka, Greater Chittagong and Greater Rajshahi Distribution Projects and 323 miles including 94 miles long Interconnector under the transmission projects. Besides, 110 mile long Goalpara-Ishurdi Second Circuit is also included in the transmission sector's programme. Except Interconnector all these lines are 132 KV lines.

C. *Distribution*

12.21 The programme of the Distribution Sub-sector will be implemented partly by the BPDB and partly by the rural electricity co-operatives under the supervision of the REB. BPDB's programme will cover urban electric supplies as well as selected rural areas. All 33 KV lines will be under the BPDB system, while 33 KV sub-stations and all lower voltage systems will be the responsibility of the respective distribution authorities. The physical programmes of BPDB envisages 2000 miles of 33 KV lines and 8500 miles of lower voltage lines as well as electrification of about 76 rurals thanas and 5000 villages. The REB will build about 9,000 miles of distribution lines in about 18,000 villages located in 119 thanas. At the end of the plan priod, all thana of the country are expected to have access to electricity.

D. *Miscellaneous Projects*

12.22. Apart from the generation, transmission and distribution projects, several other projects having various objectives are also included in the sectoral programme. A number of them are studies, the most important one among them being the Energy Planning Project. The purpose of this project is to make energy demand projection upto 2000 A.D. and to identify policy and investment needs for this period. There are two major rehabilitation projects, for the east and west zones respectively ; and two projects for supporting facilities, namely, a load despatch centre and an equipment repair workshop. One training project has also been included in the development programme to overcome the acute shortage of skilled manpower in the BPDB.

Financial Outlay

12.23 The total amount allocated to Power Sector for five years is Tk. 1436 crore (at 1979/80 prices). Except for a very small amount allocated to the Bangladesh Atomic Energy Commissin (BAEC) for the Rooppur Nuclear Plant Project and the Planning Commission for the Energy Planning Project the fund is divided between the BPDB and REB. Table 12·5 shows Agency/Programme-wise allocation of the Power Sector outlay under the SFYP.

TABLE 12.6

Agency/Programme-wise Allocation in Power Sector.

[Tk. in crore.]

Agency/Sub-sector.	Total for SFYP.	
	At 1979/80 Price.	At current Prices.
(i) BPDB :		
(a) Generation	554·35	866·95
(b) Transmission	210·43	287·15
(c) Distribution	368·58	225·34
(d) Miscellaneous	98·47	144·66
Total ..	1231·83	1,824·10
(ii) REB	198·95	294·90
(iii) BAEC	0·57	0·82
(iv) Planning Commission	4·65	7·59
Total ..	1,436·00	2,127·41

TABLE 12.7

Physical Targets for SFYP

	1979/80	1984/85
BPDB :		
(i) Generating Capacity (Max. Capability)	554 MW	1342 MW
(ii) Transmission Line (230, 132, 66KV)	1094 miles	1496 miles
(iii) 33 KV line	3015 miles	5015 miles
(iv) 11 KV and L. V. lines	8875 miles	17,375 miles
(v) Electrified Thana	357	433
(vi) Electrified Village	2,181	7,181
(vii) Electrified Pumps (LLP, DTW, STW)	4,406	12,000
REB :		
(i) Distribution line (11 KV and below)	500 miles	9,500 miles
(ii) Palli Bidyut Samities Working	1	33
(iii) Electrified Thana	3	119
(iv) Electrified Village	0	18,000

B. NATURAL RESOURCES SECTOR.

12.24 Natural gas is the only proven indigenous hydrocarbon resource being utilized in Bangladesh and its use is still limited. The total proven reserve of gas is estimated to be 11 trillion cubic feet (TCF) equivalent to about 250 million tons of oil equivalent (toe). The availability may increase substantially on appraisal of even the known fields while the prospects of new fields are also very bright. Other hydrocarbon resource of the country include coal in Jamalganj (700 million tons) and peat deposits (165 million tons). The policies regarding development of natural gas will have a critical bearing on energy sector developments. Future accelerated use of gas in both fuel and non-fuel application such as LPG, CNG, fertilizer, PVC, etc. and possible export will depend on available reserves, realistic utilization alternatives, expected returns from various alternatives, cost of funds, etc.

12.25 Bangladesh has a small market for Petroleum Products (1·5 million tons) a year all of which is imported. Foreign Exchange expenditure on account of petroleum imports in 1979/80 was Tk. 516·00 crore claiming over 50 percent of the total export earnings of the country. About 33 percent of the total petroleum products consumption is in the transport sector, followed by 28 percent in the domestic sector, 19 percent in the industries sectors, 15 percent in the power sector and 5 percent in the agriculture sector.

Review of the Past Performance

12.26 *Geological Survey:* During the FFYP period ground-work was completed to revamp the regional organisation of Geological Survey into a national organ (GSB), with a veiw to carrying out a continuing programme of background survey and mapping and collating the geological, geophysical and geochemical data. Unfortunately there was shortage of trained manpower and much needed technical assistance during the FFYP. Accordingly, very limited field work was undertaken.

12.27 *Oil and Gas*: Due to limited exploration and drilling operations so far, hydrocarbon potential of the country has not been assessed properly. However, the Bengal Basin being one of the largest deltas in the world, there is a good prospect for finding oil in this seemingly high gas prone country. During the FFYP period seven wells were drilled in the offshore of Bangladesh through Production Sharing Contract and gas was discovered in only one well near Kutubdia. Only two onshore wells were drilled by PETROBANGLA with their own rig and crew through development programme.

12.28 *Gas Field Develoment:* As hydrocarbon resource is a vital input for economic development, the urgency for effective and efficient use of natural gas was recognised in the FFYP. The abrupt rise in the price of crude oil in 1973 made it all the more necessary that gas transmission and distribution projects were given priority inorder to accelerate the use of natural gas as fuel and feedstock to substitute imported oil as quickly as possible. A total of 4 (four) gas fields having 10 wells are producing gas, of which 5 (five) wells are located at the Titas Field, 2 wells are at Habiganj, 2 wells at Sylhet and one at Chhatak. Total production capacity of these 10 wells is estimated to be about 250 million cubic feet per day (MMCFD), while the present off-take is around 226 MMCFD.

12.29 *Gas Transmission :* Gas is distributed mainly through Titas Gas Transmission and Distribution Company (TGTDC) and recently created Jalalabad Gas Distribution System (JGDS). TGTDC supplies gas to greater Dhaka including Joydevpur, Narayanganj, Brahmanbaria, Ashuganj, Bhairab Bazar, Narsinghdi, Ghorashal and Savar through distribution line totalling in June, 1980 a length of 1,065 miles of different sizes. JGDC system supplies gas to Sylhet town and adjoining area and to tea valley of Habiganj with the help of 85 miles long distribution pipelines. Detailed Feasibility Study of the Bakhrabad Gas Field has been completed and implementation of the project will be taken up. A new project Habiganj-Ashuganj 12" diameter Pipeline of 35 miles in length was completed to meet the demand of the Ashuganj Fertilizer Plant. Table 12·8 shows the existing and proposed transmission pipeline.

TABLE 12.8

Existing Transmission Pipelines.

Sl. No.	Pipeline.	Diameter (inches).	Length (miles).	Line flow capacity (MMCFD).	Working pressure (PSIG).
Already Constructed :					
1.	Titas-Dhaka	14	60	170	1,000
2.	Sylet-Fenchuganj	8	33	25	650
3.	Chhatak Cement	4	12	9	650
4.	Habiganj-Shahjibazar	8	1·5	36	450
5.	Habiganj-Ashuganj	12	35	90	1,000
Under Implementation :					
6.	Bakhrabad-Chittagong	24	110	336	960
7.	Kailas Tila-Sylhet	8	8	30	650

12.30 *Production of Natural Gas:* The total production target of gas envisaged in the terminal year of the Two Year Plan (1979/80) was 41,165 MMCF as against actual production of 34,090 MMCF in the terminal year of FFYP (1977/78). The actual offtake of gas from four gas fields in 1979/80 was 44,970 MMCF (Table 12·9). This shows a 14·85 per cent increase in the gas production from the terminal year of FFYP.

Crude Oil Processing and POL Product Consumption

12.31 Eastern Refinery Limited (ERL), the only Petroleum Processing Plant in Bangladesh was commissioned in 1968. The refinery has a processing capacity of 1.5 million tons. Two new process units have been added namely: an LPG recovery and bottling unit and a Bitumen Plant. Bangladesh Petroleum Corporation (BPC) was set up in January, 1977 and the responsibility for overseeing the procurement and processing of crude oil and marketing POL Products was transferred from PETROBANGLA to the BPC.

12.32 The structure of the domestic market of refined petroleum products shows an increasing demand of middle distillate particularly diesel and kerosene. Consumption of POL products in 1979/80 was 14.60 lakh tons while domestic production was only 11·74 lakh tons. Tabe 12·9 shows production and consumption performance of FFYP and TYP.

TABLE 12.9

Production and Consumption Performance of Commercial Energy.

Items.	Unit.	Actual in 1977/78.	Target for 1979/80.	Actual in 1979/80.
1. Natural Gas (Production and consumption).	MMCF/Year	34,090	41,165	44,970
2. POL Production	'000' M/Tons	1,022	1,134	1,174
3. POL Consumption ..	Do.	1,286	1,230	1,460
4. Import :				
a. Crude Oil	Do.	1,077	1,200	1,278
b. POL Product.. ..	Do.	369	283	474
5. Export :				
a. Naptha	Do.	7,921	96	70
b. Asphaltic Bitumen ..	Do.	..	17·5	..
c. LPG	Do.	..	2	3

Objectives of the SFYP :

12.33 The broad objectives for the planned exploration and development of natural resources are as follows:

(i) To ensure optimum use of available natural gas and save foreign exchange through substitution of imported oil.

(ii) To promote development of natural gas fields in a systematic manner.

(iii) To achieve a reasonable regional balance in energy supply.

(iv) To achieve local capability and expertise in hydrocarbon exploration, development and data processing. High emphasis will be given on training in different skills, personnel development as well as institutional development.

(v) To strengthen national capability of the geological survey, and create supportive services for exploration of natural resources.

(vi) To ensure safety, security and stability of the gas suppy to the consumers specially for fertilizer and power sector :

Strategies of the SFYP :

12·34 The main strategies for development of the oil, gas and mineral resources are as follows:

(I) To achieve the quickest substitution of imported fuel oil by natural gas, development of gas delivery system has been given the highest priority. Nearly 41 percent of the total allocation of fund for the sector is meant for transmissoin and distribution of gas to ensure gas use at least in all major industrial commercial, and urban centres in the Eastern Zone of Bangladesh.

(ii) To expedite laying of transmission and distribution pipelines two streams of actions will be undertaken; first to stabilize and consolidate the existing supply position of gas from different wells through developing the existing wells and undertaking new wells with due respect to the recovery and depletion factor and secondly to develop gas transmission and delivery network commensurate with the demand and supply of available gas.

(iii) To optimise the refinery capacity, studies and necessary actions will be undertaken for the BMR and possible expansion of the ERL.

(iv) To conduct a feasibility study on possible supply of gas to the western zone of the country and to conduct the feasibility of extracting the LPG component from the gas well head and possible diversified utilisation of gas in transport sector.

(v) To expedite exploration for oil and gas with particular emphasis to western zone.

Supply and Demand of Gas and Oil

12.35 *Natural Gas:* The energy prospects of Bangladesh rest heavily on the appropriate development and use of the country's natural gas resources to replace a large part of imported petroleum. It is estimated that in the terminal year of the SFYP gas consumption is expected to reach 1,28,000 MMCF per year showing a substantial increase from the actual consumption of 44,970 MMCF in 1979/80. The major source of this growth is expected to be due to the increased consumption in power and fertilizer sectors. By the terminal year of the SFYP, an average annual growth of 23 percent is expected over 1979/80. Table 12·10 shows a natural gas demand forecast for the period 1980—85.

TABLE 12.10

Actual and projected Gas Demand and Supply Position.

[MMCF/Day.]

	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
A. Titas System]						
Power (APS, GPS, SPS & Sh.Ps).	56	68	70	96	120	150
Fertilizer (Ash, Gh, Potash)	52	52	80	83	93	100
Others (Ind. & Com./Dom)	19	33	63	68	78	100
Demand (Titas System)	127	153	213	247	291	350
Supply (Do.)	..	...	200	210	254*	374**
Surplus(+)/Deficit(—)	..	...	(—13)	(—37)	(—37)	(+24)

[*MMCF/ Day*]

	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
B. Jalalabad System						
Demand	..	..	28	28	30	45
Supply	..	..	28	28	30	60**
Surplus(+)/Deficit(—) ..	..	..				(+15)
C. Bakhrabad System						
Demand (Fertilizer, Power, etc.). ..	..	..	..	..	30	50
Supply	..	..	..	..	150	150
Surplus(+)/Deficit(—) ..	..	..	..	(+150)	(+120)	(+100)
Total Demand (A+B+C)	127	153	241	275	351	445

Note: (i) Total Surplus Deficit position is not of any great significance since the 3 systems are not interconnected.

(ii) Supply position is given of firm programme against which foreign exchange financing has been finalised.

(iii) *This increase is due to commission of Titas well No. 6 and Kamta well No. 1.

(iv) **This increase is due to commission of Titas well Nos. 7 and 8 Habiganj well Nos. 2 and 3.

12.36 *Petroleum Products:* It is expected that changes in inter-energy price structure will bring about considerable substitution of imported oil by locally available naturals gas. While acceleration of agricultural and food production will tend to increase the demand of diesel for irrigation and transportation emphasis on the rural electrification programme will act as a countervailing factor. Considering various factors, and assuming that policies for pricing and import substitution will be followed for different types of fuel, it is estimated that the demand of POL products may increase from 1·39 million tons in 1979/80 to a maximum of 1·42 million tons in 1981/82 and then decrease to 1·32 million tons into the terminal year of the SFYP. Table 12·11 shows demand projection of major petroleum products for the Plan period.

TABLE 12·11

Demand Projection of Major Petroleum Prodects*.

['000' *Metric tons*]

	Actual			Projection		
	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
HOBC ..	6·15	6·96	6·65	6·50	7·00	7·70
MS ..	55·61	49·64	47·75	36·00	36·00	36·00
JP-1 ..	43·65	50·32	58·24	60·00	60·00	65·00
SKO ..	384·22	448·06	402·69	360·00	330·00	320·00
HSD ..	413·54	413·31	511·64	440·00	475·00	475·00
LDO ..	32·02	35·16	30·16	36·00	30·00	30·00
FOHS ..	425·18	371·23	331·50	350·00	350·00	350·00
JBO. ..	33·19	35·23	32·32	36·00	32·00	32·00
Total ..	1,393·55	1,409·91	1,420·95	1,324·50	1,320·00	1,315·70

Note : * Excluding minor products, like, Naphtha, LPG, MTT & SHP; total annual consumption of which is about15 to 20 thousand metric tons.

Policy Recommendation.

12.37 *Institutional Development and Training of the GSB*: Geological Survey of Bangladesh (GSB) will have to be strengthened with sufficient manpower, material and other technical facilities. Both intensive and extensive training programme will be undertaken with a veiow to restructuring skill and manpower to serve the long term needs of the country. Practical training of technical and professionals within and outside Bangla desh will have immense long term benefits. Proper manpower development will be needed to augment local capability in areas like survey, mapping and exploration.

12·38 *Maximize Utilization of Gas :* Incresed utilization of natural gas will call for considerable investment in infrastructural development involving huge foreign exchange. Part of this foreign exchange could be earned through export of gas, processed gas and gas-based product. Export of gas in finished product will be actively explored.

12.39 *Crude Oil Import and Processing:* The country's product demand pattern forecasts that even if the refinery at Chittagong operates at full capacity, Bangladesh will still remain a net importer of at least two major products (HSD, Kerosne) until 1990. In order to meet this gap economics of the following options/possibilities will be examined thoroughly:

(a) BMR of ERL for attaining design throughput and ensuring uninterrupted production up to the end of the century.

(b) examine alternate use of surplus product. Upgrading of furnace oil to a high value product may take into consideration among others, the visbreaking process in an effeort to bridge the gap of mid-distillate deficit products.

(c) examine the scope of surplus naptha splitting for achieving more mid-distillate products.

Physical Programme for the Plan Period

12.40 *Geological Survey of Bangladesh (GSB):* The activities of the GSB will be directed towards accelerated survey, mapping and exploration of mineral resources of the country. The on-going project for the GSB will permit the organisation to procure necessary machinery and equipment, obtain consultancy services, train its personnel, create a geological data centre and expand the library. Establishment of association with a well-developed geological organisation of an advanced country will expedite the organisational development of the GSB. Major Physical Programmes of GSB are given below:

(i) Regional Geological Mapping (in the scale of 1 :50,000	10,000 sq. miles
Chittagong Division (East of the Meghna)	2,500 sq. miles.
Dhaka-Mymensingh-Tangail	2,500 sq. miles.
Rajshahi-Bogra-Rangpur	2,500 sq. miles.
Faridpur-Jessore-Khulna	2,500 sq. miles.
(ii) Regional Gravity Survey	2,000 sq. miles.
(iii) Regional Magnetic Survey	2,000 sq. miles.
(iv) Seismic Reflection/Refraction profiles	100 L. miles.
(v) Ground Water Investigation	2,000 sq. miles in northern districts.
(vi) Geotechnical Studies	400 sq. miles surrounding 4 urban areas.
(vii) Test Drilling	70,000 rft.

(viii) Exploration and assessment of solid fuel resources, construction stones, study of alluvial clay for brick, light weight aggregate and study of sediments of the Brahmaputra river system.

(ix) Geophysical investigation in selected areas in Rangpur-Dinajpur districts by electrical methods; detailed seismic reflection investigation in selected areas of Rangpur, Dinajpur (extension of Madhyapara area).

(x) Geochemical Surveys in eastern hilly region for sedimentary deposits like phosphate

12.41 *Oil and Gas Exploration:* While due importance will be given for identification of a suitable oil gas bearing location in the country as a whole and western region in particular, emphasis will be given for the drilling aiming to reach high pressure zone. Secondly all the gas fields discovered so far but not yet developed will be appraised and evaluated. Manpower of PETROBANGLA shall be trained for greater self-reliance in exploration. Effort will also continue for exploration of some onshore area under Production Sharing Contract. Major Physical programme are described below:

(a) Multi wells within the resource availability (12 deep exploratory wells)

(b) Survey—

(i) Gelogical	Lengh	1250 km.
	Area	2000 sq. km.
(ii) Gravity	Length	6000 km.
	Area	17500 sq. km. of semi-detailed.

(iii)	Seismic (Multifold)	
	Length of profile	1250 km. Regional
	(Reflection)	3750 km. detailed
	Area Detailed	6000 sq. km.
	Length of Profile	
	(Refraction)	4375 km
(iv)	Vertical Seismic Profiles (VSP)	20 wells

12.42 *Production and Development of Gas Wells:* In view of the increasing demand of gas in Titas Franchise Area, three more development wells at Titas and Two at Habiganj will be drilled to ensure security of supply of gas in Dhaka and its surroundings such as Ghorashal, Ashuganj, Joydevpur and Tongi areas. Sylhet and Chhatak are fast depleting which necessitates reconditioning of the existing wells. Kailashtilla structure being nearer to these markets and having higher condensate recovery potential has been identified for development of a production well. Development of five wells in Bakhrabad will be taken up to meet the projected requirement of Chittagong and places enroute. Thus a total ten to twelve development wells will be drilled during the plan period. The feasibility assessment of a gas system linking the eastern and western parts of the country and potential recovery of liquified petroleum gas (LPG), compressed natural gas (CNG) and liquid hydrocarbons from the gas (condensates) are some of the important issues related to the production and development of gas to be examined. Major Physical Programmes are given below :

	Development wells		No of wells
(i)	Titas	...	3 (well No. 6, 7, 8)
(ii)	Habiganj	...	2 (well No. 3 & 4)
(iii)	Chhatak	...	1 (Rehabilitation)
(iv)	Kailashtilla	...	1 (,,)
(v)	Sylhet	...	2 (,,)
(vi)	Bakhrabad (1st phase)	...	5
(vii)	Beani-Bazar*	...	2
			Total : 12 (excluding 4 rehabilitation wells)

*Depends on Feasibility Study.

12.43 *Gas Transmission and Distribution:* Gas is now being used for electric power generation, in residential and industrial applications and as feedstock for the manufacture of urea. Measures are underway to expand the gas distribution network. Completion of the 24" dia 110 miles long Bakhrabad-Chittagong Gas Pipeline will permit the replacement of fuel oil and diesel in power generation and provide feedstock for the two new fertilizer plants.

12·44 As the existing transmission line from Titas to Dhaka has reached its capacity, a parallel line from Titas to Joydevpur via Narsingdi has been taken up in hand under ADB financing. But due to increased demand of gas in Power stations, particularly to meet the demand of electricity in the western zone (transmitted through east-west elcetrical interconnector), the demand of gas in the Titas system would be higher than forecast. Also there is an urgent need to ensure security and dependability of gas supply to Titas system at Dhaka catering gas to vital economic sectors. On the other hand

considerable surplus gas will be available in the Bakhrabad system. So logical priority projects will be Bakhrabad-Demra Gas Transmission line interconnecting Bakhrabad and Titas system at Demra-Dhaka and ensuring additional required gas supply to Titas system while ensuring security and dependability of gas supply. This link is planned to be constructed in the SFYP. Besides, development and interconnection of Kailashtilla, Beanibazar and Rashidpur with Titas system need to be urgently taken up during the SFYP in order to meet the immediate shortfall of gas forecast for the year 1985-86 and afterwards. Gas from Kailashtilla and Beanibazar contains considerably higher percentages of condensate (10 Bbl and 20 Bbl per MMCF respectively) and its production from these fields will not only add to project economy but will help reduce import of POL. These projects will therefore be taken up in the SFYP. 6"—4" transmission line of 60 miles will be constructed in two phases to supply gas to Sylhet Tea Estates and a 6" diameter pipeline linking Kailashtilla to Chhatak will be constructed as an alternative supply source. Distribution networks will be taken up in Chittagong, Comilla, Laksham, Feni, Chandpur, Greater Dhaka area, Tangail, Mymensingh, Jamalpur, Kishoreganj, Chhatak and Sunamganj. Major physical programmes are described below:

A. *Transmission line* :

(i) Bakhrabad-Chittagong (24" O. D.) 110 miles.
(ii) Parallel line from Titas to Joydevpur and or a new line from Bakhrabad to Demra (14" or 16") 30/40 milles.
(iii) Sylhet Tea Estates : Habiganj-Shamshernagar (6")-30 miles.
(iv) Kailashtilla to Sylhet line 8"—8 miles.
(v) Chhatak to Sunamganj 4" line 12 miles.
(vi) Kailashtilla to chhatak 6" line 26 miles.
(vii) Mymensingh-Kishoreganj-Jamalpur.
(viii) Beanibazar to Titas system 80 miles (16" dia).

B *Distribution line* :

(i)	Chittagong, Comilla, Laksham and Feni Area	600 miles
(ii)	Titas Franchise area (Phase-III)	300 ,,
(iii)	Mymensingh, Jamalpur and Kishorgonj	100 ,,
(iv)	Chhatak and Sunamganj	20 ,,
(v)	Sylhet Tea Estates (Phase-I)	115 ,,
(vi)	Sylhet Town Gas Supply (Phase-I)	35 ,,

12.45 *Petroleum Processing and Distribution:* It is proposed to expand the LPG recovery capacity at ERL by an additional 15,000 tons. This will partially help to reduce dependence on imported Kerosene Oil. 1,40,000 tons lubricating oil plant will also be installed during SFYP together with BMR of ERL. Tanker capacity will be increased. Physical Programmes are given below :

Additional/New capacity creation :

(i)	LPG Recovery	15,000 Tons/year
(ii)	Lubricating Oil	40,000 Tons/year
(iii)	Tankers Coastal	9,000 tons (9 tankers)
	Shallow	1,000 tons (3 tankers)
(iv)	Waste Oil recycling in the private sector	4,500 tons/year of lubricating Oil

12.46 *Research and Studies:* Several techno-economic feasibility studies will be undertaken, such as (a) supply of natural gas across the river Jamuna to Western Bangladesh, (b) compressed natural gas (CNG), (c) LPG recovery from natural gas and (d) Countrywise Gas Grid System under a Gas Development Master Plan. Feasibility studies on supply of natural gas from Beanibazar and Kamta Gas fields along with transmission pipeline from Bakhrabad to Titas System will also be undetaken.

Financial Outlay

12·47 To implement the programme of Natural Resources Sector an amount of Tk 614·51 crore at 1979/80 price (Tk. 891·00 crore at current price) has been allocated for the SFYP period. Agency-wise allocation, both at constant and current prices are given below :

TABLE 12.12

Agencywise Allocation

[*Tk. in crore.*]

	Agency.	Total Allocation in SFYP.	
		At 1979/80 price.	At current price.
1.	Petrobangla	583·60	846·17
2.	Bangladesh Petroleum Corporation	11·15	16·17
3.	Geological Survey of Bangladesh ..	16·75	24·30
4.	Ministry of Energy (Petroleum and Mineral Resources Division.). ..	3·01	4·36
	Total ..	614·51	891·00

C. RENEWABLE AND RURAL ENERGY

12.48 Energy consumption in Bangladesh is characterized by heavy dependence on traditional fuels, such as cow dung, rice straw and husk, tree leaves and twigs, firewood, etc. as well as sun light and wind. According to the Bangladesh Energy Study about two-thirds of the total energy consumed in Bangladesh come from these traditional sources. This points to the overwhelmingly important role of traditional source of energy for the economy of Bangladesh. The importance of the traditional energy sources will increase as a result of emphasis on rural development, although they are under severe pressure due to population growth. The Plan, therefore, emphasises development of renewable energy resources, such as forests and other biomass, bio-gas, solar energy and livestock. The rural energy demand is so large that the programme of rural electrification can only be complementary to the rural energy resources development.

12.49 There are a number of problems in the field of rural energy. First, supply of renewable energy is complicated by the diversity of sources, existing primitive technology, settlement pattern in villages and the small scale of operation acitvity in energy in rural sector. Secondly, expansion of short stem HYV rice has perhaps reduced the availability of straw although the cropping intensity has increased. Thirdly, the pressure on land for cultivation has reduced the marginal land area for other uses. Because of this firewood has to be a competitive product and emphasis should be on fast growing species. Finally the energy crisis has resulted in activities among various departments and organisations which are often overlapping and uncoordinated. Planning Commission is now coordinating various activities on new and renewable sources of energy.

12.50 Several research and development projects are now going on in the Universities, Government Laboratories and Institutes. The emphasis of the current projects is mainly on bio-gas and solar-thermal application. The Institutes involved in bio-gas research and application are the Engineering University, Bangladesh Council of Scientific and Industrial Research (BCSIR), Agricultural University and Pollution Control Board. Solar Energy researches are being carried out in the BCSIR, Engineering University, Dhaka University and BRRI. Research on wind rotors has been initiated by the Engineering University, Dhaka University and Agricultural University. Directorate of Forestry is engaged in promoting plantation of new fast-growing plants in villages.

12.51 The objectives for the development of renewable energy sources are:

(i) To achieve a system of balance between agriculture and energy, emphasizing use of indigenous energy resources like biomass, bio-gas, solar, wind, etc.

(ii) To improve efficiency of use and increase availability of new and renewable sources in order to meet the growing demand for energy in the rural areas.

(iii) To conserve ecological balance through development of forest resources.

(iv) To aim at increasing technical capabillity in the field of new and renewable sources of energy development.

12.52 Since rural energy is a complicated area as mentioned before, a number of steps are needed to bring about an improvement there. These are:

(i) A proper institutional arrangement will be made to help coordinate the activities, formulate the policies and implement programmes.

(ii) Sufficient fund will be mobilized for basic and adaptive research as well as for promotion of extension service.

(iii) Private sector will be encouraged to invest in the rural energy industry.

(iv) Organize training programme in the use and extension of the new and renewable energy technologies.

(v) Survey of rural energy situation and energy resources.

12·53 Physical Programme for this sector consists of only an integrated project which will be implemented by Renewable Energy and Research section of the Planning Commission. The project will have several components having different aspects of new and renewable sources of energy. Livestock survey from energy point of view will be one of the main components of the project. USAID is expected to finance part of this project. World Bank is also likely to promote some areas of new and renewable sources of energy.

12·54 The project will cost Tk. 1·49 crore at 1979/80 prices and will be completed by 1984/85. Phasing of the expenditure of the project both at constant and current prices is shown below :

[*Tk. in crore*]

	Allocation for 1983/84	Allocation for 1984/85	Total for SFYP
(a) At 1979/80 Prices	0·64	0·85	1·49
(b) At current Prices	1·00	1·59	2·59

CHAPTER XIII

TRANSPORT AND COMMUNICATION

A. TRANSPORT

Transport is the least developed infrastructure in Bangladesh. There are only 8 miles of metalled road and 3 miles of railways per 100 sq. miles. Though the maximum distance of the country from east to west is 389 miles only, it takes on average 23 hours by road to reach the port city of Khulna from port city of Chittagong. The relief of the country, however, makes transport development difficult. The criss-crossing of the country by innumerable rivers, flooding of one-third of the country every year and heavy rainfall for more than four months in a year make road and rail construction difficult and expensive as they require raising of embankment to a considerable height, upto 15 feet in some terrains and frequent bridge connections. In the case of waterways which provide the bulk of transport services, the deltaic topography of the country causes heavy siltation of the river channels, calling for continuous and expensive dredging operations.

13.2 The geographical features of the country substantially determine the traffic pattern and modal use. Waterways carry the substantial portion of traffic in the central and southern areas while road transport and railway carry most of the traffic in the north and north-west. The natural drainage of the country is from north to south so that construction of road and railway moving east-west is more expensive compared with north-south because of too many river crossings. Apart from these geographical features, there are other factors which make modern transportation expensive. Due to the subsistence nature of the economy, the major demand for freight traffic in the organised sector comes from the arterial movement of imports and exports. Imports are more than three times the exports; as a result vehicles carrying loaded cargo from the sea ports located in the south have to go back largely empty on return journey. Increased cost of commercial fuel has made modern transportation quite costly.

Review of Past Development

13.3 Early transport development in Bangladesh took place mainly against the background of a colonial economy. The railways and ports were developed to export primary commodities such as jute and tea and maintain supply lines to the industrial belt of Calcutta. This can be seen from the fact that at the time of partition of India in 1947, rail-roads had a general direction towards the main sea port of Calcutta. During the period 1947—70, there was the need for realignment of the transport system, leading to the development by a road network. The mileage of metalled road increased from about 300 miles to about 2,000 miles; inland river ports were built; an anchorage mainly for export of jute was established at Chalna and a domestic air transport service was introduced. To cope with the transportation need, new organisations like Road Transport Corporation and Inland Water Transport Authority were set up.

13.4 But during the War of Independence, the transport system suffered heavy damage and destruction. There were large scale damages to railway rolling stocks, road transport and water transport equipment, and railway and road bridges (299 railway bridges and 274 road bridges). The sea ports and inland waterways were blocked by sunken vessels and debris. After Independence, therefore, heavy investment had to be made for rehabilitation, repair, replacement and reconstruction of the transport system. In addition, there arose the need for setting up new national organisations for air transportation, ocean shipping and inland transporatation.

Development During 1973–80

13.5 In the First Five Year Plan (FFYP, 1973–78) transport investment figured prominently. 16 percent of the planned development outlay (Tk. 699 crore) was allocated to the transport sector, but resource shortfall and high cost of materials due to inflation resulted in physical achievements far less than the planned targets. The financial outlay was only 63 percent of the planned target. The main focus of the Transport Sector programme under the Plan was the rehabilitation of the transport system so as to regain the pre-liberation operational efficiency as well as to expand capacity to meet the need of traffic growth during the plan period. The major physical achievements during the plan period have been the rehabilitation of all railway bridges and most of the major road bridges; construction of eight new major road bridges; pavement of about 500 miles of new roads; construction of Kurmitola International Airport and Saidpur Airport ; construction of five permanent jetties and warehouses at Chalna sea port; reconstruction of six old jetties of Chittagong sea port; procurement of locomotives, coaches and wagons for the Bangladesh Railways; procurement of over 500 new buses by the Bangladesh Road Transport Corporation to augment urban transport service ; acquisition of 18 ocean-going ships by the Bangladesh Shipping Corporation; acquisition of three old Boeing air-crafts by Bangladesh Biman to expand its international routes; purchase of 100 new vessels by Bangladesh Inland Water Transport Corporation for use in the inland waterways and purchase of five new dredgers by Bangladesh Inland Water Transport Authority.

13.6 All these reflect heavy traffic demand. Between 1973 and 1979, passenger traffic grew by 39 percent and freight traffic showed a growth of 21 percent in volume terms. In railway, passenger miles increased from 1·7 million to 3·2 million. The traffic growth pattern shows a shift in the modal composition of passenger and freight-traffic. There has been a marked shift of freight traffic away from waterways to rail and road, while the share of waterways in passenger-traffic increased. Rail and road taken together accounted for about 36 percent of freight traffic in 1973 ; in 1979 the share increased to about 49 percent, but in passenger-traffic share decreased from about 80 percent in 1973 to about 75 percent in 1979. A comparatives.

position of traffic volume, both freight and passenger and their respective modal composition in 1973 and 1979 is shown in Table 13.1 below :

TABLE 13.1

Modal Split of Passenger Traffic and Major Freight Traffic
(mechanised modes only)

[Figure in lakh]

Mode.	1973				1979			
	Freight Traffic.		Passenger Traffic.		Freight Traffic.		Passenger Traffic.	
	In Tons.	In %	Num-bers.	In %	In Tons.	In %	Num-bers.	In %
Rail ..	13·02	19·63	636·55	24·64	31·84	28·00	897·55	25·01
Road ..	10·75	16·21	1430·00	55·35	13·76	20·49	1788·00	49·83
Water ..	42·53	64·12	513·00	19·86	34·52	51·42	897·40	25·00
Air ..	0·03	0·04	3·84	0·15	0·06	0·09	5·67	0·16
Total ..	66·33	100·00	2583·39	100·00	80·18	100·00	3588·62	100·00

Perspective of the Second Plan

13.7 The Plan recognises the critical role of transportation in development not only in the passive sense of reflecting demand of the production and distribution sectors of the economy on transport, but also in the active role of promoting economic development through fructification of latent productive and economic forces. In designing the transport sector plan, attention has been paid to both these roles. The programme provides for growth of transportation facilities commensurate with the development programmes of the productive sectors like agriculture, manufacturing, distribution, trade and passenger movement. It is, however, its active role that the programme emphasizes most. The Second Five Year Plan aims at decentralisation of socio-economic activities for a rapid rural development. In this new strategy of development, the transport sector will contribute immensely in the growth process of the rural areas by planned dispersion of economic activities and integrating the isolated and scattered growth centres of the country into the main stream of economic activities.

Objectives of SFYP

13.8 Having regard to the dual role of transport development, the main objectives of the transport sector programmes under the SFYP are as follows :

(a) provision of transport facilities commensurate with the increasing productive activities in the economy as a support to the development programmes of all sectors of the economy ;

(b) development of a network of rural transport system through implementation of a feeder road programme connecting growth centres of the country including thanas, hats and bazars and introduction of new technology in rural transport modes ;

(c) tackling of the urban transportation problem in the major cities through close co-ordination of land-use plan, traffic engineering and transport improvement plans ;

(d) improvement of the operational efficiency of the public sector transport through better maintenance and efficient use of its assets and equipment, and enabling them to operate on commercial principles ; and

(e) research and studies for achieving fuel efficiency.

Financial Allocation

13.9 An amount of Tk. 1,287 crore at 1979/80 prices has been allocated for the development of the Transport Sector under the SFYP. Besides, it is expected that Tk. 976 crore (at 1979/80 prices) will be utilised in the private sector. The table 13.2-A shows the sub-sectoral allocations during the Second Plan in the Public Sector.

TABLE 13.2A

Sub-sectoral Allocation for the Transport Sector under the Second Five Year Plan.

[Tk. in crore]

Sub-sector.	Allocation for SFYP.	
	At 1979/80 prices.	At current prices.
I. Rail Transport :	**413·93**	**552·97**
1. Bangladesh Railway	413·93	552·97
II. Road Transport :	**409·02**	**593·43**
2. Roads and Highways	380·00	556·86
3. Bangladesh Road Transport Corporation ..	27·77	34·72
4. Rural/Urban Transport Survey ..	1·25	1·85
III. Water Transport :	**316·87**	**459·56**
5. Inland Water Transport Authority	64·94	89·84
6. Inland Water Transport Corporation	51·79	70·70
7. Chittagong Port	63·56	92·18
8. Chalna Port	54.65	79·26
9. Bangladesh Shipping Corporation	70·80	111·41
10. Marine Academy	10·40	15·11
11. Marine Department	0·06	0·08
12. Department of Shipping	0·32	0·47
13. Ports, Shipping and I.W.T. Division	0·35	0·51

TABLE 13·2A—*(contd.)*.

Sub-sector.	Allocation for SFYP. At 1979/80 prices.	Allocation for SFYP. At current prices.
IV. **Air Transport :**	**147·18**	**213·45**
14. Civil Aviation	102·62	148·83
15. Bangladesh Biman	39·35	57·07
16. Implementation, Monitoring and Evaluation Divisoin	5·13	7·45
17. Civil Aviation and Tourism Division	0·08	0·10
Total (Public Sector)	1287·00	1819·41

TABLE 13.2B

Annual Phasing of Allocation for the SFYP (1980—85)

(Public Sector only) *[Tk in crore]*

Level of Pricing.	1980-82	1982/83	1983/84	1984/85	Total. (1980-85)
(a) At constant price (1979/80) ..	666·92	268·20	164·37	187·51	1287·00
(b) At current price	851·20	391·22	267·51	309·48	1819·41

BANGLADESH RAILWAY

The Problems :

13.10 The formulation of a development programme for the Bangladesh Railways has proved extremely difficult. As a system, the Railway has its own need-based requirements which must be met if the system is to remain in operation. There are accumulated problems of over a period of three decades and a half originating from the various incidences of history as well as from the negligence and indifference of the management of the system. Extensive damage to the system's assets-tracks, bridges, rolling stock, etc. suffered during the Liberation War of 1971 almost crippled the system. Such were the problems faced by Bangladesh in its post independence period. Although considerable amount of resources had been spent for the development of the Railway since Independence first through the reconstruction programme and then through the First Five Year and the TwoYear Plans, yet the system is not fully rehabilitated due to resource limitation compared with the immensity of the problems and partly due to misplaced investment priorities. In the past investment programmes, due attention had not been paid to maintenance of assets, while procurement of material assets received more than proportionate priority. Due to these very factors, the operational efficiency of the system has been very poor as illustrated by the following Table :

TABLE 13·3

Operational Efficiency of the Bangladesh Railway in 1969/70 and 1978/79.

		1969/70.	1978/79.
A.	**Freight Wagons :**		
	(i) Wagon turn round time (days)	BG 12·5 MG 14·5	15·0 21·6
	(ii) Percentage of wagons available for use to total on line.	BG 93·9 MG 91·9	85·4 85·8
	(iii) Net ton-miles per wagon day on line ..	BG 140·0 MG 116·0	125·0 87·0
	(iv) Av. speed of diesel freight trains (mph) ..	BG 11·3 MG 8·3	9·5 7·2
B.	**Passenger carriages :**		
	(i) Precentage of coaches available for service to total on line.	BG 87·4 MG 86·6	86·0 84·2
	(ii) Passenger miles per vehicle day on line ..	BG 173·0 MG 151·0	120·0 96·0
C.	**Diesel Locomotives :**		
	(i) Percentage of locomotives available for service to total on line.	BG 91·9 MG 84·6	85·9 74·0
	(ii) Engine-miles per engine on line per day ..	BG 235·0 MG 133·0	181·0 115·0
	(iii) Engine-miles per engine-day in use (for goods traffic only).	BG 191·0 MG 126·0	152·0 107·0

Source : Railway Development Planning Project (ADB financed).

13.11 Wagon turn-round has deteriorated due to poor maintenance of wagons, absence of vacuum brakes, lack of adequate telecommunication facilities, etc. Wagon and coach availability are very low because of low output of the railway workshops at Saidpur and Pahartali. Lack of discipline, inexperience of foremen and junior management, wastage and shortage of key materials, etc. in the system are some of the factors that have been the main causes of low ouput of the workshops. Much of these will require strengthening of management control and right investment priorities.

Objectives and Strategies of SFYP

13.12 The short account of the problem given above indicates that the objectives of the railway development programmes for SFYP should be to (1) rehabilitate the existing assets and (2) meet the hard core requirements of assets so as to make the system capable of handling its due share of freight and passenger traffic during the plan period efficiently and economically. Needless to say that utmost care should be taken to optimise the benefits of investment of resources. It is, therefore, necessary to evaluate the various investment alternatives to achieve the objectives mentioned above, to arrive at the right investment strategy. Studies conducted recently by the Asian Development Bank show that investment in track and operational projects offer better rates of return than those in rolling stock acquisition projects. Investment for improvements of operating efficiency of the Railways yields the highest return followed by investments on track rehabilitation, while investment in rolling stock acquisition yields the lowest return. In the latter case, the return of investment for rolling stock acquisition for freight earns higher return than that on rolling stock for passenger traffic. These return characteristics offer guidelines for future investment strategies. Although the compulsion of the system requirements would not allow adoption of investment projects all with the highest return, yet efforts should be made to select a bundle of projects which would yield the highest possible returns in the pursuit of the outlined objectives. The indices of operational efficiency quoted in Table-13·3 above also suggest that there exists appreciable under-utilisation of rolling stock capacity and point to the necessity to increase operational efficiency through better utilisation of the existing stock rather than through expansion of capacity. A serious limitation on the degree of freedom in the adoption of the above mentioned invesment strategy is compulsion of the ongoing projects which cannot be thrown out in the mid-stream. Future investment programme will have to accommodate much of these projects.

Traffic Forecast for the Railway Freight Traffic :

13.13 A number of studies on traffic forecast has been made in recent year showing relative economics of various modes. The Table below indicates freight costs per ton-mile for different lengths of haul that would prevail in 1984/85 :

TABLE 13·4

Comparative Freight Costs per Ton Mile (full load) in 1984/85.

Mileage.	Rail (MG)	Rail (BG)	Road	IWT.
50	3·32—3·97	3·34—4·22	2·99	5·50
100	2·17—2·66	2·28—2·79	2·54	2·96
200	1·28—1·77	1·32—2·04	2·31	1·74

Source : Railway Development Planning Project, Vol. 1, page 51 (ADB financed).

The comparative cost figures indicate what should be the transport load on the Railways. It will be seen that the longer haul transportation is cheaper in Railway compared with other modes of transportation. These hauls are almost of inter-district nature. From these statistics, it is possible to calculate the normative level of the transport oad for the Bangladesh Railway for the terminal year of the SFYP, which the Asian Development Bank study shows to be 750 million ton-miles. Traffic flow series for the SFYP period have been estimated on considerations of causal relations as well as trend. This is estimated to be 3,841 million passenger miles.

13.14 For various reasons, the forecast derived from extrapolation of past trends should not be accepted as correct method for planning purposes. It takes no account of latent demand, which in the case of Bangladesh is known to be very high and the change in cost structure. The adjusted estimate of forecast traffic volume has, therefore, been accepted for the SFYP programme preparation. To sum up, the Bangladesh Railway has to handle freight traffic of 48 lakh tons and 7,505 lakh ton-miles and passenger traffic of 1120 lakh passengers and 38410 lakh passenger miles in 1984/85.

The Programme

13.15 The development programme for the Bangladesh Railway has been prepared to make it capable of handling efficiently and economically the traffic volume indicated above, and the investment portfolio of projects has been determined in the following order of priority :

(a) rehabilitation of track, bridges and improvement/modernisation of telecommunication and signalling system;

(b) improvement and modernisation of operational projects such as existing maintenance and repair workshops at Saidpur, Pahartali, Ishurdi, Dhaka and Parbatipur ;

(c) strengthening of motive power *i.e.*, the fleet of Locomotives ;

(d) strengthening of wagons and coaching vehicle fleet ; and

(e) training of railway personnel and other related facilities ;

An amount of Tk. 413·93 crore (at 1979/80 prices) has been earmarked for the Bangladesh Railway. With this allocation it would be possible to undertake the essential items of work concerning the speed of traction, availability of wagons, passenger carriages etc., which affect the operational efficiency of the railway. The programme, in short, is given below :

(a) *Rehabilitation of the track including bridges, telecommunication, signalling system, etc. :* The following sections considered essential on ground of the conditions of the track and importance of the sections from traffic point of view have been identified for rehabilitation :

(i) Dhaka-Chittagong section-(MG).

(ii) Akhaura-Sylhet section-(MG).

(iii) B' Bazar-Mymensingh section -(MG)

(iv) Khulna-Parbatipur section-(BG).

Besides, renewal of rails, sleepers and ballasting of other important sections will be done.

(b) *Improvement and modernisation of existing repair and maintenance facilities :*

(i) Existing repair and maintenance facilities in the workshops and locosheds would be modernised/expanded for proper upkeep of rolling stock and for undertaking local fabrication/assembly of wagons and carriages on a limited scale.

(ii) For heavy repair and major over-hauling of locomotives, detailed feasibility study and preliminary engineering work for setting up a Central workshop (Back shop) would be undertaken.

(iii) A plant for manufacturing concrete sleepers and track fittings locally has also been included in the programme.

(c) *Strengthening of motive Power (locomotives):* Existing steam locomotives would be replaced by diesel locomotives. Some new locomotives will also be procured to improve motive power position . The programme envisages procurement of the following :

—Mainline locomotives 24 (BG) + 25 (MG) ..	=	49
—Shunting locomotives 50 (MG) ..	=	50
		99

(d) *Strengthening of rolling stock (wagons and carriages):*

(i) **Freight wagons :** Considering the anticipated volume of freight traffic and unforeseen requirements (during bulk import of food staff), 1,075 wagons including some special types of wagons are estimated to be required over and above the existing stock and these would be procured during the Plan period. Besides, rehabilitation of 600 wagons and local fabrication/assembly of about 285 wagons would be undertaken for replacement of overaged wagons.

(ii) **Passenger Carriages :** Considering the passenger load, a total of 300 carriages (BG 100+MG 200) are estimated to be required over and above the existing stock. But due to resource constraints, only 164 carriages (BG 44+MG 120) would be acquired and local fabrication/assembly of about 94 passenger carriages would be undertaken during the Plan period. In addition, 3 MG railcars with 6 trailers would be acquired for introducing commuter service on experimental basis.

(e) *Training of Personnel and Other Related Facilities :* Training of officers and staff will get priority for augmenting management, administration and operational efficiency of the railway. Necessary inputs for on-the-job training of personnel particularly in locomotives scheduling will be provided for better motive power and utilisation of other assets. The Railway officers' Training Academy which is now under construction would be made functional during the Plan period to shoulder the responsibility of imparting training to both managerial and operational personnel.

13.16 **Some Policy Issues :**

(i) Bangladesh Railway should gradually reduce the priority it attaches to passenger operations because of the uneconomic nature of these operations and concentrate more on the freight traffic which yields higher returns. The current practice of carrying certain commodities free or at subsidised rates should be limited to the entent that the loss can be covered by cross-subsidisation.

(ii) Railway fares and freight rates should be periodically reviewed and rationalised in view of continuing inflation and rising cost of fuel.

(iii) In no other organisation efficient management is more required than in Railways to derive maximum economic benefit from it particularly because of large investments that are required by the system. At present, Bangladesh Railway has the management problem particularly in the workshops where operating discipline is lacking and also inadequate attention is given to the maintenance of railway assets. Bangladesh Railway should immediately take appropriate measures for overcoming management problems and take effective steps to improve discipline, reliability, security and ability to reduce pilferage of equipments and spare parts.

ROADS AND HIGHWAYS

13.17 Presently, there are 2554 miles of paved roads, 546 miles of brick/gravel roads and in addition, about 600 miles of roads at different stages of construction under the Roads and Highways Department (RHD). Besides, there are 210,000 rft. of bridges and culverts on the existing road system. Out of 2554 miles of paved roads roughly 823 miles form part of the Asian Highway. Apart from the roads of the RHD, there are about 86,000 miles of roads in rural areas of the country built and being maintained by the Local Bodies. Of this total, only about 1700 miles are paved. These rural roads were constructed with lower specifications and as such are not suitable for mechanised traffic/heavy axle loads. There are 52 ferry crossings of which 15 exist on the arterial road systems and power ferries are in operation in these gaps. Jamuna River ferries connecitng Rajshahi and Khulna Divisions with Dhaka Division are operated by the BIWTC. For systematic development of road system, the roads/highways of the country have been classified into 5 categories, namely national, regional, district, feeder and rural roads. This classification of roads/highways along with corresponding standards/specifications have been recommended on the basis of their economics, strategic importance, regional consideration, traffic-volume, etc. The mileage of existing roads/highways in various categories of the aforesaid classification is shown in Table 13.5.

TABLE 13.5

Mileage of Existing Paved Roads

	In miles.
National Highways	854
Regional Highways	535
District Roads	465
Feeder Roads	700
Total ..	2,554

Of the total, 2,000 miles are bituminous concrete roads and the remaining 554 miles are cement concrete roads. In addition to the above road mileage, a total of 2,758 miles of new road construction would be required to complete the network of national and regional highways and district/feeder road system. The break up is given in Table 13.6.

TABLE 13.6

Mileage of New Construction of Roads

	In miles.
National Highway	215
Regional Highways	208
District Roads	235
Feeder Roads (part)	2,100
Total ..	2,758

13.18 RHD will be responsible for the first three categories of roads while the construction of feeder roads (part) will be vested with the RHD temporarily, till the local bodies are fully equipped with manpower and infrastructure facilities. The feeder roads other than the mileage under the RHD and all rural roads will be the concern of local bodies. The paved roads under the RHD provide connections to the centres of the regions and places of socio-economic, strategic and administrative importance.

The current position of such connections including the growth centre connections is given in the following Table :

TABLE 13.7

Paved Road Connection

Centres	Total No.	No. connected by paved road.	No. without paved road link.
(1) Rajshahi Division			
(a) District H.Q. ..	5	5	..
(b) Subdivisional H.Q. ..	9	9	..
(c) Rural P.S.	109	48	61
(d) Big Markets ..	62	16	46
(e) Medium Markets ..	94	12	82
	279	90	189
(2) Khulna Division			
(a) District H.Q. ..	5	4	1
(b) Subdivisional H.Q. ..	11	7	4
(c) Rural P.S.	74	22	52
(d) Big Markets ..	39	16	23
(e) Medium Markets ..	55	15	40
	184	64	120
(3) Dhaka Division			
(a) District H.Q. ..	5	5	..
(b) Subdivisional H.Q. ..	12	9	3
(c) Rural P.S. ..	95	25	70
(d) Big Markets ..	70	22	48
(e) Medium Markets ..	97	20	77
	279	81	198
(4) Chittagong Division			
(a) District H.Q. ..	5	5	..
(b) Subdivisional H.Q. ..	10	9	1
(c) Rural P.S.	87	43	44
(d) Big Markets ..	84	32	52
(e) Medium Markets ..	117	37	80
	303	126	177
Total ..	1045	361	684

Source : Transport Survey Section, Planning Commission, 1977.

