Implementation of Global Strategy to Improve Agricultural and Rural Statistics

REPORT ON IN-DEPTH CAPACITY ASSESSMENT OF BANGLADESH TO PRODUCE AGRICULTURAL AND RURAL STATISTICS

September 2014

BILL & MELINDA GATES *foundation*

Food and Agriculture Organization of the United Nations

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MESSAGE

I am happy to know that Bangladesh Bureau of Statistics of Statistics and Informatics Division, Ministry of Planning and FAO are jointly publishing the In-depth Capacity Assessment Report on Agricultural and Rural Statistics in Bangladesh. It may be noted that agriculture remains the most important sector of the country's economy, which contributes around 17% to the GDP. The economy, employment and food security largely depend on the performance of this sector and we are proud that the country is self reliant in food and ranked as the 4th largest rice producing country in the world. Government of Bangladesh has been extending all out efforts to maintain the sustainable agriculture growth to meet all challenges caused by the reduction of agricultural land due to rapid urbanization and increased population and degradation of agriculture land by climate affect.

In the midst of global challenges in ensuring food security the initiative to develop the Global Strategy to Improve Agricultural and Rural Statistics (GSARS) came as a response to address developing countries' lack of capacity to provide reliable statistical data on food and agriculture and to provide a blueprint for long-term sustainable agricultural statistical systems. Sound and reliable agriculture statistics is an inevitable part in the process of development planning. I am very happy that Bangladesh Bureau of Statistics under the active guidance of Statistics and Informatics Division has successfully carried out the critical exercise of In-depth Capacity Assessment of Agriculture and Rural Statistics in Bangladesh in line with the global strategy. Bill and Melinda Gates Foundation played a remarkable role by providing financial support and FAO in Bangladesh has organized the process in conducting the in-depth assessment. I express my sincere thanks for their support.

The Global Strategy is a comprehensive framework for improving the availability and use of agricultural and rural data, necessary for evidence-based decision making. I hope this report will be of great benefit to the users and stakeholders in understanding crucial issues for integrating agriculture into the National Statistical System and development planning of Bangladesh.

AHM Mustafa Kamal, FCA, MP
Minister
Ministry of Planning
Government of the People's Republic of Bangladesh

MESSAGE

I am delighted to learn that Bangladesh Bureau of Statistics (BBS) of the Statistics and Informatics Division (SID), Ministry of Planning has successfully completed the In-depth Capacity Assessment on Agricultural and Rural Statistics in Bangladesh. It is encouraging that FAO has implemented this initiative under the Global Strategy to Improve Agricultural and Rural Statistics with the financial support of Bill and Melinda Gates Foundation.

It is worth mentioning that the economy of Bangladesh largely depends on the broad agriculture sector namely agriculture, fisheries, livestock and forestry. Considering the importance of broad agriculture sector, Statistics Act 2013 kept provision for conducting censuses on agriculture, fisheries and livestock. I believe the capacity assessment report will play important role in identifying the underlying areas of agricultural statistics of Bangladesh. This will in turn improve the quality of data of agriculture sector for international comparability.

I would like to express my sincere thanks to the agencies and individuals involved in the capacity assessment process. I hope this report will help the concerned ministries/agencies in generating reliable and timely agriculture statistics for the country.

M. A. Mannan, MP
State Minister
Ministry of Finance and Ministry of Planning
Government of the People's Republic of Bangladesh

FOREWORD

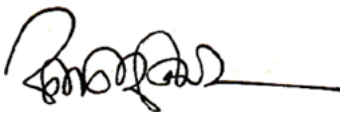
The agriculture sector in Bangladesh plays vital role in the economic development of the country. It is the largest economic sector which comprises around 17% of the country's GDP and employs more than 47% of the total labour force. The performance of this sector has great impact on macro-economic situation of the country. Reliable agriculture statistics is urgently needed for adopting appropriate policy measures for development of this vital sector.

It is our pleasure to be the anchor country in the Asia and the Pacific region and we have successfully completed the In-depth Capacity Assessment of Agricultural and Rural Statistics following Global Strategy to Improve Agriculture and Rural Statistics endorsed by United Nations Statistical Commission (UNSC). We also feel privileged as FAO implemented the initiative with the financial support of Bill and Melinda Gates Foundation. The strengths and weaknesses of agricultural statistics have been identified in the assessment report. Bangladesh Bureau of Statistics (BBS), as the National Statistical Organization hosted the assessment programme and other relevant ministries/divisions/agencies were actively involved in the process.

I would like to express my gratitude to the honorable Minister, Ministry of Planning for his valuable guidance and support in carrying out this activity. I am also thankful to the honorable State Minister, Ministry of Finance and Ministry of Planning for his encouragement in the development of statistics in Bangladesh.

I take this opportunity to render my sincere thanks to the Director General, BBS for his effective guidance to this team who have successfully completed the task. Thanks are due to all other staff members of BBS and the members of other related ministries/divisions/agencies for their support in implementing the assessment process.

I express my thanks and gratitude to Bill and Melinda Gates Foundation for providing the financial support to this important undertaking. I appreciate the active role of Food and Agriculture Organization (FAO) of the United Nations in providing technical support in implementation of this programme.



Kaniz Fatema ndc
Secretary-in-charge
Statistics and Informatics Division (SID), Ministry of Planning
Government of the People's Republic of Bangladesh

PREFACE

Accurate statistics are central support to the design of policies for development of agriculture sector as well as for eradication of poverty and improving food security, and to monitor effectiveness of programmes. The Global Strategy to Improve Agricultural and Rural Statistics, endorsed by the United Nations Statistical Commission and the Ministerial Conference of FAO, is a global initiative to respond to a general decline in availability of reliable statistics seen in many countries during recent decades. The Global Strategy provides a framework to enable the national systems to produce core essential data to meet the requirements of stakeholders in the crop, livestock, fish and forest sub-sectors in an integrated and consistent manner.

Bangladesh was identified as one of the anchor countries for implementation of the Global Strategy in the Asia-Pacific region. Work began with an in-depth capacity assessment (IdCA) of institutions in Bangladesh to produce core data on agricultural and the rural sector. The assessment was carried out under the auspices of Bangladesh Bureau of Statistics (BBS) by a team of national experts representing different agencies. The assessment process benefitted from technical backstopping by FAO, which has also developed the standards and methodology needed for such an assessment.

This IdCA report covers features of agriculture and rural sector in Bangladesh, issues in the management of food and nutrition security of the country, existing statistical activities, and the data needs for preparing necessary policy and programmes. The IdCA report has identified wide-ranging proposals covering aspects of technical assistance, training, research and capacity development. Besides being a reference document for many partners, this assessment will serve as the starting point for the development of Strategic Plan for Improvement of Agricultural and Rural Statistics (SPARS) which is expected to provide strategic direction to the process of development of agricultural statistics.

FAO has taken note of Government commitment to improve statistics in general in the country, as demonstrated by establishment of a National Strategy for Development of Statistics (NSDS) and passing of a Law on Statistics, These documents will provide the framework for development of SPARS. It is heartening to note that the IdCA findings are already receiving attention of development partners.

FAO has taken leadership in providing technical support to establish a technically sound system of agriculture statistics to support the needs of a diverse set of stakeholders in a cost-effective and integrated manner. The work being done in Bangladesh under the Global Strategy and related projects has the potential to become a model for other countries facing similar challenges.

A large number of agencies of Bangladesh are involved in production of agricultural and rural statistics. The agencies have differing human, technical and financial capacities. Development of an integrated system of surveys for collection of statistics, envisioned under the Global Strategy, relies upon building effective partnerships between institutions to work to improve agricultural and rural statistics. The successful preparation of IdCA, with support from Bill and Melinda Gates Foundation, is attributed to the committed stewardship of the Statistics and Informatics Division of the Ministry of Planning, Government of Bangladesh.

Lastly, I would like to acknowledge the efforts put in by a team of experts lead by Dr Mukesh Srivastava, Senior Statistician in FAO, Regional Office in Bangkok in preparing this report. The FAO consultants Dr Rajiv Mehta and Prof Shahadat Hussein, BBS staff and members of inter-departmental Task Force have worked tirelessly to bring this important work to completion. It is hoped that the IdCA work presented here will usher in an improved agricultural and rural statistical system, to meet the needs of diverse stakeholders in the country.

Mike Robson
FAO Representative in Bangladesh

MESSAGE

Global Strategy to Improve Agricultural and Rural Statistics is a historic landmark initiative to improve evidence based policies on agricultural and rural sector which besides providing food security is also crucial of livelihoods of a vast majority of populations in many developing countries.

Given the challenges in the food and agricultural sector and the weak data availability, Bangladesh was rightly selected as one of the first countries to implement this initiative. I had the privilege to provide technical leadership to this work. At the outset, I would like to express my gratitude to the then Secretary, SID, Mr Nojibur Rahman for his keen interest and direction to this work, and to the team of consultants and government staff for their contributions.

The political commitment to improve agricultural and rural statistics in Bangladesh provided the right environment to carry out an In-depth Assessment of Country Capacity to produce Agricultural and Rural Statistics. The assessment was carried out through extensive participation of all the stakeholders in the statistical system, and relied upon a methodology developed through a global consultative process. This work is the most comprehensive and valid assessment on Bangladesh available to date. It is expected that for next couple of years this work will remain the first authentic reference document for those interested in contributing to development of agricultural statistics.

This work will form the basis for development of a Strategic Plan for Agriculture and Rural Statistics (SPARS) which will take forward the vision enshrined in the National Strategy for Development of Statistics (NSDS), with particular reference to agricultural sector. SPARS will focus on the requirement of statistics for development of crops, livestock, fish and rural sectors, and thus will need to be fully integrated with the development planning of the country for these sectors.

SPARS will rely on integrated data collection system on crop, livestock and fish. As a first step this document will seek to establish a national survey calendar which is shared by different stakeholders, providing them appropriate role based upon their resource endowment and comparative advantage, while ensuring compliance of national quality standards for production and release of official statistics. Some strategic choices on suitability of types of sampling frames for long-term use will need to be made for establishing a master sampling frame for integrated surveys.

The efficiency and success of SPARS will largely depend upon "Partnerships" that will be established to implement it. Besides the alliance of resource partners and technical assistance providers, partnership among national institutions will be critical in sharing roles in statistical activities which may not be feasible to undertake by any single agency. SPARS development process will endeavour to establish an institutional framework for these partnerships.

Once SPARS has been established, there will be need for external partners as well to provide technical assistance, build statistical infrastructure and human resource capacity, and to bring-in the international best practices.

Mukesh Kumar Srivastava
Senior Statistician, FAO Regional Office for Asia and the Pacific

ACKNOWLEDGEMENTS

The agricultural and rural sector in Bangladesh has particular importance for the sustained food and livelihood security of its large, dense and ever-growing population. The agricultural activities in the country are pursued intensively for the crop as well as allied sectors and in conditions of scarce natural resources. The statistics Act 2013 stressed on the availability of statistics of the broad agricultural sector for planning and policy making. The National Strategy for the Development of Statistics (NSDS) also suggested for the development of a unified National Statistical System (NSS) in Bangladesh for meeting the crying needs of statistics for evidence based policy making for the development of the country.

With the purview of development of agricultural statistics in the country, Bangladesh Bureau of Statistics (BBS) of the Statistics and Informatics Division (SID), Ministry of Planning as National Statistical Organization has taken necessary measures to improve the quality of statistics and enhance the coverage of agricultural statistics following the recommendations of FAO. The aim is to ensure sound methodology, accurate estimation procedure as well as to generate internationally comparable core set of indicators developed by FAO in the field of agriculture.

In continuation to that, BBS implemented the In-depth Capacity Assessment of Agricultural and Rural Statistics in Bangladesh in 2014; a global initiative formulated by the United Nations Statistics Division (UNSD) entitled Global Strategy to Improve Agricultural and Rural Statistics. This activity was done with the technical support of FAO and the financial support of the Bill and Melinda Gates Foundation. It is mentionable that Bangladesh is the anchor country in Asia and the Pacific Region to successfully complete the assessment. There were as many as twelve ministries/ agencies including BBS involved in the assessment process. The national and international consultants of FAO used a comprehensive questionnaire for in-depth assessment on methodological issues, structural arrangement, strengths and weaknesses of agriculture statistics. In finalizing the assessment report, necessary and exhaustive consultations were made by the members of taskforce of twelve related ministries/agencies under the chairmanship of Director General, BBS.

I believe that the report highlighted a clear scenario of strengths and weaknesses of agricultural statistics of the country. I also hope that the report will act as an important policy guide to improve the quality of agriculture statistics produced by BBS as well as other relevant ministries/departments.

This important task has become possible for the valuable guidance and instructions made by AHM Mustafa Kamal, FCA, MP, the honorable Minister for Planning. I express my profound gratitude to him for his generous support.

I would also like to express my gratitude to Mr. M. A. Mannan, MP honorable State Minister, Ministry of Finance and Ministry of Planning for his encouragement and keen interest for the development of statistics in Bangladesh. I would like to express my gratitude to Ms. Kaniz Fatema ndc, Secretary-in-charge, Statistics and Informatics Division (SID), Ministry of Planning for her constant guidance and suggestions for successful implementation of the process.

I extend thanks to the members of taskforce of different ministries/agencies for the valuable efforts made by them for the capacity assessment. I would like to thank Mr. Md. Baitul Amin Bhuiyan, Deputy Director General, BBS, Ms. Salima Sultana, Director, Agriculture Wing, BBS, Mr. Bidhan Baral, National Focal Point of IdCA in Bangladesh and Joint Director, BBS and other staff members of BBS for their relentless efforts to make the assessment a success. It would be worth mentioning the valuable contribution of Dr. Mukesh Srivastava, Senior Statistician, FAO Regional office for Asia and the Pacific, Dr. Rajib Mehta, International Consultant, FAO in providing technical support in implementation of the IdCA in Bangladesh. Prof. Dr. Syed Shahadat Hossain has made capacity assessment process successful by preparing this report and deserves special appreciation for the relentless effort in this tedious task. BBS deeply acknowledges the significant financial assistance made by the Bill and Melinda Gates Foundation to implement the process.

Finally I would like to thank Mr. Mike Robson, FAO Representative in Bangladesh and his colleagues for their sincere support toward the successful implementation of the capacity assessment program in Bangladesh.

Golam Mostafa Kamal
Director General
Bangladesh Bureau of Statistics (BBS)

ACRONYMS

ACPS	Agriculture Crop Production Survey
AIS	Agricultural Information Services
AMIS	Agriculture Market Information System
BADC	Bangladesh Agriculture Development Council
BARC	Bangladesh Agricultural Research Council
BARI	Bangladesh Agricultural Research Institute
BB	Bangladesh Bank
BBS	Bangladesh Bureau of Statistics
BINA	Bangladesh Institute of Nuclear Agriculture
BIRTAN	Bangladesh Institute of Research and Training on Applied Nutrition
BJRI	Bangladesh Jute Research Institute
BMDA	BARIND Multi Purpose Development Authority
BMPI	Building Materials Price Index
BRRI	Bangladesh Rice Research Institute
BSRI	Bangladesh Sugarcane Research Institute
BWDB	Bangladesh Water Development Board
CDB	Cotton Development Board
COP	Cost of Production
CPI	Consumer Price Index
DAE	Department of Agricultural Extension
DAM	Department of Agricultural Marketing
DLS	Department of Livestock Services
DOF	Department of Fisheries
EC	Economic Census
ECNEC	Executive Committee of the National Economic Council
EPB	Export Promotion Bureau
EWS	Early Warning System
FAO	Food and Agriculture Organization of the United Nations
FBS	Food Balance Sheet
FPMU	Food Planning and Monitoring Unit
FPO	Focal Point Officer
FRSS	Fisheries Resources Survey System
GDDS	General Data Dissemination System
GDP	Gross Domestic Product
GIS	Geographical Information System
GoB	Government of Bangladesh
GS	Global Strategy to Improve Agricultural and Rural Statistics
HIES	Household Income and Expenditure Survey
HRI	House Rent Index
ICT	Information and Communication Technology
IdCA	In depth Capacity Assessment
IMF	International Monetary Fund
ISIC	International Standard Industrial Classification
ISRT	Institute of Statistical Research and Training