13.19 It will be seen from the above Table that only 361, out of a total of 9 growth centres, identified so far *i.e.* about 37 percent of the growth centres have paved road connections. But for the development of rural economy, the remaining rural growth centres and those to be indentified later should be connected by jeepable roads.

Objectives of Roads and Highways

13.20 The objectives of Road sub-sector during the SFYP are as follows:

(i) Provision of road transport facilities commensurate with the growing activities in the production and distribution sectors of the economy; and

(ii) as a support to the SFYP objective of decentralisation of economic activities, construction of a net-work of feeder roads for connecting the growth centres with the arterial road system.

13.21 The road development programme of the SFYP includes new construction and upgrading/improvement of existing road system, construction of bridges and culverts, improvement of ferry services and some infrastructure projects. The work on new construction and widening of roads would be taken up on the principle of 'by-stage-construction'. The programmes of road section for the SFYP in physical terms are stated below:

13.22 **Roads/Highways** : The following road development programmes will be undertaken during SFYP:

TABLE 13.8

Road Development Programme in SFYP

(*Figures in mile*)

Class of roads	New construction in stages.	Widening and strengthening (in stages)	Only strengthening/improvement	Specifications
(a) National Highways	70	110	280	Crest width—40ft Pavement width—22ft
(b) Regional Highways	110	45	50	Crest width—36ft. Pavement width—18ft.
(c) District Roads	75	50	100	Crest width—30 ft. Pavement width—12 ft
(d) Feeder Roads	900	--	110	Crest width—24 ft. Pavement —12 ft.

Note :—"Stage construction" stands for the construction/improvement of the components of a road in one or more stages as and when the traffic increases or more funds become available.

Normal maintenance and repair works of the existing road net work would be carried out in a planned and systematic manner from RHD's revenue budget before and after the rehabilitation/ improvements of the roads/highways.

13.23 **Bridges/Culverts**: The following bridge projects have been included in the SFYP programme for feasibility study/construction and reconstruction of old and damaged bridges/culverts and some of the bridges would remain in different stages of construction:

	Approx length
(a) Feasibility study and detailed design and construction of 5 major bridges, viz, Meghna, Gumti (Daudkandi), Surma, Lamakazi and Gorai Bridges:	10,000 rft.
(b) Replacement of existing old/narrow bridges/culverts on national/ regional/district roads:	10,000 rft.
(c) Construction of small/modium bridges (60-80 ft) and culverts falling on the feeder road system:	20,000 rft.
Total ..	40,000 rft.

13.24 **Ferry Services** : Programmes to be undertaken for development of ferry services during SFYP are :

(a) Introduction of ferry services at two additional points on the Jamuna River namely, Serajganj/Chargabsara and Maderganj-Sariakandi ;

(b) improvement and modernisation of existing ferry services and ferry terminals including construction of new ferries; and

(c) on the proposed new feeder roads, ferry services will be provided in as many gaps as possible depending on the volume of traffic.

Supporting Infrastructural Facilities :

13.25 To support the implementation of the projects listed above following infrastructural facilities will be provided:

(a) Strengthening of Central Road Research and Testing Laboratory will be done by setting up five functional Divisions in the laboratory. Besides, Regional/ Divisional laboratories will be set up attached to RHD field offices for effective quality control on all projects.

(b) Acquisition of road equipment and rehabilitation of off-road equipment/machinery keeping in mind that optimum labor intensive methods would be adopted in road construction.

(c) Portable steel bridges (Bailey/Acro pannel type) would be acquired to bridge the gaps at strategic locations on the road system and to meet emergency needs during floods.

(d) Weigh-bridges would be set up at suitable points on the arterial road network to check axle load/ overloading of trucks and buses. This will safeguard the pavement and bridge structures from being damaged under heavy truck loads

13.26 A sum of Tk.380·00 crore (at 1979/80 prices) has been allocated for the RHD during the SFYP. This is exclusive of investment in road that may take place from the allocation made for upgradation of Thana administration.

Strategy and Policy for Road Development

13.27 With regard to implementation of the road development programmes, the following guidelines are provided:

(1) In view of resource constraints, construction of all categories of roads, particularly the feeder roads, should be taken up in phases and the technique of 'by stage construction' should be adopted wherever possible.

(2) The planning and development of feeder road system should be conceived as an integral part of rural development as a whole.

(3) To minimise acquisition of additional lands for construction of new feeder roads, the existing alignments (in Kutcha condition) should be followed wherever possible with necessary straightening of sharp bends.

(4) Maintenance of the existing roads, equipment and machinery shall be given higher priority than had been given so far and funds for new construction or acquisition shall be rationally determined to make sure that adequate funds are available for improvements and rehabilitation of the system.

(5) Road classification and standards as recommended should be strictly adopted. The engineering specifications for pavement construction jointly developed by the Roads and Highways Department and the Planning Commission should be adopted within the shortest possible time.

(6) Quality control measures in road construction should be made effective without delay and for this strengthening of the Central Road Research/Testing Laboratory and setting up of Regional Research/Testing Laboratories should be completed on priority basis.

(7) The borrow pits required for constructing road embankment should be so excavated as to provide irrigation canals and timber/fruit trees should be planted on both sides of embankment for their protection.

(8) Emphasis should be laid on manpower training in the fields of planning, design, construction and maintenance of roads/highways, road equipment and other facilities.

(9) The road projects should be phased in such a way that a project once included in the ADP should not take more than 5—7 years to complete, atleast to make them operational.

Institutional and Organisational Framework.

13.28 In principle, RHD should be entrusted only with the construction and maintenance of arterial road/national highway system. However, it has also been made responsible for undertaking construction of feeder road system during the Second Five Year Plan although historically feeders were built and maintained by the local bodies. The

involvement of the RHD in the feeder road construction has been necessitated by the fact that the Local Bodies are not well equipped with technical manpower/know-how and infrastructural facilities to shoulder the responsibility. However, this is considered to be a temporary/interim arrangement and it is expected that by the end of Second Five Year Plan the local bodies would be adequately strengthened in organisation, manpower, infrastructure, etc. so that they can undertake the construction/maintenance of feeder roads. Local Bodies are actually in a better position to determine the priority of road development in the overall planning of the district/and stimulate local participation through voluntary contribution such as labour and land. RHD which is a centralised organisation can hardly take up such responsibility. The involvement of the RHD may, however, be required in the form of consultancy and supervisory services to the local bodies as well as in the construction of comparatively larger bridges and culverts.

ROAD TRANSPORT

13.29 Road transportation in Bangladesh involves both the public and the private sector participation. Private sector participation accounts for nearly 98 percent of the freight traffic and as much as 90 percent of the passenger traffic. Public sector participation is mainly continuing as a legacy of the past policy and while it continues, it is used as an alternative to private operation to meet such traffic demand which does not appear financially attractive to the private sector. The public sector freight transport operation is supposed to be used as a lever to keep competitive pressure on the private sector. It is doubtful how much of these purposes have been achieved. There is, however, a characteristic difference in the two sectors. While the public sector road transportation is confined only to mechanised transport, the private sector is engaged in both mechanised and traditional non-mechanised transport. The position of mechanised road transport vehicles as of November, 1979 is given in Table 13.9:

TABLE 13.9

Mechanised Road Vechicles, November, 1979

(Fig in Numbers)

Vehicle Type	No. Registered.	On. Road.
Truck	20,147	14,103
Bus	11,802	8,261
Private Car	28,355	19,848
Jeep	11,094	8,321
Taxi	1,854	1,113
Other 4 Wheelers	6,222	4,256
Auto-rickshaw	15,188	10,632
Motor Cycle	48,472	38,778
Total: ..	143,134	105,312

Source: Bangladesh Transport Survey, Planning Commission.

Bangladesh Road Transport Corporation (BRTC)

13.30 The only agency engaged in road transportation in the public sector is the Bangladesh Road Transport Corporation (BRTC). It has a Bus and a Truck Division. It is providing major passenger services in the cities of Dhaka and Chittagong and on 16 inter-district routes covering 10 districts. These buses operate from 8 depots and 9 sub-depots and 11 stations located at suitable points in the cities and inter-district routes. The fleet position of BRTC buses and trucks as of December, 1979 was as under:

TABLE 13·10

Fleet Position of BRTC, December, 1979

Type of vehicles	Total fleet	Road Worthy	Under repair	Average on road
Bus	675	373	302	231
Truck	110	97	13	90
Total ..	785	470	315	321

It is seen from Table 13·10 that only 231 buses out of the total 675 buses *i.e.* about 34 percent of the buses were actually on road. Due to this abnormally low level of operation, BRTC could carry only a total of 365 lakh passengers during 1978/79.

This poor operation of bus fleet caused the BRTC to run into financial crisis. The factors responsible for poor operation of the buses are mainly lack of timely repair/maintenance of vehicles caused by shortage/non-availability of spare parts and lack of trained manpower at the managerial and operational level.

13.31 **Programmes and Financial Allocation for the BRTC** : The objectives of BRTC's participation in road transport was to supplement private sector's operation and to set up minimum standards of comfort, safety and reliability so far as passenger services are concerned whilst the objective of truck services was to keep competitive pressure on the private sector. These objectives do not appear to have been realised. On the other hand, as has been shown above it has become a financial drag on the public exchequer. Because of these and as the private sector is expected to meet most of the increased capacity requirements of road transport the programme for the BRTC during SFYP has been kept at a modest level. A sum of Tk. 27·77 crore (at 1979/80 prices) has been allocated for the development of road transport facilities in the public sector for the BRTC. The following programmes are included in SFYP:

(i) Establishment of an integrated Central Workshop for Bus and Truck Division;
(ii) acquisition of buses/minibuses and trucks for replacement of old and condemned ones;
(iii) expansion of BRTC services specially in the cities of Dhaka and Chittagong;
(iv) establishment of training centre for the Drivers and Mechanics;
(v) improvement of existing depots/sub-depots;
(vi) construction of city bus terminal at Fulbaria, Dhaka; and
(vii) feasibility study of Dhaka Metropolitan Transportation System. (To be implemented by the Planning Commission);

13.32 **Strategies and Policies :** BRTC's operations should be governed by the following guidelines:

(i) No expansion of the BRTC's fleet position excepting necessary replacement of condemned fleet either by acquisition of new buses or through introduction of minibus services to the city and suburbs should be allowed until the Corporation can satisfactorily maintain its existing fleet and generate sufficient revenue to pay for rehabilitation of its off road fleet.

(ii) BRTC will limit its passenger services primarily in the urban and sub-urban areas of Dhaka and Chittagong and will not expand its services to other districts/inter-districts routes.

(iii) Fare rate structure for BRTC buses should be periodically revised to cover atleast the full cost of operation including expenses for maintenance.

(iv) Gradually BRTC will completely shed off all trucking business.

INLAND WATER TRANSPORT

13.33 Of all the transport modes, inland water transport is the most economic and important mode of transportation in Bangladesh. It carries about 50 percent of the arterial freight traffic and around one-fourth of passenger traffic. Of the total inland water transport traffic volume, only 10 percent of passenger traffic and 50 percent of freight traffic are carried in the public sector. However, water transportation is increasingly facing a serious problem due to rapid siltation of many river sections. In some of the shallow channels competing demand for water from irrigation and fishery is also creating complications alongside serious draft problem. Furthermore, the public sector transport vessels are mostly over-aged and suffer from low operational efficiency. Night navigation is generally avoided due to inadequate channel markings thereby causing low turn-round of vessels. Absence of standard berthing facilities in many inland ports creates difficulty in berthing of vessels, causes inconveniences to passenger and cargo loading and unloading and increase vessel detention time in the ports.

13.34 There are two public sector organizations operating in the field of inland-water transport: (a) Bangladesh Inland Water Transport Authority (BIWTA), (b) Bangladesh Inland Water Transport Corporation (BIWTC). BIWTA builds and maintains the inland river ports, maintains navigational channels, provides navigational aids and facilities and performs regulatory functions such as registration of vessels and ensuring safety measures for vessels operation. It also trains deckhands for both public and private sector. BIWTC, created largely by merging private inland water transport companies after Liberation, owns and operates commercial vessels and water crafts.

13.35 **Strategy:** Having regard to the problems of inland water transport and keeping in view improvement in public sector operation, the following strategies have been formulated for the Second Five Year Plan:

(a) Dredging programme will be intensified to improve the channel condition of the dead and dying river sections.

(b) In view of the fact that there is substantial private sector participation in inland water transport, the public sector investment in this sub-sector will be largely confined to augmentation of navigation and shore facilities.

(c) All the stable inland river ports accessible by mechanised water crafts will be classified and standardised having a minimum landing and shore facilities. These ports should work on toll system and consideration will be given to entrust the responsibility of collecting tolls and maintaining smaller ports to local bodies.

(d) One important reason for low turn-round of vessels affecting the economy is that night navigation is usually avoided due to inadequate channel marking facilities. Channel marking equipment will be modernized to encourage night navigation.

Bangladesh Inland Water Transport Authority (BIWTA)

13.36 Waterways are natural assets so that relatively less capital investment is initially required to have the basic facilities. However, they need to be maintained through periodic dredging and marking of the navigational channels. In addition, river ports have to be kept operational. These functions being infrastructural in nature have to be performed by BIWTA.

13.37 The investment programme of the BIWTA during the SFYP period will, therefore, largely centre around these two aspects. Dredging activities will be intensified both to maintain the existing channels and resuscitate of new ones. All the river ports and landing stations will be classified and standardised each having minimum cargo and passenger handling facilities depending on traffic and importance of locations. A sum of Tk. 64·94 crore at 1979/80 prices have been allocated for the development programmes of the BIWTA during the SFYP period. The major physical programmes include the following:

(a) Dredging of about 12.0 million cubic yards in six dying river sections;

(b) construction of inland river ports at Baghabari, Bhairab Bazar, Narshingdi and Azmirigonj ;

(c) partial mechanisation of cargo handling facilities in the river ports at Narayangonj and Khulna (Maheshwarpasha) ;

(d) development of 50 launch landing stations. ;

(e) excavation of three navigational canals ;

(f) procurement of four hydrographic survey vessels ;

(g) procurement of one small salvage unit ; and

(h) undertaking the feasibility study for improvement of navigation in Bhairab Lakhya basin, bank erosion problem at Barisal port and construction of river-port at Chilmari.

Apart from these programmes, the BIWTA will continue with its basic function of hydrographic survey and maintaining the main navigational channels and river ports, parts of which are financed from development budget.

Bangladesh Inland Water Transport Corporation (BIWTC)

13.38 Government participation in the river transport operations is a post-liberation phenomenon when BIWTC was established. With about 633 vessels of different types, the BIWTC now carries about 50 percent of the total arterial frieght traffic and 10 percent of the main intor-district passenger movements. The rest is carried by the private sector. The vessel composition of the BIWTC as on June, 1980, may be seen from the following Table:

TABLE 13.11

BIWTC Vessels Composition

[*Cargo in tons*]

Vessel Type	Number	Static Capacity
1. Oil Tanker	16	15,936
2. Cargo Coaster	24	17,508
3. Bay Crossing Flat/Barge	62	34,494
4. Bay Crossing Tugs	7	..
5. Inland Flats and Barges	236	99,115
6. Jute Boats	77	7,400
7. Self-propelled Barge	9	2,787
8. H.D. Launch	19	..
9. Inland Tug	54	..
10. Other Vessel	129	2,760
Total	633	1,80,000

13.39 **Programmes**: With the fleet indicated in the foregoing Table, BIWTC has a total static capacity of 1·80 lakh tons of freight as on June 1980. Assuming a very low operational efficiency such as one-fourth of the fleet being out of commission due to repairs and maintenance and having only three trips on average a month, this static capacity will be able to carry about 4·86 million tons of cargo. The estimated inland water transport arterial freight movement for 1984/85 is 5·84 million tons. With the rated capacity of 4·86 million tons shown above, BIWTC would be more than able to carry the proportionate share of the projected increase of freight traffic. Therefore, there arises no question of conventional fleet expansion for BIWTC during the Second Plan period. More importantly, the role of the public sector in water transportation in which private sector is active should not be expanded beyond the existing capacity as a matter of principle.

However, BIWTC willj have to procure certain special type of vesselse for carrying commodities such as fertilizer from Ashuganj Fertilizer Factory, low draft vessels for foodgrain movement, and LCT vessels for carrying passengers from cyclone prone coastal areas. The investment programme for BIWTC has been framed to replace over-aged vessels, to improve its operational efficiency and to acquire special types of vessels mentioned above. A sum of Tk. 51·79 crore at 1979/80 prices has been allocated for financing the development programme of the BIWTC during the Second Five Year Plan period. The major elements of the acquisition programme are indicated below:

(a) Replacement of over-aged 2 self-propelled barges;

(b) acquisition of new vessels for carrying fertilizer, foodgrains, etc;

(c) acquisition of LCT vessels for cyclone prone areas; and

(d) dieselization, modification and rehabilitation of existing vessels.

Maritime Transport

13.40 Maritime transport includes construction, maintenance of maritime ports, and operation of international transportation by ocean-going ships. Public sector activities in this sphere of transportation are managed and operated by a number of agencies. Some of these agencies are directly involved in transport operations and others provide infrastructural facilities and support.

13.41 Over the last decade, maritime freight traffic has not increased much. Besides, the basic pattern of traffic movement through the two seaports-Chittagong handling overwhelmingly import cargo and Chalna both import and export cargo has also not changed much. These can be seen from the following Table:

TABLE 13·12

Maritime Ports Traffic, Imports and Exports

('000' tons)

Year	Total Traffic	Chittagong			Chalna		
		Import	Export	Total	Import	Export	Total
1969/70 ..	7,075	4,462	573	5,035	1,037	1,003	2,040
1970/71 ..	5,721	3,755	412	4,167	861	693	1,554
1971/72	3,760	2,306	250	2,556	657	547	1,204
1972/73 ..	6,674	4,850	283	5,133	817	724	1,541
1973/74 ..	4,967	3,295	288	3,583	701	683	1,384
1974/75 ..	6,034	4,241	258	4,499	1,041	494	1,535
1975/76 ..	6,007	4,115	365	4,480	900	627	1,527
1976/77 ..	4,573	2,936	511	3,447	404	722	1,126
1977/78 ..	6,705	4,695	545	5,240	1,081	384	1,465
1978/79 ..	6,238	4,190	345	4,535	1,026	677	1,703
1979/80 ..	8,379	5,904	329	6,233	1,470	676	2,146

13.42 The Table above shows that the volume of cargo handled through the two ports together in 1979/80 was about 8·4 million tons. Assuming that food import will fall substantially and other imports will show moderate increase during the years of the SFYP, it is estimated that in 1984/85, the traffic volume will be about 8.0 million tons. As against this, the Chittagong port can, at present, handle cargo traffic of around 6·0 million tons and the port of Chalna 2·0 million tons having a combined capacity of 8·0 million tons. This indicates that port capacity itself will be adequate to meet the traffic demand in 1984/85.

13.43 However, both the sea ports have physical problems to operate efficiently and economically. First, neither the Chittagong nor the Chalna port has enough draft depth near the jetties to harbour big ships (over 15,000-20,000 DWT). On the other hand, the current trend all over the world is to use big ships offering economies of scale. Since about 80 percent of the import/export cargo of Bangladesh is carried by foreign ships, Bangladesh has no control over the size of ships used. As a result, big ships have to wait quite a distance away from the seaport and the cargo to and from ships are handled through lightering. This not only causes delay in cargo clearance but also increases cost of clearance involving about Tk. 40-50 crore per year. The solution to this problem lies in dredging the channels around the port jetties or construction of deepwater erminal. Although at the Chittagong port, dredging of the Karnafuli river is being carried on, yet big bulk carriers still remain outside the port entrance. It is doubtful whether dredging alone will provide the complete solution of the problem and so eventually, construction of a deepdraft port will be necessary. At Chalna port, the draft problem is more serious. Here, the depth of the river along with jetties have decreased so substantially (about 10 ft) over the last decade that ocean-going ships of any substantial size cannot now be berthed along-side the jetties. In order to improve the draft situation, corrective measures are being pursued. The solution at this stage appears to be time-consuming and expensive. Anticipating that the draft situation will improve, some back-up facilities at the port site are considered necessary in order to consolidate gains out of the investment of over Tk.125·00 crore that has already been made for the development of Chalna port. These facilities include the provision of warehouse and transit-sheds, construction of office and residential buildings and provision of sweet water supply. Secondly, apart from the draft problem, none of the seaports are equipped to handle container cargo—a technology already adopted on a large scale by most foreign ships. This problem needs immediate solution.

Development of Ports

13.44 *Chittagong Port:* A sum of Tk.63·56 crore at 1979/80 prices has been allocated for the development programme of the Chittagong Port during the SFYP.

The major elements of the programme are as follows:

(a) Completion of the three ADB financed schemes: rehabilitation of Port railway-track (37 miles;) construction of one warehouse, one transit shed and rehabilitation of 5 transit sheds behind jetties 1—6; and procurement of vessels and crafts;

(b) provision of facilities for handling container cargo, and procurement of cargo handling equipment for handling both container cargo and generalised cargo; and

(c) capital dredging of Karnaphuli River.

The programme also includes completion of on-going projects such as Work. shop and slipway project, lighterage jetty at Sadarghat and explosive cargo jetty.

13.45 *Chalna Port*: Development programme for the Chalna Port during the SFYP period consists mainly of construction of the back-up facilities (warehouse, transit sheds etc.) for the 5 jetties built and completing the phase-1 (cost, Tk. 145·00 crore) portion of the permanent port project. The other major investments will be in port vessels and crafts, hydraulic investigations and channel improvement. An allocation of Tk.54·65 crore at 1979/80 prices has been provided for eight development schemes of Chalna Port. With these investments and with completion of the Khulna-Mangla road, it may be possible to use the jetties by vessels of around 12,000 DWT by 1984/85.

Ocean Shipping

13.46 With two maritime ports and existence of a traditional sea-faring coast in the southern districts, Bangladesh has a bright prospect for rapid expansion of Ocean shipping. Realization of this prospect will enable her to carry an increasing share of her international trade in her own ships and earn foreign exchange and provide employment to her growing manpower. The development programme of Bangladesh Shippingre Corporation (BSC) is to be considered in this perspective. Over a period of eight year, BSC's share of the country's total maritime freight traffic has gone up from a meagre per cent in 1972/73 to over 22 percent in 1979/80. As a member of the conference lines, Bangladesh is entitled to carry upto 40 percent of the total export and import cargo. The ultimate objective of the development programme for the BSC is to realize her capability. However, paucity of resource during the Second Five Year Plan period will not allow full realization of this target. Keeping the resource position in view, the following programme for the BSC is envisaged:

(a) Acquisition of four Ocean going Cargo Vessels.

(b) Seven Ocean going Cargo Ships of the Corporation's existing fleet are over-aged and uneconomic, and efforts will be made to replace these vessels.

(c) The working life of the Corporation's Oil Tanker (cap-95,000 dwt-water tanker) will be over during the Plan period and this will be replaced by a tanker of 125,000 dwt.

(d) The two second hand lighterage tanker procured during the First Plan period will expire their economic life and will be replaced during the Second Plan period.

The revised fleet position of the corporation is given below:

TABLE 13.13

Development Programme During Second Five Year Plan (1980-85)

Sl No.	Vessel Type	Position in 1980		Acquisition Programme during SFYP				Position in 1985	
				Replacement		Acquisition			
		No.	DWT	No.	DWT	No.	DWT	No.	DWT
1	General Cargo Ship	18	2,19,360	7	1,05,000	4	60,000	22	2,87,051
2	Oil Tanker	1	95,000	1	1,25,000	..	..	1	1,25,000
3	Lighterage Tanker	2	37,230	2	40,000	..	..	2	40,000
4	Coasters/ Lighters	3	5,154	..	..	..	..	3	5,154
5	Pilgrim Ship*	1	12,000	..	..	..	..	..	..
	Total ..	25	3,68,744	10	270,000	4	60,000	28	4,57,205

* *Note* : The Vessel will be handed over to the concerned agency.

13.47 B.S.C. acquires its ships through various financing arrangements from international commercial banks, supplier's credit, bilateral aid and assistance from World Bank and other agencies. Under such arrangements, only a portion of the cost is reuired to be paid by BSC towards down payment. Total investment cost required for implementing the project of BSC during the plan period will be around Tk. 254·00 crore. An allocation of Tk.70·80 crore at 1979/80 prices has been provided for financing the down payment provisions during the Plan period.

Marine Academy

13.48 Bangladesh has large seafaring communities but they lack modern training. So, a Marine Academy was set up in the year 1962. However, the capacity and facilities of the Academy is limited. At present, it can train only 48 cadets at a time divided between nautical and engineering branches. These courses are pre-sea courses. To make available increased number of ship crews at the managerial level for Bangladesh Shipping Corporation as well as to enable others for working with overseas shipping companies, training capacity needs to be increased through the introduction of post-sea courses.

With this end in view, a Master Plan for imparting post-sea courses for 'Mate', 'Masters', Second Engineer and Chief Engineer will be taken up. An allocation of Tk. 10·40 crore at 1979/80 prices has been provided for the Academy during the Plan period.

Mercantile Marine Department

13.49 The Department provides navigational facilities to ocean-going ships through construction and maintenance of light houses and operation of navigational aids such as buoys, beacons etc. Because of the wear and tear of the old light houses and also to meet the increased navigational requirements, there is a necessity for building a new light house at South Patches in the Bay of Bengal and to acquire a Rescue and Survival unit to attend to ship disasters. A nominal allocation of Tk.0·06 crore at 1979/80 prices has, therefore, been provided in the Plan.

Department of Shipping

13.50 The major functions of this Department are administration of 'Merchant Shipping Act' transport coordination in inland ports and waterways, freight study etc. Administration of Merchant Shipping Act includes registration and survey of ships, inspection of inland ships, training of seaman etc. In addition to its regulatory function, the Department has undertaken a training programme for seaman which will continue during the Second Plan period. This training will brighten prospect of our unskilled labour force who, after a brief training for few months, can find lucrative employment in foreign ships. An allocation of Tk.0·32 crore at 1979/80 prices has been provided during the Second Five Year Plan to impart training to the seaman and to undertake a freight study.

CIVIL AVIATION

13.51 Civil Aviation activities include construction/maintenance of airports including provision of aviation facilities and operation of aviation transportation. There are two public sector agencies entrusted with the responsibilities of management and implementation of development activities of the Civil Aviation sub-sector. These are (a) Department of Civil Aviation and (b) Bangladesh Biman Corporation. The infrastructural activities, *e.g.* construction of airports, provision of terminal facilities, safety measures, navigational aids, etc. are provided and maintained by the Department of Civil Aviation and the aviation transportation is performed by the Bangladesh Biman Corporation.

Department of Civil Aviation

13.52 Construction, maintenance and operation of airport constitute the basic task of this Department. In carrying out the major and substantial volume of construction/maintenance works, the Department used to depends on the Airport Development Agency, a Government-owned limited company which has now been merged with the Department. At present, there are eight airports in Bangladesh. The task of maintenance and development of these airports in line with the traffic growth are carried out by

the Department of Civil Aviation. The number of flights handled annually at these airports during 1972, 1977 and 1978 are given below :

TABLE 13.14

Number of Flights Annually Handled at Different Airports of Bangladesh

Sl. No.	Name of the airport	Number of flights handled		
		1972	1977	1978
1	Dhaka	33,681	42,933	39,239
2	Chittagong	5,449	8,700	10,786
3	Sylhet	2,152	2,404	2,589
4	Ishurdi	701	794	791
5	Jessore	306	3,261	9,302
6	Comilla	1,328	230	248
7	Thakurgaon..	..	342	408
8	Cox's Bazar	..	730	754

Due to various limiting factors to handle the increasing air traffic through the international airport at Tejgaon (Dhaka), the construction of a new international airport at Kurmitola taken up during 1965 was opened to traffic in 1979. It is expected to be made fully operational during the Second Plan period.

13.53 **Strategies and Programmes :** Domestic air traffic has been declining over the recent years due to fast rising fare in the face of slow rising income level of its users. Economic considerations would not, therefore, warrant construction of any more airports during the Second Plan period. However, for administrative and other considerations, it is necessary to build an airport at Rajshahi. The works of modernisation and expansion of the Chittagong and Sylhet airports will also be completed. In addition, the on-going projects for provision of aviation support facilities will be continued. An allocation of Tk. 102.62 crore at 1979/80 prices has been made for the development projects of the Department of Civil Aviation. The major programmes of the Department are as follows :

(a) Development of Kurmitola International Airport ;

(b) development of chittagong Airport ;

(c) development of Sylhet Airport ;

(d) development of Rajshahi Airport ;

(e) procurement of communication equipment and navigational aids ;

(f) procurement of equipment for safety services and motor transport vehicles; and

(g) acquisition of training aircrafts for the Bangladesh Flying Club ;

Bangladesh Biman Corporation (BBC) :

13.54 The BBC as the national flag-carrier, offers air services in the domestic and international routes connecting Dhaka with 19 international airports. With a fleet of six F-27 and four Boeing-707, it carried 0.64 million passengers during 1979/80. Biman's traffic growth in the international sector has been quite rapid during recent years while those in the domestic and regional route have shrunk. The passenger traffic handled by the Bangladesh Biman during the last few years are given below :

TABLE 13.15

Passenger Traffic Growth of Bangladesh Biman

Year.	Domestic	Regional	International	Total
1973/74	4,05,896	72,274	19,661	4,97,831
1974/75	3,67,875	49,004	25,966	4,42,845
1975/76	3,67,251	50,269	40,772	4,58,292
1976/77	3,73,716	36,583	66,090	4,76,389
1977/78	3,56,336	44,041	1,04,454	5,04,831
1978/79	3,64,465	49,167	1,53,740	5,67,372
1979/80	3,78,553	56,307	2,05,914	6,40,774

13·55 **Strategies and Programmes:** The increasing trend of passenger traffic in the international [sector warrants] expansion of Biman's] fleet. The problem being faced in this area by Biman is the condition of its aircrafts and the growing stiff competition. from other airlines which would be operating with modern and wide-bodied aircrafts It, thus, appears that the Biman will need wide-bodied aircrafts. In addition, it will also require medium range twin-jet aircrafts for its regional routes. There is need for improved ground maintenance and support equipment for efficient operation of BBC. An allocation of Tk. 39·35 crore at 1979/80 prices has been made for the development projects during the SFYP. The major programmes of Biman are as follows :

(a) Acquisition of two wide-bodied and two twin-jet aircrafts ;

(b) acquisiton of ground equipment for handling of wide-bodied aircrafts.

(c) construction of Hanger Complex with maintenance facilities ;

(d) construction of a Flight Catering Centre ; and

(e) procurement of communication equipment and operational motor transport vehicles.

TABLE 13.16

Benchmark and Physical Targets for Second Five Year Plan in Transport Sector.

Sl. No.	Sub-Sector	Units	Position in 1973	Position in June 1980	Target for SFYP. Addition	Replacement	Total	Expected position in 1985	Percentage Change
1	**Railways :**								
	(a) Diesel Locomotives ..	Nos.	162	180	49	50	99	229	27.2
	(b) Steam Locomotives ..	Nos.	338	230	Phase off(—)	36	..	194	(—)15.6
	Total—Locomotives..	Nos.	500	410	49	50	99	423	3.2
	(c) Passenger Coaches ..	Nos.	1 195	1 293	164	..	164	1 457	12.7
	(d) Other Coaches ..	Nos.	479	338	60	..	60	398	17.8
	(e) Freight Wagons ..	Nos.	16.100	16,529	1,675	285	1,960	18,204	10.1
	(f) Route Mileage ..	Miles	1,786	1,786	5	..	5	1,791	0.3
	(g) Track Renewal ..	Miles	..	..	BG	195*	195*	..	..
					MG	160*	160*	..	..
2	**Roads and Highways :**								
	(a) Paved Roads (R&H)	Miles	2,000	2,554	1,125**	745	1,870	3,679	44.0
	(b) Bridges and Culverts..	Rft.	200,000	210,000	30,000**	10,000	40,000	2,40,000	14.3
3	**Road Transport :**								
	(a) Buses ;								
	(i) Public (BRTC) ..	Nos.	140	675	..	130	130	675	Nil.
	(ii) Private ..	Nos.	7,060	10,294	2,000**	..	2,000	12,294	19·4
	(b) Truck :								
	(i) Public (BRTC) ..	Nos.	10	110	..	..	..	110	Nil.
	(ii) Private ..	Nos.	11,090	16,118	2,500**	..	2,500	18,618	15·5
	(c) Auto-Rickshaw ..	Nos.	6,536	15,188	5,000**	..	5,000	20,188	32·9
4	**Inland Water Transport Authority :**								
	(a) Development of Major Waterways.	Miles	3,200	3,245	250	..	250	3,495	7·7
	(b) Development of Major and Secondary River Ports.	Nos.	7	22	12	..	12	34	54·5
	(c) Launch Landing Stations. ..	Nos.	150	200	50	..	50	250	25·0
	(d) Dredgers	Nos.	3	8	..	..	..	8	Nil.
	(e) Vessels	Nos.	22	17 (Survey Vessels).	7	..	7	24	41·2
	(f) Major Ferry Terminals	Nos.	5	5	3	..	3	8	60·0

*Including local manufacture.

**Approximate figures.

TABLE 13.16 (*Contd.*)

Sl. No.	Sub-Sector	Units.	Position in 1973	Position in June 1980	Target for SFYP. Addition	Replacement	Total	Expected position in 1985	Percentage Change
5	**Inland Water Transport Corporation (Public and Private) :**								
	(a) Oil Tanker ..	Nos.	23	23	5	3	8	28	21·7
	(b) Coasters	Nos.	47	44	5	..	5	49	11·4
	(c) Barges/Flats/Jute Boats	Nos.	828	917	100	85	185	1,017	10·9
	(d) Self Propelled Barges	Nos.	151	252	55	40	95	307	21·8
	(e) Tugs	Nos.	121	174	40	15	55	214	23·0
	(f) H. L. Launches ..	Nos.	31	18	..	..	..	18	Nil.
	(g) Passenger Vessel ..	Nos.	620	918	255	50	305	1,173	27·8
	(h) Ferries	Nos.	10	17	4	..	4	21	23·5
6	**Ports :**								
	(a) Chittagong Port ..	Nos. of jetties.	11	17 (including 4 pontoon jetties).	..	..	..	17	Nil.
	(b) Chalna Port ..	Nos. of jetties.	Nil.	5	..	..	..	5	Nil.
7	**Ocean Shipping :**								
	(a) Cargo Ship	Nos.	7	18	4	7	11	22	22·2
	(b) Oil Tankers ..	Nos.	Nil.	3	..	3	3	3	Nil.
	(c) Coaster	Nos.	Nil.	3	..	..	..	3	Nil.
	(d) Passenger Ships ..	Nos.	Nil.	1	..	..	..	1	Nil.
	Total ..		7	25	4	10	14	29	16·0
8	**Civil Aviation :**								
	(a) Airports	Nos.	8	8	2	..	2	10	25·0
	(b) Aircrafts	Nos.	6	8	5	1	6	13	62·5

PRIVATE INVESTMENT

13.56 Private sector dominates in road and inland water transportation. It carries around 90 percent of inland water passenger traffic and 80 percent of road passenger traffic. In case of freight traffic, private road traansport operators cover 95 per cent and IWT operators around 50 percent. In terms of value of services and number of persons engaged also the private sector dominates the whole transport sector. This can be seen from the Table given below:

TABLE 13.17

Estimated Value of Transport Services in 1979/80

Organisation.	Value of services (Tk. in crore)	Annual Payroll Benefits (Tk. in crore)	Employment (in Nos.)
Public Sector:			
1. Bangladesh Railway	87·74	17·81	58,978
2. Roads & Highways Deptt.	..	2·80	5,000
3. BRTC (Bus & Truck)	6·23	2·26	4,257
4. B.S.C.	66·15	2·29	1,712
5. B.I.W.T.C.	16·19	3·23	7,728
6. B.I.W.T.A.	7·76	1·65	4,345
7. Chittagong Port	17·04	2·63	4,488
8. Chalna Port	3·40	0·35	650
9. Bangladesh Biman	57·92	5·46	3,381
Sub-Total ..	262·43	38·48	90,539
Private Sector (Mechanised):			
1. Buses	69·93	5·01	9,440
2. Trucks	132·89	10·77	17,100
3. Passenger Launches	27·89	7·02	8,000
4. Cargo Vessels	6·18	1·56	2,700
5. Auto-Rickshaws	27·55	8·78	7,699
6. Taxies	2·68	0·45	500
Sub-Total ..	267·12	33·59	45,439
Non-Mechanised & Rural:			
1. Rickshaws	128·63	72·00	120,000
2. Tholas (Push cart)	17·91	11·28	15,042
3. Country Boats	156·86	79·02	387,000
4. Bullock Cart	19·43	8·16	13,050
Sub-Total: ..	322·83	170·46	535,092
Grand Total ..	852·38	242·53	671,070

Source: "Study on Transport-Construction & Services" 1978, Planning Commission

13.57 During the period 1972 to 1975, large scale private enterprise in transport sector had been discouraged. There were restrictions on the size of IWT vessel ownership. Consequently, very little private investment took place during the period. After 1975, there was a shift in policy towards private operations in road and water transport. The restrictions on the size of ownership of watercrafts were gradually liberalised ultimately leading to abolition of financial ceiling for capital investment. In case of road transport too, the requirement of ownership of vehicles through co-operatives has been withdrawn. The hitherto reserved field of ocean shipping has also been opened to private operators. The impact of these policies of liberalisation has strated to be felt only recently. An idea of the effect of the initial regulation and restriction of private water and road transport operations and that of subsequent policy changes may be obtained from the trend of private sector investment during the period 1973—79 shown in the following Table:

TABLE 13.18

Private Investment in Road Transport and IWT

[*Tk. in crore*]

Mode	1973/74	1974/75	Total	1975/76	1976/77	1977/78	1978/79	Total
1. Inland Water Transport ..	1·2	3·7	4·9	9·8	10·5	11·8	31·7	63·8
2. Road Transport	23·5	15·3	38·8	21·0	30·8	62·0	52·6	166·4
Total ..	24·7	19·0	43·7	30·8	41·3	73·8	84·3	230·2

Source: BTS Updated Report (page 66 volume 2 of part 2)

13.58 The role of the private sector is also reflected in ownership in water and road transport equipment. In 1979, the private sector owned 20 bay crossing cargo-vessels, 7 oil tankers, 243 inland cargo vessels, 541 dumb craft, 113 towing units, 48 double decker inland passenger vessels, 10,300 buses, 16,100 trucks, etc.

SFYP Development Targets

13.59 Magnitude of private investment in transport during the SFYP period will depend on replacement requirements, traffic growth and public operation policy. The projected decrease in foodgrains import resulting in lower volume of freight is expected to be neutralised by increased shorter distance movements of foodgrains from surplus districts to deficit ones. Moreover, increased movement of farm inputs will also place extra demand for private transport. Considering the relevant factors affecting freight and passenger traffic, an estimate of the expected private investment may amount to Tk. 976 crore at 1979/80 prices. The actual extent of private investment will, however, largely depend on policy measures that will go to encourage the level of investment. These are:

(a) Private transport investments are largely dependent on public sector infrastructural investments including road, ports, waterways and landing stations. Due attention should, therefore, be given to timely implementation of the public sector construction programmes.

(b) Availability of vehicles and spares at economic prices largely determines expansion or construction of private sector operation. Pragoti Industries for road vehicles and the ship/dockyards for IWT may, therefore, be provided with all the facilities to meet the potential domestic demand.

(c) The present practice of extending loan by commercial banks against mortgage of the vehicle and vessel should be continued during the SFYP period.

(d) Fiscal anomalies disadvantageous to the import of transport equipment and spares should be removed.

(e) Short of allowing free fixation of fares by the private operations, enough flexibility should be provided in determining fare structure so as to cover cost of operation as well as allow a reasonable margin of profit.

(f) Domestic manufacture of auto-rickshaw engines, marine engines, spares and accessories need to be encouraged and adequate credit facilities made available for purchase of domestic equipment. This will require some standardisation of vehicle modes.

(g) For safety of roads, multi axle vehicles trailers should replace the existing heavy trucks and trailers. Appropriate policy measures may be considered in this respect.

(h) Substantial investment on road construction that is expected to take place during the SFYP period should be accompanied by investments in the development of highway and road side rest houses, restuarants, and petrol and service station.

(i) Many of the launch landing stations, especially those located on stable banks should be standardised and improved to provide minimum passenger and cargo handling facilities.

B. COMMUNICATION

13.60 Communication Sector is concerned with the development and improvenment of the Postal, Telegraph and Telephone services both national and international, the provision of meteorological services in the country and the establishment of wireless link with Bangladesh Missions abroad. Historically, this sector received less priority than other social services and only after Independence it emerged as a sector of great national importance and was given distinct place in national plans. A short description of planned achievement during the First Five Year Plan and the Two Year Plan is given below.

Review of Performance during the First Five Year and Two Year Plans.

13.61 *Telegraph and Telephone*: At the time of launching the First Five Year Plan in 1973/74, the total number of telephone lines in the country was 66,000. The First Five Year Plan target was to install 70,000 lines but in fact 37,000 lines could be installed and thus only 53 percent of the target could be fulfilled. Shortfall was mainly due

to resource constraints, price escalation and scarcity of construction materials. For the improvement of domestic long distance telegraph and telephone network and for facilitating the transmission of television programmes, the construction of "Dhaka-Brahmanbaria-Sylhet" and "Dhaka-Tangail-Mymensingh-Bogra" high capacity microwave links were completed and commissioned. The work of commissioning of high capacity microwave links to some of the district headquarters and adjoining sub-divisional towns were in progress and expected to be completed by the second year of the Second Five Year Plan. The works for providing the communication in the spur links between some districts and sub-divisional towns were also under execution. Some links had been commissioned while the rest was expected to be completed by the second year of the Second Plan. For improvement of the overseas communication a satellite earth station was established at Betbunia, Chittagong to work with the Indian Ocean Communication Satellite. This station was commissioned in 1975. The overall achievements in the telecommunication network during the entire First Plan as well as Two Year Plan periods are given in Appendix-I.

13.62 *Post Office* : At the beginning of 1973/74 there were 6,680 Post Offices in the country and the target was to open 3,725 new Post Offices during 1973—78 but actually only 412 Post Offices were opened raising the toatal number of post offices to 7,092 in 1977/78. For improvement of mail delivery and mail transportation, a total of 46 vehicles were purchased and put into service,. Besides, 74 new Post Office buildings and 164 residential quarters for the postal employees were constructed during the First Five Year Plan. The overall achievement in the Post Office Sub-sector during the First Five Year and Two Year Plans are shown in Appendix-II.

13.63 *Meteorology* : For improvement of mateorological services 8 First Class, 2 Pilot Balloon, 4 Rawin-Sonde Observatories and 4 Aviation Forecasting Centres were opened during the First Plan period and during the Two Year Plan period 9 First

Class, 4 Pilot Balloon Observatories have been established, the details of which are furnished below in Table 13.21.

TABLE 13·21

Meteorological Installations.

Name of Installations.	Position in 1972/73 (Number).	Achievement during FFYP period (No.)	Position in 1977/78	Achievement during Two Year Plan.	Position in 1979/80 (Number).
1. Part-time Observatory ..	12	..	12	(—)3+3 (3 to be converted to full time observatory and 3 closed down).	6
2. 1st Class Observatory ..	11	8	19	7+3	29
3. Pilot Balloon Observatory ..	9	2	8	4	12
4. Rawinsonde Observatory ..	1	4	5	..	5
5. (a) Wind Finding Radar ..	1	..	1	1	2
(b) Weather Surveillance Radar	2	..	2	1	3
6. Storm Warning Centre ..	1	..	1	..	1
7. Main Meteorological Office	2	..	2	..	2
8. Dependent Met. Office ..	1	..	1	1	2
9. Supplementary Met. Office	1	..	1	3	4
10. Agromet Observatory ..	3	4	7	1	8
11. Automatic Picture Transmission (receiving ground station)	1	..	1	..	1
12. Remote Recording ..	1	..	1	..	1
13. Tide Gauge Observatory ..	3	..	3	..	3
14. Seismic Observatory ..	1	..	1	..	1
15. Geomagnetic Observatory ..	1	..	1	..	1

13.64 *Ministry of Foreign Affairs:* Bangladesh has 45 resident missions in 40 countries. Three missions, *viz* London, New Delhi and Calcutta have direct telex links with the Ministry, 24 are connected by telex through call booking. The remaining 18 do not have any telex link. Telex links are, however, not dependable particularly during emergency. Direct wireless link ensures independent, secure, quick and efficient communication. As such, Ministry of Foreign Affairs has already taken up the establishment of 2 radio tele-communication stations at Dhaka and London, and another 3 stations at Peking, New Delhi and Rangoon have been set up during the Two Year Plan.

13.65 Performance during the First Five Year Plan and the Two Year Plan in financial terms is shown in Appendix-III.

Objectives, Programmes and Targets during Second Five Year Plan.

13.66 Agency-wise objectives, targets etc. to be achieved during the Second Five Year Plan period are described below:

A. Telegraph and Telephone:

13.67 In spite of its high importance the telephone density in the country is only 0·13 per 100 population with a capacity of 1,20,017 telephone exchange lines in 1979/80. In all 19 district headquarters, 7 sub-divisions are covered by automatic exchanges and remaining districts and subdivisions are still being served by manual exchanges. In total, 473 Thanas, 530 Union Councils and 100 Rural Growth Centres have been connected either by auto or manual exchanges or PCOs till the end of 1979/80. There are 488 Telegraph Offices, 18 STD links, 15,155 lines of PBX/PABXs and 410 Telex/Gentex lines upto the end of 1979/80. (Details may be seen in Appendix-IV). The density of rural telephone constituting only 8.41 percent of the total telephone capacity of the country, is quite poor and is only 0.01 as compared to 1·22 telephone per 100 population in the urban areas. Telegraph services in the country is also highly inadequate and there are only 488 telegraph offices upto 1979/80 of which about 360 are in the rural areas. Inland long distance circuits including trunk, STD and telegraph circuits have been increased from 467 in 1972/73 to 1,570 in 1979/80. The overseas service has been improved by introduction of Satellite Communication and by 1979/80 the number of Telegraph, Telephone and Telex circuits have been increased to 1,829 and 19 respectively.

13.68 To improve the above situation and to cope with the heavy requirement of telephone services by all sectors of the economy 55,000 lines of telephone will be installed during the Second Five Year Plan period. This will increase telephone density to 0·17 per 100 population and the share of rural telephone will be increased significantly. All existing district headquarters, all sub-divisions and some Thanas will be covered by automatic exchanges. Most of the districts and some sub-divisional towns will be connected by stable microwave or UHF links and the channelling capacity in these links will be increased so as to cater to the increased telecommunication traffic. 300 Union Councils and 100 Rural Growth Centres will be connected by telephones either by auto, manual or PCOs. In all 200 public call offices in rural areas, a good number of coin boxes in big towns, nation-wide trunk dialling facilities in 32 places, 500 long distance circuits (inland), 50 overseas circuits, 50 telegraph offices and 5,000 lines of PBX/PABXs and 500 Telex/Gentex lines will be added during the plan period. In order to improve the existing services in the country electronic exchange of 10,000 lines with 5,000 lines of electronic concentrators will be installed in Dhaka and slow change over to electronic switching technology will be effected. While considering the increase of telephone facilities, the rural areas have been given special consideration. Particular attention has been given to the penetration into the remote areas with due consideration for bringing more areas under telephone coverage. Out of 55,000 lines of telephone, 45, 000 lines will be installed in urban and 10,000 in rural areas. Thus the share of rural telephone will be raised from existing 8.41 percent to about 12 percent by 1984/85. Details of present position and target are given in Appendix-IV.

13.69 The overseas services will be taken care of by installation of automatic international exchange and increasing their capacity. With the increase of local telephone and development of international traffic, the circuit requirements with other countries will be increased. As such the existing Satellite Earth Station at Betbunia will be expanded and further channels will be added for establishing communication with more countries. With the launching of new Satellite (Intelsatt-V) over the Indian Ocean, necessary feed modification will be incorporated in the Betbunia Earth Station for working with the Intelsatt-V Satellite. In addition, one standard B-type Earth Station with a capacity of 24 channel will be established at Kaliakoir, Dhaka. This will not only establish communication with some additional countries on SCPC system where standard A-type stations are not in existence but will also act as stand-by of the main station in case of emergency.

13.70 For the proper and efficient maintenance of sophisticated telegraph and telephone equipment, the existing training facilities for the T&T staff are inadequate and the number of trained personnel are limited. At present there are two training centres at Dhaka and Khulna, completed partially which can train only a limited number of inservice personnel. These centres are not in a position even to clear the existing backlog particularly with the intake of new personnel both for expansion of services and for filling up of the gaps created by the exodus of trained non-local personnel in the last few years. During the Second Five Year Plan period the existing institutes will be expanded and one more centre will be established at Bogra to improve the situation. In addition, one Staff College will be established at Joydevpur to train officers annually on regular and refresher courses.

Tele-communication Factories.

13.71 Two factories are functioning under the P.&T. Division, Ministry of Communication as a part of T&T Sub-Sector for supply of telecommunication equipment and cable at cost prices for catering to the need of Bangladesh T&T Board. Their present production facilities as well as the production programmes during the Second Five Year Plan are described below:

13.72 (i) *Telephone Shilpa Sangstha Ltd.*—The rated production capacity of the factory in one shift operation is 20,000 line units of exchange and 30,000 sets of telephone instruments per year. Table 13·24 below shows the production of the factory since its inception:

TABLE 13·24

Statement showing the production of Telephone Shilpa Sangstha Limited.

Year.	Telephone Exchange.		Telephone sets.	
	Production (Line units).	% of rated capacity of 20,000 lines.	Production (No.)	% of capacity of 30,000 sets.
1969/70	390	1·90	..	..
1970/71	2700	13·50	..	..
1971/72	1700	8·50	..	..