IT	Information Technology
LFS	Labour Force Survey
LUS	Land Use Statistics
MDG	Millennium Development Goal
MoA	Ministry of Agriculture
MoC	Ministry of Commerce
MoD	Ministry of Defence
MoEF	Ministry of Environment and Forests
MoF	Ministry of Food
MoFL	Ministry of Fisheries and Livestock
MoLGRDC	Ministry of Local Government, Rural Development and Cooperative
MoP	Ministry of Planning
MoWR	Ministry of Water Resources
NAS	National Accounts Statistics
NBR	National Board of Revenue
NGO	Non-Government Organization
NQAF	National Quality Assurance Framework
NSC	National Statistical Council
NSDS	National Strategy for the Development of Statistics
NSO	National Statistics Office
NSS	National Statistical System
PARIS21	Partnership in Statistics for Development in the 21st Century
PDA	Personal digital Assistance
PEC	Post Enumeration Check
PPI	Producer Price Index
PSU	Primary Sampling Unit
QNA	Quarterly National Accounts
RAP	Regional Office for Asia and Pacific
SCA	Seed Certification Agency
SDDS	Special Data Dissemination Standard
SID	Statistics and Informatics Division
SIMPOC	Statistical Information and Monitoring Programme on Child Labour
SMI	Survey of Manufacturing Industries
SNA	System of National Accounts
SOE	State Owned Enterprises
SPARRSO	Space Research and Remote Sensing Organization
SPARS	Sector Plan for Agriculture and Rural Statistics
SPSS	Statistical Package for the Social Sciences
SQ	Standard Questionnaire for Capacity Assessment
SRDI	Soil Resource Development Institute
SSTI	Statistical Staff Training Institute
TATRA	Technical Assistance, Training, Research and Advocacy
UNSC	United Nations Statistical Commission
WMS	Welfare Monitoring System
WRI	Wage Rate Index

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OVERVIEW

1 The **Global Strategy to improve Agricultural and Rural Statistics** is a worldwide initiative endorsed by the United Nations Statistical Commission (UNSC) as well as by the Ministerial Conference of the FAO, aimed at repositioning national and international agricultural and rural statistics systems to meet the requirements of various stakeholders in the twenty-first century. The three pillars of the Strategy, constituting its conceptual framework, are (i) enhancement of capacities of the countries to produce a minimum set of core agricultural and rural statistics with desired quality and timeliness, (ii) support to the integration of agricultural statistics in the national statistical system[1] and (iii) strengthening of the institutional mechanism for sustainability of these actions. The implementation of the Strategy is carefully crafted in global and regional perspectives. The Food and Agriculture Organisation of the United Nations (FAO), in collaboration with other international development agencies, is entrusted with its implementation.

2 The Strategy has an end-to-end implementation approach. **In-depth Capacity Assessment (IdCA)** of agricultural and rural statistics is the starting point, leading to the formulation of country-specific Sector Plans for improvement of Agricultural and Rural Statistics (SPARS), integrated with the harmonised conceptual framework of the Strategy. The Standardised Country Assessment Questionnaire (SQ) is a key instrument used in the IdCA to assess capacity to generate agricultural and rural statistics in the country

3 **Bangladesh is amongst the initial anchoring countries** for regional implementation of the Strategy in the Asia Pacific Region. This report on capacity assessment is an outcome of an exhaustive consultation process and inputs available through an inter-department task force under the chairmanship of the National Statistical Office (NSO) of the country (Bangladesh Bureau of Statistics – BBS of Statistics and Informatics Division, Ministry of Planning – MoP).

4 The **agricultural and rural sector in Bangladesh** has particular significance for the sustained food and livelihood security of its large, dense and growing population. The agricultural activities in the country are pursued intensively for the crop as well as allied sectors and in conditions of stressed natural resources. Crop husbandry, with about 55% share in the agri-GDP, is a major contributor in the economy and furthermore, paddy has predominance with about 75% crop sown area. However, the Bangladesh farm families are also engaged in commercial and diversified agricultural activities including fish and shrimp farming, poultry and livestock rearing, and vegetable, maize, and oil crop production. The spread of water tributaries in the great Sunderbans delta and other water bodies support the fishery sub-sector that has about 23% share in the agricultural economy. Hydrology also supports the cultivation of winter rice (boro) crop and its vast rice area becomes available for rice-fish culture. The diversified agriculture sector has a distinct perspective of planned development and growth, which is a national priority and for this reason and for regular monitoring of the demand and supply of food and agriculture produces, there is a realised regular need for agricultural statistics. The National Statistical System (NSS) is mandated to be responsive and sensitive to such needs.

5 The **NSS in Bangladesh** is generally centralised with the majority of statistical activities including agricultural statistics carried out by the BBS. The organisational structure of the BBS is on functional lines for its operations such as Agriculture

1 Integration of agriculture with National Statistical System implies the integration of agricultural and rural statistics. The aspects of such integration are discussed in the Chapter 4 of this report.

Census, National Accounts, Training etc. There are separate subject-specialised "Wings" for these operations. Some of the key requirements of agricultural and rural statistics are met through the surveys and censuses periodically conducted by the BBS. The Annual Survey on Crop Production is one of the priority surveys of the BBS, generating annual area and production estimates for 124 crops, which includes major crops such as aus, aman, boro (three paddy crops), jute, potato and wheat. The BBS has had experience in conducting three agricultural censuses since the country's independence.

6 Not all activities concerning agricultural statistics are carried out by the BBS and there are also some important activities, such as generation and dissemination of fisheries statistics that are organised in a decentralised manner by the Department of Fisheries (DoF) under the Ministry of Fisheries and Livestock (MoFL). On some other subjects, such as livestock and poultry, the regular generation of statistics is not well-organised. The BBS also organises price statistics, indices and other macroeconomic aggregates. There are sporadic and less statistically structured data collection/compilation activities carried out by other agencies such as the Department of Agricultural Marketing (DAM),Forest Department, Department of Environment, Bangladesh Agricultural Development Corporation (BADC), Bangladesh Water Development Board (BWDB) etc.

7 The recently enacted **Statistics Act 2013** empowers the BBS with the responsibility for collection, compilation, analysis, dissemination and coordination of all types of statistics including agricultural statistics in the country in a methodological and timely manner. The Act also entrusts the BBS with the functions of supporting, coordinating and endorsing the statistics generated and disseminated by other line ministries, departments and organisations. This, in the long run, is expected to streamline the methodological and reporting differences of many key national statistics, enhance credibility of statistics and improve access and availability to different users and stakeholders.

8 Further streamlining of the NSS is aimed to be achieved through the **National Strategy for the Development of Statistics (NSDS)** approved in 2013. The NSDS focuses on the needs of all data users, to promote better generation and dissemination of statistics and to strengthen all statistical services so that they meet the needs of a rapidly developing nation. The aim is to ensure that the statistical system provides comprehensive and coherent statistical data while making effective and efficient uses of national resources. In the implementation of the NSDS, inadequate documentation of methods, weak infrastructure, inadequate financial resources, problems related to data dissemination including duplication of sources, inadequate metadata and poor access by users, and management and coordination problems in the NSS have been identified.

9 The NSDS is to be implemented through the BBS. Eight wings of the BBS will be responsible independently for the successful implementation of activities in their respective areas of responsibility. The NSDS has acknowledged detailed consultations with a number of development partners and agencies in its preparation process. During the consultations, it became clear that the links between the BBS and other data producers were very limited and that immediate improvements in coordination were needed. It has been recommended that this coordination and partnership engagement should continue in the future for the successful implementation of the NSDS.

OVERVIEW

10 For implementing the NSDS, a total of 61 strategic goals have been identified with responsibility distributed over the functional wings of the BBS. About 35 of these strategic goals were found to have direct or indirect synergy with the Global Strategy. Hence, the NSDS implementation plan is given due consideration in the IdCA and in identifying proposals for Technical Assistance, Training, Research and Advocacy (TATRA).