TABLE 13.24—*Contd.*

Year.	Telephone Exchange.		Telephone sets.	
	Production (Line units).	%of rated capacity of 20,000 lines.	Production (No.)	%of capacity of 30,000 sets.
1972/73	1815	9·08	..	..
1973/74	4100	20·50	860	2·87
1974/75	5250	76·25	3375	11·22
1975/76	13749	68·70	6150	20·50
1976/77	14600	73·00	14000	46·67
1977/78	16180	80·90	24000	80·00
1978/79	13700	68·50	17943	59·81
1979/80	9460	47·30	13795	45·98

13.73 It will be seen that the production of exchange equipment rose from 9·08 percent of the capacity in 1972/73 to 80.90 percent in 1977/78 and Telephone sets from 2·87 percent of capacity in 1973/74 to 80 percent in 1977/78. During the Two Year Plan the production decreased due to some organisational problems but the same has been overcome and it is expected that the factory will go in maximum production from 1980/81. Efforts are being made to maximize production during the Second Five Year Plan. A project for expansion and balancing of the factory will be completed during the Second Five Year Plan period. This will also enable the factory to take up the production of some of the parts and components now being imported from abroad. In addition, works will be taken up to produce exportable items. With rapid development of common control system of switching, the existing electromechanical EMD system is becoming obsolete and thus the Plan envisages change over of the existing factory to electronic switching factory keeping side by side the production of EMD equipment for some time to cater to the need for rural and smaller capacity exchanges and the spare parts requirements of the existing equipment. The electronic factory will also produce electronic components for the manufacture of exchange equipment and for meeting the demand of other local industries manufacturing radios, television and electronic gadgets.

13.74 (ii) *Bangladesh Cable Shilpa Ltd.:* The equipped capacity of the factory is to produce 2,25,000 conductor kilometer of cables per year. Table 13.25 below shows the production since its inception.

TABLE 13.25

Production of Telephone Cable.

Year	Quantity Produced (Con. KM)	% of rated capacity of 2,25,000 conductor kilometer.
1971/72	9,923	4·41
1972/73	66,043	29·35
1973/74	69,140	30·72
1974/75	1,22,000	54·22
1975/76	1,33,000	59·11
1976/77	1,58,000	70·22
1977/78	1,90,000	84·44
1978/79	2,03,000	90·22
1979/80	2,25,000	100·00

13.75 The on-going project for balancing and modernization of the factory will be completed in the first year of the Second Five Year Plan. A new project for the expansion and diversification of the factory will be taken up to increase the capacity to 3,65,000 conductor kilometer per annum on 2½ shift operation and 4,00,000 conductor kilometer on 3 shift operation basis. This expansion will not only make the country self-sufficient in outdoor and indoor telecommunication cables, junction cables and galvanized iron wire but also will enable the factory to earn foreign exchange through exports.

B. Bangladesh Post Office

13.76 At present there is one post office only per 11,000 population as against the internationally accepted target of one post office for a maximum of 6,000 people. To improve the situation, the Second Plan aims at increasing the number of post office by 700 of which 650 will be opened in the rural areas.

Of the existing 7292 post offices, 1,120 are run by the Postal Department and the remaining 6,172 post offices are run by people in the rural areas on payment of fixed allowances. Most of the post offices run by the Deptt. are housed in below specification hired houses. The Second Five Year Plan provides for construction of 95 postal buildings and 400 residential quarters. In addition, to improve and expand the delivery service facilities during the Plan period 55 vehicles of different types will be acquired. 150 machines of different types will also be purchased for mechanisation of the system. The

programme also includes the establishment of a workshop for manufacturing various seals required by the post office. Details of present position and targets are furnished below in Table 13.26.

TABLE 13·26

Statement Showing the Present Position and Targets for SFYP of Post Office/Sub-Sector

Items.	Position in 1977-78	Position in 1979-80	Target for SFYP (1980—85)	Proposed position in 1984-85.
1. Post Office (No.) ..	7,092	7,292	700	7,992
2. Postal building (No.) ..	401	447	95	542
3. Residential Quarters (No.) ..	1,400	1,600	400	2,000
4. Vehicles (No.) ..	80	124	55	179
5. Different types of machines (No./set) ..	49	150	150	300

C. **Meteorological Department.**

13.77 The programme for strengthening and improvement of meteorological services includes the establishmant of nine first class observatories, thirteen agrome observatories including three pilot stations and one hydrological radar during the Plan period. Necessary steps will be taken to develop aviation warning system. The construction of headquarter building also will be completed. Details of present position and targets are shown in Table 13·27.

TABLE 13·27

Statement Showing the Available Facilities of Meteorology Sub-Sector and Target for Second Five Year Plan

Name of Installations.	Position in in 1977/78	Position in in 1979/80	Target (1980-85)	Proposed position in 1984/85
1. Part-time Observatory ..	12	6	(—) 6 to be converted to full time observatory.	..
2. 1st Class Observatory	19	29	3+6	38
3. Pilot Balloon Observatory	8	12	3	15
4. Rawinsonde Observatory	5	5	..	5
5. (a) Wind finding radar	1	2	..	2
(b) Weather Surveillance Radar	2	3	..	3
(c) Hydrological Radar	..	..	..	1
6. Storm Warning Centre	1	1	..	1
7. Main Meteorological Office	2	2	..	2

TABLE 13·27—*Contd.*

Name of Installations.	Position in 1977/78	Position in 1979/80	Target (1980—85)	Proposed position in 1984/85
8. Dependent Met. Office	1	2	..	2
9. Supplementary Met. Office	1	4	..	4
10. Agromet Observatory	7	8	..	8
11. Automatic Picture Transmission (Receiving Ground Station).	1	1	..	1
12. Remote Recording ..	1	1	..	1
13. Tide Gauge Observatory ..	3	3	..	3
14. Seismic Observatory ..	1	1	..	1
15. Geomagnetic Observatory ..	1	1	..	1

D. Ministry of Foreign Affairs

13.78 In order to establish dependable communication link with Bangladesh Mission abroad, 10 radio telecommunication stations will be installed during the Plan period.

Financial Outlay

13.79 In order to fulfil the programmes and targets described above an amount of Tk. 237·00 crore has been provided for the Communication Sector. The Agency-wise break-up of the total allocation is shown in Table 13·28.

TABLE 13.28

Financial Allocation for SFYP

[Tk. in lakh]

Name of the Agency	Allocation for SFYP	
	At 1979-80 prices.	At current prices.
A. Ministry of P. T & T:		
(i) Telegraph and Telephone	211,58·84	30,531·73
(ii) Post Office	16,14·15	21,70·00
(iii) Planning Cell in the Ministry of Posts, Telegraph and Telephone.	13·81	20·00
B. Ministry of Defence:		
(i) Bangladesh Met. Department ..	7,16·76	10,13·00
(ii) Planning Cell in the Ministry of Defence	1·80	2·27
C. Ministry of Foreign Affairs	1,94,64	360·00
Total ..	237,00·00	340,97·00

13.80 The year-wise phasing of SFYP Allocation is furnished in Table 13.29.

TABLE 13.29

Year-wise Phasing of SFYP Allocation

[*Tk. in lakh*]

Year.	At constant 1979/80 prices.	At current prices.
1980-82	83,41	96,30
1982-83	44,89	62,80
1983-84	49,68	78,00
1984-85	59,02	103,87
Total	237,00	340,59

Appendix-I

Achievement in T & T Sub-Sector from 1972/73 to 1979/80

Items.	Position in 1972/73	First Five Year Plan			Position in 1977/78	Two Year Plan	
		Target	Achievement			Achievement (In quantity)	Position in 1979/80
			Quantity	Percentage			
1	2	3	4	5	6	7	8
1. Telephone capacity (No. of lines) ..	66,000	70,000	37,000	53	1,03,000	17,017	1,20,017
(a) Automatic ..	55,000	60,000	30,000	50	85,000	15,017	1,00,017
(b) Manual	11,000	10,000	7,000	70	18,000	2,000	20,000
2. Telephone Exchnage (Number) ..	237	450	125	27	362	20	382
(a) Automatic ..	22	50	14	28	36	6	42
(b) Manual ..	215	400	111	27·5	326	14	340
3. Inland long distance circuits (Number) ..	467	1,600	677	42·3	1,144	426	1,570
(a) Trunk ..	286	..	372	..	658	92	750
(b) STD	82	..	188	..	270	310	580
(c) Telegraph ..	99	..	117	..	216	24	240
4. Overseas circuits (No.):							
(a) Telephone ..	10	25	12	76	22	7	29
(b) Telegraph ..	7	..	7	..	14	4	18
(c) Telex	6	..	8	..	14	5	19
5. STD facility (Places) ..	9	8	5	63	14	4	18
6. PBX/PABXs:							
(a) Capacity (Lines) ..	9,000	..	4,000	..	13,000	2,155	15,155
(b) Machine (Number) ..	384	..	241	..	625	40	665
7. Public Call Offices (Number)	700	500	153	30·6	853	21	874
(a) Rural	610	500	105	21	715	19	734
(b) Urban	90	..	48	..	138	2	140
8. Telegraph Offices (Number)	400	200	68	34	468	20	488
9. Telegraph Stations including rural PCOs (Number)	810	700	163	23·3	973	19	992
10. Telex facility:							
(a) Capacity (Lines) ..	240	..	120	..	360	50	410
(b) Exchange (Number)	2	..	..	..	2	1	3

Appendix II

Achievement in the Post Office Sub-Sector from 1972/73 to 1979/80

Items	Position in 1972/73	First Five Year Plan			Position in 1977/78	Two Year Plan	
		Target	Achievement			Achievement in quantity	Position in 1979/80
			Quantity	Percentage.			
1	2	3	4	5	6	7	8
1. Post Office (No.) ..	6,680	3,725	412	11	7,092	200	7,292
2. Postal Building (Number)	327	100	74	74	401	46	447
3. Residential Quarter (Number)	1,236	250	164	66	1,400	200	1,600
4. Vehicles (Number) ..	31	100	46	46	80	44	124
5. Different types of machines (No./Set)	..	..	49	..	49	101	150

Appendix-III

Allocation and Expenditure in First Five Year and Two Year Plans

[Tk in crores]

Name of Agency	First Five Year Plan				Percentage of utilization (Col.4 ÷2× 100)	Two Year Plan				
	Total Provision		Total Expenditure during 1973/74			Total provision		Total Exp. during 1978-80		Percentage of utilization (Col.9 ÷ 7×100)
	Total	F.E.	Total	F.E.		Total	F.E.	Total	F.E.	
1	2	3	4	5	6	7	8	9	10	11
1. Telegraph and Telephone	115·92	42·05	98·21	36·21	85	103·46	44·31	86·06	31·46	83
2. Post Office	9·54	1·28	6·37	0·32	67	9·91	0·15	5·79	..	58
3. Met. Department	3·64	1·10	2·23	0·55	61	2·85	0·83	2·62	0·88	92
4. Planning Cells in the Ministries.	..	..	0·06	..	..	0·07	..	0·07	..	100
5. Ministry of Foreign Affairs	..	..	..	..	..	..	..	0·37	0·37	..
Total	129·10	44·43	107·19	37·08	83	116·29	45·29	94·91	32·71	82

Appendix- IV

Statement showing the Available Facilities of Telegraph and Telephone and Targets for SFYP

Items.	Position in 1977/78	Position in 1979,80	Target (1980-85)	Proposed Position in 1984/85
1	2	3	4	5
1. Telephone Capacity (No. of lines)	1,03,000	1,20,017	55,000	1,75,017
(a) Automatic	85,000	1,00,017	53,000	1,53,017
(b) Manual	18,000	20,000	2,000	22,000
(I) Urban:				
(a) Automatic	85,000	1,00,017	47,000	1,47,017
(b) Manual	9,400	9,400	(−)2,000	7,400
Total ..	94,400	1,09,417	45,000	1,54,417
(II) Rural:				
(a) Automatic	..	..	8,000	8,000
(b) Manual	8,600	10,600	2,000	12,600
Total	8,600	10,600	10,000	20,600
2. Density of Telephone per 100 population (No.)	0·12	0·13	..	0·17
(a) % of Urban Telephone	91·65	91·59	80	88
(b) % of Rural Telephone	8·35	8·41	20	12
3. Area Covered by Telephone: (Places)				
(I) District:				
(a) Automatic	16	19	3	22
(b) Manual	6	3	(−)3	..
Total ..	22	22	..	22
(II) Sub-Division:				
(a) Automatic	19	26	46	72
(b) Manual	52	46	(−)46	..
Total ..	71	72	..	72

Appendix-1V (*Contd.*)

Items.	Position in 1977/78	Position in 1979/80	Target (1980/85)	Proposed Position in 1984/85
(III) Rural Areas Covered by Auto, Manual or PCO (No.):				
(a) Thanas (Total 473)	450	473	..	473
(b) Union Councils (Total 4360) ..	480	530	300	830
(c) Rural Growth Centres (Total 974)	90	100	100	200
(IV) Public Call Offices (No.):				
(a) Urban (including Coin box)	138	140	100	240
(b) Rural	715	734	200	934
Total ..	853	874	300	1,174
4. Telegraph Offices(No.):				
(a) Urban	120	128	15	143
(b) Rural	348	360	35	395
Total ..	468	488	50	538
5. STD Services (Places) District	14	18	4	22
6. Nation-wide Trunk Dialling Facility (Places):				
(a) District (Total 22)	..	..	22	22
(b) Sub-Division (Total 72)	..	..	12	12
7. PBX/PABXs (lines)	13,000	15,155	5,000	20,155
8. Telex/Gentex (lines)	390	410	500	910
9. Overseas Circuits (No.):				
(a) Telegraph	14	18	10	28
(b) Telephone	22	29	30	59
(c) Telex	14	19	10	29

CHAPTER XIV

PHYSICAL PLANNING AND HOUSING

With the development of the economy, urbanization has become a natural phenomenon. This means not only a redistribution of population causing urban congestion and blight but also redistribution of land from agricultural to non-agricultural uses. For both social and economic reasons, urban development and land use should be approached in a planned way. Physical planning for planned urban development to save valuable land, construction of office and residential buildings for various groups of people, provision of water supply and sanitation both for urban and rural areas, development of tourism and hotel construction, fire prevention and the basic infrastructure and services for the emerging growth centres, all need to be integrated into a national programme.

Past Development

14.2 Because of resource shortage and pressing needs of some priority sectors, funds commensurate even with the minimum requirements could not be allocated to the sector in the past. As a result, most of whatever allocation could be made went to construction of essential public servants' housing, office and institutional buildings, etc. The main activity of the sector which is to provide planned and systematic human settlements in the country could not thus be given enough attention. The achievements worth noting were in the fields of rural water supply, resettlement of urban squatters and development of residential quarters and plots. About 1,50,000 squatters were relocated; 3,00,000 shallow drinking tube-wells were sunk and 8,456 housing units and 2,000 plots were developed till 1979/80.

14.3 A sum of about Tk. 287·00 crore was spent during the First Five Year Plan period and Tk. 250·00 crore during the Two Year Plan period making a total of Tk. 537.00 crore during 1973—80. Spiralling price rise of construction materials made the results of the investment less conspicuous. Besides, the institutional and organisational changes envisaged in the First Five Year Plan did not materialise.

14.4 Overall situation still remains very depressing. Only 10 percent of the population living in 100 urban and semi-urban locations have access to minimum civic comforts like liveable shelter, piped water supply and sanitation, local transportation and community facilities. In rural areas where 90 percent of the population live, people have no access to piped water. Secondly, because of their historical evolution, rural homesteads occupy much more land (about 15% of land area) than what would have been required had there been systematic settlements. High rate of proliferation of rural homesteads due to break-up of joint families on the other hand, makes it difficult to reach modern amenities to villages because of their scattered character. Thirdly, there are over 2,00,000 urban squatters and the number is rising, creating a state of urban squalor. City Development Authorities have not been generally able to respond to the need of squatters, slums and low income groups, because of financial consideration as they are supposed to have self-liquidating projects for urban development. Finally, for about 4,65,000 government employees in the country, there are only about 20,000 housing units. This covers only about 4·3 percent of the employees. Construction of new houses at current prices, borrowing capital from the open market usually takes 15—20 years to amortise. This low rate of return accounts for very slow growth of housing in the private sector.

Objectives, Strategies and Policies during the SFYP

14.5 *Physical Planning:* Decentralisation of socio-economic and development activities throughout the country is the central development strategy of the Second Five Year Plan. Infrastructural facilities will be developed and agro-based and agro-support industries will be set up in and around the 1,200 identified rural growth centres including thana headquarters so as to create employment opportunities nearer to the rural people. The objective of physical planning in the context of aforesaid development strategy will be to formulate complete physical and land use plans of the growth centres so that these locations are made capable of accommodating and providing the services economically for which they are to be developed. Secondly, with the existing rate of proliferation of rural homestead, about 30 percent of the land area will be eaten up by homestead by the turn of the century thereby reducing further the already scarce land-area of the country. Efforts will, therefore, be made to limit all future rural homestead requirements within the existing total homestead area through appropriate legislation and administrative arrangements. The ultimate objective will be to contain the total rural households within the presently occupied 15 percent of the total available land-area.

14.6 *Housing:* Because of the impossibility of providing housing facilities to all government employees at the rate at which houses are being constructed now and of disparity that is created between those who are provided with houses and those who are not, it will not be rational to follow the conventional approach to public servants housing. However, housing for the public servants will have to be provided in certain circumstances and in certain locations. Keeping this in mind, the major objectives and strategies in housing will be as follows:

(a) Construction of larger number of low-cost semi-permanent housing units requiring lesser time and resources to ease the existing shortage of public servants housing. The present policy of construction of high-specification, high cost multi-storied flats for government servants will have to be reviewed. While multi-storied flats may be constructed in high cost areas of the cities, semi-permanent units will be built in other locations;

(b) provision of developed land, utilities and easy term finance;

(c) reduction of present entitlements of residential accommodation with a view to providing more accommodation units with the available resources;

(d) provision of housing units in the new district, subdivisional and thana headquarters where suitable accommodations for government employees are not available;

(e) the specifications for structures, fittings, and finishes will be lowered and standardised to reduce cost;

(f) provision of small service plots with nucleus units to government employees on hire-purchase basis; and

(g) provision of suitable land, services and utilities and easy terms of finance for house building to government, semi-government and corporation employees so that they can build their own houses.

14.7 *Office Accommodation and Institutional Buildings:* Presently office accommodations provided by various government, semi-government and autonomous organisations vary widely in space, facilities and quality of construction. It will be a conscious government policy during the Second Plan Period to standardise all office accommodations to be built in future keeping in view the job requirements at every level and resources of the country. Construction of new offices will be made only in those places where no accommodation of any kind exists. A substantial programme of office accommodation will be taken up in Thanas.

14.8 *Rural Water Supply and Sanitation:* Semi-primitive sanitation habits and drinking of unhygienic surface water by a significant number of rural people are primarily responsible for a large number of gastroenteric diseases at present. It will therefore, be a policy to substantially accelerate popularisation of water sealed sanitation units introduced during the 70s and provide greater coverage of tubewells in the countryside. Institutional arrangement will be made to recover part of the cost of sinking tube-wells and to realise operating expenses from the consumers.

14.9 *Urban Water Supply and Sanitation:* Priority will be given to improvement of water supply and sanitation facilities in city peripheries and new settlements. In the district and subdivisional towns, only high density areas will be served with piped water supply.

14.10 *City Development:* The optimum strategy for future expansion of Dhaka City will be worked out and followed. Similar exercise will be undertaken for other major cities. The city development authorities will give more attention to desirable land use and enforcement instead of developing new residential zones for upper income groups.

14.11 *Tourism Development:* The tourism and recreation development policies will be based on the complementary nature of domestic and international tourism and provision of appropriate facilities consistent with the country's culture.

Programmes for the SFYP

14.12 The major programmes of the Physical Planning and Housing sector during the Second Five Year Plan are indicated below:

(a) initiation of the process of development for 1,200 growth centres including thana headquarters outside the present urban locations;
(b) provision of one drinking water tubewell for about 150 rural population;
(c) installation of about 5 water-sealed sanitation units in each village on average;
(d) provision of piped water supply in most subdivisional towns;
(e) construction of 4,000 housing units consisting of semi-permanent structures and flats;
(f) completion of the National Assembly Building and 12 storied office building at Segunbagicha;
(g) construction of office and residential buildings at the new district and thana headquarters;
(h) expansion of water supply and sewerage service in Dhaka and Chittagong cities;
(i) completion of 5-star hotel (Sonargaon) in Dhaka City; and
(j) developpment of sites and services by the Housing and Settlement Directorate and city development authorities for construction of houses giving special emphasis on middle income and lower income groups of people.

Financial Outlay for SFYP

14.13 To implement the programmes indicated above and the programmes of other agencies of the sector, a total public sector allocation of Tk. 574·00 crore (at 1979/80 Prices) has been made for Physical Planning and Housing Sector in the Second Five Year Plan. Besides, it is expected that an amount of Tk. 1,098 crore (at 1979/80 prices) will be utilized in the private sector. The Public sector allocation by major field of activiti:s is shown in Table 14·1.

TABLE 14.1

Second Five Year Plan Allocation by Major Fields.
(At 1979/80 Prices)

[Tk. in crore.]

Sl. No.	Fields.	SFYP Allocation
1	Housing	68·00
2	Offices and Institutional Buildings	110·00
3	Urban Development (City Development Authorities, Municipal Corporation and Urban Works Programme).	95·50
4	Physical Planning	10·00
5	Rural Water Supply and Sanitation	85·00
6	Urban Water Supply and Sanitation	152·00
7	Tourism Development	28·00
8	Fire Prevention	14·40
9	Miscellaneous	11·10
	Total ..	574·00

14.14 There are as many as 17 agencies involved in the management of major fields of activities of this Sector. Agencywise allocation at both 1979/80 and current prices is given in Table 14·2. Further, annual phasing of the public sector outlay at both constant and current prices is shown in Table 14·3.

TABLE 14.2

Public Sector Allocation during SFYP

[Tk. in crore.]

Sl, No.	Agencies.	SFYP Allocation	
		1979/80 prices	Current prices
1	Public Works Department:	138·00	197·14
	(a) Public Servant's Housing	28·00	40·00
	(b) Government Offices and Institutional Buildings ..	110·00	157·14
2	Housing and Settlement Directorate (H&S)	40·00	57·14
3	Urban Development Authorities	30·50	43·57
	(a) Dhaka Improvement Trust (DIT)	14.00	20·00
	(b) Chittagong Development Authority (CDA) ..	8·50	12·14

ABLE 14·2 (*contd.*)

Sl. No.	Agencies.	SFYP Allocation	
		1979/80 prices	Current Prices
	(c) Khulna Development Authority (KDA) ..	4·50	6·43
	(d) Rajshahi Town Development Authority (RTDA) ..	3·50	5·00
4.	Urban Development Directorate (UDD)	10·00	14·29
5.	Directorate of Public Health Engineering (DPHE) ..	135·00	192·86
6.	Dhaka Water supply and Sewerage Authority (Dhaka WASA) ..	65·00	92·86
7.	Chittagong Water supply and Sewerage Authority (Chittagong WASA)	37·00	52·86
8.	Dhaka Municipal Corporation (DMC)	40·00	57·14
9.	Ministry of L.G.R.D. and Co-operatives (Urban Works Programme)	25·00	35·71
10.	Bangladesh Parjatan Corporation (BPC) (including Hotel International Ltd.).	28·00	40·00
11.	Directorate of Fire Services (DFS)	14·40	20·57
12.	Ansar Directorate (Ansar Training Institute) ..	7·65	10·93
13.	Police Directorate (Sardah Police Training Academy) ..	1·35	1·93
14.	Planning Commission (PP& H Section)	2·10	3·00
	Total ..	574·00	820·00

TABLE 14·3

Annual phasing of Public Sector Outlay

[Tk. in crore]

Year	Second Five Year Plan Allocation	
	1979/80 prices	Current Prices
1980/82	249·00	302·50
1982/83	98·00	137·50
1983/84	102·00	160·00
1984/85	125·00	220·00
Total ..	574·00*	820·00*

Notes: *The above allocation is exclusive of the allocation required for construction of offices and residential accommodation at the Upgraded Thana Headquarters.

Agency-wise Physical Programmes during SFYP

14·15 Agency-wise Physical Programmes of the Sector to be undertaken during FYP are stated below:

Public Works Department (PWD)

14.16 *PWD Public Servant's Housing*—It is envisaged to construct 2,000 semi-permanent low-cost housing units and 2,000 multi-storied flats with a view to providing residential accommodation to public servants in the major cities. It is possible that PWD and H&S. Directorate may share appropriate number of units to be built by each agency depending on their respective organisational capabilities.

14.17 Quite a number of new District, Subdivisional and Thana Headquarters have been created. It will be necessary to provide residential accommodation for the basic administrative and development personnel at these locations. Suitable provision, has therefore, been made for the purpose. A suitable mix of semi-permanent and permanent construction is envisaged. Special attention will be given to housing in the Thanas.

14.18 *PWD Government Offices and Institutional Buildings*—Construction of various office buildings at the seat of Government at different levels of administration, construction of monuments and various buildings of national importance comprise the major programmes of this sub-sector. Examples of the first category mentioned above, are 20-storied office building within the present Bangladesh Secretariat, 12-storied office building at Segunbagicha, office building complex at different Subdivisional and District Headquarters and construction and upgradation of Thana Secretariat. Among the second category, Shahid Minar and Unknown Martyrs Memorial are noteworthy. The third category includes such works as construction of National Assembly Building and Civic and Cultural Centre at Fulbaria.

14.19 The requirement of government office space in Dhaka City was estimated to be about 14·00 lakh sft. in 1973. Since then, some additional office space have been created to accommodate the various offices of the Ministries and Agencies under them Noteable examples are the separate Directorate Buildings for PWD, H&S. R. & H, Labour, Food etc. A recent estimate prepared by the Ministry of Works shows that offices located in hired premises currently occupy 5,00,000 sft. The congestion in the present office accommodation and their scattered location have dysfunctional effects on the smooth running of the offices. Provision has, therefore, been made for adequate progress of construction of the 20-storied office block within Secretariat and completion of 12 storied twin-blocks at Segunbagicha.

14.20 The problem of the office accommodation in the District and Subdivisional Headquarters is more acute. The court and collectorate buildings in the existing headquarters date back from British times and need expansion/renovation/replacement. Similarly need for office space for various organisations at those levels has increased. But no major programmes could so far be undertaken. A number of schemes to cater to these needs have been included in the SFYP Programmes.

14.21 The major works on the monuments would be completed during the SFYP. The final phase of the unknown Martyrs' Memorial at Savar would also be taken up.

14.22 One of the biggest projects under the sub-sector is the construction of National Assembly Building at Sher-e-Bangla Nagar. Started in the mid-sixties, this building could not be completed expeditiously and as a result the cost has increased manifold. Although completion of this building within the Second Five Year Plan will mean slowing down of other programmes, this will have to be completed within the plan period

14.23 Not much exists at the moment by way of office buildings at Thana level except the existing TTDC buildings. The Government's intention to take services and administration nearer to the people implies a sizeable construction programme in the form of office buildings in those places. Suitable provision has, therefore, been made for essential construction in thana headquarters.

Housing and Settlement Directorate

14.24. The Directorate at present is involved mainly in development and distribution of serviced residential plots and construction of medium sized multi-storied flats. But during the Second Five Year Plan, the H&S Directorate may have to shoulder much larger responsibility. This will include construction of about 2,000 semi-permanent low-cost housing units primarily for the government servants and development of about 20 thana headquarters as urban/semi-urban centres. Besides, the Directorate will undertake major housing schemes for the lower income groups expected to be financed by the ADB and the World Bank. In addition, projects for housing estate development in the district towns will be completed and about 6,000 plots of various sizes will be distributed for construction of houses by the allottees. It will be necessary to reorganise the Directorate if the above responsibilities are to be properly discharged.

14.25 *Rural Housing*: Traditionally, rural housing has been taken care of by the villagers themselves. Government could not make any significant contributoin this respect except distribution of some construction materials here and there when certain areas were ravaged by flood, cyclone or tidal bore. Because of the subsistence nature of the economy, the rural dwelling units are only in the form of shelters which do not adequately protect them from rain, wind and floods. Sanitation is primitive. Most of the houses are not also connected by access roads.

14.26 At present rural homesteads occupy much larger size of land than really needed had they consolidated the use of land in the homestead area.It is imperative to forestall further proliferation of rural homestead by appropriate institutional and legislative arrangements during the plan period. It's purpose will be to ensure that all the available homestead areas of the intending builders have been properly used to prevent further encroachment of farmland regardless of whoever may be its owner. The details of this policy will have to be worked out by the Ministry of Works, Ministry of Land Administration and Land Reforms and the Ministry of Local Government, Rural Development and Co-operatives and co-ordinated by the Planning Commission.

14.27 Conventional building materials such as thatching grass, bamboo, wood, etc. are getting scarce and expensive day by day. It is in this area that the Building Research Centre can make significant contribution towards the welfare of rural population. Research efforts for finding out new building materials will, therefore,be intensified during the plan period.

14.28 *Urban Housing:* Urban housing situation in Bangladesh as in many other countries has always been unsatisfactory; but of late, this has become alarming. Comprehensive statistics do not exist to indicate the exact nature and extent of this problem. Some indicators are available for the major cities which may serve to highlight the magnitude of the problem. From the 1973 census, it was seen that there existed a backlog of 47,195 housing units in Dhaka, 4,607 in Chittagong and 9,500 in Khulna. Since

1973, this back-log has been increasing at a rate faster than the rate of urbanisation resulting in proliferation of slums and squatters settlement in the urban areas.

14.29 The shortfall in the housing units is reflected in the average occupancy of city houses. It can be seen from the following figures for the four largest towns that the occupancy situation has been growing worse with passing of time.

TABLE 14.4

Household Occupancy in Major Cities

Pourashava	Average occupancy	
	1960	1973
Dhaka	5·50	7·65
Narayangonj	4·89	6·09
Chittagong	4·99	6·42
Khulna	5·51	6·68

14.30 The above figures when considered with the types of houses revealed by 1973 census, show that both in quantity and quality urban housing situation has been getting worse. Table 14·5 provides the qualitative side of the picture :

TABLE 14.5

Category of Houses

(In percentage)

Pourashava	Pucca	Semi-pucca	Kutcha	Jhupri	Others
Dhaka ..	36·75	24·33	27·25	10·96	0·71
Narayangonj ..	22·14	44·64	30·24	2·46	..
Chittagong ..	29·63	25·07	39·02	5·95	0·30
Khulna ..	28·56	11·85	50·92	6·97	1·60

14.31 A more recent survey provides a bleak picture which shows that the percentage of people living in poor clusters within the urban areas approaches 37 percent in Dhaka, 36 percent in Khulna and 16 percent in Chittagong. Besides the extremely poor structural qualities of the shelters in the poor clusters, the unbelievably high density in those clusters reflects the deterioration that has taken place in recent years. In some of the areas of Dhaka and Chittagong, density varies between 1,000-2,000 persons per acre. These statistics show that there has been a widening gap between housing needs and housing stocks. While the public sector agencies responsible for providing urban housing have failed, the institutional loan operations could not face the challenge due, mainly to resource constraints and procedural problems.

14.32 *Policies and Strategies for Urban Housing :* A National Housing Council should be formed to provide the development of a national strategy and policy of housing which, *inter alia*, would determine :—

(i) the classes of people to be served;
(ii) subsidy for different groups and the sources of such subsidies;
(iii) the allocation of public sector funds and debt capital to be made available from Banks and Insurance Companies;
(iv) nature of co-ordination of housing programmes with national, regional and metropolitan agencies, municipalities and development authorities; and
(v) criteria and priority for importation of essential building materials.

14·33 A combination of the following strategies will have to be applied to ascertain viable option/options such as (i) site and services development, (ii) site and services with nucleus houses, (iii) construction of flats for sale, (iv) construction of "skeletal" house, (v) plot redistribution schemes, (vi) environmental improvement for existing housing areas, (vii) planned temporary settlement. The nature of the progrommes and the housing estates that are likely to be developed through these programmes will demand long-term support in the form of continuous monitoring, review and development control and financial management till the programmes are fully implemented. The existing arrangements with divided responsibility for construction and estate management between the Housing and Settlement Directorate and the Estate Office is utterly inadequate. Establishment of a National Housing Authority or Authorities will be considered during the plan period with responsibilities for planning, development, financing and estate management. The Housing Authority/ Authorities will receive policy guidance from the National Housing Council but will combine the twin features of operational flexibility of business enterprise and accountability of public sector authority.

14·34. In addition, incentives will be provided to construction firms so that they may take up housing development as an industry. Savings and Loan Associations may be established and encouraged for housing development.

Urban Development Authorities

14·35. *Strategies and: Policies* Three urban development authorities DIT, CDA and KDA were established during early fifties to control urban land use in the three major cities of Dhaka, Chittagong and Khulna. The objective was to ensure planned human settlements and appropriate location of services and facilities. Unfortunately, this objective has been largely defeated as the agencies concentrated] more on the development of new residential areas for the upper income groups and development of market places and some city roads. As a result, all these three cities contain clumsy human settlements without the required community facilities. Efforts will be made during the Second Five Year Plan period to correct the situation. During the plan period, the major responsibility of the city development agencies will be to prepare detailed land use plans of the remaining areas and endeavour to correct the undesirable land use pattern that has already taken place. To this end, the existing Town Improvement Act will have to be modified to give stronger legal instruments at the hands of these agencies for strict enforcement of land use plans.

14·36. Another urban development authority has been created recently for the city of Rajshahi under the title "Rajshahi Town Development Authority". Being very new, this Authority has the advantage of learning from the experiences of the three existing urban development authorities.

14·37. A sum of Tk. 30·50 crore has been allocated for the four city development agencies as shown :

Authority	[*Tk. in crore*]
Dhaka Improvement Trust	14·00
Chittagong Development Authority	8·50
Khulna Development Authority	4·50
Rajshahi Town Development Authority ..	3·50
Total ..	30·50

Urban Development Directorate

14.38. Physical planning in Bangladesh has mostly been sporadic and ineffective. At the national level, the achievement of the Urban Development Directorate has been modest, to say the least. The activities of the Directorate were confined to preparation of a number of land use plans for some urban centres and industrial agglomerations and rendering advice to the Government from time to time on planning matters. Under the UNDP assisted project, preparation of physical plans for 10 more district towns are in progress. Neither the institutional arrangement nor the functions assigned to the Directorate is adequate to meet the challenge of the physical planning task that needs immediate attention.

14.39. There is no control over land in the rural areas, so in a situation of laissez-faire, traditional practices and whims of land owners determine land use. Even where some form of control operates, ineffective development control and archaic building regulations prevent orderly growth and economy in land use. Fast rate of urbanisation without physical planning intervention will result in undesirable internal shape and structure of urbanised areas and will produce regional imbalances extremely difficult to correct later.

14.40. The physical planning activities should, therefore, include (i) determination of a strategy for long term distribution of population, (ii) framing of policies for the best use of land to be controlled by suitable legislation, (iii) policies and plans for gradual nucleation of rural settlements, (iv) policies and plans for development of rural growth centres and key villages, (v) preparation of metropolitan, municipal, district and thana plans and (vi) development control in all areas for which plans have been prepared.

14.41. The Urban Development Directorate in its present shape and strength can not handle all the physical planning tasks that are needed to be performed. Nor should it be made responsible for all the tasks. Local Governments should be gradually encouraged through fund support and training to take up physical planning works on

their own. Until such times as these bodies are able to take up the full responsibilities, the Central Government Organisation will prepare plans on their behalf leaving the development control function to them. In order to carry out the local planning functions as an interim arrangement and also to address to the macro-planning needs, it will be necessary to reorganise and strengthen the Directorate. A National Physical Planning Council should be formed to provide continuous guidance for all physical planning activities in the country and also to approve and modify plans prepared at different levels. The present Directorate renamed as "Physical Planning Directorate" or Town and Country Planning Directorate" will act as the Secretariat of the National Physical Planning Council.

14.42. Besides formulation of policies and strategies for long-term distribution of population and optimum use of land, the major tasks of the directorate during the Second Five Year plan will be to prepare physical plans for potential growth centres, all urban areas as well as regional and sub-regional plans. The on-going research and survey works on housing will also continue. An allocation of TK.10·00 crore has been made in the Plan for the purpose discussed above.

Directorate of Public Health Engineering

14.43. The Directorate is responsible for the following :

(a) Rural Water Supply.

(b) Rural Sanitation.

(c) Urban Water Supply and Sanitation outside Dhaka and Chittagong Cities.

14.44. *Rural Water Supply :* Supply of safe drinking water through shallow and deep tubewells in the rural areas has been one single most important factor for the substantial reduction of epidemics and water borne diseases in Bangladesh. In this respect the UNICEF assistance has been a big help. There are about 4.6 lakh public tubewells in rural Bangladesh providing one for about 175 rural population. Through accelerated new sinking and re-sinking during the Second Plan period, it is envisaged to provide one public tubewell for about 150 rural population. These public tubewells and the privately owned tubewells including those owned by the non-government organisations will largely eliminate the problem of rural water supply in the country.

14.45. There exist some operational problems in the area of tubewell drinking water supply in rural areas. These are : (a) repair and maintenance of the tubewells, (b) sharing of expenses between the Government and users and (c) choking up of a large number of tubewells every year. The DPHE will have to address themselves to these problems during the Plan period with a view to finding out appropriate solution. However, transfer of this responsibility to Local Bodies will probably be the best answer to the problem.

14.46. *Rural Sanitation :* Semi-primitive sanitation situation exists in rural Bangladesh. Inadequate public health awareness as also inadequate resources available with the Government has been largely responsible for the existing situation. During the 70s the DPHE successfully developed a relatively cheap water-sealed sanitation units for the rural areas. These units have been quite popular and the Directorate has so far

distributed about 30,000 such sanitation units at subsidised prices in the rural areas. DPHE plans to introduce these sanitation units on a massive scale during the Second Plan period by distributing about 300,000 village sanitation units so that there are about four such units in each village on average by 1985. Implementation of this village sanitation programme will mean a great environmental and public health improvement for rural Bangladesh.

14.47. *Urban Water Supply and Sanitation :* The 1974 Census of Bangladesh classified 109 locations as urban centres. At present, there are municipalities in 80 of such urban centres. Piped water supply exists on only 40 of these municipalities. Under the present arrangement of water supply in the urban areas, only Dhaka and Chittagong are served by regular agencies, *viz.*, Water and sewerage Authorities of Dhaka and Chittagong. The rest of the urban areas are devoid of any organisational support. The existing municipalities are also not fully capable of shouldering the water supply and sanitation responsibilities. Under the circumstances, the DPHE has to come in for provision of appropriate water supply facilities in the urban locations and will have to continue to do so till the concerned municipalities acquire requisite capability. Provision of water and sanitation to all the urban locations poses a serious financial problem for the Government. Existing resources of the Government would not permit provision of piped water supply immediately to all the urban locations in the country. In such a situation, tubewell is the optimum solution. The water supply programmes of the DPHE in respect of the urban areas will, therefore, be guided by such considerations. It is expected that piped water supply be provided to about half of the remaining urban locations during the Second Plan Period.

14.48. A sum of Tk. 135·00 crore has been allocated for the development programmes of the DPHE to finance schemes for rural and urban water supply and sanitation. The major programmes/schemes of DPHE during the Second Five Year Plan are indicated below :

(a) Sinking of 1,80,000 shallow tube-wells;

(b) resinking/replacement of 50,000 shallow tube-wells;

(c) sinking of 6,000 deep tube-wells for saline zones and Sunamgonj;

(d) 7,000 tube-wells with deep-set pumps in Barind areas and Chittagong;

(e) installation of 3,00,000 village sanitation units or about 5 such units per village; and

(f) water supply to the remaining subdivisional towns;

Dhaka WASA

14.49. Since 1970, supply of water failed to keep pace with the need of the City's fast growing population. The present output of 47 MGD barely meets the demand generated in the areas served by WASA. This limited production coupled with expensive leakage in the system, unauthorised connection and wasteful use from the street hydrants and from unmetered connections make the water supply situation acute. Excessive pumping of under-ground water from a limited areas for long period gives rise to such problem as lowering of water table and land subsidence. In future major portion of the

supply must come from surface sources for which surface water treatment plant will be necessary as the long-term solution. Resource constraint, however, dictates that immediate need for water supply be met through sinking of new tube-wells and expansion of distribution network as the first priority on a short term basis and preparatory works for the longer term solution.

14.50. The level of sewerage service is much below that of water supply services in terms of population served. The capacity of sewage collections, conveyance and treatment is also limited. The sewerage system constructed under the first IDA project extending to about 120 miles is not as yet fully utilised due, mainly, to non-commissioning of pumping stations and reluctance of people to take house connections. However, even if the above difficulties can be overcome, the limited capacity of the sewage treatment plant will not permit more than 20 percent coverage of the city. Reticulated sewerage system needs huge initial capital investment. There is need for determination of priority as between water supply and conventional high cost sewerage treatment facilities. In a situation of resource constraint, the expressed policy should be to meet the need for water first and to explore and adopt cheaper technology solutions for sewerage treatment.

14.51 A sum of Taka 65·00 crore has been allocated for the development scheme of Dhaka WASA during the SFYP. This will enable Dhaka WASA to augment water supply and sewerage services in the existing areas and to extend such services to the fringe areas of the city. In concrete terms, the programme will comprise 34 (Nos.) 8'' dia tubewells, 87 miles of water mains, 25,000 new water connections, 6,500 sewer connections, 7 (Nos.) two lac gallons capacity elavated storage tanks and 56 miles of secondary sewer lines. The programme also includes construction of workshops, offices, stores and training of personnel. Some allocation would also be available to initiate the works of the proposed Third Dhaka WASA project during the terminal year of the Plan period.

Chittagong WASA

14.52 About 50 percent of the City's population is supplied with water from the Authority's water supply system. The production capacity is about 12·5 MGD all of which comes from underground water sources. Of the total production, domestic consumers take 46 percent, Industry and Commerce 19 percent and 35 percent is accounted for losses, leakages, illegal connection and wastes. There are at present 9,000 connections of all categories. The city does not have any sewers. At prosent, sewage is disposed of by septic tanks or by nightsoil collection system run by the Chittagong Municipality.

14.53 A sum of Taka 37·00 crore has been allocated for the development programmes of Chittagong WASA during the Plan period. The major programmes are as follows :

(i) 14,000 service connection;

(ii) sinking of 6 (No) deep tube-wells;

(iii) expansion of the capacity of iron removal plant from 10 MGD to 15 MGD; and

(iv) construction of a 20-MGD surface water treatment plant at Mohura on the Halda River.

14.54 There are quite a number of management and financial problems common to the two WASAs. The major ones are—

(i) the existing tariff rates are well below capital and operating costs;
(ii) the payment of dues by the municipality and the government estates are irregular and inadequate;
(iii) there is substantial revenue loss caused by leakage and unauthorised connection. Surveillance and detection arrangements are inadequate; and
(iv) billing and collection is irregular.

Removal of these problems is a precondition to better service delivery by the two WASAs. Unless significant improvement in the financial and administrative management takes place, it may not be possible to maintain the balance between requirement and supply for long.

Dhaka Municipal Corporation

14.55 Since Independence, the capital city witnessed unprecedented growth in population with concommitant increase in demand for municipal services. The service area also expanded substantially. Because of its relatively poor economic base, the income of the Corporation could not keep pace with the demands imposed on it. As a result delivery of even such basic goods and services as roads, drains, street lighting and conservancy became extremely difficult. In order to arrest the sharp quantitative and qualitative deterioration, a development programme was initiated during the Two Year Plan period. The growing demand for services necessitated taking up of a substantial development programme during SFYP which includes, among others, construction of a modern slaughter house, community centres, reconstruction/repair of roads and drains, provision of street lighting, improvement and modernisation of conservancy services, mosquito eradication etc. A total allocation of Taka 40·00 crore has been made for the above programmes in the Second Five Year Plan.

M/O L.G.R.D and Cooperatives (Urban Works Programme)

14.56 It is through the Urban Works Programme that fund for development of physical infrastructures to all the urban areas is channelled. The block allocation made each year against this programme is distributed among the urban areas by the Ministry of L.G.R.D. and Co-operatives. In the past, the allocation for this programme has been rather small. As a result, little development could take place in a large number of urban areas. Besides the inadequate allocation, the main weakness of the programme has been its distributive principle. The fund is normally distributed on the basis of population (two third weightage) and geographical size (one-third weightage) of the respective urban areas and not on the merits of projects/programmes that individual urban area might take up. It is necessary to review this distribution mechanism so that funds channelled to the urban areas are not given and received as doles and treated as such.

14.57 The Urban Works Programme has assumed special significance since funds for development of physical infra-structures, services and utilities in selected rural growth centres is also intended to be channelled through this programmes. An allocation of Tk. 25.00 crore has been made for urban works programme in the Second Five Year Plan.

Bangladesh Parjatan Corporation

14.58 *Tourism and Recreation* : Immediately after the establishment of Bangladesh, the Tourism Corporation undertook in 1973 a programme for creation of some tourist facilities in some selected tourism centres under the Reconstruction Programme. This

included a number of motels, hotels and rest houses at Cox's Bazar, Kaptai, Rangamati, Khulna and Sylhet. These facilities constituted the nucleous in terms of tourist facilities in Bangladesh.

14.59 Tourism cannot be developed in isolation. In order to ensure sustained growth of tourism, the bulk of our population must be involved in the tourism development process. Tourism is essentially a human activity. People's participation is, therefore essential in the creation and development of tourist attractions and facilities throughout the country as well as in making use of them. Bangladesh has natural attraction of flora and fauna, beautiful lakes, rich cultural heritage and colourful tribal life-these are all preconditions for the development of tourism with adequate tourist facilities like suitable accommodation, catering services, transport and recreation. Tourism, particularly domestic tourism can grow rapidly. It is with these objectives that a sum of Tk. 28·00 crore has been allocated for the development of tourism and recreation facilities during the Second Five Year Plan. The allocation includes the provision for Sonargaon Hotel.

Directorate of Fire Services

14.60. There are at present 115 Fire Stations of different classes in Bangladesh located in the main cities and towns and in some important business and industrial centres. It has not, however, been possible to establish permanent fire stations in all the subdivisional towns, growing business centres and new urban areas to provide sustained fire protection to those places. Provision has, therefore, been made for establishment of 14 class II, 6 class III and one river fire station during the Second Five Year Plan period. A very important function of the Directorate is to provide Ambulance Services. At present, only the major cities are covered through Fire Brigade Ambulance Service. Provision has been made for procurement of 50 ambulances and speed boats for extension of this services to all the District Headquarters and those subdivisional headquarters where permanent fire stations exist. The other important programmes include procurement of equipments, establishment of regional depots and establishment of Fire Service Training Institute at Dhaka. A total allocation of Taka 14·40 crore has been made in the SFYP for the above programme.

Ansar Directorate

14.61. Construction of the Ansar Training Institute at Shafipur has been included in the SFYP. An allocation of Taka 7·65 crore has been made for this purpose.

Police Directorate

14.62 An allocation of Taka 1·35 crore has been made in the Plan for improvement and development of training facilities in the Sardah Police Training Academy.

Planning Commission (Physical Planning & Housing Section)

14.63 The major programmes include the ADB/UNDP financed study on Integrated Urban Development Strategy for Dhaka City, Construction Industry Development Studies and Reconstruction of the Engineers' Institute. In addition, provision has been made for study/research on standards and specification in respect of building construction. A total allocation of Tk. 2·10 crore has been made in the SFYP for the above programmes.

CHAPTER XV

EDUCATION, RELIGIOUS AFFAIRS AND STR

A. EDUCATION

Background

Superior input of human effort is an important determinant of all developments. Education today is viewed not merely as a fundamental human right but also as a basic instrument for developing the capabilities of man. In the context of the growing needs of the developing countries, the utilitarian aspect of education has been assuming increasingly greater importance and significance.

15.2 Educational development in Bangladesh in the past has been primarily an expansion of the existing system to meet exigencies. It has created a paradoxical shortage-surplus problem. There is a shortage of labour with skills and a surplus of persons with liberal education for whom employment opportunities have been shrinking. Development efforts in the First Plan (1973—78) and the Two Year Plan (1978—80) could not quite reverse the process. Consequently the familiar rural-urban gap, gap in educational facilities between sexes and imbalance among levels and within each level persist.

15.3. Immediately after the liberation of Bangladesh a great emphasis was laid on educational reforms and on measures to make all tiers of education financially cheaper and physically closer to the people. However, due to resource constraint coupled with lack of adequate preparation of details most of the basic policies remained unimplemented. While the literacy rate is around 24 percent primary education has remained only in name. About 66 percent of the children of primary age group are enrolled in schools, the drop out rates between Classes I and II and Classes I and V being 60 percent and 80 percent respectively. Most of the secondary schools lack guidance, supervision and material means. There has been a sharp drop in the quality of teachers both at the secondary and higher levels. Specialised and higher courses like the honours degree programme have been introduced in many colleges without appropriate provisions, and a number of non-government colleges in each district have been nationalised without any forethought or preparation for raising the quality of instruction.

15.4 Science and technical education have remained terribly undeveloped and grossly neglected. In the First Plan the proportion of SSC students in the Science Group was expected to rise to 37 percent; it was only 28 percent in 1980, and dropped to 25 percent in 1981. The worst plight has been in the field of technical education. For internal conflict the engineering colleges had closed sessions for some years. The only Technical Teachers' Training College has been converted into another engineering college, leaving no base for technical teacher training. The polytechnics and monotechnics cannot offer classes to their first year students until 18 months later. At the higher secondary level, two-year course of studies are crammed within a year and then after the public examination, the students wait for one year to 18 months before they may commence classes of higher studies.

15.5 Bangladesh with a population of 94 (1982/83) million has only 30,000 scientists and technologists and barely 100,000 skilled workers. It has less than 4 scientists, technicians and skilled workers per 10,000 people as against over 21 in some of the neighbouring countries. Against the international guideline of 15 skilled workers and 5 technicians for each graduate engineer, the ratio in Bangladesh is 2 : 3 : 1. While on the one hand the country stagnated for shortage of technical hands at home and for employment abroad, 40 percent of those with 12 years of schooling and above remained unemployed. (In 1981 the number of unemployed people with 12 years of schooling and above was around 4·2 million).

15.6 Over the years the percentage of expenditure on education has declined both in terms of GDP and annual budget. During 1973—81 the share of recurrent expenditure on education has undergone a gradual decline from 15·5 percent to 13·10 percent. In terms of GDP the 1982/83 budgeted expenditure on education is less than 1·4 percent while most countries of the region spend in the neighbourhood of 3 percent and UNESCO recommendation is for 7 percent. Furthermore, the share of education in total public expenditure is equally low as compared with other countries at the same stage of development. In current prices, the per capita expenditure on education in Bangladesh in 1982/83 is only Tk. 38·77.

15.7. The distribution of public expenditure over various levels of education is highly skewed; the recurrent cost on a primary child and a university student being Tk. 76 and Tk. 10,333 respectively. The average cost of an under-graduate in a government college is Tk. 2,100 while in a non-government college the average cost is Tk. 210. Furthermore, over 70 percent of the investment in education goes to the urban areas where the universities and most of the government colleges and schools are located.