11 The **IdCA reviewed all the major statistical activities** carried out by the BBS and the line departments, their methodologies, data user needs and gaps, data duplication, and resource availability in different agencies. The review brought to notice the strengths and weaknesses in the NSS in producing agricultural statistics. While the strengths are revealed in many perspectives, the noticeable limitations are related to statistics on land use, irrigation, livestock and poultry sub-sector; inadequacy in methodology, skills and resources with line departments carrying out statistical activities of respective sub-sectors, e.g. fisheries, agricultural marketing and forestry; data gaps in price; inputs and resources and absence of mechanism of crop forecasting; periodic crop monitoring and early warning system for food and agriculture; and food stock and food balance sheet. The IdCA also took note of the issue of duplication in crop production estimates by the BBS, the Department of Agriculture Extension (DAE) and the FAO supported project for harmonisation of these estimates and methods. Some of the user departments were found to be lacking appreciation of statistics in their respective fields of work.

12 Another important area looked into by the IdCA is the aspects of **integration of agriculture into the NSS**. The integration of statistical systems is expected for diverse data sets in order to be coherent, relevant and user friendly for dissemination, analysis, inference and decision support. Institutional integration is internally synergised in the BBS and strengthened with the provisions made in the recently enacted Statistics Act, 2013. However, in the statistical system with the BBS at centre stage, there is a felt need for a strong mechanism for internal coordination within the elements of the organisations, and external coordination with other stakeholders and partners. The line departments need the BBS to have more interaction on the aspects of related concepts and definition. It was also felt that the field staff from the line ministries and departments engaged in data exercise had weak statistical orientation. It was observed that the aspect of integration was limited on account of different sampling units for data collection and respectively frames used in the agriculture sector. This heterogeneity in statistical activities poses constraints in the integration of databases.

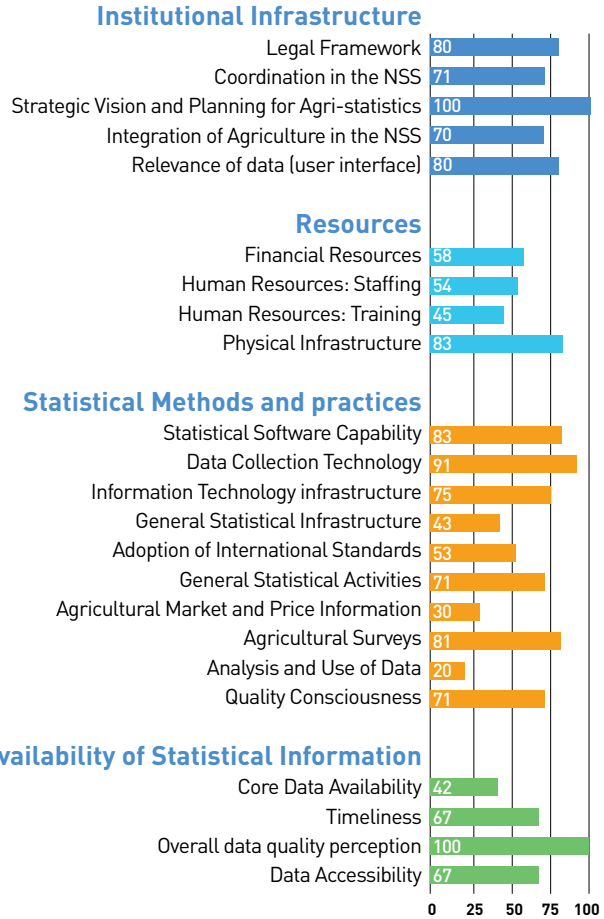
13 Availability of the **desired minimum set of core data** has been comprehensively assessed. For each data element, the concepts, definitions, classifications, the data collection agency, data collection methodology, level of disaggregation provided and data collection frequency have been documented. The identified core data have been also mapped with the agencies responsible for their generation.

14 Each identified core data set has been also measured on the scale of data availability e.g. data collected, not collected/ partially collected, collected only at administrative level, collected but not at needed frequency, precision and methodology, by projections, by multiple agencies etc. Several data relating to minor crops, livestock, fisheries, forest data, price data and data on environment have been observed to be suffering from one or more deficiencies, as summarised in the table :

Data issue	Core Data
Core data collected	Crop statistics, Major crops, Employment, HCI, Animal feed, CPI, Demographic
Core data not collected/ partially collected	Agro processing, Commodity prices, Food stock, Food balance sheet, Environmental data
Core data collected only through administrative process	Forestry, Trade, Fertilisers, Pesticides, Seeds, Govt. expenditure, rural infrastructure
Core data collected but not at needed frequency	Agriculture machinery
Core data collected but precision is lower than demanded	Crop statistics, Minor crops
Core data collected but methodology lacks soundness	Fisheries, Water use, CPI, rural infrastructure, Land cover and Land use
Core data disseminated with projections on baseline	Livestock and poultry, Trade
Core data by multiple agencies	Crop statistics, Major and minor crops, Livestock and poultry, Trade, Land cover and Land use

15 The **agricultural and rural statistics capacity assessment framework** provides a standard structure that can be applied in a wide variety of situations to assess statistical systems based on quantitative and qualitative information. It provides an insight into most aspects of the statistical environment in which data are collected, processed and disseminated. It also assesses the government's commitment to provide the conditions necessary to give users confidence in the information produced, such as legal framework, strategic vision, institutional infrastructure and resources that support sound and timely statistical practices. The **Standardised Questionnaire (SQ) for Capacity Assessment** is the basis for building capacity indicators that are an important outcome of the IdCA for arriving at suggested areas of TATRA needs in Bangladesh.

16 A framework for country capacity assessment of the national statistical systems has been developed after thorough consultations at international forums. The framework prescribes **four dimensions and 23 elements** along which assessment is to be made. The indicators reveal relative strength in institutional infrastructure, moderate status of statistical methods, practices and availability of statistical information and lower capacity in resources in the country.



OVERVIEW

The above graph depicts these capacity indicators corresponding to the elements of those four dimensions.

17 **In terms of resource dimension**, physical infrastructure is not an issue in the country, but human resources required for statistical activities is a major issue, particularly in the line ministries. The issue basically relates to recruiting and retaining properly qualified statisticians and training those already employed. The arrangements for periodic in-service training of statistical personnel are an area requiring attention.

18 **In the statistical methods and practices dimension,** the weakest area is "analysis and use of data". The food balance sheets are not prepared in the country and commodity balances are done for selected crops but lack comprehensiveness and reliability. Agri-environmental indicators are also not compiled. Improvements are needed in general statistical infrastructure like establishment and maintenance of sampling frames from crop, livestock, fishery and forestry activities, and use of latest versions of international classifications. Among the statistics domain, the agricultural market and price information was identified as a weak area which is in need of methodological support. Among the sub-sectors, livestock statistics are the weakest. Although the overall availability of statistical information seems reasonable, only about 40% of the minimum set of core data is available. The overall perception of data producers on the quality of available data is high, although the timeliness and access to data are the concerns in the system. There is wide divergence in the capacity level for different elements, and overall statistical methods and practices need attention for capacity enhancement. The overall capacity of the country in terms of core data availability needs to be improved.

19 Some **key observations** can be made from the above capacity synthesis. Strength to institutional infrastructure is provided by the NSDS and the legal framework. With a more proactive role foreseen to be taken up by the BBS, backed by implementation of the NSDS and the Act, the internal and external coordination would need strengthening. There is no separate strategy for agricultural statistics and it is part of the NSDS. **A sector-specific strategic vision and planning** for agricultural statistics is expected to complement and supplement the strategic framework of the NSDS and provide greater synergy with the Global Strategy. The provisioned official forum for dialogue between suppliers and users with well-established channels for receiving feedback can be strengthened further, keeping in view greater responsibility entrusted to the BBS with commitment to the guiding principles of official statistics expressed in the NSDS and to the provisions of the Statistics Act.

20 The general statistical infrastructure that relates to sampling frame etc. was found to have a lower score and this area of capacity development is clearly identified both in the BBS and in line ministries. The capacity to conduct various surveys was recognised. However, there are issues of coverage, methodology and constraints in **surveys on fisheries and livestock and water services.** The existence of different frames and exploring the frames for newer statistical activities need to be looked into to improve integration of agriculture into the NSS. Probability sample, sampling errors, metadata, and micro data compiled for many agricultural surveys by the BBS give a good quality consciousness score.