15.8. In spite of the relatively high cost of university and college education, the overall performance in terms of quality and output of this sector has been extremely poor. The dropout and failure rates in B.Sc., B.A. and B.Com. (Hons. and Pass) are very high. At the last B.Sc. and B.Com. Examinations of the University of Dhaka the percentages of failure were 85·30 and 89·40 respectively. At the HSC Examination (1982) the percentage of failure was 71·66.

15.9. The Madrasahs of the country numbering about 2,450 with an enrolment of 4·30 lakh remained outside the pale of modernising influences, no serious attempt being ever made to update their academic programme and introduce science and technical subjects in their courses of studies.

Review of Progress (1973-80)

15.10 *Plan Allocation and Expenditure*: The total allocation for education during the First Five Year Plan (FFYP) and the Two Year Plan (TYP) amounted to Tk. 454,00·52 lakh while total ADP provision during this period (1973—80) came to Tk. 289,52·36 lakh (63·77 percent of Plan allocation). Out of the total ADP provision, an amount of Tk. 258,85·50 lakh (89·41 percent of ADP provision and 57·02 percent of Plan allocation) could be utilized up to June 1980. Table 15·1 shows the position with regard to Plan allocation, ADP provision and expenditure for each sub-sector.

15.11 *Primary Education*: The number of primary schools increased from 30,446 in 1973 to 40,445 in 1980*. During this period enrolment at the primary level increased

* A 1981- survey showed the number of primary schools to be 40,926 with an enrolment of 8,285,807 (boys: 4,948,818, girls: 3,336,989) and 164,358 teachers (men: 151,325, women: 13,033). The enrolment represented 66% of the primary school age population.

from 60 lakh to 70 lakh (enrolment of girls from 20 lakh to 22·40 lakh) and the number of primary teachers increased from 124,146 to 159,000.

15.12 During 1973—80 out of 8,000 war damaged primary schools taken up for rehabilitation, 7,730 were reconstructed; out of 20,000 schools taken up for development, works on 10,033 were completed; and 483 privately managed primary schools were brought under government management.

15.13 *Secondary Education*: The number of secondary schools increased from 6,000 in 1973 to 8,327 in 1980. While enrolment increased from 17 lakh to 20 lakh, the number of secondary teachers rose from 60,500 to 70,000.

TABLE 15·1

Development Expenditure on Education during the First Five Year Plan and Two-Year Plan (1973—80)

[*Tk. in lakh*]

Sub-Sector.	Plan Allocation	ADP Provision	Actual Expenditure	Actual Expenditure as percentage of Plan Allocation	Actual Expenditure as percentage of ADP Provision
1	2	3	4	5	6
Primary Education ..	80,03·83	36,80·45	34,11·38	42·62	92·69
Secondary Education ..	88,64·93	35,05·28	30,11·09	33·97	85·90
College Education ..	38,54·93	17,17·92	14,75·39	38·27	85·88
Teacher Education ..	28,23·54	10,18·13	7,92·14	28·05	77·80
Other Educational Activities (DPI).	18,54·63	49,38·39	47,99·39	258·78	97·19
Technical Education ..	88,63·30	59,50·56	47,07·25	53·11	79·11
University Education ..	57,15.72	69,10·88	68,30·38	119·50	98·84
Ministry of Education's own Schemes.	54,19·64	12,30·75	8,58·48	15·84	69·75
Total ..	454,00·52	289,52·36	258,85·50	57·20	89·41

15.14. During 1973—80 out of 468 secondary schools taken up for development under the scheme "Development of 700 non-government secondary schools at Thana headquarters", works on 181 were completed by 1980. Besides, development works in 30 government high schools, 3 cantonment high schools, 4 non-government high schools in the Dhaka city and Syedpur Technical High School were completed.

15.15. *College Education* : The number of colleges increased from 500 in 1973 to 589 in 1980 and enrolment increased from 3·28 lakh to 3·96 lakh (enrolment of girls from 0·27 lakh or 8·5 percent to 0·53 lakh or 13 percent).

15.16. During the period under review, out of 191 colleges (including 17 girls' colleges) taken up for development, works on 174 were completed. Furthermore, out of 35 government colleges included in the development programme, works of 6 were completed.

15.17. *Teacher Education*: The intake capacity of the 47 primary training institute (PTIs) increased from 8,000 in 1973 to 9,200 in 1980. The enrolment in the teachers' training colleges did not increase, and remained at the original figure of 2,500. The development works of 23 PTIs and the Bangladesh Education Extension and Research Institute, Dhaka, were completed.

15.18. *Technical Education* : The enrolment capacity of the three engineering colleges increased from 1,220 in 1973 to 2,110 in 1980. Enrolments at the polytechnic, commercial and vocational levels increased from 10,900 to 12,420, 2,550 to 2,720 and 3,700 to 6,420 respectively.

15.19. During 1973—80 a total of 44 projects of technical education were taken up of which 15 were completed. Scholarships and stipends were awarded to 45,512 technical students involving an expenditure of Tk. 351·85 lakh.

15.20. *University Education* : The enrolment of the six universities increased from 23,726 in 1973 to 36,530 in 1980. Although the Plan aimed at raising the ratio of students between science and arts from 32:68 in 1973 to 37:63 in 1980, it actually fell to 28:72.

15.21 In the universities sub-sector, the strategy was consolidation of existing facilities and qualitative improvement. As against the Plan allocation of Tk. 57,15·72 lakh, the actual expenditure was Tk. 68,30·38 lakh, an excess of 19·5 percent. Out of 25 projects, 7 relating to 5 universities, the Institute of Bangladesh Studies at the Rajshahi University and the Computer Centre at the Bangladesh University of Engineering and Technology (BUET) were completed. Science equipment and sports gears were provided to all the universities under different schemes.

15.22 *Other Educational Activities*: Among other projects taken up or completed during 1973—80, the following may be mentioned:

a. Development works of 157 non-government Madrasahs were completed and the works of 2 government Madrasahs were nearing completion.

b. Two schemes viz. "Development of Games and Sports" and "Educational Rehabilitation Programme" were completed.

c. About 3·40 lakh students at various levels enjoyed the benefit of scholarships and stipends.

d. The works of the Residential Model School, Dhaka, and the Audio-Visual Education Centre were completed.

e. A scheme for expansion of the Bangladesh Cadet Corps was taken up.

Appraisal of FFYP and TYP

15.23. A critical appraisal of the progress made and the problems encountered during the FFYP and the TYP periods (1973—80) reveals a wide gap between the Plan targets and actual performance. This was substantially due to a marked departure from the programmes envisaged in the Plan. Development followed the pattern of marginal expansion of facilities on the traditional lines. Because of the pressure from the urban middle class for diversion of funds in favour of higher education, it was not possible to adhere to the intended allocation pattern. As a result, the fruits of development did not reach those who actually needed it most. Educational development could not bring about equality of opportunity as envisaged. Achievement in terms of enrolment at various levels is summarized in Table 15.2.

TABLE 15.2

Achievement of Enrolment during 1973—80.

Level.	Position in 1973.	Target in 1978.	Achievement up to 1978.	Target in 1980.	Achievement upto 1980.
1. Primary Education (*in lakh*) ..	60·00	85·94	68·00	90·00	70·00
2. Secondary Education (*in lakh*) ..	17·00	26·62	19·43	22·00	20·00
3. College Education (*in lakh*) ..	3·28	5·00	3·81	4·50	3·96
4. Teacher Education ..	10,000	25,000	11,500	12,500	11,700
5. University Education ..	23,726	39,000	29,228	35,000	30,000*
A. General	19,287	33,000	24,930	30,000	25,680
(i) Science	6,277	12,200	7,104	9,523	7,294
(ii) Arts and others ..	13,010	20,800	17,826	20,477	18,386
B. Professional	4,439	6,000	4,298	5,000	4,320
(i) Engineering ..	1,944	2,500	1,890	2,180	1,900
(ii) Agriculture ..	2,495	3,500	2,408	2,820	2,420
6. Technical Education					
A. Engineering	1,220	2,740	1,694	2,160	2,110
B. Technician	10,900	14,740	12,420	12,420	12,420
C. Commercial	2,550	5,230	2,589	2,720	2,720
D. Vocational	3,700	30,000	4,500	3,960	6,420
E. Technical Teacher Training	N.A.	..	52	150	150

*The Annual Report of the University Grants Commission for 1981 shows the 1980 enrolment of the Universities to be 36,530.

Objectives of the Second Plan

15.24. Broadly speaking, the aim of educational development is to enable the young people to embark successfully upon adult life through acquisition of basic competence. To begin with, the Second Five Year Plan (SFYP) aims at the development of a low-cost functional education by linking different levels of education with production processes as far as possible. Efforts will be made to universalise primary education, broaden the base of secondary education, link education with employment, make science and technology a basic component of the education system, accelerate the development of women's education and reduce the rural-urban gap. The objectives of the SFYP would be as follows:

a. Introduction of universal primary education with particular emphasis on the development of cognitive skills;

b. narrowing the rural-urban gap in educational facilities;

c. introduction of vocational courses in secondary schools including development of community schools;

d. accelerated expansion of facilities for women's education to reduce the educational gaps between the sexes;

e. introduction of selectivity in higher education;

f. pronounced bias in favour of science and technology at all levels of education and introduction of professional courses at higher level;

g. removal of the existing imbalance in various levels of education;

h. expansion of facilities for in-service and pre-service training of primary, secondary and technical teachers; and

i. decentralisation and reorganisation of educational administration.

Strategies of the Second Plan

15.25 To achieve these objectives, the following strategies are suggested:

a. Physical facilities will be created for all primary children attending schools. Broadly, there will be one school for every 2,000 people or for an area of 2 square kilometers. While the immediate aim is to universalise five years of basic education in the first phase, at a later stage its duration is proposed to be extended to eight years. At the moment, action has been taken to ensure five years of schooling for 50% of the primary age group by 1987. Major emphasis will be on retention so as to avoid wastage.

b. Opportunities of skill development for out-of-school adults and youth will be created by providing vocational courses in community schools.

c. Facilities will be developed to attain the ratio of 1 : 5 : 15 among engineering graduates, technicians and skilled workers.

d. Generous provision of scholarships will be made on local, regional, national and sex basis.

e. In addition to the existing educational facilities exclusively meant for girls, enrolment of girls will be encouraged in all educational institutions.

f. Mass media will be used to overcome the shortage of good teachers and to provide opportunities of second chance education to school leavers.

g. For ensuring selectivity in higher education, investment in higher educational institutions will be rationalised.

h. The gains made in the earlier Plans at all levels will be consolidated.

Rationalization of the Education System

15.26 During the SFYP the existing system of education will be rationalized. This will be done through curricular reforms and diversion of larger number of students to vocational and technical courses.

15.27 At the five-year basic or primary level, emphasis will be on inculcating ethical values aesthetics, national identity through learning about folk heroes and familiarization with the local economy and different production processes.

15.28 The preparatory stage (Classes VI-VIII) will aim at fostering civic sense and social consciousness. The children will be encouraged to develop individual and group projects to familiarize themselves with different trades and production processes of the local economy. The pre-vocational orientation of technical and trade fields will be introduced at this stage.

15.29 Secondary education (Classes IX and X) will be made terminal for the majority of the student. At this stage vocational and apprenticeship programmes will be introduced alongside the general programme which will provide integrated courses for all culminating in a public examination.

15.30 The establishment of community schools will be one of the most important programmes at the secondary level. The purpose of these institutions is to provide facilities for skill development of the rural community in selected trades (agriculture, civil and mechanical trades for men and sewing/weaving and food processing/preservation for women).

15.31 The higher secondary (Classes XI and XII) and subsequent stages will be highly selective, the Higher Secondary Certificate being the minimum qualification for entry into most services other than professional positions which will require a university degree as the minimum qualification. Following the secondary level, there will be the 2-year higher secondary stage diversified into a number of streams or a 3-year diploma programme in technical education. The proposed streams and diploma courses at the higher secondary level will be as under:

a. Humanities

b. Science

c. Agriculture

d. Commerce & Office Management

e. Primary Teacher Training

f. Technical Skills

g. Leather Technology

h. Printing and Graphic Arts

15.32 In addition to current academic programmes at various levels, innovations such as sandwich courses, part-time study combined with part-time work and courses for school leavers will be suitably introduced. In the case of vocational and technical courses, linkage with production processes and industries will be emphasized, and imbalances among various levels of technical education will be removed through accelerated turnout of skilled workers.

Financing of the Plan

15.33 The Public Sector allocation for Education and Religious Affairs is Tk. 480·00 crore including Tk. 9·94 crore for Religious Affairs. Out of Tk. 470·06 crore earmarked for education, Tk. 227·97 crore (47·5%) has been set aside for Universal Primary Education and Mass Education. Allocation in the Education and Religious Sector by major programmes and annual phasing of the allocation at both 1979/80 prices and current prices are shown in Table 15·3 and 15·3A respectively.

TABLE 15·3

Allocation by Major Programmes in SFYP

[Tk. in lakh.]

Programmes.	Allocation for SFYP		
	Constant prices		
	Amount	Percentage	Current prices
A. Education			
1 Primary Education	2,22,20·58	46·29	3,31,67·88
2 Mass Education	5,76·81	1·20	6,98·02
3 Scholarships	35,21·66	7·34	50,00·46
4 Secondary Education	59,39·88	12·37	86,85·76
5 Teacher Education	7,85·45	1·64	9,51·79
6 Madrasah Education	1,44·36	0·30	2,17·79
7 College Education	13,29·20	2·77	19,08·58
8 Technical Education	58,92·40	12·28	88,17·60
9 Universities	34,77·90	7·25	48,85·49
10 Education Technology	1,16·77	0·24	1,78·00
11 Curriculum Development	63·52	0·13	1,00·00
12 Education Planning, Administration and Management. ..	1,18·19	0·25	1,78·02
13 Educational Statistics	35·72	0·07	45·90
14 Cadet Colleges	14,78·71	3·08	21,95·73
15 Provision for Implementation of New Education Policy.	13,05·00	2·72	22,00·00
Sub-Total (A)	4,70,06·15	97·93	6,92,31·02
B. Religious Affairs	9,93·85	2·07	14,68·98
Total (A+B) ..	480,00·00	100·00	707,00·00

TABLE 15.3A

Annual Phasing of the SFYP Allocation

[Tk. in Crore]

	1980-82	1982/83	1983/84	1984/85	Total (1980-85)
a. At Constant Prices	1,31·56	76·45	1,21·02	1,50·97	4,80·00
b. At Current Prices	1,55·24	1,07·03	1,86·58	2,58·15	7,07·00

Second Plan Programmes

15.34 *Primary Education*: In the education sector, the highest priority has been accorded to primary education, 46·29% of the total allocation for Education and Religious Affairs being devoted to it.

15.35 Primary education will be made universal as early as possible and efforts will be made to make it compulsory by steps. With this end in view, the following measures will be/have been taken:

a. A Directorate of Primary Education has been created under the Ministry of Education with the exclusive responsibility for primary education.

b. After reorganization of the administration at the Thana level, the Thana Parishad will be the focal point of all educational activities. Responsibility for introduction of universal primary education (UPE) will be transferred to the Thana Education Officers (TEOs) who will work under the guidance of the Thana Parishad as co-ordinated by the Thana Nirbahi Officer. The TEO will be responsible for execution of the UPE programme and work under the direction of the Primary Education Officer/Area Project Officer.

c. For effective supervision of primary schools, 2,000 Assistant Thana Education Officers (ATEOs) will be appointed, preference being given to head teachers of primary schools (About 1,200 ATEOs have so far been appointed).

d. An adequate number of primary teachers will be appointed, preference being given to qualified women candidates. The duration of primary teachers' education has been increased to two years. In addition various in-service programmes have been developed to increase teachers subject-matter competence and teaching skills.

e. Managing committees consisting of local people have been constituted for supervision of primary schools.

f. For effecting smooth decentralisation of primary educational administration and defining functions and working relations of local primary education authorities with the local governments, suitable legal and administrative steps will be taken.

g. The major Plan targets includes:

(i) addition of 2,000 new primary schools;

(ii) construction of 16,943 new classrooms;

(iii) renovation of 14,454 sub-standard schools;

(iv) sinking of about 20,000 tubewells;

(v) construction of toilets in 97 percent of the schools;

(vi) improvement of 47 existing primary training institutes and establishment of 3 new institutes;

(vii) provision of furniture and teaching aids (including blackboards, charts, globes, teachers' manuals, etc.) to all schools;

(viii) supply of textbooks free of cost to about 13 million children;

(ix) supply of school uniforms free of cost to about 5 million girls; (Recently there has been a rethinking on the policy with regard to distribution of uniforms, and it has been decided to divert the allocation for uniforms to school development).

h. raising of the amount of school contingency from Tk. 15·00 to Tk. 125·00 per month per school;

i. enhancement of stipend for PTI trainees from Tk. 60·00 to Tk. 150·00 per month and reservation of adequate number of stipends for women teachers (This has already been implemented);

j. In order to orient primary teachers with the new curriculum, short in-service training courses will be provided. Head teachers, Thana Education Officers, Assistant Thana Education Officers will be given training in planning, administration and school management.

15.36 The UPE programme has as its major target the enrolment of 129 lakh children in Classes I—V by 1985. This would represent 91 percent of the total primary age group (6—11 years). The projected enrolments (yearwise and classwise) are shown in Tables 15.4 and 15.5.

15.37. The principal obstacle to making primary education compulsory is the high opportunity cost of continuing the children in schools and the need for the children to work for supplementing family income. Moreover, the achievement of UPE is essentially a matter of initially enrolling the girls and retaining those who are already attending schools. There are already social pressures to encourage girls to drop out.

15.38 A special effort will be made to create community learning centres (CLCs) around selected primary schools for supporting UPE. Under this programme, the primary schools will be used to create a learning situation for the community in which the children will be the main beneficiary. The programme will promote home-based activities involving parents and children such as growing vegetables and fruit trees, processing and preservation of food, poultry farming, small trade and craft, etc. A parent-teacher association will be formed for each CLC, the responsibility for its implementation being given to the Thana Parishad. One of the underlying ideas is to generate among the parents an awareness of the value of education so as to improve enrolment and ensure retention of the children through the complete primary cycle. A further objective will be to develop readiness materials for children who will be attending primary school soon.

13.39 *Mass Education*: In view of the fact that functional literacy is an essential pre-requisite for development, a programme of mass education was undertaken with a view to making 40 million people of the 11—45 age group literate by 1985, and a sum of Tk. 653·02 lakh was spent on it during 1980—82. Following an evaluation of the programme, the strategy in this area has been changed. The new strategy for mass literacy and adult education is to develop institutional facilities of primary schools for support services rather than embarking upon a separate mass education programme. It is believed that with a stronger base of five-year basic education, congenial atmosphere will be created for ensuring

TABLE 15.4

Primary Education: Projected Enrolment.

[Figures in lakh]

Year	Enrolment			Ratio of Boys & Girls	Age-group population (5–10 yrs.)			Enrolment as % of age-group population		
	Total	Boys	Girls		Total	Boys	Girls	Total	Boys	Girls
1980	70·00	47·60	22·40	68:32	121	62	59	57·85	76·77	37·97
1981	79·80	50·15	29·65	63:37	125	64	61	63·84	78·36	48·61
1982	93·80	55·52	38·28	59:41	129	66	63	72·71	84·12	60·76
1983	108·00	60·96	47·04	56:44	134	69	65	80·60	88·35	72·37
1984	120·60	65·31	55·29	54:46	138	71	67	87·39	91·99	82·52
1985	129·90	67·55	62·35	52:48	142	73	69	91·48	92·53	90·36

TABLE 15.5

Primary Education: Class-wise Breakdown of Projected Enrolment.

[Figures in lakh]

Year	Class I			Class II			Class III			Class IV			Class V		
	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls
1980	21·00	14·23	6·77	16·00	10·88	5·12	13·00	8·84	4·16	11·00	7·48	3·52	9·00	6·12	2·88
1981	25·00	13·36	12·34	18·10	12·31	5·79	14·50	9·86	4·64	11·50	7·82	3·68	10·00	6·80	3·20
1982	26·60	13·85	12·77	25·10	13·05	12·05	17·70	12·04	5·66	13·20	8·98	4·22	11·20	7·62	3·58
1983	27·40	14·25	13·15	26·00	13·52	12·48	24·60	12·79	11·81	17·10	11·63	5·47	12·90	8·77	4·13
1984	28·00	14·56	13·44	26·80	13·94	12·86	25·50	13·26	12·24	24·10	12·53	11·57	16·20	11·02	5·18
1985	28·50	14·32	13·68	27·50	14·30	13·20	26·30	13·68	12·62	25·00	13·00	12·00	22·60	11·75	10·85

Note—Ratio of boys and girls for UPE classes—52:48 and for other classes—68:32.

substential reduction in dropouts so as to arrest future inflow of uneducated people into the backlog of illiterate population.

15.40 *Secondary Education*: The Major problem to be faced at the secondary level is the growing pressure of students for admission in the wake of universal primary education. As a result, the quality of secondary education would be further diluted and consequently the scarce resources will be thinly spread. Moreover, the prevalent unemployment problem among the school leavers will be aggravated. In the circumstances, introduction of vocational courses as the secondary level will be one of the principal tasks during the Second Plan period. The aim of vocationalization at this level is to provide opportunities for training in socially productive activities. The idea is to make the individual employable by emphasizing agricultural and related occupations through development of basic competencies in various vocations. Thus the secondary stage which is now looked upon as preparatory ground for higher education would be made terminal for a substantial number of students.

15.41 There exists a lamentable gap in the quantity and quality of secondary education between the urban and rural areas. Out of 8,960 secondary schools, only 173 are managed by the Government, and are located in the urban areas. The rest are privately managed and located mostly in the rural areas. Obviously the rural schools suffer from unending financial problems resulting in low quality of education. Similarly, there is a disparity in educational facilities for boys and girls, only 9 percent of the schools being exclusively for girls and the enrolment ratio of boys and girls being in the neighbourhood of 74 : 26.

15.42 A major project for development of 400 community schools involving a total cost of Tk. 2,964·00 lakh (including an Asian Development Bank credit of $ 13·5 million) has been in progress since 1980/81 and so far 203 schools have been selected. Each selected school will be provided with necessary workshop and equipment and the selected trade teachers will be given necessary training before taking up their assignment. A number of community schools has already started functioning.

15.43 Another important programme in the field of secondary education is the introduction of integrated science (as opposed to diversified courses such as physics, chemistry etc.) in Classes IX and X from January 1983. To implement the programme, 6,500 non-government secondary schools will be provided with laboratories, science apparatus and books at a total estimated cost of Tk. 4,279·38 lakh (including Tk. 1,687·00 lakh in the private sector). So far 6,500 science teachres (one from each school) have been given orientation training in the use of the new science textbook which was pretested by the teachers before its introduction in the classroom.

15.44 At the secondary level, the enrolment will increase from 20 lakh in 1979/80 to 25 lakh in 1984/85, the ratio between boys and girls moving from 74 : 26 to 68 : 32 during this period. The yearwise and classwise enrolment targets for secondary education are shown in Tables 15.6 and 15.7.

15.45 *Teacher Education*: It is increasingly realized that the system of teacher training at the primary and secondary levels needs to be revitalized and updated and that radical changes in the system, both in method and content, have to be made. Introduction of UPE and new curricula at the primary and secondary levels, emphasis on the teaching of English as a foreign language, science teaching, counselling and guidance, administration and supervision and providing population education as a core subject call for training and retraining of teachers on broader perspectives.

TABLE 15.6

Secondary Education: Projected Enrolment

[Figures in lakh]

Year	Total	Boys	Girls	Ratio of Boys and Girls	Age-Group Population (11—15 yrs.)			Enrolment as % of age group population		
					Total	Boys	Girls	Total	Boys	Girls
1980	20·00	14·80	5·20	74:26	..	..	..	..	..	..
1981	20·50	14·97	5·53	73:27	110·01	57·01	53·00	18·63	26·26	10·43
1982	21·20	15·27	5·93	72:28	111·73	57·81	53·92	18·97	26·41	11·00
1983	22·15	15·71	6·44	71:29	113·91	58·84	55·07	19·45	26·70	11·69
1984	23·40	16·26	7·14	69:31	116·60	60·15	56·45	20·07	27·03	12·65
1985	25·00	17·00	8·00	68:32	119·74	61·68	58·06	20·88	27·56	13·78

TABLE 15.7

Secondary Education: Class-wise Enrolment.

[Figures in lakh]

Year	Class VI			Class VII			Class VIII			Class IX			Class X		
	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls
1980	5·50	4·07	1·43	5·20	3·85	1·35	4·50	3·33	1·17	2·60	1·92	0·68	2·20	1·63	0·57
1981	5·70	4·16	1·54	5·32	3·88	1·44	4·60	3·36	1·24	2·65	1·93	0·72	2·23	1·64	0·59
1982	5·95	4·28	1·67	5·50	3·96	1·54	4·75	3·42	1·33	2·72	1·96	0·76	2·28	1·65	0·63
1983	6·27	4·45	1·82	5·74	4·07	1·67	4·95	3·51	1·44	2·83	2·01	0·82	2·36	1·67	0·69
1984	6·67	4·64	2·03	6·05	4·20	1·85	5·21	3·62	1·59	2·99	2·08	0·91	2·48	1·72	0·76
1985	7·16	4·87	2·29	6·44	4·38	2·06	5·54	3·77	1·77	3·21	2·18	1·03	2·65	1·80	0·85

15.46 The following programmes in the field of teacher education will be/have been undertaken:

a. In order to increase the annual intake capacities of the existing primary training institutes (PTIs) and teachers' training colleges (TTCs), the on-going schemes will be completed.

b. Three new PTIs will be established.

c. Hostel facilities for women teachers will be increased in the PTIs and TTCs.

d. Each TTC will be provided with increased laboratory facilities and necessary equipment and science apparatus.

e. For orientation with new curricula, short courses will be arranged as crash programme in all teacher training institutions. In addition, orientation training facilities will be decentralized with a view to minimizing cost.

f. New textbooks will be pretested with the help of teachers before they are introduced in the classroom. (English, Bengali and Science textbooks for Classes IX and X have already been pretested.)

g. In-service training of PTI instructors and supervisors and administrators of primary education will be arranged at the Academy for Fundamental Education.

h. Correspondence and evening courses will be gradually introduced for the training of primary and secondary teachers. Radio and TV will also be used for improving classroom instruction.

i. The population education programme will be functionally integrated with the work of PTIs and TTCs.

j. Facilities will be created in the existing TTCs for training of Madrasah teachers.

k. Particular steps will be taken to improve the teaching of English as a foreign language in the TTCs. The syllabuses will be updated and seminars and training courses for teachers of English in the TTCs and secondary schools will be arranged.

l. The duration of the certificate in education courses of PTIs will be increased from one to two years.

m. The Institute of Education and Research of the University of Dhaka will be strengthened for undertaking research in education and initiating new study programme.

15.47 *Madrasah Education*: In 1981, there were 2,450 Madrasahs in the country (Dakhil: 1,361, Alim: 452, Fazil: 575, Kamil: 62). Of the total, only 2 were managed by the Government. The total enrolment and the number of teachers were 430,062 and 26,662 respectively.

15.48 Most of the Madrasahs are ill-housed and ill-equipped. Furthermore, the Madrasah curriculum needs to be updated and modernised, particularly by introducing science courses.

15.49 The following programmes in the field of Madrasah education will be/have been undertaken:

a. Science teaching facilities will be provided in 150 Madrasahs for teaching science at the Alim and Fazil levels (SSC and HSC level science courses will be introduced at the Alim and Fazil levels respectively).

b. The curricula will be updated in collaboration with the National Curriculum Development Centre, the Islamic University and the Madrasah Education Board.

c. The Madrasah Education Board will be strengthened to make it self-financing. The Board will be entrusted with the responsibility of reforming the examination of Madrasah education.

d. Added emphasis will be laid on teaching of Arabic for attainment of proficiency in speaking and writing the language.

e. The quality of textbooks will be improved.

f. Emphasis will be given to research on the positive aspects of Islamiyyat at the Kamil level.

15.50 *College Education*: The number of colleges increased from 500 in 1973 to 556 (Intermediate: 213; Degree: 343) in 1981. Of the 556 colleges, 108 (Intermediate: 3, Degree: 105) are managed by the Government and the remaining 448 are privately managed. Besides 58 girls' colleges, coeducation facilities exist in most of the other colleges.

15.51 Enrolment at the intermediate level is 2·77 lakh (in 1980) of which 1·33 lakh are in humanities, 0·93 lakh in science and 0·51 lakh in commerce. It is envisaged that enrolment at this level will increase to 3·37 lakh by 1985 of which 45 percent will be in humanities, 35 percent in science and 20 percent in commerce.

15.52 At the degree level the enrolment is estimated to be 1·19 lakh (in 1980) of which 0·57 lakh (48 percent) are in humanities, 0·40 lakh in science and 0·22 lakh in commerce. The enrolment is expected to increase to 1·44 lakh in 1985 of which 45 percent will be in humanities, 35 percent in science and 20 percent in commerce.

15.53 Most of the non-government colleges as well as the newly nationalised colleges have been functioning with less than minimum basic facilities. Most of them offer courses in liberal education (arts and commerce) for which there is little demand in the employment market.

15.54 The objectives of the Second Plan at the college level are: (a) to rationalise enrolment among the various disciplines; (b) to introduce selectivity in admission; (c) to consolidate the existing facilities for their optimum utilization; and (d) to turn out graduates in relation to manpower requirement and employment opportunities. The general policy will be to discourage establishment of new intermediate and degree colleges.

15.55 The following programmes are envisaged in the college education:

a. The on-going projects will be completed on a priority basis.

b. One women's college at each district headquarters having no government women's college will be further developed.

c. The newly nationalised colleges will be developed.

d. Selected non-government intermediate and degree colleges will be developed to provide facilities of science teaching. (A scheme for the introduction of science in 30 non-government colleges is currently under implementation.)

15.56 *Technical Education*: The institutions of technical education include a University of Engineering and Technology, 4 engineering colleges, 17 polytechnics, 54 vocational training institutes (VTIs), 1 vocational teachers' training institute (VTTI), 1 college of leather technology, 1 college of textile technology, 1 glass and ceramic institute and 1 graphic arts institute.

15.57 Studies undertaken in the field of technical education have revealed the following deficiencies:

a. under-utilization of existing training facilities;

b. lack of relevance of the curricula to the socio-economic conditions of the country;

c. inadequate linkage with industries; and

d. uncertainty in employment.

15.58 The main objective of the Second Plan in the field of technical education is to accelerate the output of skilled workers and technicians so as to attain the ratio of skilled workers, technicians and engineers in the proportion of 15 : 5 : 1.

15.59 The programmes envisaged will be as under:

a. consolidation of facilities in all engineering colleges with marginal expansion so as to enable them to utilise built-in physical facilities;

b. completion of Technical Education Staff College and College of Engineering;

c. completion of works of all on-going VTIs including VTTI at Bogra;

d. completion of works of the College of Textile Technology;

e. introduction of second shift trade course in all the polytechnics where these facilities do not exist (Recently a second shift has been introduced in the polytechnics with a view to reducing the 18-month gap between admission and commencement of classes);

f. conversion of 5 technical institutes into polytechnics and development of the remaining 12 polytechnics;

g. augmenting the training of teachers at all levels of technical education;

h. updating the curricula and textbooks for technical education;

i. establishment of a polytechnic for women;

j. establishment of a common finishing facilities centre for the leather industry attached to the Institute of Leather Technology; and

k. upgrading and development of the Institute of Leather Technology. (The Institute has started offering degree courses in leather technology in addition to the existing certificate and artisan courses).

15.60 The enrolment projections for various levels of technical education is given in Table 15.8.

15.61 *University Education*: There has been considerable growth of higher education during the last three decades. Enrolment in the universities increased from 27,369 in 1977 to 37,108 (men: 30,471; women: 6,637) in 1981. During this period the number of teachers increased from 2,161 to 2,400 (men: 2,191; women: 209). By 1985 the enrolment might increase to 40,000 including about 8,000 women students.

15.62 University education appears to have little relevance to the pressing needs of the economy. It has ceased to be innovative in its complex relationship with the society. What goes on as higher education in the country is possibly supply-induced intellectual inflation. Moreover, it entails enormous wastage both in physical and financial terms.

TABLE 15.8

Technical Education: Projected Enrolment.

	Benchmark (1980).		Projection (1985).	
	Annual intake capacity.	Enrolment.	Annual intake capacity.	Enrolment.
1. Engineering :	750	2,110	900	3,390
(a) Engineering Colleges (4 years course).	720	2,080	720	2,880
(b) College of Engineering (3 years course).	..	..	150	450
(c) College of Textile (2 years course).	30	30	30	30
2. Technician :				
(a) Polytechnic (3 years diploma course).	4,240	11,835	5,800	17,500
(b) Monotechnic (3 years diploma course).	195	585	250	750
(c) Commercial (3 years diploma course)	1,360	2,720	5,000	10,000
(d) Vocational (Skilled) (2 years course).	3,210	6,420	5,000	10,000

15.63 The objectives of the SFYP in the field of university education are:

a. consolidation of existing facilities;

b. rationalization of enrolment among science, engineering and technology, liberal arts and social science, and professional education on the basis of the felt needs of the economy;

c. selectivity in admission;

d. preference in admission to women candidates with similar qualifications particularly in science; and

e. increase of enrolment in science and technology from 28 percent to 32 percent.

15.64 The following are the programmes envisaged in university education:

a. In order to make the existing universities fully functional, the on-going projects of the universities will be completed.

b. Enrolment in the four general universities will be stabilized at the present level and marginal increase to the extent of the facilities already created will be allowed.

c. Islamic University of Bangladesh will be established with an enrolment capacity of 2,000 students, and the Institute of Islamic Education and Research will be merged with it (the Institution of Islamic Education and Research has already been merged with the Islamic University).

d. Course system will be introduced in the universities.

e. The Commerce Faculties of the Universities of Dhaka, Chittagong and Rajshahi will be developed.

f. The University Grants Commission will be strengthened .

15.65 *Scholarships*: In a pluralistic society, the education system legitimatizes inequality of opportunity and perpetuates the existing inequality it is supposed to undo. Inequality of educational opportunities arises in several ways. These includes absence of widest dispersal of educational institutions, poverty of a large section and relative affluence of a small minority, differences in standards of educational institutions and differences in home environment. There are other forms of educational inequalities peculiar to Bangladesh. First, there is a wide disparity between opportunities for boys and girls at all stages. Second, there is an equally wide disparity of educational opportunities between urban and rural areas. Third, there is a pronounced inequality of opportunities for quality education.

15.66 As a means to equalizing educational opportunities, the scholarship programme is intended to ensure a talented child's access to education, to begin with, and access to quality education eventually. Other objective of the programme are to accelerate the development of women's education and to reduce the rural-urban gap by making generous provision of scholarships for girls and children of disadvantaged groups.

15.67 The following programmes are envisaged during the SFYP period:

a. In addition to general scholarships and stipends on the basis of merit-*cum*-means, a "Scholarship Pool" for talented children will be created. In order to hunt talents from the bottom and pull them up, scholarship examinations will be held at the end of Classes V and VIII, the award of scholarships being on the basis of Union and Thana respectively.

b. Scholarships will be awarded on the results of the SSC and HSC Examinations on the basis of the subdivision and Board of Intermediate and Secondary Education respectively.

c. Scholarships on the results of the Degree and Honours Examinations will be awarded university-wise.

d. Scholarships will also be awarded on the results of the Dakhil, Alim and Fazil Examinations.

e. Special stipends will be awarded to disadvantaged groups of students such as those belonging to the scheduled caste and the tribal areas and to rural girls of recognised merit.

f. The values of scholarships and stipends at various levels will be increased.

15.68 To implement these programmes, there are currently two schemes for the award of internal scholarships and stipends for general and technical education, the total estimated cost of the two schemes over a five-year period (1980—85) being Tk. 38·84 crore and Tk. 11·16 crore respectively. During 1980-82, a sum of Tk. 16·62 crore was spent on scholarships and stipends under the two schemes. While hunting talents from the bottom (at the end of Class V) provision has been made for reserving a number of scholarships for girls at various levels. The values of scholarships and stipends have been increased over the 1980 level and provision has been made for stipends for children coming from disadvantaged groups.

15.69 *Women's Education*: Although women constitute nearly half the total population, the literacy rate among them is barely 14·3 percent as compared to 32·9 percent for men. In spite of all efforts in the past to improve the status of women, there exists an imbalance in enrolment and drop-out rate between the two sexes. There is also a gap in educational facilities for boys and girls.

15.70 In formulating future programmes priority will be accorded to cater to the needs of women in the rural areas. In particular, the following steps will be taken:

a. A number of scholarships at various levels will be reserved for girls.

b. In the programmes for the training of primary teachers, 50 percent seats will be reserved for women, if available, and additional hostel facilities for women trainees will be made in the existing PTIs.

c. In recruiting primary teachers, preference will be given to qualified women candidates.

d. In the universities, some places will be reserved for women candidates in various faculties and talented women students from rural areas will be given incentive in the form of special subsidy in addition to normal scholarships.

e. One girls' college at each district headquarters will be developed and hostel facilities for girls will be increased in the colleges and universities (A scheme for development of 17 non-government women's colleges was completed in 1980/81).

f. One polytechnic for women will be established.

15.71 *Educational Technology and Distance Education*: While educational technology refers to the media that can be used for instructional and learning purposes, distance education refers to instruction and training through the use of communication media.

15.72 In Bangladesh, the concept of distance education is new and that of educational technology is limited to audio-visual aids, TV, films and charts. Since the introduction of universal primary education is the first priority of the Second Plan, provision for distance teaching through extensive use of educational technology has become urgent and inescapable.

15.73 The objectives of educational technology and distance education will be as under:

a. to overcome the shortage of good teachers and books through the use of communication media;

b. to provide facilities for improving the quality of education;

c. to supplement the shortage of teaching aids and equipment;

d. to encourage teachers to innovate teaching aids and instructional materials locally for use in the classroom; and

e. to support the programme of training of primary teachers.

15.74 The following programmes have been envisaged:

a. An Institute of Distance Education would be established (In April 1983 the Audio-Visual Education Centre was merged with the School Broadcasting Programme, the reorganized institution being known as the National Institute of Educational Media and Technology. A sum of Tk. 1·78 crore has been allocated for development of the Institute during the SFYP).

b. TV sets, video tapes, cassettes, tape recorders, overhead projectors and slide projectors will be provided to teacher-training institutions.

c. Radio sets, recording sets and other accessories will be supplied to secondary schools having access to electricity.

d. Audio-visual aids, *viz.*, charts, posters, globes, maps, etc., will be supplied to primary and secondary schools.

e. The possibility of using the second channel of Radio and TV for distance teaching will be explored.

f. A sizeable allocation will be provided for production of educational equipment at the Bangladesh Educational Equipment Board (A scheme for production of educational equipment at the Bangladesh Educational Equipment Board involving a total estimated cost of Tk. 10·18 crore has been under implementation since 1976).

15.75 *Curriculum Development:* Curriculum is the heart of any educational programme. In order to make education meaningful, relevant and effective, curriculum development should be a continuous process.

15.76 Until recently Bangladesh had no permanent institution for undertaking continuous research, experimentation and evaluation of curricula. From time to time commissions and committees were appointed for updating and developing the curricula on ad-hoc basis. The arrangement proved to be neither convenient nor helpful for a growing and dynamic system. It is, therefore, essential that teachers and researchers continually review, refine and update the curriculum to make it more meaningful and relevant to the needs of the society.

15.77 The programmes for curriculum development include establishment of a Curriculum Development Centre,* introduction of awards for exceptional contribution in

*The National Curriculum Development Centre was established in 1980.

improvement of curriculum, and grants for both action and fundamental research to be carried out by teachers.

15.78 The following will be the functions of the Curriculum Development Centre:

a. to identify national educational needs and to translate them into curricula terms;

b. to plan curricula to achieve continuous qualitative development in the educational system;

c. to develop syllabuses, schemes of work, and teachers' handbooks;

d. to monitor the effectiveness of new curricula and teaching materials and make such changes as prove necessary;

e. to disseminate information on innovations in curriculum, teaching materials and methods through workshops, seminars and bulletins;

f. to plan in-service courses for supervisors, teacher-educators and senior teaching staff; and

g. to conduct surveys connected with curriculum matters and to keep itself informed of innovations in curriculum and teaching methods internationally.

15.79 *Textbooks*: Textbook is one of the basic components in the teaching-learning process. At present most of the classrooms have hardly any instructional materials and teaching aids other than textbooks. Furthermore, textbooks are insufficiently illustrated and very poor in quality. Another distressing factor is that they are not published in time and in sufficient numbers. The distribution system also is not satisfactory.

15.80 The roles of the Textbook Board and private publishers have to be well defined and well regulated. The entire issue of centralization of the textbook business in the hands of the Government and related problems has been re-examined. The private sector is being increasingly involved in the production and distribution of textbooks on competitive basis under the supervision of government agencies. (In 1983, eight textbooks for Class IX and all textbooks for Class VIII were published by private publishers).

15.81 While the Bangladesh School Textbook Board is responsible for publishing all primary and most of the secondary textbooks, the preparation and production of textbooks for the higher secondary stage is the responsibility of the Boards of Intermediate and Secondary Education and private publishers. Furthermore, the preparation and publication of textbooks for higher education rest with the Bangla Academy and private publishers.

15.82 The following objectives are visualized in the area of production of textbooks:

a. to evolve a suitable mechanism for ensuring preparation, production and smooth distribution of textbooks well ahead of the academic session;

b. to train personnel for preparation, production and distribution of text books; and

c. to improve the quality of textbooks through competition.

15.83 To translate these objectives into action, the following programmes are envisaged:

a. The Bangladesh School Textbook Board and the Madrasah Education Board will be suitably reorganised for preparation, production and distribution of textbooks for general education and Madrasah education respectively.

b. Adequate facilities for printing textbooks will be provided in Dhaka and other regions.

c. Arrangement will be made with the Graphic Arts Institute for ensuring training facilities for the personnel engaged in production of textbooks.

d. The National Curriculum Development Centre will be involved in the preparation of textbooks and continuous research in this field.

e. To relieve pressure on the School Textbook Board, private publishers all over the country will be encouraged for production of quality textbooks by allowing them various incentives.

f. While the Technical Education Board will take up the responsibility of preparation and publication of textbooks for technical and vocational subjects, the Madrasah Education Board in collaboration with the Islamic Foundation may cater to the needs of textbooks for Madrasah education.

15.84 *Educational Planning, Management and Administration*: Education in Bangladesh is under-administered. The Ministry of Education and the attached directorates have changed little in size and structure, although there has been a rapid expansion of educational institutions at all levels. At present there are only 750 administrative and supervisory posts to oversee the work of over 50,000 educational institutions.

15.85 Shortage of administrative and planning personnel has resulted in the decline of the quality of education and internal efficiency of the system. Another major weakness of the system is its high degree of centralization. It is found that matters of minor importance are often referred to very senior officials, while officials at mid-level as well as local officials are not associated or involved in the decision making process.

15.86 The crux of the problem is to rationalize educational administration and to ensure wider participation of the community in the planning and management of education at all levels.

15.87 The following programmes in the field of educational planning and administration will be/have been undertaken:

a. establishment of a National Educational Advisory Council;

b. establishment of—

(i) Directorate of Primary Education,

(ii) Directorate of Secondary and Higher Education,

(iii) Directorate of Audit and Inspection,

(iv) National Institute of Educational Administration, Extension and Research;

c. merger of the National Curriculum Development Centre with the Bangladesh School Textbook Board;

d. strengthening of the Planning Cell of the Ministry of Education for project development, management and monitoring; and

e. planning the management of primary schools under the Thana administration.

15.88 *Educational Statistics, Evaluation and Research*: Updated and correct information and statistics are essential for educational planning and research. It is imperative that appropriate institutional arrangement be made for collection,compilation and dissemination of educational statistics.

15.89 The Second Plan aims at achieving the following objectives:

a. to make permanent arrangement for collection of primary data from the concerned institutions direct and for compilation, publication and analysis of the data collected;

b. to devise a system for evaluating educational projects; and

c. to develop action and fundamental research.

15.90 The following programmes are suggested for implementation during the SFYP period:

a. Bangladesh Bureau of Educational Information and Statistics will be reorganized and strengthened and efforts will be made to computerize educational statistics.

b. Educational mapping and location planning will be undertaken to compile complete educational geography of the country.

c. An evaluation mechanism will be evolved in the Ministry of Education to evaluate all completed development projects.

d. Teachers and students of teacher training institutions will be required to carry out research on the educational methodology, curriculum and other related aspects.

e. Teachers at the institutions of higher education will be required to publish at least one research paper a year.

f. National awards and citation will be instituted for outstanding research work for both teachers and students and financial incentives for worthwhile studies will be provided.

15.91 *Reform of Examination System*: Reforms in the examination system will be undertaken in order to improve the validity, reliability and objectivity of examination results, and steps will be taken to develop a battery of objective tests for the measurement of comprehension, aptitude and academic achievement of pupils to be administered at the end of Class X.

15.92 *Counselling and Guidance*: Guidance and counselling services are essential to enable students to choose the right academic and vocational careers. In the absence of such services, most students choose careers either without any forethought or according to

their parents' desire without regard to their abilities and aptitudes. The ultimate result is large scale failure in examinations causing enormous wastage of resources, widespread unemployment and frustration in life.

15.93 The objectives during the SFYP period will be as follows:

a. to help students select academic careers which conform to their abilities and aptitudes;

b. to arrest wastage of resources by reducing unnecessary rush to those courses which have little demand in the market; and

c. to disseminate information regarding the job market situation.

15.94 The following programmes have been visualised to achieve the above objectives:

a. Guidance and counselling services will be made available at the national, regional and district levels for unemployed youths and in each institution down up to secondary level to help students select the right type of courses. One teacher from each institution will be entrusted with the task.

b. Guidance and counselling services will form a vital component in the programme of the teachers' training colleges.

c. Short courses on guidance and counselling will be offered at the National Institute of Educational Administration, Extension and Research.

15.95. *Bangladesh National Cadet Corps (BNCC)* Bangladesh National Cadet Corps aims at imparting discipline and military training to the students of secondary schools, colleges and universities. This organization is expected to act as second line of defence and to provide disciplined volunteers for national development programme and during national calamities.

15.96. The programmes envisaged are—to raise five regiments in the Army Wing ; three Flotilla in the Naval Wing ; and three Squadrons in the Air Wing.

15.97. *Cadet Colleges*: In the sixties some Residential Model Schools were established with the objective of imparting quality education to more boys and girls. Unlike Cadet Colleges these schools failed to meet the demand for quality education. Physical facilities already created remained grossly underutilised whereas demand for places in the Cadet Colleges increased enormously.

15.98. With a view to making good use of the physical facilities already created and meeting the demand for increased places in the Cadet College, 6 Residential Model Schools (including one for girls at Mymensingh) would be converted into Cadet Colleges. Sylhet and Rangpur Residential Model Schools have already been convereted into Cadet Colleges, while Model Schools at Pabna, Barisal, Comilla and Mymensingh will be converted into Cadet Colleges during the Plan period.

B. RELIGIOUS AFFAIRS

15.99. Roligious values touch the conscience and harmonize the discordant elements in human nature. It has been at the root of all great civilizations. The people of Bangladesh are deeply religious. So religion which is meshed with day to day life of the people can play a vital role in moral development as well as economic and social growth. But the impact of western civilization has eroded many of the values and caused moral degradation of the people which needs to be arrested.

15.100. In Bangladesh the importance of religion in the development process has been recognised very recently and Religious Affairs were included in the development Plan in 1979/80. A sum of Tk. 9·94 crore has been provided in the SFYP to implement the programmes of Religious Affairs.

Review of Progress

15.101. During 1979/80 work of establishment of 4 Islamic Cultural Centres at divisional headquarters, installation of a printing press for Islamic Foundation, beautification of Baitul Mokarram Mosque, training of Imams and work of publication of Islamic Encyclopaedia were undertaken.

Objectives of the SFYP

15.102. The objectives of Religious Affairs during SFYP will be :

(i) to arrest erosion of moral and ethical values through religious teachings ; and

(ii) to promote extensive and intensive research on various aspects of religion.

Strategies of the SFYP

15.103. The following strategies will be adopted :

(i) Built-in-facilities of religious institutions will be utilised for humanitarian and social welfare activities.

(ii) Services of religious leaders such as, Imams and Muazzins will be utilised for social and economic development.

(iii) Mosques will be utilised as community and mass education centres. Moreover, various social welfare activities will also be undertaken centring the mosque.

Programmes of the SFYP

15.104. The following programmes will be undertaken during SFYP :

(i) Islamic Foundation will be strengthened.

(ii) The network of Islamic Cultural Centres will be extended upto the district level with library and training facilities.

(iii) Publication of religious books will continue to meet the growing demand of the general public. Work of Installation of a modern priting press for Islamic Foundations will be completed.

(iv) Training of Imams in social and economic development will continue to make them change agents in the society.

(v) Mosque libraries will be set up.

(vi) The Baitul Mokarram Mosque will be further developed.

(vii) The work of preparation and publication of Islamic Encyclopaedia in Bengali will continue.

(viii) Programme-based assistance will be given to religious organisation for rendering social welfare services to the community.

(ix) Programme for undertaking maintenance and expansion of places of worship and religious centres of the members of the minority communities will be undertaken. They will also be assisted to develop social and religious services. For this purpose a Trust Fund will be established.

C. SCIENTIFIC AND TECHNOLOGICAL RESEARCH (STR)

15·105 Bangladesh has few options left today but to pitch her dependence on the effective use of science and technology for alleviating the overwhelming conditions of mass poverty and misery. It has been recognised that given the limitations of her factor endowments, the mounting problems of providing the basic needs of food, clothing housing, medicine, fuel and the like to the people, ensuring adequate employment opportunities, improving the quality of life to a reasonable degree and accelerating the pace of economic development cannot be tackled without the help of science and technology.

15·106 Mere promotion of higher scientific education will not achieve the desired goal unless science can be applied in practical forms for the development of agriculture, industry and all other needs of the society. This means that science has to go hand in hand with the development and application of technology, a fact which is felt but not practised. Pure science is concerned mainly with the pursuit of truth, but science has also to be applied for making new inventions which then should lead to innovations and technology development that would permit commercial introduction of the inventions by taking them out of the experimental laboratory to the industrial factory and the market. How well Science and Technology (S&T) is capable of achieving this is dependent on the quality of Research and Development (R&D). But unfortunately in Bangladesh the base for Science and Technology today and consequently that of Research and Development is both narrow and thin and is built on a very weak foundation.

15·107 According to a recent study on Scientific and Technological Research Capacity in Bangladesh, the country has about 30,000 scientists and technologists with post-graduate qualifications, over 1,00,000 lower level scientific and technical personnels, some 7,000 engineering graduates. There are six universities and a sizeable number of institutions engaged in research and development of various kinds. Yet it is seen that the contribution of science and technology to the socio-economic development of the country has not been very significant. This is basically due to the fact that in the past no conscious effort was made to make use of science and technology in the right manner and to create an environment in which scientific and technical activities could be so directed and coordinated as to make them relevant to the needs of life. Efforts for development of new technology and improving the traditional ones have been practically non-existent. As a result, even if some succesful laboratory results, were available there have been difficulties in carrying them through the stages from pilot plants to commercial exploitation. Scientists in various research instititions have been working in virtual isolation from one another as well as in isolation from the country and the world.

15·108 There are mainly four categories of establishments where researches can be conducted namely universities, research institutions under different Ministries, public sector industries and private sector organizations. It is said that research as conducted in the universities are often too academic and in many cases, extension of the doctoral works done by the teacher earlier. In the Government financed research institutions, barring some refreshing islands of exceptions, the activities are often repetition of works done elsewhere. They are not dictated by the immediate needs of the economy and there is also lack of coordination among works done in the same or related fields by different

groups. In the nationalized industries there is no initiative for innovation, research and development for product improvement and diversification. For reasons not far to seek R & D activities in the private sector have also been conspicuously absent. At the same time the handicaps to carrying out meaningful reaserch and development activities are numerous and there are also instances where many successful research results could not either be fielded or their existence remained unknown to the prospective users. The major task for the future is, therefore, to provide for necessary institutional arrangements and to create a congenial environment in which a well-coordinated programme of research activities can be pursued that would be immediately useful to the economy of the country and would permit proper assimilation of imported technologies and more importantly, in which facilities will be created for development of new technologies for maximizing the use of local natural and human resources. To achieve this, the education and training programmes would have to be reoriented for the development of necessary skills in the fields of science and technology and an effective system would have to be installed in which local products based on local know-how and raw materials will be deliberately patronized in preference to imports.

15.109 It has been stated that there are about 60 institutions under the public sector management engaged in scientific and technological research but it does not mean that concerns for science and technology in the country are confined to these institutions alone. The spectrum of science and technology includes the work of many other bodies, besides the research institutions, which deal with science and engineering in different forms in course of their normal works. No science and technology plan can, therefore, be complete without taking into account also the activities of organizations which are engaged in teaching and providing training in science and engineering subject and those which practise in the related crafts.

15.110 Even the farmer or the fisherman who has to master new technologies for increasing his output, the village blaksmith who must learn to make better tools or the potter who has to know how to improve glazing of his earthenwares cannot be left out of the scope of scientific and technological policy formulation. A meaningful science and technology plan has also to address itself to the task of human resources development in widely varying fields, not only for research but also for design, construction, production, operation, maintenance and many other activities which are required for proper assimilation and diffusion of technology. The wide varieties of such activities are spread under the control and jurisdiction of many Ministries and Agencies and concerns of private bodies for ultimate diffusion; hence the task of coordinating the work of all of them towards a common goal and formulating plans and programmes acceptable for all is not an easy one.

15.111 The business of "formulation of policy statements and guidelines on science and technology and the follow up of their implementation" and "coordination of areas of science and technology in which other Ministries have interests and capabilities" devolves on the Science and Technology Division of the Government. This Division has also to supervise the work of a few multi-disciplinary Agencies under its direct control, though the volume of research done by them would constitute a small fraction of the total volume of research activities done outside their purview.

15.112 In order that this Division can perform the rather complex work of coordination and followup of the relevant programmes, the National Council of Science and Technology (NCST) was set up to assist it with the expressed purpose of "Formulation of realistic and well-coordinated research and development programmes and policies and to facilitate the rapid development of advancement of science and technology in the country". But the NCST has not yet become effective in guiding the course of science and technology in the country and making positive contribution for the development of the economy. For coordinating matters relating to science and technology dealt with by different Ministries and Agencies in order to avoid wasteful overlaps or yawning gaps and to establish correct linkages amongst them, the NCST has to develop capability of analysing and evaluating professionally the multitude of activities and correlating those with the priority needs of the economy. For this, it would be necessary to devise a suitable insititutional frameworks and adopt a system by which the wide varieties of scientific and technological activities in question can be competently evaluated for the purpose of giving them appropriate directions. However, it is not conceivable that the talents of requisite quality and standing required in so many fields to judge the research and other works done by so many bodies can be collected under one umbrella. Nor it is likely that any central direction given to the scientists will always be smoothly implemented just because of the weight of its authority unless there is a natural acceptance of the direction by the scientists. But such natural acceptance cannot be guaranteed by legislation. Hence a good way of coordination may be to allow the different bodies and individuals do the necessary analysis of their own work and establish how directly they are related to the prescribed goals. Then the administrative Ministry, NCST, S&T Division and the Planning Commission jointly perform the coordinating role relatively easily through established methods of enforcing plan disciplines, budgetary and administrative controls. By this way the scientists would automatically become a party to the planning and decision making process, thus ensuring that the decisions would be faithfully implemented by them. This would obviously call for some structural changes in the form, composition and the method of working of the NCST and its organic linkages with the Government. At present the S&T Division is engaged in formulating a National Science and Technology Policy which provides, *interalia*, necessary reorganization of NCST.

REVIEW OF PERFORMANCES DURING FFYP AND TYP

First Five Year Plan (1973—78)

15.113 At the time of liberation Bangladesh inherited a few regional institues for R&D activities, but these were mostly under-staffed and their activities were un-coordinated lacking adequate physical facilities. A concerted approach towards research and development was taken for the first time under the First Five Year Plan. Policy objectives were set out in the Plan to direct research efforts towards promotion of scientific knowledge and development of indigenous technological know-how, including adoption and *adaptation* of imported technologies.

15.114 The strategy adopted was to concentrate energy and efforts on those fields of research whose results could lead to high pay-off in the short run. Accordingly formulation of science policy was based on careful selection of research problem and priorities

among diverse areas : re-organization of the existing institute ; improvement of the standards of science education, etc. Yet it should be mentioned that at the National Planning level there was lack of total focus on R&D. The STR Sector in the Planning Commission relates to only a part (about 20%) of the total scientific and technological activities of the country. Most activities in this field are still dispersed over different sectors of the economy and carried out by field institutions. In the middle of the First Plan, the National Council for Science and Technology was set up to formulate national policy and to guide and co-ordinate R&D activities.

15.115 *Financial Performance* : The Plan originally provided an allocation of Tk. 17,85·00 lakh including a foreign exchange component of Tk. 5,54·00 lakh. The revised allocation (hard-core plus first two years' ADP allocation) stood at Tk. 23,26·76 lakh (FEC Tk. 609·73 lakh); against this, revised allocation of Tk. 16,18·04 lakh, (FEC Tk. 7,62·49 lakh) was provided during five years through ADP; while Tk. 14,15·45 lakh (FEC Tk. 276·57 lakh) was utilized. The percentage of utilization of fund against the revised FFYP allocation and ADP provision was 61 and 87·5 respectively.

15.116 *Physical Performance* : Science and Technology activities under S&T Division of the Government are being carried out mainly by two national institutions, namely Atomic Energy Commission and Bangladesh Council of Scientific and Industrial Research. Their activities are discussed below :

15.117 *Bangladesh Atomic Energy Commission (BAEC)* : The BAEC's programmes mainly concentrated on the nuclear power; nuclear science and technology; electronics and applied space research; nuclear bio-sciences and exploration and exploitation of radioactive and heavy minerals. The physical programmes were to build up necessary infrastructures to carry out the above programmes. To achieve this goal a number of projects were undertaken by BAEC. Of these projects only the Institute of Nuclear Agriculture (INA), Mymensingh and Beach Sand Exploration Project, Cox's Bazar made some progress. The INA, Mymensingh has evolved high yielding varieties of rice, jute, wheat, etc. The exploration work in the beach revealed the presence of sizeable deposits of heavy minerals such as limenite, rutile, zircon, etc. The Pilot Plan studies to assess the techno-economic feasibility of the heavy mineral deposits was completed. Of the five institutes under Atomic Energy Research Establishment (AERE), Savar, only one institute, the Irradiation and Post Control Institute, made some headway. Feasibility studies of the Roopppur Nuclear Power Project has been completed.

15.118 *Bangladesh Council of Scientific and Industrial Research (BCSIR)*: The programme of BCSIR mainly concentrated on the development of industrial technology (process/product) for utilization of our natural resources and raw materals. They were engaged in R&D activities in the broad field of Food science and Technology; Fuel and Energy; Glass and Ceramics; Leather and Animal By-products; Natural Drugs and Pilot Plant and Process Development Centre. During the Plan period BCSIR has patented 103 processes/products based on the results achieved through research. A total of 26 industrial process have been leased out to different industries for commercialization and 48 processes were ready for lease out for exploitation. 29 research processes were awaiting pilot plant experimentation, having proved successful in bench-scale research.

15.119 *Earth Research Technology Satellite (Landsat) Programme :* Bangladesh participated in the ERTS (Landsat) Programme and a project ERTS (Landsat) phase I was undertaken. The project aimed at development of capabilities for the utilization of remote sensing technology in the country for resource survey and forecasting natural hazards. During the plan period the ERTS was involved in the preparation of physical map of the Bangladesh Coast in connection with land accretion phenomena ; study of Karnafuly reservoir and its water-shed ; Boro Crop inventory in test areas ; Forest resource study of Sundarban Region and Dhaka Forest ; etc.

15.120 *National Museum of Science and Technology (MST) :* To create awarness towards science education and scientific application in the country the scheme for establishing a full-fledged museum was first envisaged in 1977/78. The scheme will be located as a part of science complex in Sher-e-Bangla Nagar. For this, land has been acquired and the architectural design of the building is being prepared ; the project is thus in its embryonic stage. In the mean while the museum is operating from its hired premises.

Two Year Plan (1978—80)

15.121 *Objectives and Strategy :* During the First Five Year Plan not much headway could be made in the field of science and technology. Most institutional development needed to transform regional organizations into national institutions remained incomplete due to lack of resources and skilled manpower. The Two Year Plan, therefore, emphasized the completion of the on-going projects. The major objectives of the Scientific and Technological Research Sector were (i) to consolidate and further strengthen and develop local base for science and technology to make optimal use of natural resources and raw materials of the country through indigenous R&D and also to improve capability for effective transfer and use of imported technology ; and (ii) to make an effort to reduce information and communication gap in advanced science and technology between Bangladesh and developed countries

15.122 *Financial Performance :* An amount of Tk. 3917 lakh including Taka component of 3413 lakh was allocated in Two Year Plan. The increase in allocation was substantial over the FFYP. Against the this allocation an amount of Tk. 2654 lakh (FEC Tk. 830 lakh) was provided through two years ADP while and estimated amount of Tk. 2497 lakh (FEC Tk. 707 lakh) was utilized.

15.123 *Physical Performance :* Due to both higher allocation of resources and better utilization 6 projects were completed during the TYP period. These projects are concerned largely with industrial researches and thus will help greatly stimulate industrial development of the country. An important project under taken during the TYP is the development of a pilot plant for the use of jute with cotton for a new fibre called 'Jutton'. The Plant is under installation. If the Pilot Plant is found commercially promising, it will cut down the dependence of the country on imported cotton by a substantial mergin. In the social field, the Atomic Energy Commission made significant contribution by starting atomic medical centres of Sylhet and Dinajpur and considerable progress has been made in respect of Beach Sand Exploitation Centre, Cox's Bazar. To develop the capability of Atomic Energy Commission, necessary agreement has been signed for the procurement of a 3MWe Research Reactor (TRIGA MARK II) for the

Institute of Nuclear Technology. Under the programme of SPARRSO, an interim Advanced Meteorological Ground Station to receive meteorological data and imagery from various satellite system has been installed.

Problems Encountered During Implementation of the Plan

15.124 Though during the last two years there was some improvement in the organization of S&T and new facilities have been created, yet many problems continued to inhibit the development of the technological base in the service of the economy. The major problem are related to the development of technical facilities in research organizations, supply of skilled manpower and above all coordination of research activities. These are discussed below:

15.125 The weakest link in the chain of developing science and technology is paradoxically the backwardness of technology itself which severely impedes successfull transformation of laboratory results into viable commercial proposition. The case in point is jutton, a process that was successfully developed in a laboratory scale but could not be transformed to scale meaningful for commercial exploitation due to technological backwardness and lack of engineers and technologists in research institutions. Further progress had thus to depend on foreign technical assistance. Like Jutton, many other processes developed by BCSIR are awaiting their transformation into viable technologies to overcome this difficulty. BCSIR has initiated negotiation for assistance from Asian Development Bank for the development of its capability of transforming laboratory scale processes into pilot plants. One important factor that stands on the way of successful development of local designs and local fabrication of hard wares is the advantage that one gets as scarcity premium from foreign purchases. It will be, therefore, necessary for the development of local technology to be selective about import of equipment and machineries.

15.126 *Lack of Co-ordination and Communication* : Present R&D efforts suffer from lack of coordination both at the national policy and business level. The national policy setting priorities are too diffused to lead to immediate results. Diversities in policies have rather led to thinning out of resources including skilled manpower over too many projects such that promising results are deferred due to financial problems. Inadequate coordination of R&D activities is also reflected in the overlapping interest among research organizations. There are many instances where couple of institutions are busy with the same problems, e.g., bio-gas, solar energy, etc. Finally and most serious one, there is no effective communication between the research organization and the users of their laboratory results. This together with the technological problems slows down commercialization of research products.

15.127 *Problems af development of skilled manpower*: The problem is deeply rooted in the education system which lacks in appropriate emphasis on science and technical education. There has been grossly inadequate attention given to basic infrastructural development for science and technological education in school and junior colleges. Also the inadequate post-graduate and post doctoral research programme is the weakest part of our university activities. In general research leadership is provided by the universities. Unfortunately this has not been the case in Bangladesh. Research Institutions in the public sector have been set up without proper linkages with the universities. The energy of a research student working for a higher degree which can give desired momentum to successful research programme has not been exploited so far. The universities have

turned into a degree awarding institutions wherefrom the products will go and do useful research elsewhere. But one must realise that if the students do not do meaningfull research in the universities they are not likely to do so in research organizations either. For development of skilled manpower, it is imperative therefore to divert attention and resources towards develoment of adequate physical infrastructures for basic science and technical education in schools and colleges and research in universities. University research and post graduate education shou'd thrive on problems directly or indirectly connected with the develoment activities and establish proper linkages with research institutes in various sectors. The other problems related to manpower is Brain-drain as a result of which the resarch and technical institutions remain understaffed. In order to arrest this situation it is high time to consider the issue of appropriately rewarding research workers.

15.128 *Inadequate Financial Support* : During the last seven years there has been significant acceleration in expenditure on the development of science and technology along with improvements in institutional organization, but compared to the gap in technology which is rather widening between the developed and developing worlds, the level of expenditure is yet disappointingly low. As a result most basic facilities needed for the widening horizon of technology remain underdeveloped.

Second Five year Plan 1980-85

15.129 *Objectives and Strategies*: The principal objective of the scientific and technological development during the SFYP would be to apply science and technology to accelerate the pace of economic and social development. The major programme of the scientific and technological research should, therefore, be related to the productive activities in the critical sectors of the economy and also the acquisition of skills to make the nation self-reliant.

15.130 Strategically the immediate need is to reorient research activities towards specific goals of national importance. There should be greater emphasis on researches with promising pay-off rather than on fundamental research whose outcome is uncertain. In other words, research work should concentrate on practical problems like substituting local raw materials for imported ones; new technology in place of capital-intensive imported technology, which is consistent with fact endowments and major objectives of the national plan. The modern technology is in fact dependent on three things, namely scientific knowledge, skill formation and engineering industry. It is, therefore, necessary that along with emphasis on R&D there should be complementary investment for the development of technical skill so that new technology can be successfuly used.

15.131 In order to avoid misallocation of limited material and financial resources coupled with the problems of shortage of skills, it is necessary that priority areas of activities are clearly identified at the outset. The objectives of R&D activities should necessarily stem from the objectives of the national plan. For the SFYP, these would include the scientific and technological supports needed for such objectives as doubling food production, being self-sufficient in manufacture of agricultural inputs and industrial machinery related to fulfilment of the basic needs of the people including clothing medicene, consumption goods, etc.

15·132 *National Policy On Science and Technology* : Solution of the problems of the economy calls for multidisciplinary application of science and technology. Given the limitaton of resources an integrated approach is essential for evolving a comprehensive and coherent national S & T Policy for the above. The S&T policy should deal with, among other things, the following:

(i) specific S&T needs for different sectors of the economy in short and long terms;

(ii) inter-sectoral and intra-sectoral priorities;

(iii) guidelines for acquisition of imported technology and generation of indigenous technology including the improvement of traditional technologies;

(iv) development of effective scientific and technical manpower and required modifications of the education and training system;

(v) growth of local design, engineering and consultancy capabilities;

(vi) linkages between the producers and users of technology;

(vii) needs for budgeting, management, coordinaton, control, promotion, etc.

15·133 *Co-ordination of R & D Activities* : There is an acute need for streamlining the R&D activites of the country, which are now being carried out by a large number of research institutions/organisations having weak linkages amongst them often resulting in duplication of efforts and wastage of limited resources. The need for the coordination of activites will be more pronounced during SFYP and hence the NCST established for this purpose has to be made effective. The details of its organic structure and functional realtionship with all Ministries and agencies as well as with the Planning Commission should be reviewed by the Government with the above end in view.

15·134 *Research and Development Activities* : In formulating research programmes care has to taken to ensure that these have relevance to our needs and priorities. Fundamental researches should be confined primarily to the universities and they should provide the necessary back-up services to the field research organizations who should concentrate on goal oriented and problem solving applied research.

15·135 Technology development programmes should aim at production of materials and devices, methods and processes in agriculture, industry, medicine, energy and other matters of priority. Special attention should be paid to the development of simple low-cost, craft-oriented local technology based on indigenous resources and materials so that its benefit can reach the masses easily and quickly. Emphasis has to be laid on operational researches to increase productivity and efficiency of existing industries.

15·136 Most of the efforts in the past have been directed towards process/product technology. The relevance and importance of such efforts would no doubt continue in the Second Plan, but the engineering aspects of development of technology, adaptation of imported technology and fabrication facilities which received no attention in the past would be dealt with on an urgent basis.

15·137 *Priority Areas for Strengthening R&D Activities* : In the context of the long term perspectives of development and the priorities identified for the Second Five Year Plan, much emphasis on R&D should be laid on the following areas :

(a) *Agriculture, Irrigation and water management*—Besides rice and wheat, greater attention is needed for development of high-yielding varieties of pulses, edible oil, sugarcane, jute, cotton, mulberry, etc. Emphasis should be given on the integrated pest management and farming system. Extensive research should be undertaken on the effect of micro-nutrients on the fertilizer uptake, soil-water management, optimum level of irrigation water requirement, improved manual water lifting devices, etc.

(b) *Large Scale Industries including Engineering and Metal Industries* -Among others, particular attention is needed for economic production of basic materials for intermediate and wage goods as well as raw materials and capital goods for small scale industries, steel and its alloys, basic chemicals and pharmaceuticals for both human and animals, plastics, PVC and synthetic fibre, machine tools and metallurgy.

(c) *Small Scale and Rural Industries*—Attention is needed for improvement in technologies and design for traditional cottage and other small scale industries, engineering industries to support agricultural development as well as for processing agricultural products, components for larger industries, consumer goods etc. Research is also needed towards improvement of efficiency and productivity of village craftsmen and artisans like blacksmith, potter, weaver, etc.

(d) *Energy*—Harnessing and maximising use of the local energy sources like natural gas, hydroelectricity and coal are most important to substitute imports. High emphasis is needed for widespread development of short-cycle plants to meet rural energy needs and avoiding ecological disorders. Adaptative research is needed for viable means of using solar and wind energy and biomass. Similarly research is also needed in achieving maximum efficiency in use of both commercial and non-conventional energy.

(e) *Transportation*—Both road vehicles and road construction, inland water crafts need improvement in quality, economy in construction and efficiency in use of mechanical effort and fuel, comfort in use, etc.

(f) *Housing, Sanitation, Public Works and Rural Works*—Technological improvement is needed for realising low cost works ensuring durability, maximising use of local materils, etc.

15·138 *Manpower and Training* : The development and application of Science and Technology depend mainly on the availability of critical number of competent manpower at all levels of scientific and technological activities. The manpower profile includes (a) skilled and semi-skilled workers to meet the need of rural areas; (b) mid-level technicians to be employed in production technology ; (c) high quality and functional scientific and technical personnel to conduct and manage research, engineering and innovative works in R&D institutions and (d) high level professionals, managers and entrepreneurs to apply technology. At present we are lacking in scientific personnel both in

number and quality and also in numerical balance among different catagories. There is an acute shortage of manpower in the field of technology and design resulting in that even where promising laboratory results are available these cannot be tried in pilot plant, let alone be developed for commercial exploitation. The reason for this, on the one hand, is the ineffectiveness of present education and training system in the country, which has been inherited from the colonial regimes of the past and have not been substantially modified to suit the conditions of changed technology and to cater to the new demands, and on the other hand, is the lack of scientific manpower planning in the country. Efforts should, therefore, be made during SFYP period and beyond to reorient the present education and training system to give practical-bias need-oriented education. The present contents of education at all level and the mode of teaching should be thoroughly recast and changed.

15.139 The task of creating research minded scientists must be started with the students at the level of his or her primary education. The curriculum and the method of teaching should be such that the mind of little boy or girl becomes full of curiosity, he learns the why's and how's of basic things in life around him and develops a knack of asking question and finds answers through his own reasoning and generally be at home with science. There is similar need for re-orienting the contents of secondary level science course. The text books should be such that the science is not made obscure and difficult subject for the students and he can look on things analytically and develop a confident familiarity with laboratory apparatus and experiments.

15.140 In the domain of higher education, the teaching has to be brought closer to the mainstream of scientific progress, and lack of infrastructural facilities has to be made good. Changes would be needed in the curriculum making education relevant to local needs; improvement would have to be made in teacher-students ratio and better teachers have to be provided. In addition to research of fundamental nature which is, no doubt, essential for transcending the frontiers of knowledge, the universities should also undertake applied research related to our immediate national problems. Participation of university teachers and students in development works will make them more appreciative of the needs of the country. The technical education in our country, particularly the education for the mid-level technicians needs drastic improvement. The courses should be redesigned keeping in view the appropriate division of labour between the engineer and technician. There has to be more emphasis on practical work as compared to the theoretical lessons. On the job training programme should be oriented towards developing the capability of operating specialized machinery or dealing with specific process.

15.141 The higher level of technical education *i.e.* the graduate level of engineering also, needs some adjustment particularly keeping in view the need for removing differences of knowledge of theory and practice of metallurgical process, engineering design production planning tooling, quality control, process designing etc. The post-graduate intake in engineering has to be increased substantially and they should develop capabilities for engineering and operational research, faults and failure analysis, general trouble shooting etc.

15.142 Specific need-oriented training and higher studies in science and technology should be encouraged. But increasing facilities for higher studies leading to Ph. D should be created in our universities. This will enable our scientists and engineers to conduct research on national problems as well as will have the experience of doing work under limited facilities.

15.143 It should also be ensured that scientific research becomes significantly attractive to *men* of ability and talent, due status and incentives should be given to attract talented persons towards research career as well as to stop "Brain-Drain".

Financial Allocation in SFYP

15.144 In the SFYP attempts have been made to assess the financial requirement for implementation of the R & D programme in its totality. The total quantum of fund would be distributed among various sector-divisions based on priorities of projects. It is estimated that an amount of Tk. 400 crore (at 1979/80 prices) would be spent in various sectors for research, engineering development and supporting S & T services. This allocation for S & T in Second. Plan is about 3·7 percent of the total public sector investment in Second Plan. The total estimated financial outlay for the R & D projects of all sectors other than STR is given in Table 18.4.

TABLE-18.4

[*Tk. in crore*]

Name of the Sector	Estimated allocation in SFYP (At 1979/80 prices)
1. Agriculture :	114·80
(a) Crops	67·80
(b) Forestries	8·00
(c) Fisheries	27·00
(d) Livestock	12·00
2. Industry	70·00
3. Flood Control and Water Resources ..	70·00
4. Transport and Communication	0·50
5. Health	20·00
6. Education	1·50
7. Natural Resources	20·00
8. Power	0·80
9. Population and Family Planning	6·00
10. Physical Planning and Housing	5·00
Total ..	308·60

In addition to these sector-specific provisions, Tk. 92·00 crore at 1979/80 prices is provided for STR Sector where research works cover all the field mentioned above.

The financial allocations of the agencies under STR Sector of Planning Commission are discussed in detail. There are ten agencies within the purview of STR Sector.

(i) Bangladesh Atomic Energy Commission (BAEC);

(ii) Bangladesh Council of Scientific and Industrial Research (BCSIR)

(iii) Space Research and Remote Sensing Organization (SPARRSO):

(iv) The National Museum of Science & Technology (MST)

(v) S & T Division (STD);

(vi) Environmental Pollution Control (EPC);

(vii) House building Research Institute (HBRI);

(viii) Bangladesh Standard Institute (BDSI);

(ix) Central Testing Laboratory (CTL);

(x) Bangladesh Medical Research Council (BMRC).

15.145 An allocation of Tk. 92·00 crore in 1979/80 prices has been made for the STR Sector in Second Plan to complete 30 on-going projects and to undertake a few new projects based on the need of the economy. The allocation of STR Sector would be about 0·84 percent of the total Public Sector outlay in SFYP. The agency-wise break-up of allocation (at 1979/80 prices) of the STR Sector is given in Table 18.5.

TABLE 18.5

Allocation by Agency in SFYP

[Tk. in crore]

	Agency	Allocation at 1979/80 prices.	Allocation at current prices.
1	BAEC	34·13	48·64
2	BCSIR	11·86	15·46
3	SPARRSO	35·82	49·55
4	MST	0·63	0·72
5	STD	1·25	1·99
6	EPC	2.11	2·79
7	HBRI	0·47	0·56
8	BDSI	1.12	1·80
9	CTL	1·39	2·24
10	Lump allocation for new projects	3·22	5·25
	Total	92·00	129·00

15·146 Annual Phasing of the Second Plan Allocation for STR Sector is shown below:

TABLE 18·6

Annual Phasing of SFYP Allocation

[*Tk. in crore*]

	1980/81	1981/82	1982/83	1983/84	1984/85	Total
(i) At Constant prices	18·35	20·79	20·54	14·87	17·45	92·00
(ii) At current prices	20·55	25·99	28·76	23·34	30·36	129·00

Development Programe of SFYP

15·147 *R & D Programmes under STR Sector in SFYP*: The R & D Programmes of the agencies under STR Sector are discussed bellow:

15·148 *Bangladesh Atomic Energy Commission*: The major programme of BAEC is centred round the development of atomic energy for peaceful uses and development of associated technology for the economic development of the country. The main R & D Programmes are as follows:

(i) Research on Nuclear Technology—For this purpose country's first 3 MWe Research Reactor for the production of radio-isotopes will be installed during the Second Plan Period. This is essential for undertaking research in the field of agriculture, medicine, industry, hydrology, etc.

(ii) Application of Nuclear Sciences to Agriculture—The activities will be directed to develop high-yielding, disease-resistant varieties of essential crops such as rice, wheat, jute, etc. through genetic changes; prescribed optimum use of fertilizers by nuclear techiques; and promote shelf-life of stored grains, perishable foods, fruits and vegetables through the use of radiation techniques.

(iii) Application of Nuclear Science to Health Services—Facilities for diagnosis and treatment of cancer, pulmonary and cardiovascular diseases and other malignant diseases will be expanded during the Second Plan period.

(iv) Exploration and development of nuclear minerals and materials and heavy mineral from Beach Sand will be continued.

15.149 *Bangladesh Council of Scientific and Industrial Research*: The main objectives of BCSIR are to conduct scientific and industrial research to develop new technology both processes and products, for using local resources and undertake measures for the commercial utilization of discoveries and inventions. The major thrust in the field of industrial research is to develop capacity for design and fabrication of industrial plants as to give concrete shapes to its discoveries. The major R and D programmes are:

(i) Development of Jutton, for the diversified use of jute by blending with other fibres including synthetics.

(ii) Development of formulated food of high nutritive value and technology for the preservation and processing of fruits, fish meat, etc.

(iii) Development of technology for the utilization of alternative sources of energy such as bio-gas, solar energy, etc.

(iv) Research on indigenous herbs and medicinal plants for the manufacture of common medicines.

(v) Development of processes for the improvement of leather, ceramics, glasswares and refractories products.

Efforts will also be made to fill up the gaps in institutional framework in vital areas of R and D relating to the actual and potential needs of the national economy for example, chemical research, fibre and polymer, biological research, development of marine resources etc.

15.150 *Space Research and Remote Sensing Organisation*: The Programme of SAPRRSO under Second Plan will mainly be concerned with the full development of the Adavanced Multipurpose Satellite Ground Station with its ancillary facilities to receive imageries and data from the various satellite, GMS of Japan, TIROS-N and NOAA of USA, METEOR of USSR; and processing, interpretation and dissemination of information for natural resources survey, disaster warning, environmental monitoring, manpower development, etc. A Ground Station for receiving imagerics from SPOT/Landsat-D will be installed under French Aid.

15.151 *Museum of Science and Technology*: The first phase of the scheme, the National Museum of Science and Technology will be undertaken during SFYP. The major activities will involve the completion of a architectural design; undertaking civil works of the functional building, procurement of exhibits, and organize science fair and mobile exhibition.

15.152 *Science and Technology Division*: Under S&T Division, the two on-going schemes, namely, the "Survey of Scientific and Technological Potential of the Country" and the "National Science Library" will continue and be completed during Second Plan. The National Science Library will be able to cater to the needs of scientists, technocrats, researchers in respect of text books, reference books, journals, etc.

15.153 *Environmental Pollution Control*: The Environmental Pollution Control is primarily responsible for the maintenance of purity of water in rivers, lakes and underground to ensure their fitness for consumption and to conduct surveys to assess the nature and extent of water, air, noise and industrial pollution. During Second Plan, activities in the above mentioned areas will be geared up. Besides, a Pilot Scheme for the construction of 250 Bio-gas Plants will be implemented in an effort to solve part of the acute rural energy problem.

15.154 *House Building Research Institute* : In the solution of problems of building materials, the existing facilities of HBRI will be strengthened to conduct research on :

(i) better uses of commonly used building materials;

(ii) improvement of methods of planning and designing of construction and maintenance works; and

(iii) develop cheap and new materials and technology through pilot projects.

15.155 *Bangladesh Standard Institute* : Necessary physical and infrastructural facilities would be developed for establishing and operating an effective standardization, quality control and certification system in the country. The institute would also undertake appropriate measures for the introduction and propagation of metric system to be introduced in the country from July, 1982.

15.156 *Central Testing Laboratory* : During the Second Plan the Central Testing Laboratory at Dhaka will be reorganized and upgraded into a National Reference and Testing Laboratory to perform the functions of regulation, supervision and training.

15.157 *Bangladesh Medical Research Council* : Bangladesh Medical Research Council, a focal point of *Bio-Medical* research in the country, will be geared to undertake research on the effect of herbal medicine on various diseases leading to the development of new drugs of herbal origin.

Policy Recommendations

15.158 In order to achieve the objectives of the Science and Technology development programmes under the SFYP the following matter should be considered in depth.

15.159 *S&T Policy Formulation and Co-ordination* : For the formulation of a coherent and comprehensive National S&T Policy, coordination and evaluation of R&D activities the present NCST should be strengthened and made more effective.

15.160 *Education and Training* :

(i) The content of science, technical and vocational education and training programme have to be thoroughly recast to give them necessary practical bias.

(ii) More physical facilities should be provided for science education in schools and colleges.

(iii) Emphasis should be given on non-formal skill development.

(iv) Intensive courses for turning out highly skilled technicians for engineering processes should be arranged either by converting the existing polytechnics/vocational training institutes or by setting up new organizations so that the product of such institutes are readily useable on the job.

(v) Scientists and technologists should be trained in management, administration and development planning so that they may be in a position to implement development Programme with broader and clearer perspective. This will help them in selecting problems of national importance.

15.161 *Development of Scientific and Technological Infrastructures* : (i) Creation of suitable centre or centres for improvement of traditional technologies and development of new technologies to assist rural development and rural industrialization.

(ii) Suitable centre or centres should be created for development and dissemination of alternative sources of energy and making better use of known sources.

(iii) Greater stress should be laid for the improvement of scientific and technical information system as well as improvement of laboratory and library facilities.

(iv) Each industry should have suitably staffed design office and research cell capable of modifying and improving available product design and technologies carrying out relevant operational research.

15·162 *Establishment of Linkages between Producers and Users of Technology*:

(i) Special efforts should be made for promotion and development of entrepreneurship capabilities for using the indigenous technology.

(ii) Local consultancy should be promoted and patronized in preference to imported services.

15·163 *Incentives to Scientists/Engineers*: (i) Career planning shall be attended to for scientist, engineers and other professionals and their fruitful deployment with due consideration for the advancements, emoluments, status, *etc. vis-a-vis* other services.

(ii) Professional institutions of the country have to be given adequate financial and material supports for improving their working standards.

15·164 *Technology Assessment and Transfer*: Suitable monitoring/regulatory agency had to be set up to watch that no agency imports products that can be manufactured locally.

15·165 *International Cooperation and Collaboration*: International cooperation in the development of science and technology has to be encouraged so that the country can benefit from the progress made by others.

CHAPTER XVI

HEALTH

Health is one of the basic requirements to improve the quality of life. Socio-economic development and welfare of a nation greatly dependent on the state of health enjoyed by its people, cannot be achieved even to a desirable level without improving the health status.

16.2 The health care system inherited by Bangladesh has traditionally been curative oriented and urban-based. After Independence, Government of Bangladesh, having recognised the inadequacies of health care facilities and their inequitable distribution between urban and rural areas, initiated a number of programmes during the First Five Year Plan (FFYP) and the Two Year Plan (TYP) to build up a network of infrastructural facilities for extending health care to the rural areas and to develop comprehensive health services including preventive and promotive health care. "Health for all by 2000 A.D." has recently been accepted by the Government as the national objective.

16.3 While minimum medical care to all is the immediate goal, health for all by 2000 A.D. is the broad national objective and primary health care, as major component of health services, has been accepted as the key to attain this objective. The Second Five Year Plan (SFYP) is a step towards attaining reasonable health care for all by 2000 A.D.

Review of the FFYP and the TYP

16.4 The Plans brought about significant increase in allocation of health sector resources to rural health care and changed orientation of health workers towards community and preventive medicine.

16.5 *Thana Health Complex (THC)*: At the time of launching the FFYP, 150 Rural Health Centres (RHC) were functioning with 900 beds at the rate of 6 in each RHC. By June 1980, 290 THCs (including 150 converted RHCs) were made functional with 3,800 beds (including 900 beds of RHCs) as against the total target of 356 THCs with 11,36 beds at the rate of 31 per THC.

16.6 *Hospitals and Clinics*: The FFYP and the TYP envisaged provision of 15,991 additional hospital beds. The net achievement has been 7,261 additional beds by June, 1980 leaving a shortfall of 8,730 beds.

16.7 *Manpower Development Programme*: Manpower training institution, being mostly construction oriented, could not be completed due to various constraints. However, these institutes have been made functional with the available facilities.

16.8 In the field of nurses training, in addition to regular nursing course with limited facilities, crash programmes have been undertaken in various district hospitals and Medical Colleges. Yearly turn out has been increased from 150 to 400. A College of Nursing has been established for training of senior nurses.

16.9 A mid-level medical manpower "Medical Assistant" has ben created and 8 schools have been functioning. At grass-root level, a new cadre of health personnel namely, Palli Chikitshok has been introduced. So far, 5,576 Palli Chikitshoks have been trained in the training centres attached to Thana Health Complexes.

16.10 *Supply of Drugs and Vaccines*: Logistics and production of drugs and vaccines are very much inadequate.

16.11 *Financial Achievement*: The financial allocation for the two plans was Tk. 265·43 crore (147·78 in the FFYP and 117·65 in the TYP). A sum of Taka 247·75 crore (133·18 in the FFYP and 114·57 in the TYP) was utilised. Thus, the fund utilisation was about 93 percent, the highest percentage (103%) was in the sub-sector of medical education and the lowest (51%) in "Repair and Reconstruction Programmes". Fund utilization for establishment of Thana Health Complexes was about 94 percent of the allocation.

Present Situation

16.12 *Major Health Indices* : The country, as of today, has a population of 89·54 million. Crude birth rate is 43·25 whereas crude death rate is 16·75 showing annual growth rate of around 2·6 percent. Present infant mortality rate is 140 per thousand live births while child mortality (1—4 years) rate is 265 per thousand. 39 percent of all deaths are due to infant mortality. Maternal mortality is estimated at 7 per thoosand live births and accounts for 27 percent of all deaths of female aged 15—45 years. Life expectancy is presently estimated to be 48·1 years on the average.

16.13 *Diseases* : The country continues to be the victim of communicable diseases. Among the communicable diseases, Diarrhoea, Diphtheria, Tetanus, Whooping Cough, Tuberculosis, Measles, Malaria, Scabes, Worm Infestation, etc., are more prevalent in the country.

16.14 Non-communicable diseases such as Peptic Ulcer, Cardiovascular diseases, Cancer, Mental disorders etc., are accountable for a large number of morbidity and mortality.

16.15 *Malnutrition* : Nutritional status of the population, particularly of the rural population and the vulnerable groups, namely mothers and children is gradully declining It is estimated that the average per capita intake has gone down from 2,301 calories (1964) to 2,094 calories (1976).

16.16 Protein energy malnutrition (PEM) is widespread among children. Chronic and long continued nutrition deficiency results ultimately in PEM and manifests as Kwashiorkor and Marasmus afflicting mostly 1—4 year old children. More than a crore of children under 5 years of age are suffering from PEM resulting in retardation of physical and mental growth. It has been estimated that third and second degree malnutrition in children is 8·3 per 100 while first degree malnutrition is of the order of 36·1 per 100 children. Third degree malnutrition together with infections and diarrhoeas is the major cause of death in children. Vitamin 'A' deficiency is very common among children under 6 years of age. About 50,000 children are affected by this annually and one third of them go blind every year.

16.17 *Health Infrastructure, Manpower and Services* : Although the health infrastructure and manpower have expanded during the plans, minimum health care has yet to reach the vast majority of the people particularly in the rural areas. Of 8,500 doctors now available in the country, less than 10 percent are in the rural areas. Out of 15,343 hospital beds, only 3,800 beds (24.76 percent) are in the rural areas. Severe

shortage of Medical Asstts., Nurses, Paramedics, particularly in the rural areas, makes the situation still worse. Thus the accessibility of the rural masses to modern health care is very limited.

16.18 The utilization of even the existing health facilities in rural areas is very poor. The bed utilization rate in Thana Health Complex is only 30 percent as against more than 100 percent in the urban areas. This is not due to less morbidity in the rural areas, rather it reflects generally the poor quality of services arising out of poor management and technical inefficiency coupled with gross inadequacy of supply of drugs and other logistics. Moreover, institutions do not enjoy complete confidence of the local people leading to the phenomenon of by-passing such institutions and over crowding the urban hospitals.

16.19 *Major Constraints*: On the basis of the review of performance over the two plan periods, the following major constraints are observed:

(i) Ineffective dilivery of health and family planning services to the masses which should ideally be given as a package, because of bifurcation of health and family planning set-up and lack of co-operation between the two;

(ii) shortage of essential drugs and medicines particularly in the rural health institutions;

(iii) shortage of mid-level health manpower and the failure to take manpower even in categories where production was near about the target e.g., Doctors to serve in the rural areas;

(iv) inadequacies of the operational system and administrative structure to make optimum use of the resources for delivering health care services efficiently;

(v) lack of manpower, with requisite skill, experience and training in planning, project formulation, implementation, monitoring, evaluation and management; and

(vi) inclusion of many projects outside the plan, in most cases not consistent with plan priorities, without corresponding increase in allocation and implementation capabilities.

Objectives of the SFYP

16.20 Major objectives of SFYP are—

(i) to bridge the rural-urban gap and to generally increase quality and coverage of the health care services with a view to providing minimum medical care to all;

(ii) to reach improved health and family planning services in a package to the family with a view to increasing its welfare;

(iii) to effectively control the major communicable diseases and to expand preventive and promotive measures with a view to establishing a comprehensive health care system; and

(iv) to develop and integrate indigenous and homeopathic systems of medicine into the health care services.

Strategy of the SFYP

16.21 The following strategies will be adopted in SFYP.—

(i) Health and family planning services for the rural areas will be expanded through speedy completion of the Thana Health Complexes and the Family Welfare Centres and improving the quality of services by deployment of appropriate manpower and augmenting supplies of medical and surgical requisities (MSR).

(ii) Health and family planning services will be integrated at Thana level and below with a view to rendering better quality of service to the rural families through: (a) reduction of worker population ratio for rendering domiciliary services; (b) adding female worker for reaching target female population; (c) undertaking registration and reporting of vital events; and (d) making available maternal and child health care, nutrition, immunisation services, family planning, preventive and promotive health education to the family in a package.

(iii) Health infrastructure through the country will be built-up with special emphasis on referral, laboratory and epidemiological services. Ultimately, the entire health care system will be structured on a regionalised health care module and supported by a network of referral system in which urban health establishment will serve the rural people, being the referral institutions.

(iv) To control the communicable diseases effectively, the immunisation and other related programme will be further expanded and strengthened.

(v) Health manpower will be developed through appropriate education, training and continuous orientation. The thrust will be on production of the mid and grass-root level health manpower such as medical assistants, nurses including junior cadre nurses and Palli Chikitshoks. Medical Assistants, Paramedics and Palli Chikitshoks will be made responsible as much as preventive and curative work as requirements of quality would permit for enabling the doctors to concentrate their time, energy and attention to jobs requiring specialised skills.

(vi) For development and integration of indigenous and homeopathic systems of medicine into the modern health care system, institutions for awarding diplomas and degrees along with requisite hospital and research facilities will be set up in the public sector and the support for existing institutions in private sector will be enhanced.

(vii) Supply of essential drugs, vaccines, sera, rehydration fluids, etc., will be augmented by increasing their production through establishment of new manufacturing plants inside the country. Bottlenecks experienced in the past due to an over-centralised system of supply of basic drugs and medicines will be removed by establishing supply depots and sub-depots and streamlining the distribution system.

(viii) Health development and biomedical research facilities will be expanded with a view to bringing about improvement in the health services delivery.

(ix) Health services structure will be reorganised in order to improve its capability in planning, management, monitoring, evaluation and accountability. In the

reorganisation, emphasis should be placed on efficient programming of the schedule projects and inclusion of new projects without corresponding increase in allocation should be discouraged.

(x) Participation of the people and the local Government institutions in the planning and management of all health care establishments; preventive and promotive health education and mobilisation of local resources for augmenting health care facilities will be actively encouraged with a view to bringing about better accountability and improvement of quality of services.

Financial Outlay

16.22 Keeping in view the objectives and strategies, development programme for the Health Sector has been prepared at an estimated cost of Tk. 288·00 crore at constant prices of 1979/80, which is equivalent to about Tk. 413·00 crore at current prices. Annual phasing of SFYP allocation at both constant and current prices is given in Table 16.1.

TABLE 16·1

Annual Phasing of Financial Outlay

[*Tk. in crore*]

	1980-82	1982/83	1983/84	1984/85	Total (1980—85)
i) At Constant Price	109·92	55·89	56·20	65·99	288·00
ii) At Current Price	130·40	78·24	88·23	116·13	413·00

Among the various programmes of Health Sector priority has been given to—

(i) Primary Health Care;

(ii) communicable diseases control;

(iii) development of mid and grassroot level health manpower including creation of a new cadre of junior nurses;

(iv) production of commonly used drugs and biologicals; and

(v) Public Health Laboratory Services.

Besides, emphasis has been attached to:

(i) appropriate and task oriented training to all categories of health personnel and efficient management control;

(ii) development of a comprehensive referral system: and

(iii) better utilisation of the hospitals and other specialised institutions.

Major Programmes in Public Sector

16.23 *Primary Health Care:* As the main instrument for delivery of primary health care, the First Five Year Plan and Two Year Plan envisaged the establishment of one THC for each rural thana with 31 beds (25 general and 6 for family planning) and one union health and family planning centre/sub-centre/family welfare centre at each union alongside arrangements for domiciliary services by one multipurpose health worker for every 4,000 population under the supervisors at union and thana level.

16.24 *Domiciliary Care* : It will include enlistment of active community support for control and surveillance of communicable diseases, maternal and child health, family planning, treatment of minor ailments and injuries, environmental sanitation, safe drinking water, personal hygiene and food nutrition and health education.

For augmenting the peripheral work force of one for every 6,000 population as exists, an auxiliary cadre of Palli Chikitshoks (village doctor) is being raised. Under this scheme, a matriculate boy or a girl or an existing nonqualified practioner in allopathy, homeopathy or indigenous systems of medicine will be selected from villages for training. The programme will be under periodic evaluation.

16.25 *Static Care* : *Family Welfare Centre (FWC)*—There will be one FWC in each of the 4,365 Unions of the country inclusive of 356 Thana unions covered by THC. A total of 3,150 FWCs is expected to be available at the end of the SFYP (Population Control Division—1,500, previously constructed—230, IRDP—35, Netherlands assisted—86, IDA assisted—24, Health Division—1,275—existing rural dispensaries). Each centre will give coverage to 18,000—20,000 population and will be manned by a Medical Officer/Medical Assistant, Family Welfare Visitor, a Pharmacist and also a Laboratory technician in stages. The centre will offer integrated health and family planning services.

16.26 *Static Care* : *Thana Health Complex*—So far, 290 THCs out of 356, have been made functional to deliver outpatient care with some hospital facilities. Majority of these will, however, require further construction to make them fulfledged THCs. The remaining 66 THCs which are at various stages of implementation will be completed during this plan period. The THCs and FWCs will be the means of reaching medical care of the millions of rural people.

16.27. *Control of Communicable Diseases*: For controlling the communicable diseases, the activities of the following programmes will be further expanded and strengthened:

(i) Immunisation against Tuberculosis, Tetanus, Diphtheria, Poliomyelitics, Whooping Cough, Typhoid and Cholera;

(ii) production of vaccines and toxoids (DPT) for immunisation against Diphtheria, Whooping Cough and Tetanus;

(iii) oral rehydration for treating diarrhoeal diseases:

(iv) Malaria control programme;

(v) Public Health Laboratory for epidemiological services; and

(vi) health education.

16.28 While control of communicable diseases will also be augmented under the primary health care programme, it needs concerted effort of other agencies like Public Health Engineering Department which is implementing a number of schemes for supply of safe drinking water and hygienic disposal of night soil with special emphasis in rural areas. These schemes are of critical importance in preventing incidence of cholera, other

diarrhoeal diseases and parasitic infestation. Communicable disease pattern and target setting is shown below.

TABLE 16·2

Communicable Disease Pattern and Target Settings

Problems	Index	Level 1980	Target 1980-85
1. Cholera ..	Incidence rate	0·2/1000	Reduction by 50%
2. Diarrhoea/dysenteries	Incidence rate	16·5/1000	Reduction by 15%
3. Tuberculosis ..	Prevalence rate	25/1000	(a) 100% immunization. (b) Cases detection and treatment of all cases.
4. Malaria ..	Annual parasite incidence rate.	1·4/1000	Reduction by 50%
5. Measles ..	Incidence rate	7/1000	Reduction by 10%
6. Worm infestation ..	Incidence rate Prevalence rate	36/100 80% of children under 15 years.	Reduction by 30% Deworming of children under 15 years every six months.
7. Tetanus ..	Incidence rate under 1 year of age. Mortality rate under 5 years of age.	27·1/1000 8·6/1000	Reduction to Zero level Reduction by 50%
8. Diphtheria ..	Incidence rate	0·11/1000	Immunisation of under 5 Population.
9. Whooping cough ..	Incidence rate	18/1000	Ditto
10. Poliomyelities ..	Prevalence rate	0·8/1000	Ditto
11. Leprosy ..	Prevalence rate	0·22/1000	40% case detection & treatment of all cases.
12. Scabes ..	Prevalence rate	5·95/1000	Reduction by 25%.

16.29 *Hospitals & Clinics : General Hospitals and Clinics*—In addition to 31 beds at Thana Health Complex a minimum of 50 beds will be established at the subdivisional level which will gradually be raised to 150 beds. Bed strength of district hospitals where there is no plan for a Medical College, will similarly be raised from 100 to 150 beds. In all these hospitals including the THCs, a few beds will be kept reserved for children and also for family planning purpose. The sadar and subdivisional hospitals will have facilities for specialised treatment so that they may act as referral hospitals. Together with these facilities, Combined Military Hospitals wherever available will extend some beds for treatment of civilian population in addition to treatment of armed forces personnel and their families.

16.30 *Hospitals & Clinics : Specialised Hospitals*—The Plan envisages the following development programmes:

(a) Completion of the Cardiovascular Institute and the Institute of Opthalmology with 100 beds in each in the Shaheed Suhrawardy Hospital Complex;

(b) establishment of Cancer Research Institute with 100 beds in the Shaheed Suhrawardy Hospital Complex at Dhaka; and

(c) establishment of five 50-bed hospitals at Adamjeenagar, Tongi, Barabkundu, Noapara and Bogra for the industrial workers.

16.31 Total bed strength during the plan period under Health Division will be raised from 15,343 to 25,382 out of which rural beds will be 11,134. Besides a total of another 5,583 hospital beds are available in other sectors, namely Population Control Division—698 (maternity beds), Police—762, Jail—953, Railway—467 and Private—2,703. Thus the present available bed strength is 20,926.

16.32 Assuming an increase of 1,500 beds in the private sector (through investment under private nursing home scheme) and 10,039 beds in the public sector, total bed strength at the end of the plan period will stand at 32,465. The bed population ratio will thus stand from 1:4,279 to 1:3,018.

16.33 *Indigenous and Homeopathic System of Medicine* : The Indigenous (Unani and Ayurbedy) and Homeopathic systems of medicine are deeply rooted in the country since long. There is a large number of practioners in Unani and Ayurvedic systems of medicine and a sizeable proportion of our population is treated by them. Indigenous/traditional medicine is based on locally available crude drugs mainly herbs and plants. Bangladesh is rich in medicinal herbs and plants but no attempt has so far been made to utilise these resources systematically and scientifically although the efficacy of some of the indigenous drugs in some disease areas is widely recognised. Similarly, Homeopathic system of medicine is also very popular, extensively practised and covers a larger percentage of the population. These two systems have practically been providing the bulk of health coverage to the mass particularly in the rural areas.