21 Financial and human resource constraints, importantly for training and capacity development, are reflected. The potential of existing IT capabilities is also recognised. This is to be reflected in line

departments also. **Capacity development in user departments** to use, analyse and infer statistics in a methodological manner needs to be considered. The decentralised survey activities conducted by line departments are less oriented to standardisation.

22 Need for enhancing capacity in **agricultural market and price information** was revealed. Statistics are derived for economic accounts in production and income for the agriculture sector; but gaps in several core data and policy formulation statistics such as food balance sheets, commodity balances for crops, stocks, livestock, and agri-environmental indicators need to be bridged.

23 The process of country assessment, aligned with the three pillars of Global Strategy, identifies the following **proposed areas of technical assistance, training, research and advocacy needs (TATRA)** in Bangladesh:

Proposal I: Development of a Strategic Plan for improvement of Agricultural and Rural Statistics (SPARS) in Bangladesh.

Proposal II: Strengthening the crop estimation system, including crop forecasting and crop monitoring for important crops and promoting in the process, the use of upfront technologies such as Geographic Information System (GIS) and remote sensing.

Proposal III: Developing an integrated framework of census and surveys for agriculture and rural sectors covering crops, livestock, fisheries, inland water bodies and other such related areas. This will include:

a. Decision on types of sampling frames (area, list or multiple) to be used for different surveys, and mechanisms to keep them updated;

b. Follow-up current surveys on sub-sectors (livestock, fisheries and related subject) to meet the annual data requirements;

c. Improvement of land use and irrigation statistics;

d. Periodic, less frequent surveys like cost of production surveys for specified crops;

e. Ad hoc surveys to estimate the norms and technical conversion factors e.g., those required for preparing the supply-utilisation account and the food balance sheet.

Proposal IV: Strengthening analytical capacity of institutions involved in the production and use of agricultural and rural statistics for better data use for management of the sector, policy making and monitoring progress in domains such as:

a. Food security: food stock survey, food balance sheet, agricultural market information system, agricultural price statistics, and statistics on agro-processing enterprises.

b. Building macro-economic indicators, national accounts, quarterly estimation of production and other indices like agri-environmental indicators.

c. Strengthening statistics for natural resource management and environmental conservation such as land, water and air.

Proposal V: Strengthening the mechanism of coordination, documentation, research and analysis in the NSS for improving agricultural and rural statistics.

Proposal VI: Human Capacity Building

a. Establishing statistical cells in the line ministries and agencies and strengthening sub-national entities engaged in the collection of agricultural and rural statistics.

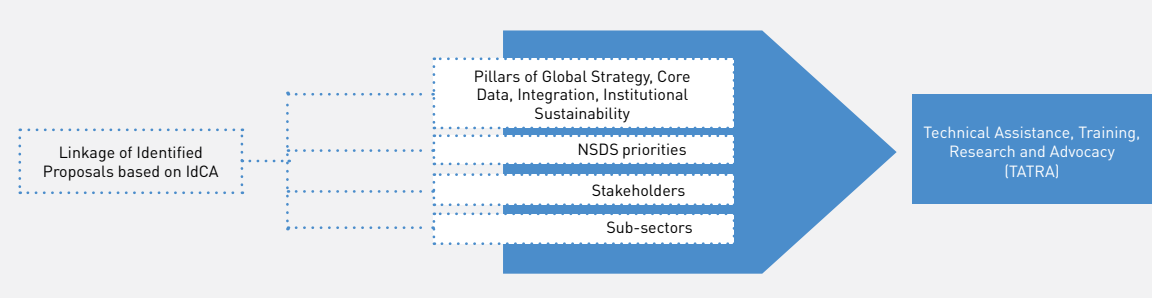
b. Strengthening capacity of national institutions to impart training in agricultural and rural statistics which will involve development of course modules and curricula, creating a pool of training faculty, and strengthening training facilities and infrastructure.

Proposal VII: Promoting ICT applications in agricultural and rural statistics including promoting appropriate use of technology, hardware and software resources, digitisation of survey frames, data management, national data centre, data dissemination and user interface.

Proposal VIII: Sensitising respondents and users for building up trust and reputation of statistical products.

24 The proposals so identified cover wide-ranging aspects from strategic planning to institutional, capacity and methodological development and have linkages with multiple dimensions of the endeavour to improve agricultural and rural statistics. These broad group proposals are mapped to the pillars of the Global Strategy, the existing NSDS proposals, the stakeholders and the sub-sector. Advocacy is a generic aspect of the overall proposals. There is likelihood of some overlap in technical assistance, research and training. Some technical assistance proposals may have inherent capacity development and research requirements. The research aspect can be specific to a particular subject or an area or a generic issue in the larger context. The proposals have been organised in major groups. Each proposal is expected to have several components addressing the dimensions. These dimensions are illustrated in the figure below:

25 The proposal (I) relates to an overall strategic plan to cover all the other identified areas of capacity development corresponding to respective stakeholders. It embraces all the stakeholders and is planned to dovetail with the NSDS, supplementing it with areas not covered. The other proposals are, however, different in terms of their relevance to the GS pillars, NSDS goals and its targeted stakeholders. A detailed mapping of these dimensions is given in Table 7.1. While proposal III is in concordance with GS pillars 1 and 3, all other proposals address all the three GS pillars. The MoP (BBS), Ministry of Agriculture (MoA) and the MoFL are the common stakeholders in each of the proposals, whereas proposals III, IV and VI also involve the Ministry of Water Resources (MoWR) and the Ministry of Environment and Forests (MoEF), and proposals II, III, IV and VI involve the Ministry of Food (MoF) and Ministry of Disaster Management and Relief (MoDMR). All the proposals relate to at least one of the goals of the NSDS.



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1.1 Overview of the Global Strategy to Improve Agricultural and Rural Statistics

The Global Strategy to improve Agricultural and Rural Statistics (FAO 2011) is a worldwide initiative endorsed by the United Nations Statistical Commission, aimed at restoring and repositioning national and international agricultural and rural statistics systems for meeting the requirements of various stakeholders in the twenty-first century. The Strategy was evolved in the background of increasing demand for statistics on food and agriculture on the one hand, and on the other, aggravating weaknesses in the system of agricultural and rural statistics in many countries to generate these statistics in a sustainable and timely manner and with desired reliability and standardised forms. In turn, the Strategy contributes towards more meaningful process of development to seek stable and sustainable food security and eliminate hunger and poverty in the long run.

The redeeming feature of the Strategy is its end-to-end implementation approach, carefully crafted in global and regional perspectives (FAO 2012). The four main elements of the plan are

(i) organisational arrangements to implement the Global Strategy;

(ii) country assessments;

(iii) technical assistance, training and research; and

(iv) advocacy.

The In-depth Capacity Assessment of agricultural and rural statistics is the starting point, leading to the formulation of country-specific Sector Plans for the improvement of Agricultural and Rural Statistics, integrated with the harmonised conceptual framework of the Strategy.

The three pillars of the Strategy that support the conceptual framework of the Strategy are:

(i) enhancement of the capacities of countries to produce a minimum set of core agricultural and rural statistics with desired quality and timeliness,

(ii) support to the integration of agricultural statistics in the national statistical system, and

(iii) strengthening of institutional mechanism for sustainability of these actions.

1.2 In-depth Capacity Assessment

The prime focus of the Strategy is to support improvement in the capacities of countries to develop a sustainable agricultural statistics system, well-coordinated and integrated in the NSS, using international standards and methods to generate a minimum set of core data. It is intended for the IdCA to be comprehensive with regard to the existing status of agricultural and rural statistics in the country, the agrarian structure and development priorities, assigned significance of the use of such statistics in decision making, institutional structure and processes, stakeholders perspective, and corresponding strengths and weaknesses. The important tool of the IdCA is the Standardised Questionnaire for Capacity Assessment aiming to capture the desired aspects of agricultural and rural statistics in the country and to generate capacity indicators, synergised with the requirements of the Global Strategy.