16.34 As these systems of medicine are in common use in the country, it is necessary to develop them on proper scientific line and to integrate them into the Primary Health Care System. A suitable machinery should be set up in the Health Division to initiate action for integration after examining all related issues. The major programmes for developing these systems are:

(a) Establishment of one institute in each of the disciplines with 100-bed hospital at Dhaka to impart degree course and undertake research activities. Besides, financial assistance will be given to the existing institutes in the private sector to bring them into a uniform standard. The research activities to be undertaken at the colleges/institutes should *inter alia* include the following:

(i) review of available scientific data relating to the efficacy of traditional and homeopathic systems of medicine in the treatment of common diseases;

(ii) identification of diseases which can safely be treated under these systems of medicine as effectively as or even more satisfactorily than the allopathic medicines.

(b) Further development of Government Tibbia College at Sylhet.

16.35 *Nutrition Programme*: The seriousness of the problems arising from widespread malnutrition in the country and its consequences on health and wellbeing of the population can hardly be over-emphasised. A number of Institution/Organizations including the Institute of Public Health Nutrition, Dietetics and Food Science under the Ministry of Health are involved in combating malnutrition. The National Nutrition Council, set up in 1974, has not been effective so far due to some inherent defects in the organisational set up.

16.36 Since nutrition planning is multi-sectoral in dimension, there is an urgent need for coordination of effort keeping the nutrition situation and policy under constant review. Therefore, the National Nutrition Council is being strengthened and revitalised; alongwith this, the following nutrition programmes are envisaged under the Second Five Year Plan under health sector to supplement the nutrition and nutrition related programmes of other concerned sectors :

(a) Establishment of nutrition units in the Planning Commission and in other relevant Ministries;

(b) taking up the applied public health nutrition programme consisting of the following components;

(i) development of child-nutrition unit in the THCs for treatment of third degree malnourished children with clinical manifestation and nutrition monitoring of children up to age of 12 years and to create posts of dietecian in major hospitals in the country;

(ii) inservice and preservice training to field health and F. F. personnel including hospital dietecian as a part of implementing applied public health nutrition programme for combating malnutrition of vulnerable groups, and for effective introduction of nutrition component in primary health care;

(iii) intensification of mass nutrition education programme;

(iv) development of national nutrition servcillance system for the identification of the at risk groups and vulnerable area in terms of nutrition for taking measures in the early stage;

(v) undertaking integrated comprehensive applied nutrition programme on pilot basis in some selected villages with the purpose to improve the nutritional status of the people through self help and active participation of the community;

(vi) continuation of the scheme of prevention of blindness of children under 6 years by distribution of high potency vit. 'A' capsuls twice in a year;

(vii) developing suitable measures to control epidemic goitre and lathyrism in the endemic areas of the country; and

(viii) distribution of supplementary and weaning food for expectant and lactating mothers and children suffering from second and third degree malnutrition through available health infrastructure and community organisation.

Manpower Development

16.37 There is serious shortage of health manpower at all levels in the country. In order to have adequate number of health manpower, the Plan envisages the following programmes :

(i) *Pallichikitshoks* (*Village Doctors*): The programme will continue to train up personnel to cater the basic health needs at the grass-root level.

(ii) *Medical Assistants* : Completion of 8 on going MAT schools and establishment of more schools. The number of Medical Assistants is expected to be increased from 450 to 3,240.

(iii) *Nurse* : The following training programmes will be undertaken for training of nurses :

(a) Completion of centres for training of senior nurses attached to district hospitals and Medical Colleges and expansion of facilities in the existing centres at Dhaka, Chittagong, Rajshahi and Mymensingh;

(b) establishment of Nurses training centres at IPGM&R;

(c) establishment of 18 centres for senior nurses attached to hospitals in the outlying subdivisions; and

(d) establishment of 40 centres at THCs/Subdivision for training of proposed cadre of junior nurses.

(iv) *Paramedics* : Introduction of Degree Courses in the Institute of Paramedics at Dhaka and in suitable medical institutes in the country.

(v) *Medical Graduates* : The following programmes will be undertaken to increase the number of graduate doctors:

(a) completion of on-going schemes for development of Medical Colleges at Rangpur, Sylhet, Barisal and Sir Salimullah Medical College at Dhaka;

(b) further development of Medical Colleges at Dhaka, Chittagong, Rajshahi and Mymensingh; and

(c) enrolment in Medical Colleges will be reviewed and rationalised in the light of requirement, utilisation and physical facilities. Number of doctors will be increased from 11,000 to 17,000. Doctor population ratio will thus be increased from 1 : 8,000 to 1 : 5,882.

(vi) *Dental Graduates* : Further development of Dental College at Dhaka will be undertaken.

(vii) *Post-graduate Doctors/Specialists* : Completion of the schemes of Post-graduate Medicine and Research, National Institute of Preventive and Social Medicine, and Health Manpower Development Programme. Post-graduate training facilities. will be extended to some of the Medical Colleges where facilities are available in specific subjects.

(viii) *Continuing Education and Training* : Taking-up a comprehensive scheme for strengthening initial in-service, pre-promotional, refresher training and continuing education of all categories of health manpower.

(ix) *Scholarships and Stipends* : Continuation of existing scheme for awarding scholarship and stipends to the students in various Medical and Nursing Institutions and exploration of possibilities of creating a revolving fund out of the allocation for advancing to deserving students as repayable loans.

16.38 Some of the issues relating to development and optimum utilisation of health manpower on which appropriate action should be initiated are briefly discussed below:

(i) Increased availability of doctors in rural areas by making service in rural areas at least for two years a condition of appointment to attractive posts like clinical assistantship in Medical Colleges, selection for higher studies/ training both inside and outside the country, clearance for jobs abroad, for promotion to next higher posts and to ensure that doctors who have served for a normal tenure of three years are posted in the urban areas as a normal

routine and for those who worked for the tenure in the preventive side are given an opportunity to work on the clinical disciplines.

(ii) Improvement in teaching-quality of health manpower is a prerequisite for effective health service delivery. Due to various reasons like non-availability of teachers, private practice by the clinicial teachers and inadequate medical teaching aides have been greately hindering medical education particularly in medical colleges. It is, therefore, suggested that teachers training should be extensively undertaken, private practice should be limited in the form of institutional practice or alternatively adequate compensatory allowances in lieu of private practice should be introduced and teaching aids like audio-visual equipments, video-cassette recorders and other appliances should be made available in the medical teaching institutions.

(iii) Opportunity for vertical career mobility for various cadres of health workers through arrangements for higher education and training and reservation of posts in the related higher cadres for promotion of meritorious and efficient workers with minimum academic qualification. For instance, a suitable Medical Assistant should be able to reach the position of a doctor.

(iv) Gradual withdrawal of qualified doctor from positions not requiring degree in medical science and their replacement by personnel in other health cadres, or by creation of new cadres of non-medical personnel, with appropriate education and necessary training. Instances of such in-appropriate utilisation of doctors are in the fields of hospital administration, vaccine production, medical stores and supplies, etc.

Production and Supply of Drugs and Vaccines

16.39 The present annual consumption of drugs and medicines in Bangladesh is valued at about Tk. 100 crore of which 80 percent are locally formulated and the remaining 20 percent are imported in finished form. Of the total consumption, supply through the health institutions is of the order 15 percent (the revenue budget of Health Division for drugs being Tk. 15 crore). The supply of drugs and medicines to the health institutions particularly at thana level and below has been augmented through the supply of DDS kits supplied by UNICEF, the value of which is of the order of Tk. 1·5 crore annually. The DDS kits which provided valuable support, supplied 21 essential drugs. For rendering effective Primary Health Care services, adequate supply of 31 essential drugs has to be ensured. Measures will be taken to increase production of these drugs through the industries Division's Programme for the public and private sector. In the Health Sector, the programme is to develop the existing pharmaceutical unit for increasing its current capacity of formulating six essential drugs and also to undertake formulation of additional drugs with the aim of exploiting its potential to the full. Besides, one more pharmaceutical production unit for expanding production of essential drugs will be established and to be located in Rajshahi Division.

16.40 The Plan also envisages completion of on-going scheme for production of DPT, expansion of I.V. fluid unit and setting up of a laboratory for production of antivenin and antisera for tetanus and diphtheria within the same premises of Public Health Institute, Mohakhali.

16.41 As for supply arrangement, the programme envisages completion of medical sub-depot at Khulna; and establishment of 16 reserve stores at districts where there is no sub-depot.

Health Laboratory

16.42 Although laboratory services are integral parts of all health care services including preventive, promotive and curative health, the available facilities are very limited and they do not function as a system. To expand and strengthen the arrangements in this area, following activities are envisaged :

(i) Establishment of a National Health Laboratory, expanding the existing public Health Laboratory at Mohakhali, Dhaka as the apex institution and to establish/ expand the laboratories at district, subdivision, thana (THC) and also to the extent possible at union level (FWC) to serve as a network with each level doing specific functions the sophistication and complexity of which will increase in the larger establishments; and

(ii) development of the public Health Laboratory Components alongside the clinical laboratory facilities in the laboratories of medical colleges, district and subdivisional hospitals to provide support to the activities of the field level health and family planning workers.

The system envisages additional work in four laboratories in each of the four divisions in the area of quality control of drugs.

Private Nursing Home

16.43 A scheme for establishment of private Nursing Homes in different parts of the country taken up in 1977 will be continued during the SFYP in the private sector. The programme envisaged facilitating and promoting the establishment of (a) 25—50 bed poly clinics, (b) Residence-cum-clinic and (c) Specialised Nursing Homes.

Physical Targets

16.44 Institutional facilities and hospital beds available in 1980 and targets for 1985 are given in table 16·3. Further various categories of manpower available in 1980 and the targets to be achieved by 1985 are shown in Table 16.4.

TABLE 16·3

Targets for Institutional Facilities and Hospital Beds by 1985.

Sl. No.	Category of Institution	No. of Institution		No. of Beds	
		Position in 1980	Target for 1985	Position in 1980	Target for 1985
1	2	3	4	5	6
1	Medical College & Hospital	8	8	5353	5753
2.	Dental College	1	1	20	20
3.	Sadar Hospital	12	13	1124	1124
4.	Sub-divisional Hospital	35	45	2090	3650

TABLE 16·3—*Contd.*

Sl. No.	Category of Institution	No. of Institution		No of Beds	
		Position in 1980	Target for 1985	Position in 1980	Target for 1985
1	2	3	4	5	6
5	Shahid Surrawardy Hospital	1	1	75	75
6	Post-graduate training and other specialised Hospital:				
	(i) IPGM&R	1	1	250	500
	(ii) IDCH	1	1	500	500
	(iii) NIPSOM	1	1	—	—
	(iv) Institute of Opthalmology	1	1	30	100
	(v) Institute of Cardiovascular diseases.	1	1	100	100
	(vi) Institute of Cancer	—	1	—	100
	(vii) Tuberculosis	4+8 (Segregation)	4+8 (Segregation)	566	566
	(viii) Leprosy	3	3	130	130
	(ix) Children	1	1	300	300
	(x) Orthopaedic	1	1	325	325
	(xi) Mental	1	1	400	400
	(xii) Infectious diseases	5	5	180	180
	(xiii) T. B. Clinic	44	44	—	—
	(xiv) Homeopathic system of medicine.	—	1	—	100
	(xv) Indigenous systems of medicine	1	1	..	100
	(xvi) Casualty.	1	1	100	100
7	College of Nursing	1	1	—	—
8	Nurses Training Centre (SRN)	13	33	—	—
9	Training Centre for Junior Nurses	—	40	—	—
10	Medical Asstt. Training School	8	8	—	—
11	Paramedical Institute	2	2	—	—
12	Thana Health Complex	290	356	3800	11134
13	Hospital for Industrial Workers	—	2	—	125
14	Pharmaceutical Production Unit	1	2	—	
15	District Reserve Store	3	20	—	—
16	Health Laboratories	2	63	—	—
17	Electro-medical Equipment Maintenance Workshop.	—	1	—	—
18	Transport Maintenance Workshop	1	1	—	—
	Total ..	—	—	15,343	25,382

TABLE 16·4

Manpower Development : Position in the Terminal Year of FFYP & TYP and Target set for the Terminal Year of SFYP

Sl. No.	Category	Actual Position in			Target for 1984/85
		1972/73	1977/78	1979/80	
1	2	3	4	5	6
1	Graduate Doctor	7000	9600	11000	17000
2	Post-graduate Doctor ..	259	560	631	1705
3	Dental Graduate	310	407	457	582
4	Basic Nurse	700	1800	1500	3784
5	Post-basic Nurse	..	190	280	540
6	Public Health Nurse ..	..	..	..	100
7	Junior Nurse	..	..	..	1240
8	Nursing Attendant	1200	1200	1200	1200
9	Medical Assistant	..	192	450	3240
10	Medical Technologist(lab) ..	..	..	..	40
11	Medical Technologist (equip) ..	..	..	..	40
12	Occupational Physiotherapist ..	..	..	..	40
13	Sanitary Inspector	980	1125	1210	1600
14	Health Inspector	..	1192	1192	1192
15	Asstt. Health Inspector ..	..	3475	3475	3475
16	Pharmacist/Compounder ..	1500	2050	2300	6800
17	Laboratory Technician ..	270	600	740	1630
18	Radiographer/X-Ray Technician ..	130	160	190	553
19	Radiotherapy Technician ..	10	68	68	128
20	Physiotherapy Technician ..	20	70	45	100
21	Blood Bank Technician ..	20	38	40	300
22	Dental Technician	20	58	80	500
23	Multipurpose Health Worker ..	..	1100	13500	13500
24	Pallichikitshok	..	..	5576	65000

Proposed Health Care Delivery System

16.45 The health care system consisting of various levels of services may broadly be classified as (i) Primary Haelth Care; (ii) Secondary Health Care; (iii) Tertiary Health Care; and (iv) Super Specialised Health Care.

(a) The Primary health care is the nucleus of the health care system and includes treatment of common diseases and minor surgery as well as preventive and promotive health care from village to thana level.

(b) The Secondary health care will be available at the subdivision and the district levels, with 50 and 100 beds respectively providing services in a number of specialities, namely medicine, surgery, gynae, eye, clinical pathology, blood transfusion and public health laboratory and will act as referral institutions to the THCs.

(c) Tertiary health care will be available at Medical Colleges Hospitals at the regional level and the Institute of Post-graduate Medicine at national level where much wider range of specialities as well as better laboratory facilities are available for the treatment of complicated and difficult cases. These hospitals will act as the referral institutions of the district and subdivisional hospitals.

(d) Super-specialised health care will be available in the hospitals attached to Medical Colleges, Dental College, and the Institute of Post-Medicine where specialised units of cardiology, nephrology, neuro-surgery, cardiac surgery, opthalmology, dentistry etc., either already exist or will be developed. It will also be available in the Post graduate speciality institutions for opthalmology, chest, cardiac, and also specialised hospitals like mental, tuberculosis, diabetes, orthopaedics and cancer hospitals. The institutes will act as referral institutions of medical college and other hospitals.

16.46 The entire health care system will be built-up on a regionalised health care module in which each of the regions, with a Medical College Hospital as the apex organisation, will have similar facilities and will be self-sufficient as far as primary, secondary and tertiary health care are concerned. These regions will be dependent on the national level and in some cases on another region for specialised health care only, *e.g.*, cardiovascular and opthalmology at Dhaka, Mental Hospital at Pabna T.B. Hospital at Dhaka, Chittagong, Khulna and Rajshahi. In this regionalised system, the subdivisional and the district hospitals will have a critical role to play in terms of referral services and logistic support to be provided to the THCs in the outlying subdivision and Sadar areas respectively and also training of mid-level health manpowers. Since the district hospitals have been developed in the past with more beds, manpower and specialities and the proposed Medical Colleges are to be located at the district headquarters, it is imperative that the subdivisional hospitals are taken up for development at par with the district level hospitals as they will have to cater generally to the needs of as many THCs and FWCs and as larger population as in the sadar area.

16.47 The referral system among the health care establishment is neither a well defined one nor has it functional properly in the past. In the proposed health care delivery system the referral arrangement will play a vital role in providing quality services to the millions in the rural areas. The referral system should, therefore, be carefully worked out providing for the following:

(a) A clearly spelt-out linkage between the specialised national institutes and the regional medical colleges with the subdivisional/district hospitals to ensure proper care and treatment of patients from the rural area served by the simplest of the health institutions;

(b) patients from the rural areas referred by subdivision/district hospitals to Medical Colleges and Specialised institutions must get preferential treatment for admission over others from the areas directly served by these institutions; and

(c) the system will be a two-way process under which patients from the rural areas will be sent up to higher institutions while at the same time teams of specialists from the subdivision/district hospitals, if not from the regular Medical College Hospital, also will visit the THCs regularly for providing, *inter alia*, better quality services on the spot.

16.48 The existing sub-system covering laboratory facilities, supplies and training are neither adequate nor integrated with the health delivery system. The sub-system will be strengthened and appropriate laboratory facilities will be developed at all levels including the thana; reserve stores for supplies will be established at the district level; and training of medical assistants and senior nurses will be organised in the subdivisional hospitals also, while the training of Junior Nurses and Pallichikitshoks will be taken to the thana level.

16.49 For improving the operational side of health delivery system further, the following measures are also envisaged as elaborated in the discussion under programmes:

(a) Extension programme for development of manpower;

(b) continuing education and training arrangements of all levels of health manpower;

(c) increased production and supply of essential drugs and vaccines;

(d) development of appropriate technology in relation to methods of treatment, use of equipments and production of drugs etc.;

(e) devising an effective mechanism for ensuring clinical accountability in relation to quality of medical care and services through establishment of a medical audit team and streamlining the procedure for consumer's complain;

(f) increased availability of doctors in health establishment through linkages of promotion, further education and employment abroad etc. with minimum period of service in the rural areas; and

(g) opportunity for vertical career mobility for health manpower of lower categories through arrangements in higher education and training and reservation of posts.

16.50 It is stressed that primary health care is an integral part of the socio-economic development process of any nation. Hence, in the broad frame work of a system, activities of the health sector must be coordinated at national, intermediate, and community or local levels with those of other social and economic sectors, including education, agriculture, animal husbandry, public health engineering, housing, public works, communications and industry.

16.51 Mobilisation of the people and their active participation in planning and implementation of health care programmes and management of health institutions are of

vital importance particularly in primary health care which deals with health problems of individuals, families and communities in the rural areas. Community's participation will be ensured through the following measures :

(a) Execution of projects in the rural areas through local project committees;

(b) mobilisation of resources in cash and kind for establishment and running of FWCs and other health institutions;

(c) setting up to Managing Committees for all static health and family planning institutions with powers to effectively oversee their proper functionings;

(d) providing necessary support for effective functioning of Palli chikitshok (Village Doctor);

(e) raising of voluntary health workers for working within their own communities; and

(f) imparting basic health and nutrition education to individuals and community.

16.52 The present health administrative structure and the management control system are inadequate for efficient and effective health care delivery. The need for reorganisation and appropriate strengthening of the structure is urgent. Alongwith the reorganisation, financial, administrative and service delivery authority will have to be delegated to various functional levels. The health establishments should also adopt a new accounting system so that unit cost of various services by them could easily be worked out for ensuring buyers accountability.

16.53 It is almost impossible for a poor country like ours to find adequate resources for comprehensive health care of the entire population. Shortage of resources has restricted the coverage of health care to only about 25 percent of the population and severe shortage of drugs and medicines has also affected the quality of service. An apparent contradiction in the system arises from the fact that while the available services have been made entirely free, there is hardly any arrangement for ensuring that the limited supplies (for example of drugs and medicines worth Tk. 15 crore which is only ¼th of the requirement), are made available to the most deserving. The following measures are, therefore, suggested:

(a) Preventive and promotive health care should continue to remain entirely financed from public funds;

(b) the number of non-paying beds in the static institutions except the THC should be reduced;

(c) available drugs and medicines as well as consumable materials like X-ray films should be allowed free of charge only to the poorest classes; and

(d) out-patient tickets in hospitals and clinics should be charged and the available fund could be utilised locally.

Conclusion

16.54 With the effective implementation of the plan of action outlined above, it is expected that the mortality and morbidity rate will be reduced to a great extent, death rate will fall from 16.75 to 13.78 per thousand population, infant mortality rate from 140 to 100 per thousand live births and maternal mortality rate from 7 to 4 per thousand live births and life expectancy, on average will increase from 48.1 to 52 years.

CHAPTER XVII

POPULATION CONTROL AND FAMILY PLANNING

The fast growth of population during the past two decades has frustrated the development efforts in Bangladesh. In 1951, the population of Bangladesh was 4·21 crore which has doubled itself in 27 years. Under the annual rate of 2·7 percent growth in 1980, the population will be about 15·00 crore by the end of this century. This unprecedented growth has many serious consequences. First, the present density of 1,675 persons per square mile will be doubled and further narrow down the present land-man ratio of 0·38 acres which is one of the lowest in the world. Secondly, the existing unfavourable age structure results in a high dependency burden for the present and provides a large population growth potential for the future. Thirdly, with such a rate of population growth, much of the gains to be obtained through huge investment for increased food production during the Plan period will be neutralised. Fourthly, at present, there are 2·37 crore school-age children. Under the constant rate of fertility, the school-age population will grow nearly twice this size by the turn of the century. The existing educational facilities need to be doubled to maintain even current level of literacy. Fifthly, given the prospect of economic growth, the current level of unemployment and under-employment (30 percent), will further worsen when the children already born enter the labour force in the years to come and the social overhead costs of maintaining the increasing number of dependent population will leave little surplus for investment in the productive sectors. Lastly, as a consequence of such an overall growth of population and an increasing rate of rural-urban migration, the current size of urban population will grow from 8·72 million (comprizing 10 percent of total population) in 1980 to 31·74 million (comprizing 27·6 percent of total population) in the year 2000, aggravating further the existing housing, transportation, employment, education and other related problems of urban areas.

Demographic Prospect

17.2 For a demographic intervention during the Plan, three different options have been considered—moderate, substantial and drastic reduction in fertility. The moderate reduction of fertility assumes NRR=1 beyond 2000 AD; the substantial reduction of fertility assumes NRR=1 by 2000 AD while the drastic reduction of fertility assumes NRR=1 by 1990. Under these three sets of assumptions, the total population is estimated to be 13·2 crore, 12·7 crore and 11.5 crore respectively by the year 2000 AD. Under the circumstances, the only meaningful national policy option is to achieve NRR=1 by 1990. Certain unique factors in our situation present possibilities for a vigorous and successful population programmes.

These are—

(i) Strong political support and Government's required financial commitment for the population control activities in recognition of population as the country's number one problem;

(ii) the policy of involving all local government institutions and the people in general in population control activities through a movement;

(iii) people's readiness for rapid social change and acceptance of a small family norm as evident from the existence of an unmet demand to the extent of 30—35 percent for family planning; and

(iv) Government's massive thrust for rural development aiming at substantial increase in agricultural production, employment, literacy and expansion of primary health care and MCH facilities.

Approach to Population Policy

17.3 The Government adopted a comprehensive population policy in June, 1976, reflecting high priority to population control programmes as an integral part of the development process. It was directed towards influencing the demographic behaviour primarily through information, education and motivation (IEM) activities and family planning services. Some other important determinants of fertility, such as employment, education, improved health, reduction of infant and maternal mortality, female participation in labour force etc., have also been recognized as important components of the policy.

17.4 The following supportive and facilitating measures will have to be undertaken to create a socio-economic condition conducive to the acceptance of small family norm among the masses:

(i) Community mobilization for late marriage, birth spacing and planning, acceptance of small family norm and contraceptive practice;

(ii) raising the socio-economic status of women by education and employment;

(iii) social, economic and legal measures and a system of incentives and disincentives favouring small family norm;

(iv) improvement in health and nutrition status of the people and reduction of infant, child and maternal mortality;

(v) implementation of the country's education programme with emphasis on basic education and literacy;

(vi) use of indigenous and private non-government medical practitioners and paramedics in MCH and family planning services;

(vii) encouragement to voluntary agencies to provide complementary support to the national programme; and

(viii) enlisting support of the entire government machinery in the effort to solve this national problem number one.

Performance Review

17.5 In the First Five Year Plan (1973—78), a nationwide population control programme was drawn up at an estimated cost of Tk. 70·00 crore which was revised to Tk. 90·00 crore at the time of preparation of the Hard Core Plan (1975—78). For the Two Year Plan (1978—80) an allocation of Tk. 100·00 crore was made. The following Table shows fund-allocation and utilisation under the two plans.

TABLE 17·1

Yearwise Allocation and Utilisation of the Fund of Population Control and Family Planning Sector (1973—80)

[Tk. in lakh]

Year		Allocation	Utilization	%
1973/74	..	700·00	400·00	57·1
1974/75	..	774·00	616·00	79·6
1975/76	..	1959·00	1623·82	82·9
1976/77	..	2164·00	1938·43	89·7
1977/78	..	3128·00	2646·53	84·6
1978/79	..	4674·00	3410·86	72·9
1979/80	..	5927·00	5009·18	84·5
Total	..	19326·00	15644·82	..

17.6 During the period of 1969—72, the family planning programme was in a virtually standstill position owing to successive events of political disturbance, war of independence and uncertainty in post-independence programme. During the next two years, not much be done in this sector because of the nation's pre-occupation with the rehabilitation phase of development and natural calamities. By November, 1974, a separate Population Control and Family Planning Division with elaborate field and national structure was set up. With financial support from the International Development Association of the World Bank, UNFPA, USAID and other donors, the year 1975 saw the beginning of comprehensive programme development and implementation.

17.7 The Population Control and Family Planning Division recruited, trained and posted 19,451 field workers of various categories—2,722 Family Welfare Visitors (FWVs), 4,392 Family Planning Assistants (FPAs) and 12,337 Family Welfare Assistants (FWAs) during 1975—78. MCH and Family Planning Services were rendered by 950 rural and urban clinics and hospitals, including 93 Maternity and Child Welfare Centres (MCWC).

17.8 Construction of 8 Thana Field Training Units with 24 sub-centres, 4 Family Welfare Visitors' Training Institute, 450 Family Welfare Centres, 2 Model Clinics attached to two medical colleges and a model clinic in Dhaka, were completed.

17.9 Supportive population activities in the form of motivational work and recruitment of acceptors were organised under various Ministries/Divisions within the frame-work of multi-sectoral population programmes. Ministry of Information and Broadcasting set up a well-equipped Film Laboratory, produced 16 population films, procured 16 cinema vans and established population cells in the Radio Bangladesh. Social Welfare Department established 760 Mothers' Centres in the rural areas. The IRDP organised 743 Women's Co-operatives and Women's Rehabilitation and Welfare Foundation set up 40 Women's Vocational Training Centres. The Department of Labour strengthened 8 Labour Welfare Centres for providing family planning services and supplies. The Ministry of Education developed population education curricula and instruction materials which have been introduced in grades IV to VI. Increasing number of teachers of primary and secondary schools and colleges are being trained in population education.

17.10 Training Programmes for all categories of functionaries from field workers to top level managers were organised under the auspices of the National Institute of Population Research and Training (NIPORT), 8 model clinics in 8 of the Medical Colleges, 12 FWVTIs and 19 District Training Centres. A total of 15,958 TBAs were enlisted and trained. Besides, 241 Doctors, 450 Medical Assistants and 5,000 Pallichikitshaks were also trained.

17.11 Five major organizations, namely, Population Study Centres at BIDS, External Evaluation Unit in the Population Section, Planning Commission and NIPORT (including BFRP) and Management Information System (MIS) Unit of the PC&FP Division and the Population Management Research Centre at the IBA of Dhaka University were established where population research and evaluation activities continued. Allied research activities were also carried out under the Institute of Statistical Research and Training and the International Centre for Diarrhoeal Diseases Research. Two major demographic

surveys, namely, Bangladesh Fertility Survey and Study on the Determinants of Reproductive Behaviour in Bangladesh have been completed. Also, some of the multisectoral population programmes developed their own internal evaluation/review system.

17.12 Population related information, education and communication system was established to meet the growing needs of the population programme. All female members of the Parliament, 25,000 Chairmen and female members of the Union Parishads and Swanirvar (self-reliant) workers were given family planning orientation training.

17.13 The National Population Council succeeded in enlisting considerable political support for the programme.

17.14 The leading religious organisations, youth organisations, women's associations, Swanirvar movement, local co-operatives and several voluntary organisations supported the family planning movement activities.

17.15 Structural changes were witnessed during the last few years in the performance of various methods of contraception as may be seen in Table 17.2.

TABLE 17·2

Methodwise Performance in 1973/74 and 1979/80

[*In Percentage*]

Method	1973/74	1979/80
IUD	26·5	6
Sterilization	14·0	19
Oral Pills	23·5	40
Condom	34·5	34
Other methods	1·5	1
Total	100·0	100·0

Results of two surveys also indicate the trend in the actual practice of different methods for 1975 and 1979.

TABLE 17·2 (a)

Method-wise Contraceptive Prevalence in 1975 and 1979

[*In Percentage*]

Method	1975	1979
IUD	6·3	2·0
Sterilization	10·5	24·2
Oral Pill	35·8	35·3
Condom	9·6	10·4
Other methods	37·8	28·1
Total	100·0	100·0

17.16 Although the level of family planning practice increased from 9·6 percent of eligible couples in 1975 to about 14 percent during 1979/80, the Two Year Plan target of achieving 22 percent users could not be reached owing to the following limitations :

(i) Lack of co-operation between the Health and Family Planning workers, particularly at the lower level;

(ii) inadequate training of field workers and lack of proper reporting, monitoring and supervision at different functional levels of the programme;

(iii) lack of community support;

(iv) ineffective functioning of Co-ordination Committees set up at different operational levels; and

(v) low worker-population ratio and absence of male workers at the village level.

Objectives of SFYP

17.17 The population policy aims at a drastic reduction in fertility in order to achieve the demographic goal of NRR=1 by 1990, with the objective of attaining a population size of 11.5 crore by the year 2000, and ultimately a stationary population of about 17·5 crore by the middle of the 21st century. Keeping this long term goal in mind, the demograhic objective in the SFYP is set for reducing the present TFR of 5.85 to 4.1 by the year 1985 and the corresponding CBR from 43·25 to 31·56 per thousand.

17.18 In order to achieve the above objectives, the current rate of continuous users of 14 percent of eligible couples has to be raised to 37.5 percent by the end of the plan period. In absolute terms, the current continuous users of 23 lakh couples will increase to about 71 lakh couples by 1985.

17.19 *Contraceptive Prevalence Ratio* : A wide range of contraceptives choice will be provided for the people. With the anticipated increase in programme capacity to expand sterilisation services, the relative emphasis on sterilization is intended to gradually increase. However, recognizing the importance of delaying the first pregnancy and spacing between pregnancies, role of the temporary methods must also be adequately emphasized. Accordingly, a contraceptive prevalence ratio has been worked out within the framework of the related sectoral plan objectives as shown below:

TABLE·17·3

Contraceptive Prevalence-Ratio during 1980—85

[*In Percentage*]

Method	1979/80 (Base Year.)	1980/81	1981/82	1982/83	1983/84	1984/85 (Terminal Year).
Sterilization ..	19	25	30	35	39	43
Oral Pill ..	40	37	34	31	28	25
Condom ..	25	24	23	21	20	18
I. U. D. ..	6	6	7	7	7	8
*Other Contraceptives ..	10	8	6	6	6	6
Total ..	100	100	100	100	100	100

* Others include traditional methods such as Azl, Rhythm, Diaphragm and Abstinence ; and modern methods, such as Menstrual Regulation, Injectibles, Foams, etc.

17.20 To achieve the above contraceptive prevalence ratios during 1980—85, the estimates of annual new acceptors (in 000) will be as shown in Table 17.4.

TABLE 17·4

Continuous and New Family Planning Acceptors by Methods, 1980–85

[*Figures are in '000'*]

Method	1980/81			1981/82			1982/83			1983/84			1984/85		
	C	O	N	C	O	N	C	O	N	C	O	N	C	O	N
Sterilization ..	797	400	397	1234	717	517	1775	1111	664	2363	1598	765	3044	2126	918
Oral Pill ..	1180	468	712	1398	590	808	1572	699	873	1697	786	911	1770	848	922
Condom ..	766	293	473	946	383	563	1065	473	592	1212	533	679	1274	606	668
I. U. D. ..	191	94	97	288	128	160	355	193	162	424	238	186	566	284	282
Others ..	255	117	138	247	128	119	304	124	180	363	152	211	425	181	244
Total ..	3189	1372	1817	4113	1946	2167	5071	2600	2471	6059	3307	2752	7079	4045	3034

Note : C— (Total) Continued Users, O = Old Cases from previous years, N = New Acceptors.
Annually sterilization is discounted by 10%, Pill and condom by 50%, IUD by 33% and other methods by 50%.

Strategy of SFYP

17.21 Within the broad population policy framework and approach to population planning, the following strategies are proposed for programme-development during the Second Five Year Plan :

(i) To enlist total and active support and participation of the people by directly involving various tiers of the local government and eliciting and mobilizing functional co-operation of the voluntary organizations;

(ii) to generate a sense of competition among the local government institutions and to introduce a system of community incentives as a form of recognition to achievement;

(iii) to integrate fully the health and family planning organisations at thana level and below with a view to reducing the worker-population ratio, ensuring an integrated health and family planning service from the recipients point of view and instituting more effective and streamlined supervision at various tiers of programme implementation;

(iv) to reduce the maternal and infant mortality rates, by providing adequate services, not only for the sake of health and welfare of the people, but also for improving the chances of child survival, in order to make the concept of small family norm widely acceptable;

(v) to popularise the voluntary sterilization programme through provision of better clinical services and follow-up care by enlisting full support of all doctors, both government and non-government;

(iv) to introduce various social and legal measures and a system of incentives and disincentives and to mobilize social support in favour of these measures;

(vii) to continue more vigorously the multisectoral policies and programmes aimed at meeting basic needs and enhancing family welfare, child survival and reduction of maternal mortality and malnutrition for creating an environment conducive to small family norm and lower fertility;

(viii) to register all medical graduates engaged in private practice with local family planning organizations, arrange for appropriate training and utilise them for providing clinical services against payment of compensatory fees;

(ix) to strengthen training of all personnel engaged in population activities, particularly the health and family planning workers at thana level and below to ensure more efficient supervision and accountability of performances;

(x) to initiate steps for integrating sectoral policies and programmes of the various development agencies with the national demographic goal; and

(xi) to undertake monthly review of programme performance at all levels, including the village-level, on the basis of reports of monitoring and evaluation. At national level programme performance will be reviewed by the Central Co-ordination Committee every three months and by the National Population Council every six months.

Programmes of SFYP

17.22 The population activities can be broadly categorised into five major areas, namely; (a) MCH and FP services, (b) Information, Education and Motivation (IEM), (c) Training, (d) Research and Evaluation and (e) Policy, Planning and Co-ordination.

Service Delivery

17.23 *MCH and Family Planning Services*: The current rates of maternal and infant mortality are 7 and 140 per 1000 live births respectively. The Second Five Year Plan seeks to improve MCH services with a view to reducing maternal mortality rate from 7 to 4 and infant mortality rate from 140 to 100 live births by 1985.

17.24 The above objectives are proposed to be attained by providing maternal and child care services at domiciliary level through preventive and promotive MCH programme and safe delivery services at home by trained TBAs, and at institutional level through FWC, MCWC, MCH units of THC/RHC and other referral hospitals.

17.25 Malnutrition being an important cause of both maternal and infant mortality and morbidity, nutrition education and services will comprise an important element of MCH programme at domiciliary as well as institutional levels.

17.26 Family Planning Services should be wide-spread and adequate in response to the increasing demand. Quality of services must be maintained in order to ensure client satisfaction, high rate of continuation and generate spread-effect. The basic component of family planning services delivery during the Second Five Year Plan will be as follows :

(i) Conventional contraceptives will be delivered at home by the field workers at a nominal price and without charge at the clinics. These will also be distributed by the social marketing programme and sold by the private sector at subsidised price.

(ii) 1,500 FWCs with one Medical Assistant, one Family Welfare Visitor and one Pharmacist each will be established in the rural areas. In addition to these clinics, 48 Health Sub-centres and 1,275 rural dispensaries will be used to augment the efforts of existing 93 MCH Centres and 857 FWCs for Family Planning, MCHs follow-up cares and other training activities particularly for women.

(iii) Sterilization services will be provided by the physicians, both Government and non-government. Sterilization be made more acceptable and safe for the people by improving the quality of services and instituting competent technical supervision and surveillance.

(iv) MCH and family planning service needs of urban areas will be re-assessed with the changing size and pattern of urbanization and services will be strengthened and re-organized accordingly.

17.27 *Integrated Approach for Service Delivery*: An integrated system will be introduced for both health and family planning services at thana level and below. For this purpose, the existing thana health and family planning organisations will be integrated. The Thana Family Planning Officer will work as a principal aide to the Thana Health Administrator in respect of implementing the Health and Family Planning Programme. The service of existing 13,500 family Welfare Workers (FWW) together with 4,500 Family

Planning Assistants (FPAs) and 13,500 Family Welfare Assistants (FWAs) will be utilised for this purpose. Generally, a team consisting of one female and one male will be assigned to a ward. However, for a larger Union Council having a population of 18,000 or more (1974 census), a team of one female and two males will be assigned to each ward. According to this arrangement worker-population ratio will be further reduced to an average of 1 : 2700. This will enable the population to get much more localised services from both health and family planning programmes.

17.28 Thana Health Administrator will be responsible to the Deputy Director of PCFP programme in respect of PCFP programmes and the Civil Surgeon in respect of health programmes.

17.29 The grass-root level team will be responsible for all aspects of health and family planning services as well as for recording and reporting births, deaths, marriages, divorces, etc. Union level supervisors shall work under supervision of and in close collaboration with the Union Parishads.

17.30 All eligible couples shall be registered at the village level and the team workers should regularly contact them in their respective areas to ensure delivery for health and family planning services and supplies, and recording vital events. The Local Government Institutions should review the monthly progress of the Health and Family Planning Programme and vital events reported by the field workers and others; and devise ways and means to achieve the targets in case of default.

17.31 *Other Arrangements for Service Delivery*: Additional outlets for clinical services including IUD, injectibles, and sterilization will be created by registering qualified private practitioners and providing them with training and necessary support including credit facilities for equipping their clinics.

17.32 Menstrual regulation facilities will be provided through the family planning clinics, family welfare centres, health centres and hospitals, etc.

17.33 Arrangements will be made to set up contraceptive industry in the country. As a preliminary step, feasibility studies for manufacturing of oral pill and condom locally will be undertaken.

17.34 Service delivery will be provided through all labour welfare centres, port hospitals, railway hospitals, hospitals/clinics in organised industrial and plantation sectors, hospitals of the Armed Forces, Bangladesh Rifles and Police.

17.35 Bond scheme for sterilization of couples having 2 or 3 children only will be introduced.

17.36 *Information, Education and Motivation (IEM)*: IEM activities of the Population Control Division will be further strengthened and intensified during the Plan period. The IEM programmes will concentrate on interpersonal communication and group meeting with the community leaders and target population by the field workers. The IEM efforts of the field workers will be backed up by the establishment of mobile units attached to Divisional and District Offices of the PCFP programme. A communication resource centre consisting of documentary films, books and journals will be established in the Central IEM office.

17.37 The IEM Unit will continue to produce journals and other materials such as posters, leaflet, flannel graph and use indigenous media including folk media, for dissemination of population information. A production unit including a press, laboratory, etc., will be established.

17.38 The IEM unit will also provide support to and keep liason with the multi-sectoral agencies and other voluntary organisations engaged in population related activities.

17.39 IEM activities of the multi-sectoral programmes will include population education in formal school system, population information through Radio and Television, production of population films for use in the cinema halls and vans, creation of informed groups as change agents including primary school teachers, members, trade union leaders and the like.

17.40 *Training* : In order to ensure the achievement of accelerated quantitative and qualitative target, training and personnel development is a basic requirement. For this purpose, all existing institutes under the PCD, namely (i) NIPORT, (ii) 12 FWVTIs, (iii) 24 District Training Centres and those of the Health Division, namely (i) NIPSOM (ii) Paramedical Institutes, (iii) College of Nursing, (iv) Institute of Public Health Nutrition, (v) Medical Assistant Schools should be re-organised under the integrated Health and Family Planning Programme. For this purpose a manpower development policy needs to be developed with specific responsibility to each of the institutes.

17.41 In addition to formal training in the institute, informal and on the job-training, particularly for the field workers should be ensured. Currently, there are 15,953 trained Traditional Birth Attendants (TBA), 8,000 Dais, 12,337 FWAs, 4,392 FPAs, 2,722 FWVs and 13,500 FWWs. All these categories need training and retraining. In all, there will be 1,000 Medical Assistants and 4,664 FWVs by the end of the Plan period. There is a need for proper training for these functionaries. Also, the trainers in all the training institutes will require re-training themselves in order to improve their training capabilities. Appropriate training courses should be organized at various Universities and also, if necessary, outside the country.

17.42 NIPORT should undertake the management training of the thana, subdivision and district level officers of the population programme. It should have a core of well-trained instructors to impart training.

17.43 *Research and Evaluation* : In recognition of the importance of research and evaluation as an essential component of population planning and on the basis of past experience, five major areas of research needs have been identified, viz.;

(i) Demographic and social research,

(ii) Research in human reproduction and contraceptive technology,

(iii) Operations research,

(iv) Research and training,

(v) Evaluative research.

17.44 On the basis of these requirements, the following functions are proposed for the concerned institution's/organizations during the Second Five Year Plan :

(i) Research on human reproduction and contraceptive technology with special reference to safety, effectiveness and acceptability of different contraceptives in our socio-cultural context, and research on contraceptive prevalence, management of family planning programme, contraceptive distribution system, training etc., should be conducted by the NIPORT. Management related research may be undertaken directly by NIPORT or in conjunction with the Centre for Population Management and Research of the IBA and other research organizations.

(ii) MIS Unit of the Population Control Division should be further strengthened and an adequate mechanism should be evolved to collect and analyse necessary service statistics befitting to the management, monitoring and internal evaluation needs of the programme.

(iii) The Population Study Centre should be developed as an effective and useful research institution on the basis of a review of its objectives in the light of our population policy and programme needs.

(iv) The Population and Development Planning Unit of the Planning Commission will undertake research on the relationship between population and development, develop a population related data-bank and suggest policy measures.

(v) The Statistics Division should continue to conduct population census, sample surveys, intercensal studies, and collect vital events. Computer facilities under this Division should be further strengthened so that various population related research and evaluation units may have terminals in their respective offices to facilitate data processing.

(vi) The Universities and their various departments and institutes like ISRT, Institute of Social Welfare and other institutions like IPGMR, Medical Colleges etc., may conduct social, demographic and bio-medical research, as the case may be.

(vii) For the purpose of monitoring, every population programme including the multi-sectoral projects should have built-in research and evaluation component. The Evaluation Unit of the population Planning Section should be further activised for more effective external evaluation of population sector programmes.

Policy Planning and Co-ordination

17.45 *Policy*: Since the announcement of the national population policy in June 1976, the Government has maintained a pragmatic approach to population policy responding to the changing socio-economic and administrative conditions. The population control and family planning programme has been accepted as an integral part of the national development plan. While multisectoral in approach, the Population Division, for its clinical services, will maintain liason with the Health infrastructure. The programme is integrated with MCH and nutrition care and is community-based and domicilliary-service oriented with "cafetoria approach" providing all available family planning methods. While the broad policy directions still remain generally valid, in view of newer strategies and approaches envisaged in the Plan, the existing policy should be reviewed, revised and updated and appropriate steps to integrate population policy with the policies and programmes of the development ministries need to be taken to make attainment of the national demographic goal easier.

17.46 *Planning* : The project and programme planning system will require considerable rationalization and improvement. If the goals of drastic fertility reduction are to be achieved during the Plan period, the supportive role of the Population Planning Section, Planning Commission, needs to be closer with the Population Control Division. The Planning Cell of Population Control Division, the Project Finance Cell and programme development units particularly IEM and Family Planning MCH units need to be considerably streamlined and geared up. Similarly, the Planning Units of all the Ministries concerned with multi-sectoral population programmes will have to be given necessary orientation to evolve within their own areas of activities programmes having expected population implications. Population Control Division will also have to function more effectively in monitoring schemes and programme-implementation activities. Such monitoring should be carried out in relation to a clearly delineated action plan showing the envisaged targets, resource requirements and also a time frame. Towards creation of a sound and specific basis and context for purposes of monitoring aiming at obtaining perceptible results, a mid-term implementation plan will be formulated within the five-year plan framework.

17.47 *Co-ordination*: Co-ordination is important for monitoring and enlisting public support for the programme at various levels. This is supposed to be done at the district and thana level by the District and Thana PCFP Co-ordination Committees headed by the Deputy Commissioner and the SDO/TNO respectively. Activities of the committees need to be revitalized and adequately geared up to play an expanded role to be able to effectively monitor and coordinate the integrated health and population control programme at their respective levels. The district and thana level officials of all population sector-programme should be made accountable to these committees for achievement of their district targets. The district level committees should have direct functional links with the PCFP Central Co-ordination Committee. In order to ensure effective coordination, multisectoral agencies should submit their implementation and performance report and financial statement to the Population Control Division with copies to the Population Section, Planning Commission on regular basis.

17.48 *Physical Facilities* : During the Second Five Year Plan period, 1,500 Family Welfare Centres, 19 FPA and FWA Training Institutes and one Population Building will be constructed. Besides, renovation/reconstruction work of 1,275 Rural Charitable Dispensaries will be taken up. The construction work of 4 model clinics attached to four medical colleges and 8 FWV Training Institutes will also be completed. With a view to reducing continued dependence on hired accommodation, to house population control and family planning net-work including clinical services, creation of own physical facilities in phases under the programme by way of construction of buildings will be considered. In order to avoid delays in actual execution of such construction, which is highly detrimental to the programme, efforts will be made to evolve a system of taking up construction directly under the auspices of the Population Control Division outside the normal PWD mechanism.

Role of Various Ministries

17.49 Within the basic programme strategy the various multi-sectoral agencies are expected to undertake the following assignments under the overall co-ordination of the Population Control and Family Planning Division :

(i) *Health Division*: It will be responsible to provide institutional health facilities including doctors for family planning clinical service, particularly for sterilization, M.R. and management of complication arising out of clinical

contraception. It will ensure necessary co-operation for implementing the integrated programme of health and family planning. Requied number of beds should be kept reserved for sterilization cases in all hospitals and the Thana Health Complexes.

(ii) *Ministry of Finance and Planning*: It will be responsible for the preparation of population plan documents, estimating demographic variables, external evaluation of population programmes, demographic studies, population studies in relation to development, census and collection of vital data.

(iii) *Ministry of Local Government, Rural Development and Cooperatives*: It will implement the women's cooperative project and any other project, complementary to the Population Programme, included in the Plan.

(iv) *Ministry of Education and Religious Affairs* : It will complete the population education project envisaged to induct population education in the formal school system and would also undertake relevant research activities in the area of population education. It will also develop programme for training in population related matters for the Imams, Madrasha teachers, etc.

(v) *Ministry of Agriculture* : It will implement the on-going project on family planning and nutrition education in collaboration with the agriculture extension programmes.

(vi) *Ministry of Information* : It will implement tht on-going population projects with the Radio, Television, Department of Mass Communication and Films and other mass media agencies.

(vii) *Ministry of Social Welfare and Women's Affairs* : It will implement the on-going project of Mothers' Clubs. It will also implement the programmes organized by the Women's Rehabilitation and Welfare Foundation and other women's organizations. It will provide supportive services in collaboration with PCFP Division to women's organizations for better designing and marketing of products.

(viii) *Ministry of Labour and Manpower* : It will implement the on-going family planning projects in Labour Welfare Centres and will develop new programmes for organized industries and plantation areas.

17.50 In addition, service as well as motivational MCH and family planning programmes will continue to be carried out under the auspices of the Ministry of Defence, Home Affairs, Works and Railways. A special MCH programme for the Chittagong Hill Tracts will be undertaken by the Ministry of Cabinet Affairs Division.

Social Measures

17.51 In support of population control and family planning certain social measures are proposed below:

(i) Status of family planning workers and family planning acceptors is important for a widespread expansion of the programme. The family planning acceptors, particularly those who have received permanent method or practised family planning continually for, at least, five years should be given preferential treatment in all government facilities, *e.g.* allotment of accommodation, medical

care, educational facilities, etc. Family planning acceptors should be encouraged to form Mothers' Clubs and Fathers' Clubs to promote responsible parenthood, to act as interest-group for family planning acceptors, and to organise sports, cultural and income-generating activities.

(ii) A high social status of women is favourable towards family planning. Women's education and training for income-earning activities are primarily responsible for enhancing women's social status. Therefore, not only the existing programmes in the Women's sectors should be augmented but also new educational and training opportunities for women should be opened. In secondary and higher secondary level (Class VIII and above), female students of poorer families should be supported by stipends adequate enough to provide tuition fees, books, stationery and uniform. To encourage higher education to women and thereby late marriage, bright female students of poorer families should be given financial support on condition that they marry only after completion of studies. Liberal supports should be given to women's vocational and skill training programmes specially in the rural areas. Unmarried and trained women should be given preference in jobs. There shall be a specified minimum quota fixed for women in different categories of jobs. In certain categories of jobs, like primary school teachers, even up to 100 percent of vacancies may be reserved for women.

(iii) Appropriate incentive system should be associated to community level late-marriage and birth-moratorium programme. Various social reformist movements should aim at raising age of marriage for girls at 23 and 21 in urban and rural areas respectively. Institutional support for such movement should be introduced during the Second Plan Period. The leading women's organisations should play an important role in this respect.

(iv) Religion plays crucial role in family life. Religious leaders particularly from Madrashas, Mosques and other institutions should be trained and involved in activities supportive to family planning.

(v) Population explosion is a national problem of such magnitude that its solution requires full support of all socio-political groups. Therefore, the main contexts of the family planning programme should accordingly be oriented towards mobilizing supports for the implementation of the family planning programmes.

(vi) Programme should ensure old-age security through bonds, insurance or pension for the acceptors of permanent methods with age and parity limitations.

(vii) A system of individual, group and community award system recognizing outstanding contribution towards the achievement of demographic goal should be introduced. Similarly family planning field workers also should be awarded in a generous way for their outstanding achievements.

Legal Measures

17.52 In support of population control and family planning, the following legal measures are proposed:

(a) *Age of Marriage and Vital Statistics*: Minimum legal age of marriage be raised for females from 16 to 18 and for males from 18 to 21 and measures be included to enforce the same. Certain amendments be made in the

vital registration law including birth and death registration and requirement of birth certificate or equivalent evidence of ascertaining age for marriage and for other public purposes, such as admission in school, appointment in government service, issuing of passport, etc. Death certificates would be required for settling legal matters, particularly inheritance.

(b) *Law relating to Maternity Benefits*: Amend the law relating to maternity benefits to limit the same to the third child, if the earlier two are alive.

(c) *Incentives and Disincentives*: The following incentives and disincentives are recommended:

(i) *Income Tax* : Amendment of section 15 of the Income Tax Act to allow benefits up to 3 children in case of children already born and up to two children in case of born after the amendment comes into force.

(ii) *Ration Card* : This benefit may be limited to two children and to a maximum of five members in the family both in the statutory and modified rationing areas.

(iii) *Conservance Tax* : Conservance tax should be determined on the number of occupants in a holding.

(iv) *Overseas Posting*: Preference should be given to government servants with smaller family members.

(v) *Appointment in Government Service* : Preference to be given in general to single candidate rather than married person in all appointments under the government and autonomous bodies.

(vi) *Allotment of Government Housing* : No consideration should be given to large family, rather preference be given to small family in allotment of government housing.

(vii) *Charges for Maternity Services* : After the second child a rate of graduated fees may be charged for the third and subsequent deliveries and similarly no paid maternity leave be granted to government employees after the second child.

(viii) *Protection of Maternal Health by Medical Termination of Pregnancy (MTP) under Certain Circumstances* : Medical termination of pregnancy within 16 weeks, to protect the health of the mother when there is a risk of the child being born deformed, under certain socio-economic conditions, like pregnancy occuring out of rape or incestuous relationship be allowed by authorised medical practitioner/and paramedics.

Financial Outlay

17.53 A sum of Tk. 310·00 crore at constant price of 1979/80 has been allocated during the second Five Year Plan to implement the development programmes of population control and family planning sector. Out of the total cost, the estimated requirement of the multi-sectoral programmes will be approximately Tk. 35·00 crore.

Phasing of the sectoral allocation both in constant price of 1979/80 and current prices is given in the following Table :

TABLE 17·5

Annual Phasing of the Financial Outlay

[Tk in Crore]

Prices	1980-82	1982/83	1983/84	1984/85	Total (1980-85)
Constant prices ..	80·14	72·58	74·84	82·44	3,10·00
Current prices ..	86·55	85·65	92·80	1.03·00	3,68·00

CHAPTER XVIII

SOCIO-ECONOMIC INFRASTRUCTURES

A. SOCIAL WELFARE

18.1 Traditionally Social Welfare Programmes have given emphasis on providing limited assistance to vulnerable groups like physically handicapped, vagrants, destitute and criminals and those services had the basic character of charity and relief. Moreover, such organised welfare services were mainly confined to urban areas. In recent times, there had been major shift in the orientation of social welfare. The current outlook at social welfare stresses on providing welfare not only as provision of benefit to deserving people, but also to bringing about changes in those elements of social structure which are responsible for their deprivation and exploitation. Such re-orientation is more important for a developing country like Bangladesh where abject poverty, population explosion, rising unemployment and under employment etc. have given rise to complicated socio-economic problems threatening the very foundation of the social fabric.

18.2 The scope of social welfare programmes in the Second Five Year Plan has been broadened for meaningful rehabilitation of the by-passed segment of the population in line with changed philosophy of social welfare. Disabled and handicapped persons will be brought under self-reliance programme and efforts will be made to rehabilitate beggars, destitutes and other socially neglected and deprived population. Since bulk of the population live in rural areas, more emphasis will be given on rural biased programmes.

Review of the First Five Year and Two Year Plans

18.3 A total of Tk. 1321·72 lakh was allocated in FFYP of which Tk. 1227·25 lakh was spent. During the first year 1978/79 of the Two Year Plan an amount of Tk. 435·00 lakh was allocated for this sub-sector out of which Tk. 380·76 lakh was spent, representing about 88 percent of allocation. An amount of Tk. 864·26 lakh has been allocated during the year 1979/80 and Tk. 755·28 lakh has been spent.

Objectives of the Second Five Year Plan

18.4 The objectives of the social welfare programme in the Second Five Year Plan are as follows:

(i) Helping the physically, socially and economically handicapped persons to be self-reliant and productive citizens;

(ii) promotion of comprehensive rural development by assisting the disadvantaged groups like landless families, out of school children and destitute women through training in selected vocations/trades for enabling them to undertake income generating activities;

(iii) promotion of community development activities among the urban poor to raise their standard of living;

(iv) provision of care, protection and educational facilities to children without care to make them useful and productive;

(v) provision of care to retarded children for the rehabilitation in the society;

(vi) provision of training for rehabilitation of vagrants and beggars as a first step towards solving the problem of vagrancy; and

(vii) financial assistance to voluntary social welfare service organizations.

Strategies of SFYP

18.5 Experiment shows that education and training however well meaning has not been effective in motivating hungry people towards rehabilitation. Therefore, the people below poverty line by our national standard will be provided with some income so as to prepare them to receive further aid towards rehabilitation as active citizens. As a first step, the people who are at the critical subsistence level will be identified and located through surveys and will be helped to be organized and motivated for earning more income, acquisition of better skill through training and arrange to meet their other basic social needs on self-help basis.

18.6 It has been observed that the help and assistance given to destitutes and orphan children through orphanages and destitute homes carries a social stigma-thereby alienating the orphanage and destitute-home brought up children from the society. A new approach replacing the current humiliating institutional arrangement by the provision of a more honourable system of child care is, therefore, necessary. This can be done by re-orienting the orphanage and destitute-homes as children Home (Shishu Sadan). This approach would encourage integrated upbringing of orphanage and destitute children with other children of the surrounding community.

18.7 Beggary is a deep-rooted socio-economic problem which has been looked upon contemptuously by the society. The problem of beggary and vagrancy has to be tackled wih sympathy and understanding and in the economic backdrop of the country. Specific measures will be taken to develop the beggars and vagrants as potent human resources with remedial welfare, rehabilitation and skill development services. In order to do so, some Vocational Traning-*cum*-Rehabilitation Centre will be set up (especially in areas where the Vagrancy Act is in operation) to train the Vagrants in useful trades, so that they can earn their living and rehabilitate themselves as normal members of the society.

18.8 The whole approach of social welfare will be built upon the idea of rehabilitating the poor and the disadvantaged group of the society as worthy members of the society rather than on a sympathetic feeling mixed with pity.

Major Programmes of SFYP

18.9 *Rural Social Services and Community Development*: The programme envisages to promote comprehensive rural and urban development with special emphasis on assisting the disadvantaged groups like out-of-school youth and children, the women and the landless destitute families to organize and develop their social, functional, economic and productive capacities. It has been envisaged to cover 65 rural thanas and 12 more urban co mmunity centres in subdivisions during the Plan Period under this programme.

18.10 *Social Service for Children*: Care and protection centres for the street urchins, needy and destitute children with a basis towards scientific and technical education will be established to take care of the target group during the Plan Period.

18.11 *Social Welfare for Handicapped People*: The programme envisages skill training and meaningful rehabilitation of the physically handicapped. Under this programme one workshop-*cum*-factory at Tongi with its four subdivisions at four RSS thanas will be established. For blind and deaf children special programme will be taken up to give them opportunities to develop their skill with a view to rehabilitating them in the society

18.12 *Social Rehabilitation and Treatment of Diabetic Patient*: Under this programme 150 indoor beds with provision for treatment and care will be made in the Institute. The programme also provides for prevention and control of diabetic mellitus and related disorders and educational, vocational and social rehabilitation of diabetic patients.

18.13 *Training and Rehabilitation of Beggars and Vagrants*: This is a new approach towards eradication of beggary from the country through community organization. Under this programme efforts will be made to eradicate beggary and vagrancy gradually by mobilizing public opinion against unorganized alms giving and encouraging the community to take up responsibility of its disabled members through organised charity. Able bodied beggars and vagrants will be imparted training in useful trades and will be rehabilitated in society.

18.14 *Social Welfare Services by Voluntary Agencies*: No where in the world social services are entirely the responsibility of the Government. Voluntary social welfare Agencies play vital role in this field. In order to revitalise the Voluntary Agencies and equip them to take up their expected role in the society they will be given some financial assistance, especially in the programme of skill development and socio-economic development along with proper counselling, guidance and supervision.

Financial Outlay

18.15 A sum of Tk. 41·00 crores in 1979/80 prices has been allocated for implementation of the programmes of the social welfare sub-sector during the Second Five Year Plan and programme-wise allocation along with physical targets are mentioned below:

TABLE 18.1

Programme-wise Allocation and Physical Targets of SFYP

[*Tk. in lakh*]

Programme	Physical targets	Financial allocation (1979/80 prices)
1. Rural Social Services and Community Development ..	67 units	15,51·26
2. Social Services for Children	14 units	2,03·23
3. Social Welfare for Handicapped People	12 units	4,13.97
4. Programme for Training and Rehabilitation of Vagrants and for eradication of Beggary.	14 units	193·47
5. Social Welfare Services for orphan, destitutes and other disadvantaged population.	70 units	600·79
6. Programme for Social Rehabilitation and treatment of diabetic patients	1 unit	11,37·28
	Total ..	4,100·00

TABLE 18.2

Year-wise Phasing of Allocation

[Tk. in lakh]

	1980–82	1982/83	1983/84	1984/85	Total
(i) Constant prices	14,61·91	6,46·35	8,71·26	11,20·48	41,00·00
(ii) Current prices	17,29·62	9,04·90	13,67·88	18,97·60	59,00·00

B. WOMEN'S AFFAIRS

18.16 Women constitute just about one half of the total population. Problems affecting women's economic and social status in Bangladesh are many. Traditionally women have remained out side the main stream of development activities. They are at present bound in a cobweb of social limitations affecting their whole life. The situation is further complicated by their own vulnerability. Social taboos, illiteracy, lack of training and therefore, unemployment have forced them into a precarious state of dependency.

18.17 Only 13·7 percent of the women population are literate compared to 30 percent of men. Out of 70 lakh primary school students and 40 lakh secondary school students only 27 lakh and 7 lakh are women respectively. In higher education the gap is even wider. Participation of women in income generating activities is equally poor. Out of a total labour force of 2·52 crore only 0·60 crore are women. Development problems in a traditional society like that of Bangladesh are so diverse complex and pervasive that to ensure a balanced socio-economic development of the country full participation of women is an absolute necessity.

18.18 But until very recent years no specific role was visualized for women. Though some programmes to improve their lot were initiated towards the end of the First Plan, the overall situation remained unchanged. It is now felt that more dynamic and diversified programmes are needed for meaningful participation of women in the development process.

Objectives of the Second Five Year Plan

18.19 The objectives of the Second Plan are:

(i) creating an atmosphere of social psychology that will make women's participation in development activities increasingly possible;

(ii) expansion of educational opportunities and specialised training for the enhancement of their role in the society as an agent of change;

(iii) expansion of facilities for skill formation and credit for women's increased participation in income generating activities; and

(iv) provision for better protection and care of children.

Strategies of SFYP

18.20 The strategies to be adopted to attain the Second Plan objectives are:

(i) An integrated multi-sectoral approach involving population, health, education and employment sectors will be taken up for engaging more and more women in nation building activities.

(ii) All training-*cum*-production programmes will have a non-formal educational component covering literacy, health, nutrition, family planning, agricultural extension and self-reliance.

(iii) Income generating activities for women will be given emphasis and programme will be designed to develop new technology for the improvement of traditional skills of women which are on the wane.

(iv) Programmes would be developed to make home the basic unit of production for which household or area-based cottage industries will be developed. In urban, and other areas where outdoor works for women are available day-care centres for children and career women's hostel would be set up.

(v) Arrangement will be made to provide women with easy credit through the rural banking system. A special credit scheme for business women will also be launched to finance small and medium level service indutsries to be run by women and women co-operatives.

(vi) Association of women's organisation with the development activities of the local Government bodies, specialized agencies like village Co-operative Committee, and non-Government organisations will be ensured.

(vii) A National Council may be formed to co-ordinate the activities of various women's organiszations and assist the Government in the formulation of national policies regarding women's uplift and improvement of their economic and legal status.

Second Plan Programme

18.21 *Skill Development Training and Production Centres for Women* : (i) Under the Second Five Year Plan the number of skill development training centres for women will be raised to 250, of which not more than one in a district will operate at union level. In these centres about 37,500 women will receive training in every year and the total number of trained women is expected to reach 1,87,500, at the end of the Plan Period. The major areas of training will be raising poultry dairy, animal husbandry, garments making, food processing, family planning, nutrition, basic health care, adult literacy and co-operatives, etc.

(ii) In order to fillup at least 50 percent of future vacancies of primary teachers by female teachers during the Second Five Year Plan period a crash programme for female teachers training will be organized. About 20,000 female teachers are expected to be trained during the Plan period in the 47 existing PTIs to meet the female quota of primary teachers.

(iii) A number of farms for the purpose of raising poultry and dairy manned and managed by women may be established for gainful employment of rural women.

(iv) Considering the acute problem of accommodation for working women, four career women's hostels will be established during the Plan Period. In addition, four destitute homes and four low-cost hostels for job-seeking women will also be established.

(v) Information on women's status and their role in socio-economic activities are very scarce, far less is understood about the cultural and belief systems that affect the social attitude towards women and in turn, their awareness, of social problems. In fact, the inertia of a traditional society transcends family institutions so much that more research activities need to be directed towards the women society. Special research programmes catering to the needs of women will be undertaken.

(vi) To increase employment opportunities for women, specific small industries like garment factories, fruit processing units, electronic repair shops etc. will be sponsored. In established units reservation for women will be earmarked.

(vii) Four Academies for instructor training, skill development and leadership training will be established in four divisional headquarters. Facilities in existing training institutes will be used to improve skills of women.

18.22 *Children's Programmes*: To provide the basic minimum services to the children for their proper growth, the Plan emphasizes family welfare, nutrition training and day care services, Besides, to ensure the security of the children of low paid working mothers, twenty day-care and day-nurseries will be opened in the industrial areas of district towns where the concentration of women labour is high. 21 more branches of Bangladesh Shishu Academy will be opened at the district level for physical, moral and cultural upliftment of children.

Financial Allocation

19.23 An allocation of Tk. 22·00 crore (at 1979/80 prices) has been provided for financing the projects of this sector during SFYP:

TABLE 18.3

Year-wise Phasing of Allocation

[Tk. in lakh]

	1980–82	1982/83	1983/84	1984/85	Total (1980–85)
(i) Constant prices	9,56·65	3,41·11	4,15·03	4,87·21	22,00·00
(ii) Current prices	11,26·80	4,77·56	6,51·59	8,44·05	31,00·00

C. YOUTH DEVELOPMENT

18.24 Youth is the most potential and viable human resource of the country and the population in the group is increasing very rapidly. The youth in the age range of 15—30 years constitutes nearly 25% of our total population and 90% of them live in rural areas most of whom neither attend any institution nor have much opportunity to learn any skill to engage themselves in productive activities. A vast majority of youth have remained outside of the main stream of the country's development activities. Many of them live in severe poverty. Consequently their attitudes and values have become regressive and is not too distant a future, they may pose as a threat to social order. On the other hand, the youth has the vigour and vitality: they can be turned into a great productive force if organised and mobilized properly.What the youth needs is a sense of direction and scope for participation in the organised activities leading to their moral, physical, mental, social and economic development.

18.25 A disciplined, properly organised and trained youth can take part in and make contribution to the development process of a nation. Sustained economic progress is in a country like ours can be achieved by harnessing and utilizing the potentialities of the youth force by developing knowledge and skill with inculcation of appropriate values and attitude.

Objectives of the Second Five Year Plan

18.26 The objectives of the Youth Development Programme during the Second Five Year Plan Period are as follows:

(i) to mobilize the youth population and to inculcate in them a sense of identity and self-reliance with a unified direction for their own and national development;

(ii) to organize the youth for various economic activities and social services and involve them in the execution of development programmes in their respective areas;

(iii) to train the youth force in agriculture, livestock, poultry farming, fisheries and co-operatives so that they can meaningfully employ themselves; and

(iv) to train educated youth in vocational trades, secretarial science and other skills to enhance for them job opportunities at home and abroad.

Strategies of SFYP

18.27 To achieve the above objectives, the following strategies will be followed:

(i) Youth forces will be utilized fully to ensure maximum contribution from them to the socio-economic development of the country.

(ii) Youth forces will be involved in rural farming, poultry and livestock raising and fisheries development.

(iii) To turn the youth into an effective force for utilization in development activities, major reliance will be placed on non-formal and vocational education to meet their felt needs.

(iv) Rural orientation will be essence of youth development planning so as to hit core of the problem.

Major Programmes of SFYP

18.28 The following major areas of programmes activities are envisaged during the Plan Period:

(i) *Socio-economic Progrmmes for the Youth*: Employment opportunities will be created for unemployed and under-employed youths through training courses in both traditional and non-traditional vocational crafts, based on local raw materials and available marketing facilities. Production programmes in cottage industries and short orientation courses will be organized specially in rural areas requiring minimum of skill and technology.

(ii) *Self-employment Assistance Programme* : Self-employment opportiunities will also be created for the youth. For this prpose a large number of youth will be trained in aricultural activities, livestock and poultry farming, fisheries, repairing of trawlers, automobiles electrical trades and other trades.

Financial Allocation

18·29 A sum of Tk. 19·00 crore (at 1979/80 prices) has been allocated for financing the projects of the sector during Second Five Year Plan.

TABLE 18·4

Year-wise Phasing of Allocation

[*Tk. in lakh*]

	1980-82	1982/83	1983/84	1984/85	Total (1980-85)
(i) Constant prices ..	1153·14	..	336·00	410·86	1900·00
(ii) Current prices ..	1356·76	..	527·52	715·72	2600·00

D. SPORTS AND CULTURE

18·30 Development of sports and culture forms an essential part of overall development as they make up the physical and mental health of a nation.The First Five Year Plan laid the foundation for development of essential elements of physical education and preservation and development of the country's cultural heritage.The aim of the Second Five Year Plan is to bring about qualitative improvement in sports and culture and provide for the expansion of physical facilities to meet its need. To achieve the objectives and to implement the programmes of this sub-sector, an allocation of Tk. 43·00 crore

(at 1979/80 prices) has been made in the Plan. The annual phasing of SFYP allocation for this sub-sectors is as follows:

TABLE 18.5

Annual Phasing of SFYP Allocation

[Tk. in crore]

	1980/82	1982/83	1983/84	1984/85	Total
(i) Constant prices ..	20·75	5·70	7·53	9·02	43·00
(ii) Current prices ..	24·22	7·93	11·82	15·87	59·84

(i) SPORTS

Review of Progress, 1973—80

18.31 Sports activities were organised for training of talented sportsmen and athlets but absence of adequate physical infrastructures like playing fields, swimming pools and gymnasia was badly felt. Physical infrastructure that was built during the plan period included development of all district and some subdivisional stadium, development of 133 thana school playgrounds, improvement of Dhaka National Stadium complex with hockey, boxing and weight lifting facilities, extension of National Sports Training and Coaching Centre, renovation and construction of galleries of Dhaka Stadium Swimming Pool and construction of a Cricket Stadium and a Women's Sports Centre at Dhaka. A major sports complex at Savar was to be set up with four regional centres but very limited progress has been made; so far sports gears were distributed among the seleted secondary school and rural games were organized for the primary school children. Apart from these, scouting activities were considerably increased.

Objectives of SFYP

18·32 The following are the major objectives:

(i) to attract and involve more and more men and women in sports activities;

(ii) to improve the standard of sports and games;

(iii) to pull best available talents in the field so as to build up the image of the country in this respect;

(iv) popularisation of inexpensive games and sports preferably indegeneous games among the rural masses of the country; and

(v) to use the surplus energy of the younger generation in the development of their mind and physique.

Strategies of SFYP

18.33 For the attainment of the above objectives, the following strategies will be adopted:

(i) Sports facilities will be developed by providing various infrastructures and distributing sports gears.

(ii) Intensive training courses will be provided for national players, coaches, umpires and others and work-shops will be organised.

(iii) Competitions of various games and sports will be organised for men, women and children all over the country.

(iv) More jamborees and camps will be organised and membership will be raised to develop the Boy Scout and Girls guide activities.

(v) The existing organisational net-work of National Sports Control Board will be extended upto thana level and further strengthened.

Programmes of SFYP

18·34 The facilities that are proposed to be created at national, regional, district, sub-division and thana levels will include at least one ground which can be used for football, hockey, kabadi, volleyball and athletic meets round the year. The National Stadium Complex will be further developed. Stadium at division, District and Subdivisional levels would be developed to expand sports activities and to organise important competitions.

18.35 The Physical Education College at Rajshahi will be made functional. Gymnasia at District level will be constructed. For identifying the talents in the field of sports, training will be arranged at the Division and District levels in 7 selected games. To attain a good standard in games and sports, training facilities will be provided for coaches and players of national teams and seminars/workshops will be organised. Secondary schools and colleges will be provided with sports gears. A programme will be taken up for development of activities of boy scout and girls guides. Construction of a multi-storied building for the Bangladesh Scouts will be completed during the Second Plan. Facilities for round the year practice of indoor games are necessary and an Indoor Stadium will be constructed at Dhaka. A programme will be taken up for development of lawn tennis complex, Squash complex, National Stadium complex and NSTCC building will be extended.

Financial Allocation

18.36 To achieve the objectives and to implement the programmes out-lined above, an allocation of Tk. 24·00 crore has been made in the Plan.

(ii) **CULTURE**

Review of progress, 1973—80.

18·37 a. *Library Development*: The work of Central Public Library at Dhaka and Rajshahi Public Library were completed during this period. Fifteen non-government public libraries were partially developed. The work of National Library at Dhaka could not make much progress. The Library Training Institute established during the First Five Year Plan is functioning.

18.37 b. *Publication and Cultural Activities*: Bangla Academy published a good number of books, periodicals and magazines. The effort made by the Shilpakala Academy to revive Jatra (opera) and indigenous songs and music was an important feature in maintaining cultural heritage. A Folk Arts and Crafts Foundation was established in Sonargoan, which organized seminars, exchanged delegations in this field and procured quite a good number of objects on folk arts and culture. To preserve the memory of our national leaders, construction of mausoleum was taken up.

Objectives of SFYP

18.38 The major objectives envisaged during the SFYP are as follows:

(i) to further develop Bangla language and literature with special emphasis on production and publication of Bangla text books for higher education;

(ii) to expand library services all over the country;

(iii) to develop and promote the fine arts and performing arts of the country; and

(iv) to preserve national history and heritage and memory of the national leaders.

Strategies of SFYP

18.39 To attain the above objectives the following strategies will be adopted:

(i) In addition to its normal functions, Bangla Academy will have separate institutional arrangement necessary for further development of Bangla language and literature.

(ii) Libraries will be established at National, Divisional, District, Subdivision and Thana level.

(iii) Programmes in different cultural fields will be organised by Shilpakala Academy and Performing Arts Academy for projection of national and regional culture and to raise national troups.

(iv) Construction of National Museum will be completed and museum objects will be collected for preservation and protection of national heritages.

(v) Mausoleums will be constructed for departed national leaders.

Programmes of SFYP

18.40 The cultural programme for the Second Plan will have the following major components:

(i) *Language and Literature*: In order to further develop Bangala literature, the available institutional facilities are to be rationalised and additional programmes would be taken up. Bangla Academy would be responsible for:

(a) research, publication, compilation etc. in the sphere of Bangla language and literature; and

(b) preparation, production and distribution of Bangla text books for higher education.

The National Book Centre, an organisation for book promotion, will be charged with training and coordination of book business both public and private. It will ultimately be a self-financing organisation.

(ii) *Library and Archives* : The programmes will include the development of Central Public Library at Dhaka, divisional libraries and selected district, subdivisional and thana libraries and training programmes for librarians and books for all libraries.

The National Library will be developed to make it the largest depository of books and periodicals in the country. It will form the apex of the library system. The National Library and the National Archives will be developed as twin sisters organisation sharing common facilities.

(iii) *Fine Arts and Performing Arts*: Sports and Culture Division will prepare a plan for construction of a complex at the present site of Shilpakala Academy. This complex will house Bangladesh Shilpakala Academy (with which the National Academy of Performing Arts will be merged), Shilpacharja Zainul Abedin Museum and Nazrul Institute. Shilpakala Academy will play a pivotal role to encourage and promote growth of arts and culture. The Academy will undertake promotional activities through a system of regional Shilpakala Parishad established at District and Subdivisional levels and will take up programmes for organising competition particularly in rural areas in the field of popular arts. The Nazrul Bhaban will be renamed as Nazrul Institute and determined efforts will be made for preservation of and research on Nazrul songs and his other works.

(iv) *Development of Museum and Shrines*: Bangladesh has inherited a rich legacy of cultural properties which need to be preserved. A programme will be taken up for completion of the National Museum at Dhaka, procurement of museum objects and development of Folk Arts and Crafts Foundation. The Department of Archaeology and Museum will continue to preserve the properties that have been or may be found in the country. The programme will include survey of archaeological sites and monuments, development of archaeological laboratory renovation of archaeological monuments and Mausoleum on the mazar of the national leaders taken up earlier will be completed.

Financial Allocation

18.41 To achieve the objectives and to implement the programmes of Culture Subsector, an allocation of Tk. 19·00 crore (at 1979/80 prices) has been made in the SFYP.

E. MASS MEDIA

18.42 With the decentralization of administration and diffusion of development process, mass media such as radio and television will have a greater role to play in bringing people and the Government into effective communication through T.V. and radio programmes and other projects of Information and Broadcasting Ministry.

Review (1973--80)

18.43 *Television*: The planned programme for Television, which is one of the most powerful mass communication medium of motivating people in nation-building activities as well as for imparting non-formal education, provided for improvement of the facilities at the Dhaka Central Station and establishment of four relay stations at Natore, Sylhet, Chittagong and Khulna to bring almost 80 percent of population under T.V. coverage. During the First Plan period the Dhaka Central Station located in the Dhaka Improvement Trust building was shifted to the newly constructed Rampura T.V. Station in February, 1975 and all the four relay stations at Natore, Chittagong, Sylhet, and Khulna were commissioned. Under the Two Year Plan Rangpur and Mymensingh stations were commissioned and thus the T.V. coverage was raised to 85 percent of the population.

Besides this, all the ancillary works of the project "Dhaka Television at Rampura" was almost completed and the project for the establishment of the second channel at the existing Dhaka Central Television Station for production and broadcasting of special types of rural development oriented programmes was partially completed.

18.44 *Radio*: During the First Five Year Plan Period the 1000 KW Medium Wave Transmitter of Radio Bangladesh at Nayarhat, Dhaka and the 10 KW Medium Wave Transmitter at Khulna were commissioned and thus the total transmitting capacity was raised from 355.5 KW in 1972/73 to 1365.5 KW in 1977/78. Under the Two Year Plan one 20 KW Medium Wave Transmitter at Sylhet was installed raising the capacity from 1365.5 KW to 1,380 KW (excluding the replacement of the 5 KW MW Transmitter at Mirpur, Dhaka). The number of F.M. Transmitters in the country was 9 in 1977/78 with total capacity of 13·5 KW and the same was increased to 11 in 1979/80 with total capacity of 13.8 KW. Details are furnished in Appendix Table 18·1.

18.45. *Mass Communication*: For mass communication through T.V. and Radio broadcasting services, 1,210 sets of Television (610 free of cost and 595 at 50% subsidised rate) and 4,500 sets of radio (free of cost) were distributed during the First Plan Period. During the Two Year Plan Period a further number of 4,340 T.V. sets was distributed (800 set free of cost and the rest 3,540 sets at 50% subsidized rate).

Second Plan Objectives and Targets

18.46. *Bangladesh Television*: Bangladesh Television has 7 T.V. Stations with Dhaka as the originating station and Natore, Sylhet, Chittagong, Khulna, Rangpur and Mymensingh as 6 relay stations. These stations cover 85 percent population of the country. A programme has been included in the Second Five Year Plan to establish 5 more rebroadcast relay stations to ensure 100 percent coverage. Transmission through Second Channel (Phase-I) at the existing Dhaka Central Television station for broadcasting of special types of rural development-oriented programmes such as necessary food production, family planning, formal, non-formal and adult education and farm broadcast was started during 1980/81 and the construction of studios and all other associated works (Phase-II) will be completed during the Second Plan period. Necessary provision has been made in the Plan for introduction of colour transmission and replacement of old and worn out T.V. equipment. The details of the existing position and proposed targets are furnished in Appendix Table 18.2.

18.47. *Radio Bangladesh*: At present there are 9 Medium Wave Transmitters with a total transmission capacity of 1,163 killowatts (details shown in Appendix Table 18·3) which provides for first class signal to 80 percent population. During night time the coverage shrinks remarkably due to the ionospheric variations, soil conductivity, co-channel interference and interferences of the high power transmission of the neighbouring countries. In order to improve the situation and to provide a first class signal to the entire population three Medium Wave Transmitters, viz., 100 KW at Khulna, 100 KW at Bogra, 20 KW Medium Wave at Rangpur and four low power Medium Wave Transmitters will be located at different places. The low power transmitters will be used for promotion of local culture and tradition. Thus the total Medium Wave Transmission capacity in the country

will be raised from 9 transmitters at 7 stations with 1,163 KW capacity in 1979/80 to 14 transmitters at 10 stations with 1,412 KW by 1984/85. At present 4 Short Wave Transmitters of 217·5 kilowatts capacity (two transmitters of 100 KW each at Savar one 10 KW and one 7·5 KW at Mirpur) are in operation and during the Second Five Year Plan period 2 Short Wave Transmitters of 250 KW each will be installed and thus the total number of Short Wave Transmitters will be increased to 6 with a total capacity of 717.5 KW. Details of the existing position and Plan targets are shown in Appendix Table 18.3. At present there are 5 broadcasting houses at Dhaka, Chittagong, Rajshahi, Sylhet and Khulna. The new broadcasting houses at Rangpur and Bogra and national broadcasting house at Dhaka will be established during the plan period.

18.48. *Department of Mass Communication :* The programme under this ageney includes (a) the distribution of subsidized T.V. sets to Local Governments at the primary level and other organisations engaged in development activities at different strata of the society. The object of T.V. Distribution is to create mass awareness and motivate people towards all sorts of nation-building activities. Through entertainment and education, the programme will enable to equip themselves with upto date scientific methods for utilization in productive fields especially agriculture, nutrition, hrealth care and family planning. Television will play a major role in distance learning systems as well. With this end in view a programme has been taken up to distribute 34,700 television sets during the plan period.

18.49. *Ministry of Information :* The establishment of a combined Academy at Dhaka for training the personnel of both Radio and Television will be completed. The work of compilation of documents of the History of War of Liberation will be completed during the plan period. Further, the Department of Films and Publication, Press Information Department (PID), Film Institute and Archives, Film Censor Board, Bangladesh Sangbad Sangstha (BSS) and Press Institute of Bangladesh (PIB) will be expanded and strengthened during the plan period.

Financial Outlay.

18.50. The total allocation for the Sub-sector is Tk. 77.00 crore (at 1979/80 prices). Annual phasing of the allocation at both constant and current prices are given below :

TABLE 18.6

Annual Phasing of SFYP Allocation

[Tk. in crore]

	1980/82	1982/83	1983/84	1984/85	Total
(i) Constant Prices ..	41·38	17·30	7·57	10·75	77·00
(ii) Current Prices ..	49·26	24·22	11·87	18·81	104·16

APPENDIX 18·1

RADIO BANGLADESH

Position of Radio Transmitters upto 1979/80

	Position in 1972/73 (KW)	Position in 1977/78 (KW)	Position in 1979/80 (KW)
Medium Wave :			
1. Medium Wave Transmitter at Nayarhat ..	..	1000	1000
1. MW Transmitter at Savar ..	100	100	100
1. MW Transmitter at Mirpur ..	5	5	2 (Replaced)
3. MW Transmitters of 10 KW each. ..	30 (Chattagong, Rangpur & Rajshahi).	30 (including 10 KW at Khulna.)	30
1. MW Transmitter at Khulna ..	1	11* (*1 kilowatt shifted to Rangamati).	10
1. MW Transmitters at Sylhet ..	2	2* (*Shifted to Mirpur).	20 (NEw)
1. MW Transmitter at Rangamati ..	..	..	1
Total Medium Wave ..	138 KW (7 transmitters)	1148 KW (9 transmitters)	1163 KW (9 transmitters)
Short Wave :			
2. SW Transmitters of 100 KW each at Savar ..	200	200	200
1. SW Transmitter at Mirpur ..	10	10	10
1. SW Transmitter at Mirpur ..	7·5	7·5	7·5
Total Short Wave ..	217·5 KW (4 transmitters)	217·5 KW (4 transmitters)	217·5 KW (4 transmitters).
Total Capacity ;	355·5 KW (11 transmitters)	1,365·5 KW (13 transmitters)	1,380·5 KW (13 transmitters)
F.M. Transmitters.	..	13·5 KW (9 Transmitters)	13·8 KW (11 Transmitters)

APPENDIX 18·2

BANGLADESH TELEVISION

Existing and Proposed Facilities in T.V.

Items	Position in 1977/78	Position in 1979/80	Proposed Target 1980/85	Proposed position in 1984/85.
1. Originating Station (Production facilities).	1 (One channel at Rampura)	1+1 (with the commissioning of 2nd channel, Phase—1)	Phase II of Second channel, at Dhaka.	2 channels completed.
2 Relay and Rebroadcast Stations	6 (Natore, Sylhet, Chittagong, Khulna, Rangpur & Mymensingh)	6	1 Relay station and 5 Rebroadcast stations.	12
3 Second Channel Broadcast facilities.	..	1 (at Dhaka ongoing station)	..	1
4 T V coverage (% of Population)	80%	85%	15%	100%

APPENDIX 18·3

RADIO BANGLADESH

Existing Transmitters and the proposed Targets for the SFYP

Location.	Position in 1977/78		Position in 1979/80		Targets 1980-85		Position in 1984/85	
	No. of Trans-mitters.	Power (KW)	No. of Trans-mitters.	Power (KW)	No. of Trans-mitters.	Power (KW)	No. of Trans-mitters.	Power (KW)
Medium Wave								
(I) Nayarhat, Dhaka ..	1	1000	1	1000	..	..	1	1000
(II) Savar, Dhaka ..	1	100	1	100	..	..	1	100
(III) Mirpur, Dhaka ..	1	5	1	2	..	..	1	2
(IV) Chittagong ..	1	10	1	10	..	..	1	10
(V) Khulna	2	11	1	10	1	100	2	110
(VI) Rajshahi ..	1	10	1	10	..	..	1	10
(VII) Rangpur ..	1	10	1	10*	1	20	1	20
(VIII) Sylhet ..	1 (*Shifted to Dhaka)	2*	1	20	..	..	1	20
(IX) Chittagong Hill Tracts	..	..	1 *(Shifted from Khulna)	1*	1	10	1	10
(X) Bogra	..	..	..	..	1	100	1	100
(XI) Comilla	..	..	..	..	1	10	1	10
(XII) Thakurgaon	..	..	..	..	1	10	1	10
(XIII) Cox's Bazar	..	..	..	..	1	10	1	10
Total Medium Wave :	9 (6 stations)	1148	9 (7 stations)	1163	7 (7 stations)	260	14 (10 stations)	1412
Short Wave :								
Savar, Dhaka ..	2	200	2	200	..	..	2	200
Mirpur, Dhaka ..	2	17·5	2	17·5	..	..	2	17·5
Kabirpur, Dhaka ..	..	..	..	..	2	500	2	500
Total Short Wave :	4	217·5	4	217·5	2	500	6	717·5
Grand Total (MW & SW)	13	1365·5	13	1380·5	9	760	20	2129·5
FM Transmitters (No)	9	13·5	11	13·8	4	0·6	15	14·4
Broadcasting House (No)	3 (Dhaka, Rajshahi & Chittagong)		5 (Including Khulna & Sylhet)		2 (Rangpur & Dhaka National Broadcasting House)		7	

* 10 KW Rangpur, 1 KW Rangamati would become obsolete during 1980-85

CHAPTER XIX

MANPOWER AND LABOUR

19.1 Development of skill and its optimum utilisation constitute one of the basic elements of economic growth and income generation. Enhancement of the volume of employment is an equally important factor in development. However, in the process of growth such opportunities will increasingly depend on both deepening and widening human skills. Generation of purchasing power among people through gainful employment will provide them access to the fruits of growth. Employment opportunities presently exist also outside the country with important implications for the national balance of payments. Further in the organized sector, there are other issues concerning labour productivity and performance. These relate to occupational hygiene and safety, health, and recreational facilities, working environment and labour relations—all affecting workers' morale and occupational conduct. Finally, there is the need for effective monitoring of labour productivity and employment for which an appropriate research network to help the development machinary has to be developed. Manpower and Labour sector covers the above areas of development.

REVIEW OF FFYP AND TYP

19.2 Prior to the First Five Year Plan, Bangladesh had only a small network consisting of one Industrial Relations Institute (IRI), 18 Labour Welfare Centres (including one for tea garden workers at Sreemangal), 5 Employment Exchanges, 4 Vocational Guidance and Youth Employment Units, one Management Development Centre and 5 Technical Training Centres as the constituents of the manpower and labour sector. These facilities and institutional arrangements were equipped, managed and run under severe constraints of both financial and human resources. Against this background, the First Five Year Plan allocated Tk. 27·69 crore with the objectives of expanding facilities for training engineering craftsman, raising the volume of employment, enhancing labour welfare facilities and cultivation of healthy labour relations. Subsequently, due to financial constraints the allocation was reduced to Tk. 12·00 crore in the Hard Core Programme and still further through the revised ADP's. Even then, on account of low allocation to the sector over a long period which led to a low absorption capacity of the executing agencies, the allocated funds could not be utilized fully. This is shown in Table 19·1.

TABLE 19·1

Financial Performance under the First Five Year Plan and Two Year Plan

[Tk. in lakh]

Year	Allocation		Utilisation
	Original ADP	Revised ADP	
1. **First Five Year Plan**			
1973/74	160·00	28·00	21·09
1974/75	150·00	128·00	22·59
1975/76	300·00	160·70	33·15
1976/77	424·00	201·20	160·00
1977/78	468·50	396·50	265·85
Sub-Total ..	15,02·50	914·40	502·93

TABLE 19·1 (*Contd*)

Year	Allocation		Utilisation
	Original ADP	Revised ADP	
II Two Year Plan			
1978/79	735·00	693·00	468·68
1979/80	1132·00	969·02	499·83
Sub-Total ..	1867·00	1662·02	968·51
Grand Total ..	3,369·50	2,576·42	1,471·44

19.3 As financial performance lagged behind, the physical progress also remained unsatisfactory. In fact, the Two Year Plan had to identify the target of attaining the objectives that were left incomplete at the end of the First Five Year Plan. The Two Year Plan again ended up with some of the programmes carried over to the Second Five Year Plan. A picture of the physical achievements during the First Five Year Plan and the Two Plan period is given below.

Craftsman Training

19.4 Under this sub-sector, some remaining work as embodied in the original schemes of the 5 existing Technical Training Centres—two at Dhaka, one called T.T.C. Mirpur, the other one known as Bangladesh-German TTC., and one each at Rajshahi and Chittagong and Marine Diesel Training Centre, Narayanganj continued over the initial years of the First Five Year Plan and was completed by June, 1976. Through separate schemes, work was also taken in hand for expansion of the above mentioned 5 existing Technical Training Centres with a view to raising their training capacity from the existing 1667 to 2880, implying 1213 additional seats. The actual achievement by 1978 was nearly 50 percent of the physical programme envisaged. By the end of the Two Year Plan, however, the target was achieved fully.

19.5 Besides, work was also taken in hand for setting up 7 new Technical Training Centres at Bogra, Barisal, Faridpur, Comilla, Mymensingh, Khulna and Rangamati with a total training capacity of 2,184. Of these, while construction work for the Technical Centre at Khulna was partially started, arrangements were made for initiating construction for the remaining 6 centres during 1976/77. Work accomplished by 1978 in these projects was around 20 percent—25 percent of the physical targets set for the First Five Year Plan. By the end of Two Year Plan, nearly half of the target was achieved. In addition, some remaining items of work such as procurement of furniture and electrification were completed for the 2 Apprenticeship Training Offices at Chittagong and Khulna during the early years of the Plan with a view to making them fully operational.

19.6 In addition, from the revenue budget, an amount of Tk. 60·00 lakh was provided to the Power Development Board to create physical facilities and also to meet recurring costs for producing craftsmen in various electrical trades through on-the-plant crash training programmes during 1977/78. A number of 250 operators completed training during the year.

19.7 Further, some on-the-plant crash training programmes were implemented through the Sector Corporations/Autonomous Bodies. These are shown in Table 19·2.

TABLE 19·2

On-the-Plant Crash Training Programme During the Two Year Plan Period.

Agency	1978/79 (Under Revenue Budget).		1979/80 (Under Development Budget)	
	Amount spent (Tk. in lakh)	Number of craftsmen trained.	Amount spent (Tk. in lakh)	Number of craftsmen trained.
(i) Bangladesh Jute Mills Corporation.	5·04	510	..	..
(ii) Bangladesh Textile Mills Corporation.	38·16	3,440	..	..
(iii) Directorate of Technical Education.	33·16	1,400	..	..
(iv) Bangladesh Steel and Engineering Corporation,	30·72	1,200	21·00	710
(v) Bangladesh Sugar and Food Industries Corporation.	14·30	832	..	..
(vi) Bangladesh Chem. Industries Corporation.	15·14	700	25·00	850
(vii) Power Development Board	36·06	250	29·00	450
Total ..	172·58	8,332	75·00	2,010

Employment Promotion

19.8 In this sub-sector, some remaining minor work on four existing Vocational Guidance and Youth Employment Units was completed during the initial year of the Plan and subsequently the scheme was transferred to the revenue budget. In order to augment government efforts for tackling the unemployment problem, a scheme was formulated to strengthen the existing Employment Exchanges at Dhaka, Chittagong, Khulna, Rangpur and Sylhet with increased staff strength and physical facilities and to open new branches at Barisal, Mymensingh, Rajshahi, Noakhali and a branch office at Bogra in order to enable them (a) to set up Women's Desk for registration and other facilities to female job-seekers, (b) to promote employment abroad and (c) to initiate self-employment programmes. So far as actual implementation was concerned, Women's Desks were opened in 3 Employment Exchanges ,at Dhaka, Chittagong and Khulna and nearly 25 percent of the physical and staff expansion for all the Employment Exchanges in question were done by the end of the First Five Year Plan period. By the end of the Two Year Plan, the work of setting up new Employment Exchanges was completed and some self employment programme was started.

19.9 The Bureau of Manpower, Employment and Training was set up in early 1976 for better management and monitoring of the craftsmen training and employment promotion matters both at home and abroad.

Industrial Relations and Labour Welfare

19.10 Under this sub-sector, work was initiated for setting up 3 new Industrial Relations Institutes at Chittagong, Khulna and Rajshahi and expanding the one at Tongi, Dhaka. Of these, while the construction work made some progress for the Institutes at Tongi and Chittagong, the preliminary work such as preparation of plans and estimates for two institutes at Khulna and Rajshahi continued. Nearly 30 percent of the physical work was completed during the First Five Year Plan period. Under three separate schemes, work was taken in hand for the expansion and improvement of 17 dilapidated Labour Welfare Centres at Tongi, Chasara, Narayanganj, Bandar, Kalurghat, Barisal, Rupsa, Kushtia, Gaibandha, Serajgonj, Rajshahi, Bogra, Tejgaon, Sarisabari, Ashuganj, Chandpur, Solashahar and Khalishpur and to open 4 new Centres at Ghorasal, Mongla, Narsindi and Syedpur. Nearly 50 percent of the physical work of these projects were completed at the end of the First Plan period. By the end of the Two Year Plan, about 95 percent of the First Plan target was achieved.

19.11 The main reasons for shortfall in financial and physical performance were: (i) increase in cost of almost all the on-going schemes following rise in prices of construction meterials, labour, etc., (ii) delay in the formulation, revision, processing and approval of on-going and new schemes, (iii) delay in preparation of plans and estimates and initiation of actual construction by the Public Works Department.

Objectives/Strategies of the SFYP

19.12 The following are the major objectives/strategies for the Second Five Year Plan:

(i) To expand the skill training network under the aegis of the Ministry of Labour and Manpower to enable them to increase the annual intake capacity at pre-service formal training courses and to introduce inservice workers' upgrading courses at the Technical Training Centres;

(ii) to organise a system of on-the-plant/apprenticeship training programme in the various Sector Corporations and Autonomous Bodies.

(iii) to substantially raise the annual manpower export in a planned way through appropriate supplemental training and orientation;

(iv) to promote self-employment, particularly of the technically trained people as a component of the country's total employment promotion effort;

(v) to set up a system of a national Employment Exchange Service that will provide employment information, vocational guidance and counselling to job-seekers, students, guardians, educational administration and the general public and will help the technical training system in identifying training needs;

(vi) to institute a regular channel of communication between workers, management and the Government that will promote healthy labour-management relation;

(vii) to strengthen the training programmes for trade union leaders and labour officials in Government, semi-government and private organisations;

(viii) to organise a broad based set-up of motivational education for general workers;

(ix) to set-up a national code for industrial safety and occupational hygiene on modern scientific lines;

x) to adequately cater to the medical, recreational and motivational education needs of the industrial workers by strengthening and expanding network of Labour Welfare Centres; and

xi) to establish a system for monitoring employment and labour productivity in all sectors of the economy on a regular basis.

Physical Programmes of SFYP

19.13 The principal areas of activity of the programmes are as follows:

I. *Craftsman Training through*:

(i) formal comprehensive pre-service training at the Technical Training Centres for skilled craftsmen;

(ii) pre-service on-the-plant practical training through industrial apprenticeship system for the output of the formal training institutions;

(iii) formal functional pre-service training at the plant under apprenticeship programme for semi-skilled and unskilled workers;

(iv) continuous in-service promotional training for (a) Foremen, supervisors and senior craftsmen at the TTC's and (b) Junior and intermediate level craftsmen at the plant level; and

(v) a system of training standardisation, grading and certification.

II. *Employment Promotion*:

(i) overseas employment;

(ii) self-employment.

III. *Central Employment Monitoring*:

(i) Employment Research Institute;

(ii) District-level Manpower Development and Employment Service.

IV. *Monitoring of Labour Productivity*:

(i) productivity monitoring for the public sector;

(ii) productivity monitoring for the private sector.

V. *Labour Relations*:

(i) communication, training and research on industrial relations;

(ii) on-the-plant motivational education for general workers.

VI. *Labour Welfare*:

(i) provision of recreational, medical and motivational education facilities through Labour Welfare Centres.

VII. *Miscellaneous*:

(i) Planning and Development Cells;

(ii) specific research studies.

Sectoral Programmes

19.14 *Craftsman Training* : In the country, there is a chronic shortage of engineering craftmen like Machinists, Turners, Farm Mechanics, Diesel Mechanics, Auto-Mechanics Power Pump Technicians, Electricians, Blacksmiths, etc. These technical hands are in great demand in manufacturing, water, power, road, transport, waterways, air traffic, telecommunications, institutions of technical education, scientific research organisation, construction, water supply, sewerage and other public utility installations. With the commissioning of more and more projects in all the development sectors, demand for skilled craftsmen will be on continuous increase. Output of the engineering craftsmen system is also well marketable in the international employment market. Moreover, engineering craftsmen are among the few categories of educated manpower who can be motivated and organised for self-employment.

19.15 Prior to the commencement of the Second Plan, five TTC's were functioning, two at Dhaka and one each at Narayanganj, Chittagong and Rajshahi. Excepting the one at Narayanganj, all of them are being expanded under on-going approved projects. Another sever. TTC's are under construction, one each at Khulna, Bogra, Comilla, Faridpur, Barisal, Rangamati and Mymensingh. This will raise the existing annual intake capacity of the TTC's from 1980 to 11,923 during the Plan period.

19.16 At the beginning of the Second Five Year Plan, the annual intake capacity at the level of Class IX including TTC's VTI's and Polytechnic second shift courses in the whole education system was 2.70 lakh. Given the trends over the last 7 years and the foreseeable possibilities, it is estimated that this will rise to nearly 3·50 lakh by 1985. Presently about 0.73 percent of the Class IX level enrolment is in TTC's. It has been observed that if skilled craftsmen in required numbers are not available, their positions are filled up through inappropriate placements with semi-skilled, under skilled, under-qualified and even completely untrained workers. This is a situation that should be avoided as far as practicable. Moreover, there is also the need for drastic expansion of the vocational stream at the Class IX level secondary education. During the Second Plan, a feasible target seems to raise the total annual TTC's intake to 6 percent of the Class IX level intake of the entire education system. This would mean that the annual intake of the TTC's should go to 21,000 by June, 1985. The situation is summed up in Table 19·3.

TABLE—19·3

Proposed Expansion of Annual Intake Capacity of TTC's in SFYP

Year	Total annual intake in Class IX	Share of TTC's	
		Number	Percent of Column 2
1	2	3	4
1980	2·70 lakh	1980	0·73
1985	3·50 lakh	21,000	6·00

19.17 An additional enrolment capacity of 9,000 is, therefore aimed at. This target may be attainable by setting up new Technical Training Centres at district head-quarters from among the districts that are not yet covered by any Technical Training Centre. Such districts are Tangail, Jamalpur, Jessore, Kushtia, Patuakhali, Rangpur,

Dinajpur, Pabna, Noakhali, Sylhet and Bandarban. In the first phase setting up of 2 new TTCs may be taken in hand and made operational expeditiously. Under the Second Plan, only functional facilities like academic buildings, workshop and administrative block of minimum possible size may be created in order to commence training activities during the Plan period. Residential buildings and other ancilliary facilities for the TTC's may be carried over to the Third Five Year Plan.

19.18 A Vocational Training Project with IDA assistance envisages establishment of a National Council for Skill Development and Training (NCSDT), construction of Headquarters office building and 3 Regional Offices of the Council and arrangements for accelerated skill training programme. In this connection support will be provided for the completion of 5 TTCs under construction at Khulna, Bogra, Barisal, Comilla and Mymensingh and for strengthening and improvement of 4 existing TTCs—2 at Dhaka and one each at Chittagong and Rajshahi with additional facilities under this project. Training will be provided to the Instructional Staff of the TTCs and the professional staff of the NCSDT Secretariat while elaborate arrangements will also be made for in-plant skill training including supervisory training in the corporations. The project also envisages development of curriculum, detailed course structure for various trades, development of training materials/aids and institution of a system of feedback and evaluation for continuous improvement. Besides, the project proposes setting up of a Trade Advisory Committee, setting up of trade standards, and setting up of a national structure for trade certification. In the fields of training planning, activities of the project will include needs assessment in skill training in connection with formulation of policy regarding skill training—both institutional and industrial and formulation of five-yearly and annual skill development/training plans.

19.19 *Apprenticeship/In-Plant Training* : The Bureau of Manpower, Employment and Training (BMET) will initiate, monitor and create basic training facilities in the form of building, workshop, tools and equipment and training materials for apprenticeship/in-plant training at the various Autonomous Bodies/Sector-Corporations for electrical, mechanical, engineering and construction trades. In addition, in response to domestic and international demand, special courses and training programmes will also be arranged by using the physical facilities of the existing Polytechnics, VITs, TTC's and other training institutions. In the interest of avoiding duplication of arrangements and ensuring an intensive utilisation of existing training capacities, it is necessary to carry out a comprehensive assessment of the existing facilities. Based on such a stock-taking, an integrated programme of massive in-plant/apprenticeship training will be implemented during the Second Plan period. A comprehensive Testing and Certification System applicable nationally for all tradesmen trained either in institution or in industry or under any other system of training is under preparation and in due course on approval by NCSDT shall become a national system of skill testing and certification.