The IdCA report is thus expected to be a reference and guiding document for national and international communities to work on the development of agricultural statistics in a country. These requirements are to be put in the SPARS, a living document of resource needs and for support to meet the same,

to bring sustainable improvement to the system, and meet the ambitions of the Global Strategy. A sound basis of the Strategy is to be provided by the IdCA report on the outcomes of country-specific technical assistance, training and research support.

1.2.1 Assessment process of Bangladesh

Bangladesh is one of the anchor countries of the Asia Pacific region of the FAO, pre-selected for implementation of the Global Strategy in the initial phase. The Government of Bangladesh (GoB) has actively supported this initiative and constituted a group of Focal Point Officers (FPOs) from different line ministries and the departments associated with agricultural and rural statistics as a task force with the BBS, its focal point coordinator. The composition of the group is given in Annexure I.

The implementation commenced with the IdCA Consultation Meeting held in December, 2013 chaired by the Secretary, Statistics and Informatics Division (SID), MoP, and attended by the officials of the BBS, FPOs, FAO Bangladesh, FAO RAP Bangkok, and international and national consultants. The workshop provided an orientation to the Global Strategy, its action plan and the approach to the IdCA. The task force subsequently had three meetings and the draft report was reviewed in its last meeting held on 8th June, 2014. The deliberations of the task force were supplemented by focused interaction with line departments on the issues relevant to them and seeking their specific observations. The IdCA reviewed all the major statistical activities carried out by the BBS or the line departments, their methodologies, user data needs and gaps, duplication of efforts, and resources available in different data nodes.

The task force was involved in completing the SQ and there were periodic meetings of the task force as well as direct interactions with the line departments and the wings of the BBS. In this connection, an FAO expert team visited the departments of agriculture extension, agriculture marketing, fisheries, livestock, water resources and forestry in addition to relevant officials of the BBS. The SQ forms the basis of the IdCA and has an in-built process for the collection of data for building indicators. These capacity indicators are important outcome of the IdCA for arriving at suggested areas of TATRA needs in Bangladesh.

1.2.2 Structure of IdCA Report

The IdCA report has seven chapters. The present Chapter 1, besides introducing the global strategy and its approach for implementation, also provides an outline of the agriculture and rural sector in Bangladesh. Chapter 2 is on institutional environment covering the administrative structure of the country, the legal and institutional framework for collection of statistics, the structure of the national statistical system, the national strategy for the development of statistics and stakeholder analysis. The in-depth assessment of statistical activities relating to the agriculture and rural sector is discussed in Chapter 3. The pillar 2 of the Global Strategy seeks integration of agricultural statistics in the NSS. This aspect is covered in Chapter 4. The important outcome of the Global Strategy is the minimum set of core data to be generated by the countries. In Chapter 5, the core data are identified and data availability and existing data gaps are analysed in relation to the NSS and its line departments. As mentioned earlier, the SQ is structured to generate indicators of available capacity in the country. These indicators are dealt with in Chapter 6. This chapter also covers the strengths and weaknesses of the statistical system in meeting the objectives of the Global Strategy. Finally, taking into consideration the overall country assessment, the proposed area for technical assistance and training needs are identified and described in Chapter 7.

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Table 1.1: Key socio economic indicators of Bangladesh

Sl. No.	Indicators		
1	Geographical area (million hectare)		14.75
2	Population total (millions), 2012		152.25
3	Population density (population per sq. km) 2011		1046.2
4	Rural population (%)		71.4
5	GDP at current prices (billion US $), 2010		99.7
6	GDP (purchasing power parity) (billion US $),		311
7	GDP – composition by sector (estimates 2012)	Agriculture:	17.5%
8		Services:	53.9%
9		Industry:	28.5%
19	Labor force - by occupation (2008)	Agriculture:	45 %
11		Services:	30 %
12		Industry:	25 %
13	% of population living below the National Poverty Line		32.1%
14	Total Cropped Area (million hectare)		14.41
15	Net Cropped Area (million hectare)		7.94
16	Cropping intensity		178%
17	Triple-crop area (million hectare)		1.28
18	Inland water body area (million hectare)		0.74

1.3 Importance of Agriculture in the Country

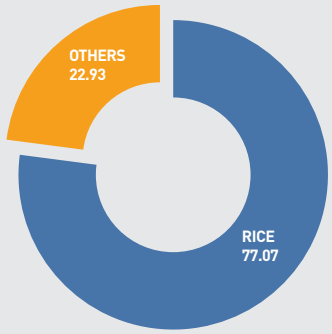
1.3.1 Overview of food and agriculture sector

The People's Republic of Bangladesh is a country with distinct agricultural and rural significance. It is the eighth most populous country in the world, with 152.25 million (2012) people creating high population density (1046 person per sq. km.), prevalence of poverty (31.5% people below poverty line, HIES 2010), concern for food security and livelihood and an intensive dependence on agriculture and agricultural products. The substantial part of its typologically and climatically diverse agrarian economy is set in the Sunderbans Delta, the largest delta of the world, with a stressed natural resource base. Agricultural land accounts for 65% and forest land 17% of the total geographical area. Eight percent of the area is urban and the remaining 10% accounts for water and other land uses. This topography of Bangladesh offers potential for fisheries and aquaculture. The area under inland water bodies is about 5% of the net cropped area. A glance at the socio-economic indicators of Bangladesh is given in Table 1.1.

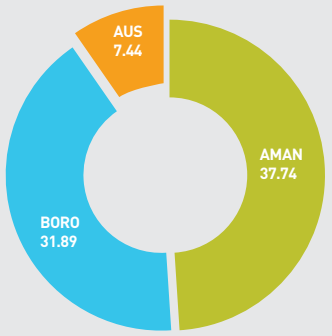
Of the many agricultural activities, crop production is the major one. Rice is the primary crop. Due to the fertile soil and normally ample water supply in Bangladesh, rice can be grown and harvested three times a year in many areas. Bangladesh is the fourth largest rice producing country in the world. Other than rice, crops like jute, wheat, potato, maize and mango also have great importance in the agricultural production of the country. Tea is grown in the northeast. The crop profile of Bangladesh is presented in Figure 1.1.

Bangladesh's labor-intensive agriculture has achieved steady increases in food grain production despite the often unfavorable weather conditions. This is due to better flood control and irrigation, a generally more efficient use of fertilisers, and the establishment

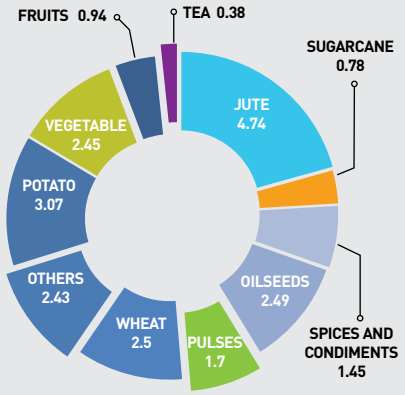
Figure 1.1 Distribution of crop area in Bangladesh



(a) Percentage of area under rice and other crop cultivation in Bangladesh (2010-11)



(b) Percentage of area under different rice crop variety cultivation in Bangladesh (2010-11)



(c) Percentage of sectors cultivation of crops other than rice in Bangladesh (2010-11)

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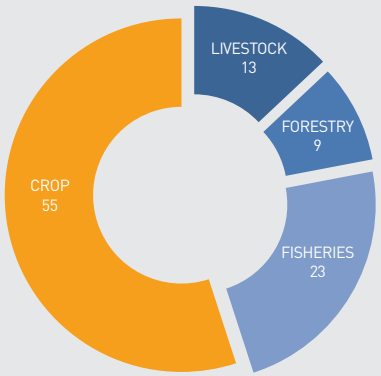
of better farming practices. Farm families in Bangladesh also engage in commercial agricultural activities including fisheries and aquaculture, poultry and livestock rearing, and vegetable, maize and oil crop production. Fishing is the key livelihood opportunity and a vital source of diversified food and nutritional supplement. As stated above, the basin region is one of the country's most important sources of winter rice (boro) and this vast rice area is also available for rice-fish culture.

Figure 1.2 shows the share of the sub-sectors of crops, fisheries, livestock and forests in the agrarian economy. The importance of fisheries can be gauged from the fact that it is next to the crop sector in importance with 23% share.