19.20 *Overseas Employment*: Bangladesh cannot allow her national level efforts to suffer on account of skill emigration. Nor can she, under a situation of chronic balance of payment difficulties, afford the luxury of not tapping the potentials of foreign exchange earnings through manpower export. Neither can she narrow down a potential source of outlet to minimise the pressure on the national job market under the present difficult unemployment situation. The national manpower export policy has to be based on these three equally important consideration.

19.21 Specialised skills in which the country is deficit and that are required to man the strategic occupations in the key economic sectors cannot be spared for overseas employment. However, a country that is labour surplus by definition does not lose anything on account of the emigration of (i) unskilled labour which is abundant in supply, (ii) semi-skilled labour, the time and cost required for whose training is small enabling easy replacement and (iii) such categories of educated manpower which are surplus compared with their demand within the country.

19.22 Bangladesh has a small base of modern education in that only 5 percent of the civil labour force are matriculates and above. Even the First Five Year Plan started with more than 40 percent of her educated manpower as unemployed. The situation has slightly deteriorated at the end of the First Plan. However, even under such an employment market for the educated in Bangladesh, a short span of manpower export has created some strains for the nation. For instance, the three Engineering Colleges at Chittagong, Rajshahi and Khulna are experiencing great difficulties in offering courses for shortage of teachers. In non-teaching organizations, the country is losing mid-order engineering hands forming the backbone of the engineering staffing of any project and is left mostly with very senior/elderly engineers and freshers, who without the mid-order support cannot contribute much to the development process. Emigration of post graduate medical specialists has created quite a void at the Medical Colleges. If industrialisation, rural electrification and the huge construction programmes envisaged in the Second Plan are to be implemented and the Plan's socio-economic targets are to be achieved, the country must adopt a clear policy of identifying the specific skills required for the implementation of the development programmes within the country and such professionals should be restricted from going abroad. The task of this identification will be undertaken by the proposed Employment Research Institute which as a part of its overall employment monitoring function, will continuously compare the size of exodus with the replenishment rate and will keep the process of manpower export under constant and up-to-date review as to its effect on the country, by type of skills and by economic sectors, with indication (i) to the education and training system to adjust its output in case of changed foreign demand, and (ii) to the manpower exporting organization to regulate its volume of transaction in case of dislocation in the national economy.

19.23 Compared with Pakistan, India, the Philippines, Singapore and Thailand, Bangladesh has not been able so far to fully tap the potentials in the field of manpower export. The unsatisfactory performance can be attributed mainly to the following factors: (i) Good Bangladesh commercial firms capable of undertaking construction and turnkey projects in the Middle East are very few in number, (ii) The private recruiting agents/ passage brokers cannot obtain vacancies in sizeable numbers by competing with the manpower export corporations and the big private firms of other countries; and (iii) Bangladesh does not have a specialized manpower export organization (with full-fledged field offices in the Middle East that runs on commercial lines): The BMET backed by small Labour Attache Cells in some Bangladesh Missions is a normal Government Office not geared to run commercial ventures.

19.24 Job openings will mainly grow in the big multinationals mostly of the USA, Canada, Western Europe and the Republic of Korea. Obtaining employment orders from these multi-nationals is a highly competitive salesmenship similar to the job of a company sales representative. Occupational needs of the multi-nationals have to be

assessed, terms offered by competing manpower supplying countries to be ascertained and more favourable terms forwarded. This job can best be done by a commercial organisation rather than a Government office.

19.25 An overseas employment organisation will, therefore, be set up with all the necessary commercial elements in order to capture manpower markets abroad. It will mount regular sales promotion missions to all the countries having employment prospects for Bangladesh citizens. Construction, installation, afforestation and agricultural projects of smaller scale and less sophisticated nature can, however, be undertaken by firms of LDC's. Bangladesh will organise, strengthen and send its national firms to the Middle East to undertake three types of contracts, namely, (i) Main-contract, (ii) Sub-contract and (iii) Joint venture. It is advisable to organise a consortium of several local firms in order to equip them for turnkey projects in the Middle East. It will also be useful to form consortium of a number of commercial banks and tag it with the consortium of construction/installation firms. The overseas employment organisation can be the best link between overseas governments/investors and potential local firm/consortium.

19.26 In view of the fact that the Emigration Act of 1922 was not designed to cover the situation where annually a large number of professional, skilled, semi-skilled and unskilled workers are moving out of the country with employment, it has, of late, been decided to repeal the obsolete Act and to introduce the Emigration Ordinance, 1982. The new law and the rules to be framed thereunder, envisage the introduction of a system which will facilitate increasing out-flow of manpower simultaneously reducing the exploitative practices. Emigration clearance will be given in cases where valid demand/work permit from foreign employers is available. Government may, however, prohibit emigration of persons or a class of persons if it is necessary in the public interest. No person or organization will be allowed to recruit citizen for overseas employment or issue an advertisement except with permission of the Government. In the process of selection to be prescribed for the licensed agents under the proposed law, provision of trade-test for selecting the right man for the right job will be introduced. In order to stop illegal practices, provision for deterrent punishment has been made in the proposed law. The proposed law envisages promotion of overseas employment without causing any adverse impact on the national employment situation. Keeping this in view, programme will be introduced to augment the supply of persons belonging to the critical professions and trades. The Ministry of Labour and Manpower is currently engaged in drafting rules and other documents which will lay down the essential provisions in details under the ordinance.

19.27 Under a streamlined system, through combined efforts of the government channel, registered agents and individuals a monthly figure of 10,000 would be an attainable target for manpower export. A remittance of Tk. 100 crore per month is expected to be received from abroad out of this source.

19.28 *Self-employment* : In developing countries, salaried/wage employment in the formal sectors cannot be big enough to take care of the huge number of unemployed. A possible answer to the problem is that, be it general education or technical, the educational output must be vigilantly innovative in outlook and must inculcate the motto of self-employment. The pioneering role of setting the process has to be played by the technocrats. It is their success that will encourage its repeated use on a larger scale and in a more productive manner by fellow technocrats and generalists alike.

19.29 Persons trained in modern engineering trades have a traditional attitude in society of an expectation of salaried jobs in the formal sectors. Society is not aware of the possibilities of gainful self employment for persons trained in modern engineering trades. The Manpower Bureau will popularise self-employment among persons skilled in modern engineering trades trained either institutionally or on-the-plant by providing them toolkits on loan and advisory support. Cost of equipping a person for self-employment varies between Tk. 5,000 to Tk. 10,000 depending upon the specific occupation he pursues.

19.30 Little drops of employment possibilities are scattered throughout the nooks and corners of the country that can be tapped to form a big total with some form of training, credit, advisory assistance and above all initiative and organisational efforts. Self-employment programmes have, therefore, to be concieved as an integral part of the overall human resource development plan of the socio-economic administration where due role is played by all the relevant agencies, namely the Ministry of Social Welfare and Womens Affairs, BSCI, BRDB, the Bangladesh Bank, the Ministry of Labour and Manpower etc. However, activities of one agency are not exactly the same as those of the others. For instance, rural self employment promotion programmes of the Ministry of Rural Development and the Swanirvar Movement, employment creation through cottage industries initiated by the BSCIC, self-employment for technically trained persons of the BMET, the occupational rehabilitation programme of the Social Welfare Department all have their own characteristics, focus and emphasis and it is most important to retain the individual entities of the programmes to be handled by the relevant line agencies within the framework of a unified national policy. Guided by the Manpower Planning Centre, the District Manpower Offices can play the role of forerunners and can take effective initiatives in this regard. To supplement these efforts, the District Manpower Offices can have their own employment promotion programmes for the general unemployed in addition to their specific responsibilities. Instead of relying on development funds alone, suitable arrangements need also be worked out with the banking and credit institutions. This will eventually establish self-employment as an economic institution in society.

19.31 *Retraining Programme to enhance Employability* : In the country, there is a huge backlog of unemployed educated generalists, specially High School drop-outs, Matriculates and Intermediates. At least a portion of them can be put to some gainful occupations through retraining programmes. With stipend support, it is possible to organise and train them up for various gainful employment by utilising the training facilities of the existing institutions in the public and private sectors. Manpower Bureau can be the implementing administrative organ for the programme. Six month training programmes are envisaged for 2,500 trainees in 10 batches during the Plan period with the provision of suitable subsistence allowances and necessary training logistics.

19.32 *Central Employment Monitoring*: Monitoring of all important employment matters will feature prominently in the Second Five Year Plan. A system will be developed under which the Manpower Ministry will undertake central monitoring of all important employment matters. This will involve three tasks:

(i) The Manpower Ministry will prepare an annual balance sheet of job opening and job-seekers over the financial year. On one side of the balance sheet, will be number of new job openings created in each economic sub-sector by level of occupations, for all categories of manpower-unskilled, semi-skilled,

and skilled defined in terms of the type of education/training. On the other side will be the number of new job aspirants thrown into the job market by the expanding population and the education/training system by level and type of education. The net accumulated total position resulting from the annual development will also emerge simultaneously.

(ii) The Manpower Ministry will keep an up-to-date record of international labour migration from each economic sub-sector by level and type of skill and assess the impact of emigration on production in each branch of the economy. This will serve as an indicator to the education/training system to adjust its output in relation to domestic and international demand and to the manpower export administration to decide the scale of permissible emigration in order to avoid loss of output in the local production/service units.

(iii) The Manpower Ministry will evaluate the labour intensity of all projects both under public and private ownership to show the investments required to create an additional job. This will be done for each sector of the economy and by level of occupation/skill defined in terms of educational equivalence. As a requirement, Manpower Ministry will examine all PP's from employment standpoint and should also be a member of the Project Evaluation Committee for all sectors.

19.33 To operationalise such a system of monitoring, the Manpower Ministry will be provided with an (i) employment research institute and (ii) manpower and employment offices at district level. The Manpower Ministry should have appropriate legal framework in this regard.

19.34 *Monitoring of Labour Productivity*: It is necessary to continuously monitor the trends in labour productivity for all the sectors of the economy. The Ministry of Labour and Manpower will undertake this task. A National Centre for Monitoring Labour Productivity will be set up during the Plan period for this purpose. A suitable legal basis is necessary making it obligatory for all production and service units, both in public and private sectors, to feed the Labour Ministry with the required data.

19.35 *Labour Relations and Labour Welfare*: Training and research in labour relations need to be carried out on the following lines: (i) Instructor training, empirical research and communication in labour relations, (ii) Mid-level training for trade union leaders, supervisors, senior workers, management and labour offices in Government and private undertakings, (iii) Civic and motivational education for general workers at the plant level.

19.36 During the Second Five Year Plan, the Industrial Relations Institute at Tongi is proposed to be converted into a National Institute of Labour Administration (NILA) for high level training and research in labour relations. It will introduce a course on Diploma in Labour Administration. Further, in order to establish a channel of regular communication between workers, management and the Government, the NILA will disseminate, on regular basis, relevant facts and ideas.

19.37 For mid-level training, there will be an intensive utilization of the newly built three Industrial Relations Institutes (IRI) at Rajshahi, Khulna and Chittagong rather than setting up any new one during the Second Plan period. With regard to motivational education for general workers, a functional division of responsibility needs to be maintained by the IRIs and the Labour Welfare Centres. The planning of workers'

education programmes and preparation of teaching aide, etc., can be done by the IRI's. These educational programmes, in order to have a permanent impact upon the workers, should be a matter of continuous process. Such a constant follow up can be done by a permanent organisation like the Labour Welfare Centre. Besides, a provision is proposed for production of some documentary films on workers education for exhibition at the LWCs, IRIs and the NILA.

19.38 Welfare of the work force is an important precondition of labour productivity. During the Second Plan, efforts will be made to consolidate the existing institutional network for labour welfare and go for expansion of the same where essential for more effective provision of educational, medical and recreational facilities to the industrial workers. During the Second Five Year Plan, 3 new LWCs, including one for the tea garden workers at Chittagong, will be set up. In addition, it is also proposed to initiate work in connection with setting up 4 labour welfare centres for road transport workers, 4 centres for inland water transport workers and 2 additional centres for tea-garden workers in selected areas in Sylhet.

19.39 In Bangladesh, the Department of Factories and Establishments is authorised to charge certification fees from all ships (including that in foreign exchange from foreign vessels) in return of the service to inspect and give safety clearance to ships at Chittagong and Chalna ports. In the absence of good arrangements in Bangladesh, most foreign ships touching Bangladesh ports get the inspection and certification done from our neighbours. Under the Second Five Year Plan, a Dock Labour Safety Training Centre alongwith certification facility will be created to impart training to the testing professionals as also to the general dock officials and workers in matters of dock safety.

19.40 *Miscellaneous*: To consolidate capabilities at the level of the Administrative Ministries and Executive Agencies with regard to the formulation, processing, implementation and monitoring of development schemes, Planning and Statistical Cells will be consolidated and the personnel will be given adequate training and orientation in development planning mechanisms, procedures and practices during the Plan period. In order to have a conceptual and statistical base for organising a Provident Funds and Social Security Cell in the Department of Labour, a research project is to be undertaken during the Plan period.

Financial Allocation

19.41 For financing the above programme, an allocation of Tk. 61·00 crore (at 1979/80 prices) has been made for the Manpower and Labour Sector under the Second Five Year Plan. Annual Phasing of the above allocation in both constant (1979/80) and current prices is given below:

[*Tk. in crore*]

	Year	1980—82	1981/82	1982/83	1983/84	1984/85	Total allocation (1980—85)
(i)	Constant prices.	9·39	15·75	13·50	10·28	12·08	61·00
(ii)	Current prices.	10·52	19·76	20·49	16·14	21·09	88·00

CHAPTER XX

PUBLIC ADMINISTRATION

20.1 Public Administration assumes particular importance in a country where public sector occupies a key position in the total development efforts and where a large segment of the private sector comes under the regulatory and promotional influence of the Government. A developing country like Bangladesh must, therefore, give serious attention to rationalise its administrative organisations, financial and personnel systems, rules and procedures for achieving public service efficiency commensurate with the country's socio-political and economic aspirations. While the traditional regulatory functions of the state are multiplying, the administrative system of the country is getting so much involved with the process of development that administrative network is no more considered merely an arrangement to administer, control and monitor development but an essential input in the development process itself. Accordingly, the issue of development of Public Administration has moved from the periphery to the centre of the country's development efforts.

Review of Past Performance

20.2 Attempts at modernization and improvement of Public Administration in the country have been rather uncoordinated in the past and were not based on any integrated and coherent plan for its development as a system with clear enunciation of goals, priorities and strategies. The O&M Wing of the Establishment Division has yet to make its impact on systems development in the Government as a continuous process of adjustment rather than acquiescing with abrupt changes. As a result, there exist a good deal of inadequacies in all such strategic areas of administration as training, research, personnel management, office procedure, planning and development processes, revenue administration, accounting and budgeting.

20.3 Public Administration as a sub-sector under the "Education and Training" sector in the First Five Year Plan (1973—78) had a modest allocation of Tk. 13·12 crore for different projects, most of which did not actually constitute a programme for development of public administration. Out of the above allocation only an amount of Tk. 4·06 crore is estimated to have been spent during the First Plan period and the remaining allocation could not be utilised due, *inter alia*, to inadequate absorption capacities.

20.4 The increasing importance of Public Administration in the overall development process made it necessary to create for the first time a separate "Public Administration Sector" within the framework of the Two Year Plan (1978—80) with an allocation of Tk. 11·12 crore of which Tk. 8·98 crore is estimated to have been utilised. Sectoral programmes during the period concentrated mostly of training, research and related activities, a brief review of which is given below :

20.5 *Training*: The network of administrative training consists of (a) the Bangladesh Administrative Staff College (BASC), (b) the National Institute of Public Administration (NIPA), (c) the Civil Officers Training Academy (COTA) and (d) the Staff Training

Institute (STI). Actual Training achievements of the above institutions are indicated in Table 20.1 :

TABLE 20·1

Comparative Training Performance

Institution	Number Trained		Total
	FFYP	TYP	
1. Bangladesh Administrative Staff College (BASC). ..	303	47	350
2. National Institute of Public Administration (NIPA). ..	2,113	2,787	*4,900
3. Civil Officer's Training Academy (COTA) ..	144	303	347
4. Staff Training Institute (STI) ..	1,209	2,492	*3,701

* Includes persons trained under special programmes.

20.6 In addition, academic courses under the Departments of Public Administration in the Universities of Dhaka and Chittagong and the Department of Political Science in the University of Rajshahi have supplemented governmental efforts for the advancement of knowledge and skill in Public Administration. Management Development Centre, Bangladesh Academy for Rural Development at Comilla, Regional Academy for Rural Development at Bogra, Local Government Institute, Institute of Busisness Administration and Cooperative College at Comilla and the Departmental Training Institutes have made substantial contribution to training of personnel in the public sector.

20.7 In the Two Year Plan provision was made to expand and strengthen training facilities for officers and staff. Work was initiated on a project relating to the establishment of a Public Administration Training Complex (PATC) for Co-location of BASC, NIPA and COTA in one campus. Funds were made available for construction of buildings for the Institute of Cost and Management Accountants and Institute of Chartered Accountants of Bangladesh which impart specialised training in accounting, auditing and business management. Towards enhancement of professionalism in journalism and allied fields, a Press Institute was set up at Dhaka with an annual training capacity of 90. Besides, a Film Institute with a capcity of 60 trainees per annum was set up under the Ministry of Information and Broadcasting for providing training in dramatics and film technology.

20.8 *Research* : Programmes of research under the Sector during the Two Year Plan mostly related to socio-economic issues and human resources development rather than to public administration proper. During the Two Year Plan period efforts have been made for (a) augmentation of research capability of the Bangladesh Institute of Development Studies (BIDS), (b) construction of a building for the National Foundation for Research on Human Resources Development and (c) setting up of a Social Science Research Council and a Research and Development Cell at COTA. A Study on Decentralization of Administration and People's Participation has been carried out under the auspices of NIPA. Other institutions such as MDC, BARD, RARD, L.G.R.D., IBA and the Cooperative Colleges undertook research in areas of their functional responsibility.

20.9 *Other Programmes*: In addition to programmes discussed above, all administrative Divisions of the Ministry of Finance and Planning received development funds from allocations from the Public Administration Sector to build up capacity for more efficient management of their respective functions.

20.10 A comparative picture of the financial performance of the sector during the First Five Year and Two Year Plans is given below:

TABLE 20·2

Comparative Financial Performance

[*Tk. in lakh*]

Field	FFYP, 1973—78			Two Year Plan 1978—80		
	Allocation.	Expenditure.	Percentage.	Allocation.	Expenditure.	Percentage.
(a) Training ..	7·00	0·56	8·00	3·82	2·98	78·01
(b) Research ..	3·12	1·29	14·35	3·73	2·59	69·44
(c) Development of the Statistical Service.	3·00	2·21	73·67	2·73	2·82	103·30
(d) Organizational Development ..	..	..	..	0·84	0·59	70·24
Total	13·12	4·06	30·95	11·12	8·98	80·76

20.11 *Other Sectoral Efforts in Public Administration*: Consistent with the recent emphasis on rural development and decentralization of administration leading to delegation of more powers and responsibilities to Local Government Bodies, efforts were made to evolve concrete action programmes towards gradual development of a planning, implementation and reporting process at the local level. This involved institutionalized training and research activities. The training network run by the Ministry of L.G. R.D. and Cooperative includes Bangladesh Academy for Rural Development, Regional Academy for Rural Development, Cooperative College, Cooperative Zonal Institutes, Rural Development Training Institute and Local Government Institute. In addition, there are 430 Thana Training and Development Centres, which share substantial training responsibilities in respect of rural development and local administration.

20.12 Public corporations and agencies which are directly involved in national development efforts are of strategic significance to the country's overall administrative and management system. Management inertia, lack of adequately trained managers, inappropriate personnel policies and practices, archaic financial and accounting systems, and ineffective management and control mechanism have together seriously affected overall performance of these corporations as evident from their declining productivity, low capacity utilization, higher cost of production and poorer quality of products. During the period under review facilities available for the development of corporate management and also for training for upgrading the skill of labourers have been far from satisfactory.

20.13 The country's present budgeting, audit and accounting systems are out-moded and not befitting to the needs of development planning. They no longer serve the purpose of modern cost analysis and management control. Moreover, the existing personnel concerned with financial management, accounting and audit are deficient in professionalism in spite of the fact that there is an Audit and Accounts Academy under the office of the Comptroller and Auditor General and a Training Directorate under the Income Tax Department and the newly established Customs and Excise Academy at Chittagong. Institutional facilities for the training of bankers and bank personnel are, however, more comprehensive to cater to present needs in this area.

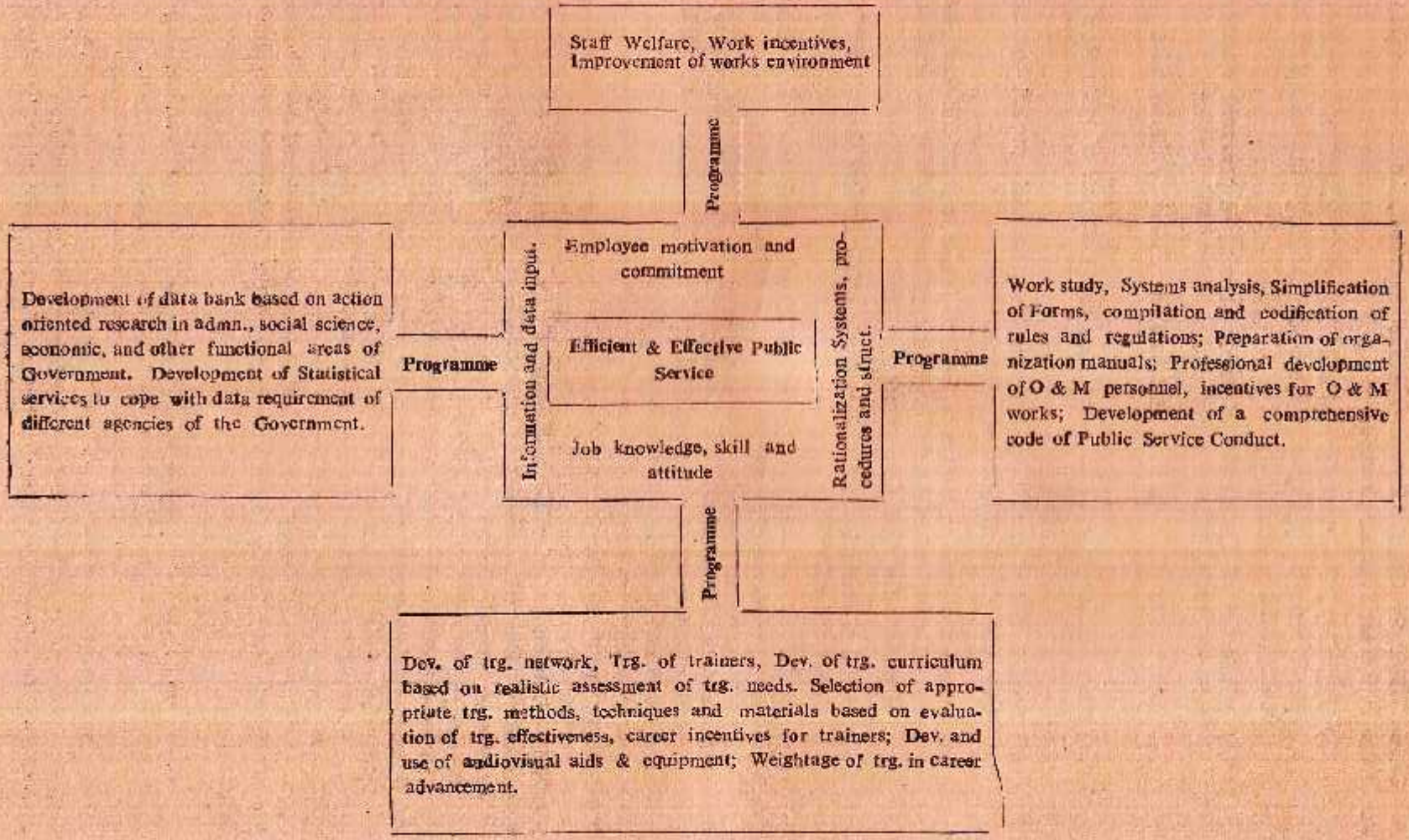
20.14 In addition to the Training arrangement as discussed above, a good number of training institutions have been developed for imparting training in professional fields and technical/vocational trades.

Objectives of the SFYP

20.15 Development of an efficient and effective public service is the main objective of the programmes in Public Administration in the Second Five Year Plan. Efficiency in administration, however, is a function of a number of factors such as (i) job knowledge, skill and attitude, (ii) procedures and structures, (iii) employee motivation and commitment, and (iv) information and data input. Inter-play of such factors towards attainment of public service efficiency is indicated in Figure 1.

FIGURE 1

Programme Linkages for Administrative Development



20.16 Within the framework of overall Plan objectives, the sectoral objectives for the Second Five Year Plan are as under:

(i) Upgrading job knowledge and skill alongwith attitudinal improvement of public servants by imparting systematic training in administration and management;

(ii) introduction of the element of career planning in personnel management to promote specialization and professionalism in public service;

(iii) improvement of information/data base in Public Administration through action research;

(iv) rationalization of systems, procedures, and structures of government offices/ agencies;

(v) simplification of accounting, budgeting and financial control procedures to cope with decentralization of administration;

(vi) extension of training support to the local bodies to transform them into viable and self-contained administrative units capable of planning and implementation of projects for rural development;

(vii) control of corruption and malpractice in public services through administrative checks and reforms;

(viii) improvement of public service morale through work oriented incentives and staff welfare activities; and

(ix) improving efficiency and effectiveness, elimination of unnecessary offices and organisations, avoidance of proliferation of bureaucracy and control of expansion of public service.

Strategies of SFYP

20.17 Development of public administration as a system will obviously need multi-sectoral efforts. Different Ministries/Agencies will be required to launch a wide variety of programmes towards improvement of management and administration commensurate with their respective organizational goals and needs. However, in order to ensure greater coordination and effectiveness within the framework of an integrated national administration and management development policy, one single organ of the Government should work as the focal point of development activities in this area as is done in other development sectors. It would be functionally most appropriate and effective for the Establishment Division to assume such an integrative role and coordinate all development activities in public administration. Personnel training, administrative research and systems modernization will constitute by far the largest components of the development programme in this sector.

20.18 While sectoral programme relating to training and research on public administration will be conducted through the institutional network under the aegis of the Establishment Division, sizable programmes of training, education and research would also be carried out under such sectors as the Rural Institutions, Education, Industries and Finance. Programme for administrative development under the other sectors, as far as possible, must be relevant for national objectives of development of public administration.

The executing agencies have to ensure necessary organizational arrangements as may be required for effective implementation and monitoring of development activities in their respective areas.

20.19 Projects relating to creation of facilities for personnel training will be assigned the highest priority. While preparing development projects emphasis will be more on functional aspects as against bricks and mortars. In the matter of utilization of funds, it will be ensured that institutional facilities for training become operational during the early phase of the Plan so that the administrative system starts getting benefits from the training network soon after the launching of the Plan.

20.20 Since investments will be made for programmes related to public administration and management in other sectors, viz., Rural Institutions, Education, Industries, total investment for public administration during the SFYP would have to take into account investments in these sectors as well in addition to the allocation for the Public Administration Sector.

Major Programmes of SFYP

20.21 Programmes in this sector will include important projects for the development of facilities for administrative training, organizational development, systems modernization, action research on management and human resources development and employee motivation. These are discussed in the following paragraphs:

20.22 *Training*: The Establishment Division would give emphasis on evaluation of training policies, consolidation and development of the existing training network and also on the expansion of the network in phases. To make investments on training purposeful emphasis will be on action research for assessment of training needs, development of indigenous training materials, devising appropriate training techniques and curricula and objective evaluation of the training impacts. At the operational level, the programme envisages identification of the tasks and responsibilities of the trainees, assignment of relative priority to various clientele groups, provision of requisite administrative support to traning in terms of resource commitment, career incentives to both trainees and trainers, inter-agency coordination and setting up of a control mechanism within the personnel management system of the Government capable of monitoring all training inputs in public administration and their effect on the same.

20.23 Training of public servants must be consistent with personnel policies and practices in a wider context and, therefore, it would be more appropriate to plan investments on training within the framework of a national training policy. The recently created National Training Council is expected to formulate such a policy.

20.24 The three institutions of public administration training (BASC, NIPA and COTA) will be further developed under a Public Administration Training Complex with enlarged facilities. They will be located in one campus maintaining their functional autonomy and separate identity. When fully developed BASC, NIPA and COTA will have annual training capacity of 300, 500 and 400 respectively.

20.25 The estimated number of officers in the Secretariat and attached departments/offices will stand at 24,500 in 1985. Of them 9,900 are estimated to come under training programmes of BASC, NIPA and COTA. It will be possible to provide training to 6,000

officers through these institutes during 1980—85, thus providing training coverage to 61 percent of officers who need training during the Plan period. Under the new cadre management system entrants to professional and technical service will be required to undergo basic training in administration. Arrangements for such training will be made within the framework of the existing Public Administration training network through specially designed short courses.

20.26 Staff Training will be assigned higher priority in the SFYP. Training courses in greater number will be offered in the essentially required skills to create a positive impact on efficiency. The existing Staff Training Institutes at Dhaka and at the Divisional Headquarters will be further strengthened. This network will have an estimated annual training capacity of 1950. Special arrangements will be made for the "Training of Trainers" who will in turn provide training within the major departments and agencies.

20.27 The total number of secretarial and office staff is estimated to be 1,50,000 in 1985 out of which 1,06,000 will need training. It will be possible to provide training to 21,750 employees—9,750 through the regular STI programmes and 12,000 through a specially designed crash programme. The staff training coverage will thus be 21 percent during the Plan period. Table 20·3 shows the targets of training in public administration during the Second Five Year Plan:

TABLE 20·3

Training Targets for the SFYP (1980—85)

Officers/Staff Training Institute.	Annual Training Capacity.	Target for five years.	Estimated Total number required training.	Percentage to be covered.
BASC	300	1,500	..	..
NIPA	500	2,500	..	..
COTA	400	2,000	..	..
Total (officers)	1,200	6,000	9,900	61
STI and its Divisonal Centres.	1,950	9,750	..	..
Crash Programme.	2,400	12,000	..	..
Total (Staff)	4,350	21,750	1,06,000	21

20.28 Administrative reorganisation, office mechanisation and automation often result in a surplus of significant number of employees, particularly at lower echelons. Gainful absorption of such employees can be arranged in the reorganized set up or in other occupational area even outside Government, if they are retrained, in needed skills and trades. Facilities developed for training in secretarial work, vocational skills and trades should be utilized to retrain surplus employees also, as and when necessary.

20.29 Mere expansion of training facilities is not considered to be enough. The Establishment Division has to develop a policy on career planning for rational and scientific deployment of trained personnel to ensure their proper utilization. In order to ensure regular supply of capable trained and retain their services in the training institutes, creation of a training pool has to be considered with all seriousness.

20.30 *Development of the Planning Machinery* : In order to improve technical proficiency in planning, it is proposed to provide specialised institutional training to the officials of the Planning Commission and, those of the Planning Cells of various Ministries and Agencies in project formulation, project appraisal, programming, implementation, monitoring and evaluation. Planning Commission is considered to be the appropriate organization for taking initiative in this respect. It is envisaged that a Planning Academy will be established during the SFYP.

20.31 *Research* : In order to enable the country's administrative system to improve its structure, procedure and programmes, research on administration has to be carried out on a systematic and regular basis. The following programmes are envisaged during SFYP :

(i) The Training and Career Planning Wing in the Establishment Division will carry out action research, particularly addressed to such issues as determination of personnel requirements, review of personnel policies and exploration of avenues for improvement of personnel administration.

(ii) The existing Research and Development Cell in the COTA will be further strengthened and similar R&D will be established in BASC and NIPA for organized institutional research with emphasis on identification of specific training needs, setting down job specification, undertaking job analysis, and establishing performance standards, material and aids, and evaluation of training programmes.

(iii) The Universities which have considerable physical facilities and potential for research would be increasing by associating in this process. Efforts should be made to establish linkage and liaison with the Universities, and other research and training institutions at home and abroad so as to benefit from their experiences.

20.32 In addition, there will be programmes for further institutional development of human resources development and various issues/problems of socio-economic nature. Bangladesh Institute of Development Studies will have a wing for undertaking studies and research on manpower development and utilization and another for Population Studies. BIDS's own campus will be built and made functional. Social Science Research Council under the Planning Commission will strengthen coordination of research activities on socio-economic issues.

20.33 *Personnel Management*: The efficiency and quality of administration and management is dependent on the efficiency of the personnel involved. At present, there is considerable scope for improvement in administration which is characterised by shortages of properly trained manpower in many key fields, surplus in some fields, placement

anomalies and near-absence of adequate personnel policies and career planning. The following measures are suggested as broad outlines:

(i) Steps should be initiated in phases to provide equitable opportunities of advancement to all branches of public service strictly on the basis of merit, performance and suitability.

(ii) Performance evaluation should be made as objective as possible with more emphasis on assesment of individual proficiency in relation to specific job requirements; such reports should be examined and analysed on regular basis for building up necessary personnel records.

(iii) Career planning should be introduced in administration to promote administrative specialisation and to provide long-range career perspective in public service.

20.34 *Administrative Accountability and Elimination of Misuses*: The problem of corruption and administrative irregularities should be more systematically and carefully analysed to identify the causes as well as suggest appropriate remedies. Action should be initiated both on short-term and long-term basis to check the incidence of the administrative malpractices. The following specific measures are suggested:

(i) The existing procedures, rules and regulations should be simplified and rationalized to avoid delay in disposal of cases and to minimize the scope of corruption and abuse of official power and privileges. Discretionary powers should be curtailed and Committee mechanism introduced in decision making involving financial choices.

(ii) Inspection and supervision by higher level officers should be strictly carried out on a regular basis.

(iii) Purchase procedures in government departments and autonomous bodies should be streamlined alongwith introduction of efficient and strict inventory control.

(iv) Budgetory and financial rules should be effectively enforced with a high degree of professionalism. Supervisory officers should be trained in this field to ensure adherence to rules and procedures for better management of public funds and performance criteria and indices should be evolved as necessary control mechanism.

20.35 *Organization and Methods*: The O & M of the Establishment Division needs considerable strengthening and improvement in its organization and functioning. It needs professionally qualified officers and staff with research capabilities and experties in system work. A great deal of work needs to be done for simplying and codifying the existing rules and procedures and to introduce new methods and techniques. It should be the duty of the O & M Wing in consultation with the Regulation Wing to tackle the problems related to multiplicity of rules and regulations and their interpretations. The following steps are suggested:

(i) The O & M Wing should undertake studies on a continuous basis to examine the manner of disposal of business, maintenance of records and files and causes of delay and find out net-work procedures in the interest of a more efficient and forward-looking administration. Adequate arrangement should be made to train up sufficient number of O & M officers for the purpose.

(ii) Reorganization of the Ministries for rationalization of their office system, procedures and structures in the context of their emerging development role should be undertaken. It may be prudent to take up such reorganization with selected ministries on an experimental basis.

20.36 *Staff Welfare*: In order to raise the motivational level of public servants welfare measures within the framework of a carefully planned incentive system should be undertaken. Programmes of the Directorate of Staff Welfare, of necessity, must serve as stimulant for higher productivity. Physical environment of employees living and working should be improved. Due attention has to be given to the employees mental health, recreation, education and housing. Suggestion system for economy and efficiency in administration should be introduced and encouraged with rewards.

20.37 *Management Development*: In view of the important role to be played by the Public Sector corporations/agencies during SFYP, programmes for improvement of their management capabilities should be undertaken on a priority basis.

20.38 Management training needs in the public sector industries during the SFYP will be considerable as may be seen from Table 20.4:

TABLE 20·4

Projection of Training Needs in Public Sector Industries during SFYP

Level	1980/81	1981/82	1982/83	1983/84	1984/85	Total (1980—85)
(i) Management	483 (5·68)	550 (6·34)	663 (6·65)	859 (7·5)	1120 (8·5)	3675 (7·10)
(ii) Mid Management	3071 (36·17)	3071 (35·44)	3785 (38·0)	4468 (39·0)	5270 (40·0)	19665 (38·0)
(iii) Junior Management and Supervision Management.	4950 (58·15)	5043 (58·22)	5515 (55·35)	6130 (53·5)	6785 (51·5)	28413 (54·90)
Total ..	8,494 (100)	8,664 (100)	9,963 (100)	11,457 (100)	13,175 (100)	51,753 (100)
BMDC Share in percentage, ..	19·2	22	20·6	21·4	21·7	21·06

Figures in parenthoses show percentage share of each level in total

20.39 All training activities in management should be pursued within the overall framework and broad guidelines of a national management development policy which should constitute a component of the National Training Policy to be formulated by the National Training Council.

20.40 In order to provide the public corporations/agencies as also the private enterprises with trained executives, the following actions are suggested for these purposes:

(i) Facilities in BMDC should be expanded to form the nucleus of management training, research and consultancy in the country. In addition to the Centre at Dhaka and its sub-centre at Chittagong two more sub-centres will be set up at Khulna and Bogra.

(ii) A special institute should be set up to cater to the training needs of lower level managers and supervisors in the industrial sector.

(iii) Management support may be extended to private sector by providing facilities of training, research and consultancy with investments in the public sector.

(iv) IBA of the University of Dhaka will have increased capacity for formal academic programmes in management and business education as also for training of serving executives.

20.41 Major public sector corporations should have their own training units with the overall responsibility for personnel development at all levels. Such in-house training department/institutes should have clearcut demarcation of activities with the management training institutes outside in respect of areas of training, the levels of managers and the types of training programmes so as to avoid overlapping and duplication.

20.42 For improvement of management techniques and practices action research activities should be carried out by MDC, IBA, BIDS and University Departments teaching management and administration.

20.43 *Rural Institutions*: The strategy of rural development and the policy that the Local Government Institutions will play an increasingly important role in the sphere of local and regional development will call for development of a planning, implementation and reporting process at the local level. To bridge the institutional gap and to build up a viable model of rural development suitable action will be initiated with investments in the Rural Institutions sector.

20.44 *Financial Administration*: Improvement of the methods of financial operation and control such as budgeting, audit and accounts suited to the changing needs of national devpeolment should be given high priority. Professional training in such strategic areas require to be expanded and strengthened during the Second Five Year Plan. In carrying out this programme the following courses of action will be taken :

(i) Emphasis should be laid on consolidation and optimum use of the existing training instiutions rather than their proliferation. Greater attention should also be given to in-service and on the job training as against institutional training.

(ii) Existing training institutions should be equipped with adequate physical facilities and properly qualified professional trainers. The financial organization should also take full advantage of major regular training institutions, such as the MDC, IBA, Institute of Cost and Management Accountants and the Institute of Chartered Accountants.

(iii) Training in financial administration at regional level will have to be arranged to develop competence at different administrative tiers and local bodies which will be responsible for handling sizable development funds. More elements of financial administration and control methods and procedures should be incorporated in the training progammes of the institutions now imparting training in rural development.

20.45 Studies for identifying existing drawbacks and suggesting measures for strengthening of the financial administration system are extremely important. The existing training/research institutions mostly outside the Government, conducting research in this area are, by and large, dealing with rather general aspects of financial management. It is proposed that research in this area should be addressed to specific issues and problems.

20.46 In addition to the above programmes in the area of training and research it is suggested that :

(i) The Government accounting system should be decentralized in phases and the budgeting and financial control procedures should be simplified/geared to the need of decentralized administration and development.

(ii) Mechanization of accounts should, in phases, replace the present manual system of accounting and arrangements should be made on priority basis, for systematic training of personnel for introduction of an effective execution of the mechanized accounting system; the Bureau of Statistics can cater to such training needs.

(iii) Audit should be conducted with a professional bias on a regular basis every year.

(iv) Audit should be separated from accounting and career management of audit and accounting personnel should be independent of each other.

20.47 *Regulation of Bureaucratic Expansion and Proliferation*: Growth of bureaucracy has been quite substantial since liberation. A large number of institutions have cropped up and existing organisations have expanded fast. While training and systems and procedures have not coped with bureaucratic growth, there has not been much of a critical scrutiny of burauecratic proliferation and expansion. Directorates, semi-autonomous institutions and agencies have not only been established every now and then but agencies who have outlived their utility have also not been wound up. Government offices have at times been considered as employment agencies and such expansion has taken place, not necessarity contributing to better or faster delivery of service. This growth has adversely affected efficiency as the need for training could not be met and coordination between government agencies and even within individual agencies suffered erosion. There has been another kind adverse effect and this has been waste of resources in non-productive bureaucratic expansion.

20.48 It is intended to closely examine the staffing pattern of existing agencies to reduce the element of fat and make them trim and manageable. Justification for the existence of various organisations will also be looked into with a view to winding up some of them, merge some others and streamline the functions of those that are required to operate. Creation of any new agency will be scrutinised very severely and size of bureaucracy in existing institutions will be under strict control.

Financial Outlay

20.49 To implement the programmes indicated above, an amount of Tk. 38·00 crore (at 1979/80 prices) has been allocated for the sector. Break-up of this allocation by

major programmes at both constant and current prices and annual phasing of the same are shown in Table 20·5 and 20·6 respectively.

TABLE 20·5

SFYP Allocation for Public Administration Sector by Major Programmes

[Tk in crore]

Programmes	SFYP Allocation	
	At 1979/80 Prices.	At Current Prices.
1. Improvement of Public Administration Training Institutes and Facilities.	22·30	33·80
2. Organizational Development and Systems Improvements.	6·62	9·80
3. Socio-Economic and Administrative Research	8·02	10·03
4. Staff Welfare ..	1·06	1·37
Total ..	38·00	55·00

TABLE 20·6

Annual Phasing of SFYP Allocation

[Tk in crore]

Year	SFYP Allocation	
	At Constant Prices.	At Current Prices
1980-82	11·01	13·21
1982/83	7·43	10·39
1983/84	9·00	14·49
1984/85	10·56	16·91
Total	38·00	55·00

CHAPTER XXI

THANA DEVELOPMENT

Bangladesh is overwhelmingly rural and agrarian in character, very densely populated and extremely poor. Out of a total population of 9·2 crore, about 8·3 crore or 90 percent live in villages. There are over 68,000 villages and their number is increasing due to fast growth of population pressure on land. Further, because of underdeveloped physical infrastructures villages are isolated and are generally characterized by subsistence economics. Not only their integration into the national economy is lacking but they are also bypassed by national development administration as development planning in Bangladesh has been methodically pursued in a national framework. This approach had almost singularly emphasized the growth of national economy largely through the instrument of public agencies. Though equity, employment and rural development have been espoused to make growth meaningful to vast multitude of people living in rural areas, involvement of public agencies in local development has been minimal firstly, because of overwhelming urban-bias in past development strategies and secondly, due to absence of strong local administration in the rural areas. Though the local administrative unit called Thana had been the focus of central government development activities, impact had been minimal for lack of coordinated approach among government agencies and absence of effective participation of people in local level development. As a result the rural people do not have equitable access to public facilities and resources and their problems have further accentuated. Landlessness and unemployment have increased and income disparity further sharpened. For redeeming the growing sufferings of the vast multitudes who remained outside the national development process, atoning measures have been taken through rural public works such as Rural Works Programme, Food for Works Programme and Canal Digging. These efforts of the Government have also come to be supplemented by a large number of non-government organisations (NGO). Yet as these programmes constitute peripheral activities outside the main stream of development and mostly focus on short-term problems like seasonal unemployment, the common man has failed to keep up with their rural and urban elites.

21.2 Analysis of the failures of the policies, programmes and projects in rural development suggests that the institutional weakness has been the most critical factor impeding the national efforts to improve the quality of rural life. The successful implementation and management of local level development projects has faltered for lack of support from local level institutions though, as the canal digging programme demonstrated, local enthusiasm was not lacking. The absence of local level institutions has resulted in centralization of planning, management and control such that either intended beneficiaries have become alienated from the benefits of projects, or the projects have degenerated into useless efforts for lack of local commitment.

21.3 In the background of the above mentioned situation, the main thrust of the Second Five Year Plan has been the development of rural institutions to bring benefit of development to rural people. Improvement of the quality of rural life remains as the main concern of the Plan; it also envisages diversification of productive activities and improving the technological base of the rural economy and development of rural infrastructures along with expansion of essential public services in order to integrate isolated

village economies into the national economy. But the difference with past plans and programmes is that all these activities will be planned and executed by local institutions. The Government will supplement local efforts with substantial financial and technical supports. Local initiative will be encouraged to evolve a framework of grassroot level planning and implementation. Thus the rural sector will not only have a greater share of development expenditures, but the effectiveness of rural programmes will be ensured through the development and strengthening of district and thana level organisations and their fusion into local governments. In addition to enjoying some fiscal powers, the local bodies will share national government revenues and funds under Annual Development Programme (ADP).

21.4 Government has already decided to reorganize the Administration at the Thana level and integrated it with the local body—called Thana Parishad. Under this reorganised set up each Thana will be the focal point of all administrative activities. Responsibility for all development activities at the local level shall be transferred to the Thana Parishad while for responsibilities of central government the Parishad will act as a coordinating agency and local level supervisor. Thana administration is being strengthened through upgrading of Thana, so that it can initiate and undertake development programmes of local importance with resource support from the national Government. Integration of Thana administration into Thana Parishad will ensure better understanding of local problems and perceived needs of people by Government functionaries as well as fruitful implementation of development activities of local interest. This diffusion of planning process will necessitate greater coordination of planned activities in as much as there will be greater necessity for flexibility in plan implementation.

21.5 With shift in emphasis in favour of rural development, the Thana administration is being strengthened to make it really the vehicle for rural development. Thana Executive Officer called 'Thana Nirbahi Officer (TNO)' will have the coordinating role for public programmes such as supplies of agricultural inputs and minor irrigation equipment, development of small and cottage industries, establishment of education, health and family planning facilities, development of infrastructures and promotion of employment through Rural Works Programme and Food for Works Programme. The Government has already integrated local government at union level with the Thana Parishad in a large number of Thanas. Thana Nirbahi Officer will act as Staff Officer to the elected Chairman of Thana Parishad. He will be the Chief Executive Officer of the Thana Parishad and shall be responsible to the Chairman of Thana Parishad and assist him in implementation of policies and decisions of the Thana Parishad. Till such time, Chairmen of Thana Parishads are elected the Thana Nirbahi Officer will act as the Chairman of the Thana Parishad.

21.6 The services of officers dealing with subjects transferred to the Thana Parishad will be deemed to have been placed at the disposal of the Thana Parishad and they will be accountable to the respective Thana Parishad. Government and respective Departments will, however, continue to be responsible for the appointment, transfer, promotion, discipline and remuneration of these officers. The officers dealing with the subjects retained by the Government will be answerable to the Thana Parishad. The Thana Parishad will be competent to call for reports from these officers on their activities and also summon them for hearing. Thana Parishad will also be entitled to cause inspection of their offices and report to Government on any lapse in their discharge of duties which may come to the notice of the Parishad. Thana Parishad will also provide the necessary assistance to enable these officers to function effectively in Thanas.

21.7 The emphasis on rural development and people's participation necessitating decentralisation of administration and development of local institutions has warranted the reorganisation of the administration at Thana level as discussed above. The reorganised administrative set up is being introduced in phases. Out of 493 Thanas, 407 are classified as rural of which 212 Thanas have already been upgraded and the remaining 195 Thanas will be upgraded by November, 1983 in four phases. Each Thana has on the average 113 sq. miles area and a population of 190 thousand. To assist the Thana Parishad to effectively organize its development activities into thna development plan, thana profiles are being prepared on the basis of last population census (1981) and will be updated on a continuous basis. The completion of Agricultural Census next year will provide still better profiles for the Thanas.

21.8 Further in order to cope with responsibility of development activities at the local/regional level, the existing local level organisations will be strengthened and new institutions created. Local/Regional Planning and Monitoring Cells will be created for this purpose. The local government institutions will be reorganized so that they can perform their development tasks efficiently. Trained planners and project implementation officers including finance and planning officers will be posted in the local/regional cells. To ensure people's participation in the development process, local level voluntary organisations will be encouraged to inculcate a spirit of self-help. Such organisations will also work as a system for efficient use of voluntary labour in various fields of rural life, not only in production but also in community development.

21.9 The main guidelines to provide funds for Thana Parishad are :

(i) Fund for direct allotment to the upgraded Thanas should be estimated keeping in view the nature of different programmes and programme-wise allocations. The principle here is one of outright transfer rather than a mere delegation of financial and planning functions.

(ii) With their present level of expertise and experiences in local level project planning and implementation, the Thanas are also capable of managing national projects like Rural Works Programme, the Food for Works Programme, Intensive Winter Cultivation Programme, Thana Fishing, etc. Such projects which are presently being implemented by the national Government may thus be transferred to the upgraded Thana Parishad.

(iii) Sector Ministries will recommend specific project within their jurisdictions that might conveniently be transferred to the upgraded Thanas. In 1983/84 a number of national projects which can be disaggregated by Thanas will be transferred to Thanas for execution. These national projects like, primary school development, rural water supply and sanitations, assistance to orphanages, etc. will be transferred to Thanas with their financial allocations as well as project staff for implementation by Thana Parishad.

(iv) The Thana Parishad would require funds for both current expenditure and development outlay. It is likely that in course of time the demand for current expenditure will grow as they will have more staff to pay and more facilities to maintain. Funds for Thana Parishads will come from the following four sources :

(a) Taxes, rates, tolls and fees which are leviable by the Thana Parishad;

(b) **Prorata** shares of some of national government revenues such as amusement tax, land development tax, land transfer fees, etc.;

(c) lump allocations in the Annual Development Programme (ADP); and

(d) specific allocations for individual projects which will stand transferred from the national government to Thana Parishad.

Revenue from sources (a) and (b) will be mainly utilised for meeting revenue expenditure. Surplus from these sources will be used for financing development activities.

21.11 It is recognised that Thana Parishads to function effectively must also have some basic physical facilities. They must have administrative buildings, some road or other links with the rest of the country and sites, and services to induce people to transfer dormant villages into the hub of life. A programme for Thana Development has been undertaken and an allocation of Tk. 425 crore (at current prices) has been made in SFYP for this purpose. It is acknowledged that this transformation of Thanas into seats of mini-government's will warrant some expansion in current expenditure. But this is expected to be fully compensated by the possible improvement in implementation in development programmes. It is further contemplated that in course of time devolution of government to Thana levels will secure diminution of the apparatus of the central Government.

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