The south and southwest coastal regions are also dominated by aquatic agricultural systems, and despite being the most disaster-prone, have the highest agricultural potential. Fishing, agriculture, shrimp farming, salt farming and tourism are the main economic activities in the coastal area. The Sundarbans is a major source of subsistence for a large population with livelihood dependent on fisheries and collection of wood and forest products such as honey. Almost ten thousand households in the area live in very vulnerable conditions, devoid of homestead and cultivable land. About a million households only have a homestead but no cultivable land.

Despite making impressive progress in the production of rice which has increased threefold in the past four decades, the vulnerability of food security persists and in the past, there have been situations of food crisis, leading to famine like conditions. High population density and growth, climatic aberrations, stressed natural resources and persisting poverty place the issue of food management and food security at the centre stage of policy framework for the well-being of the people of Bangladesh.

Figure 1.2 Distribution of agriculture and allied sector GDP in the sub-sectors (2010-11)



1.3.2 Agricultural Development strategy and vision of the Government

The economy of Bangladesh is primarily dependent on agriculture. Most of its population lives in rural areas and is directly or indirectly engaged in a wide range of agricultural activities. Agriculture contributes about 17% to the country's GDP and absorbs 45% of the labour force. Accordingly, a focus on strong agricultural production for poverty reduction as well as food security is identified as one of the fundamentals of development planning and policies (Sixth Five Year Plan, 2011-15). Although agriculture covers crops, livestock, fisheries, environment and forestry, separate policies on fisheries, livestock, as well as environment and forestry have been formulated by the respective ministries in addition to the national agriculture policy formulated by the Ministry of Agriculture. This is in consonance with the need to address the development and the problems concerning the overall food sector, involving different ministries and departments dealing with inputs, resources, production and distribution of food commodities. The policies framed by different departments

are synergised with the overall planning and development priorities of the government. The policy for food management connects with all these sub-sectors policies.

Crops constitute the largest segment of the agriculture sector and its development is guided and monitored by the MoA. For the fisheries and livestock sub-sector as well as for environment and forestry, there are separate dedicated ministries. In this perspective, the MoA has formulated a policy document, its National Agriculture Policy (NAP), for providing proper direction to various development activities relating to crops. Other ministries have their own policy documents.

As expected, policies related to crop production and marketing together with minor irrigation, seeds, fertilisers and agricultural credit received prominence in the document. Since the crop sector plays a major role in Bangladesh agriculture, it gets the top most importance in various agriculture related programmes of the government.

The NAP of Bangladesh recognises the importance of agriculture not only as an economic sector but also a social sector, concerned with issues like food and nutrition security, income generation and poverty reduction. The agriculture sector sources and supports market for a variety of goods consumed by the people. Thus, improvement in the performance of the agriculture sector and its accelerated growth are critical to reducing rural poverty and enhancing the well-being of people. Accordingly, the NAP has emphasised to promote support in increasing staple food production for ensuring food security and livelihood.

The specific objectives of the NAP- 2013[2] are to:

- *ensure a profitable and sustainable agricultural production system;*
- *ensure sustainable invention and extension of improved variety of crop and cultivation technologies through research and training;*
- *increase productivity, employments and income opportunity through appropriate extension of technology and management of resources;*
- *mobilise and continue competitive agriculture by commercialisation;*
- *engage in planning and taking effective initiatives for creating sustainable and self-reliant agricultural systems which are able to meet the demands of the farmers and are adaptable to climate change;*
- *improve the agricultural marketing system ensuring fair price of agricultural produces;*
- *encourage production of quality agricultural products according to demand in the international markets and create opportunities to increase export of agricultural products;*
- *create opportunities for agricultural processing and ensure establishment of agro-based industries; and*
- *encourage diversified crop production with higher nutritional values to meet nutritional requirements of the people.*

While the focus of the MoA as well as the MoFL is mainly on bringing improvement and efficiency in the production and marketing of agricultural commodities, the MoF is responsible for the management of food supply, distribution and in-turn ensuring food and nutrition security of the population. The National Food Policy, 2006 has three embedded core objectives namely, adequate

2 Translated from original Bangla version

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and stable supply of safe and nutritious food, increased purchasing power of the people and their access to food, and adequate nutrition for all individuals especially women and children.

In the process, the MoF also emphasizes on the use of various statistics needed for the purpose (Ministry Website). In a nutshell, different ministries are committed to increasing production, steering growth, bringing efficiency in the management of supply and availability of food to the people addressing the concerns of food security, hunger and poverty, and using various agricultural and rural statistics.

1.3.3 Recognition and Importance of Agricultural and Rural Statistics

With duly accorded high priority to agricultural development, the determinant planning, policy formulation and action programme in agriculture have the essential requirement of basic data regarding the structural and other characteristics of agriculture. Shortly after the independence in 1971, Bangladesh faced a severe food crisis in 1974, causing famine like conditions. The management of the crisis was severely constrained due to paucity of reliable information on availability of food and its access to people. The 1974 food crisis led to the establishment of the Food Planning and Monitoring Committee, a high level, inter-departmental consultative forum. One of the primary focuses of this committee was to strengthen agricultural statistics. This resulted in the creation of the Agriculture Statistics Wing in the BBS and the beginning of scientific assessment of crop production using the approach of crop-cutting experiments. These initial initiatives covered paddy and subsequently, other crops like wheat, maize and other food and non-food crops became added to the crop profile.

The role of data and information on agriculture and associated research along with the dependability of agricultural development has been recognised in the NAP. An extract from the text giving emphasis in the NAP 2010 as well as NAP 2013 on the importance of data and information in managing statistics on the agriculture sector is given below:

> *"DAE and relevant agencies will develop and maintain a comprehensive database covering resource base, inputs, technology, production and marketing aspects for agricultural development and planning.*
>
> *Efforts will be made to disseminate and to facilitate access of the stakeholder to relevant databases.*
>
> *The government will prepare a comprehensive user friendly database on farmers,technologies and agriculture."*

Wider statistical input is envisaged in the National Food Policy for addressing food management and food security. It requires statistics not only relating to crop production and the inputs and resources used for crop production but also to distribution, availability, access and consumption by the people. Accordingly, the plan of action for the Food Policy has statistical input on the aspects of marketing, storage, prices, distribution and availability not only from domestic production but in the situation of deficit availability from imports or other sources, stocks, employment, income and consumption of diversified food for proper nutrition. The section E of the National Food Policy relates to Food Policy Research, Analysis and Coordination. Relating to the importance of statistics, the following extract from the National Food Policy is relevant:

> *"to develop, update and successfully implement the Food Policy, the policymakers need a clear appreciation of the options at their disposal and the likely*

result of their choices. Generating a clear picture will obviously require

(a) continued information flow,

(b) analysis of information,

(c) knowledge of the changing dynamics of food security environment,

(d) adequate number of options, and

(e) short and long-term forecast of domestic and world supply and trade.

To support this process the food policy analysts and researchers are to look ahead through continued research and analysis to predict what kind of information policymakers are likely to need in the future."

The food management of Bangladesh was poised to be addressed in a wider context of food and nutrition security. The future course of the policy is expected to be evolved on this line. This will be expanding the demand for statistics, covering the aspects of availability to and access and consumption of diversified food by households. In a sense, the set of core indicators prescribed in the Global Strategy covers this requirement of the statistics for managing food security. The implementation of the Global Strategy after the In-depth Capacity Assessment, identification of areas of technical assistance and capacity development is expected to bring gradual adaptation, consolidating the strengths of the existing system.

There is no specific strategy for the development of agricultural and rural statistics, although this is covered in a limited way in the recently formulated NSDS. The coverage of agriculture in the NSDS is mainly focused on the agricultural and rural statistics organised by the BBS and there is limited mention of the role and requirements of the line departments of the agriculture and allied sectors.

The recent Statistics Act, 2013 covers the aspects of agricultural statistics as well as that of other social and economic sectors. The present exercise of the In-depth Capacity Assessment under the aegis of the implementation plan for the Global Strategy has attempted to synergise with the internalised priorities and initiatives for the development and growth of the rural and agriculture sector as well as set focus on related statistics and the system.

CHAPTER 2

INSTITUTIONAL ENVIRONMENT OF STATISTICAL SYSTEM

2.1 Administrative Structure

Bangladesh is a democratic republic with a unicameral Parliament called Jatiya Sangsad. The head of the state is the President, who is indirectly elected by members of the Parliament for a maximum of two five-year terms. The 300 members of the Parliament are directly elected through universal adult suffrage. The country has seven administrative divisions and 64 districts (zillas). Each of the 64 districts is further sub-divided into upazilas (sub-districts, formerly known as thanas), which comprise a total of 486 upazilas. The area within each police station, except for those in metropolitan areas, is divided into several unions, with each union consisting of multiple mouzas / villages. There are villages or mouzas identified within each union. However, the villages do not have any recognised administrative structure and the mouzas are land demarcation boundaries. Direct elections are held for each union (or ward), electing a chairperson and a number of members.

2.1.1 Governance

The constitution of Bangladesh has a framework for a local government system with elected representatives facilitating effective participation of the people for each unit of administration. National and local are the two spheres of government in Bangladesh; of these, local governments operate under the legislatives of 2008 Local Government Ordinances, the Zila Parishad Act, 2000 and the Hill District Local Government Parishad Act, 1989. The Local Government Division within the Ministry of Local Government, Rural Development and Cooperatives (MoLGRDC) is responsible for local government, with the exception of the Hill District Parishads. Under such governance, there is:

- a single-tier urban authority comprising 11 city corporations and 313 pourashavas. In the city corporation areas, police stations are divided into metro thanas. The metro thanas are comprised of number of mahallas (localities). The cities with a city corporation, having mayoral elections, include Dhaka South, Dhaka North, Chittagong, Khulna, Sylhet, Rajshahi, Barisal, Rangpur, Comilla, Gazipur and Narayanganj.

- a three-tier rural local government comprising

    - o Zila Parishads (District Council): There are 64 Zila Parishads, which is the basic territorial unit of administration in the country entrusted with the management of affairs within a district. It is at this level that the common man comes into direct contact with administration. A Chairperson, appointed by the government is the administrator of Zila Parishad who governs the activities including construction and maintenance of roads, and bridges, building hospitals and dispensaries, schools and educational institutions, health facilities and sanitation, tube-wells for drinking water, rest houses etc.

    - o Upazila Parishads (Sub-District Council): There are 486 Upazila Parishads in the country. Each Upazila Parishad constitutes a chairman, a vice chairman and a woman vice chairman, all elected through direct popular election. The executive officer of the upazila is a government high official and called Upazila Nirbahi Officer (UNO).

    - o Union Parishads: Union Parishads (total 4,543) are the smallest rural administrative and local government units in Bangladesh. A Union Parishad consists of a Chairman and twelve members including three posts for members exclusively reserved for

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women. The boundary of each union is well demarcated with latitude and longitude references. The Union Parishad is the body primarily responsible for agricultural, industrial and community development within the local limits of the union.

o Mouzas are the lowest administrative unit having a separate jurisdiction list number (J.L. Number) in revenue records. Every mouza has a well-demarcated cadastral map. Mouza is distinct from a local village, since there can be more than one village in a mouza. There are total of 56349 mouzas, 8627 mahallas and 87,223 villages in the country.

2.1.2 Statistical system in the administrative structure

The above-described administrative structure is well-reflected and utilised in statistical activities conducted by government and non-government organisations. Censuses and most surveys usually disaggregate the different indicators for at least to the division levels, while a number of large scale surveys report them disaggregated to the district levels. The division, districts and upazilas are geo-coded by the national statistics office, namely the BBS and the codes are recommended to be used by all the organisations carrying out statistical exercises.

2.2 Legal and administrative framework for the collection of statistics

The key legal framework that regulates the statistical system in Bangladesh is the Statistics Act, 2013. However, as the Act is in implementation since only December 2013, the statistical system used to be regulated previously by other legal instruments including Agricultural Census Act XLI, 1958 (Amended in 1983), the Census Order, 1972 (Amended in 1980) and the Industrial Statistics Act, 1942, Act No. XIX of 1942, 3rd April, 1942.

The Statistics Act, 2013 supersedes earlier statistical laws (Clause 3). According to the Act, the term "Official Statistics" refers to statistics either produced or endorsed by the BBS and the use of "Official Statistics" is made mandatory for all government uses (Clauses 2(9), 10, 11). This clearly empowers the BBS with the authority and responsibility of collection, compilation, analysis and dissemination of all types of social, economic and agricultural statistics in the country in a methodically sound and timely fashion (Clause 6). The Act also sets out obligations on the community to cooperate with the BBS in the reporting of statistics and requires the BBS to guarantee the confidentiality of information collected for statistical purposes (Clause 12). The Act further entrusts the BBS with the function of supporting, coordinating and endorsing the statistics provided by other organisations as well. This, in the long run, is expected to streamline the methodological and reporting differences in many key national statistics. In this course, the national statistics office will be automatically put into the leadership role with regard to the statistical system in Bangladesh, and eventually will become accountable for most part of the statistical system. According to the Act, the BBS will be submitting its annual budget requirement to the government (clause 21) for its consideration and approval following standard government procedures.

With a strong administrative setup, knowledge pool set-up and good reputation, the leadership role of the BBS and its functional responsibilities in the national statistical system has become enhanced. According to the Act, the statistical activities undertaken by the line ministries need to be validated and endorsed by the BBS before the release of statistics to the users. For this purpose, the

BBS has to interact intensively with the subject matter specialists of different line ministries. The elevated role of the BBS will necessitate not only increasing its manpower but also require building human resource capability for discharging its enhanced responsibilities. While the professional involvement of the BBS in the decentralised statistical activities is poised to improve credibility of statistics on the sub-sectors of agriculture, it needs to be undertaken with the due consideration of timeliness and desired subject coverage.

2.3 Structure of the National Statistical System

The BBS is the national statistical office authorized and mandated for collection, process and dissemination of almost all types of statistics of national importance. The national statistical system in Bangladesh includes not only the BBS but also all line ministries and public agencies that participate in data collection and dissemination of statistical data. The functions of the BBS (refer to the BBS website) are given in Annex II. The key functions are to organise and conduct national censuses & statistical sample surveys, to recruit, train and control (including transfer, etc.) statistical and other administrative personnnel of the BBS, to create and organise a unified service for all statistical personnel, to advise and coordinate statistical works for all offices of the government, to review questionnaires, reports, forms and related documents and to co-operate with foreign and international statistical organisations.

The BBS functions with professional autonomy under the administration facilitated by the Statistics and Informatics Division of the Ministry of Planning. The SID provides overall guidance to the statistical activities of the BBS. Steering committees headed by the Secretary, SID are formed for all project related activities. The technical committees, formed for each subject matter wing and project, provide technical guidance to the statistical activities. The BBS has its hierarchy and organogram (Figure 2.1) headed by a Director General and a Deputy Director General while it is administered under the SID headed by the Secretary, SID under MoP.

There are eight different wings of the Bureau namely, the Census Wing, the Agriculture Wing, the Industry & Labour Wing, the FA & MIS Wing, the National Accounting Wing, ICT & the Data Processing Wing, the Demography & Health Wing and the Statistical Staff Training Institute (SSTI). Each of the wings is headed by one Director and one Joint Director while the FA & MIS Wing has one Director and seven Joint Directors for seven divisional offices. There are 64 individual district offices each headed by a Deputy Director. In each upazila, there is an Upazila Statistics office. Unlike the functional distribution at the headquarters of the BBS, which is subject specialised, the field staff at district and sub-district levels are multi-taskers and engaged in numerous activities of surveys and data collection, taken up by the BBS from time to time.

2.3.1 Co-ordination mechanism in the National Statistical System

Prior to the Statistics Act, 2013, the highest advisory body of the BBS was the National Statistical Council. Usually, the Council used to meet once or twice in a year and broad policy decisions were examined and recommended regarding collection, compilation and dissemination of statistics. Before conducting a national census, the recommendation of the National Statistical Council was necessary.[3]

3 National Strategy for the Development of Statistics (NSDS) had re-iterated the need for strengthening the accountability and role of the National Statistics Council. (Frequency of meeting / in the Statistics Act / adequacy / stakeholder response). This is to be seen now in the context of provisions available in the Statistics Act, 2013.

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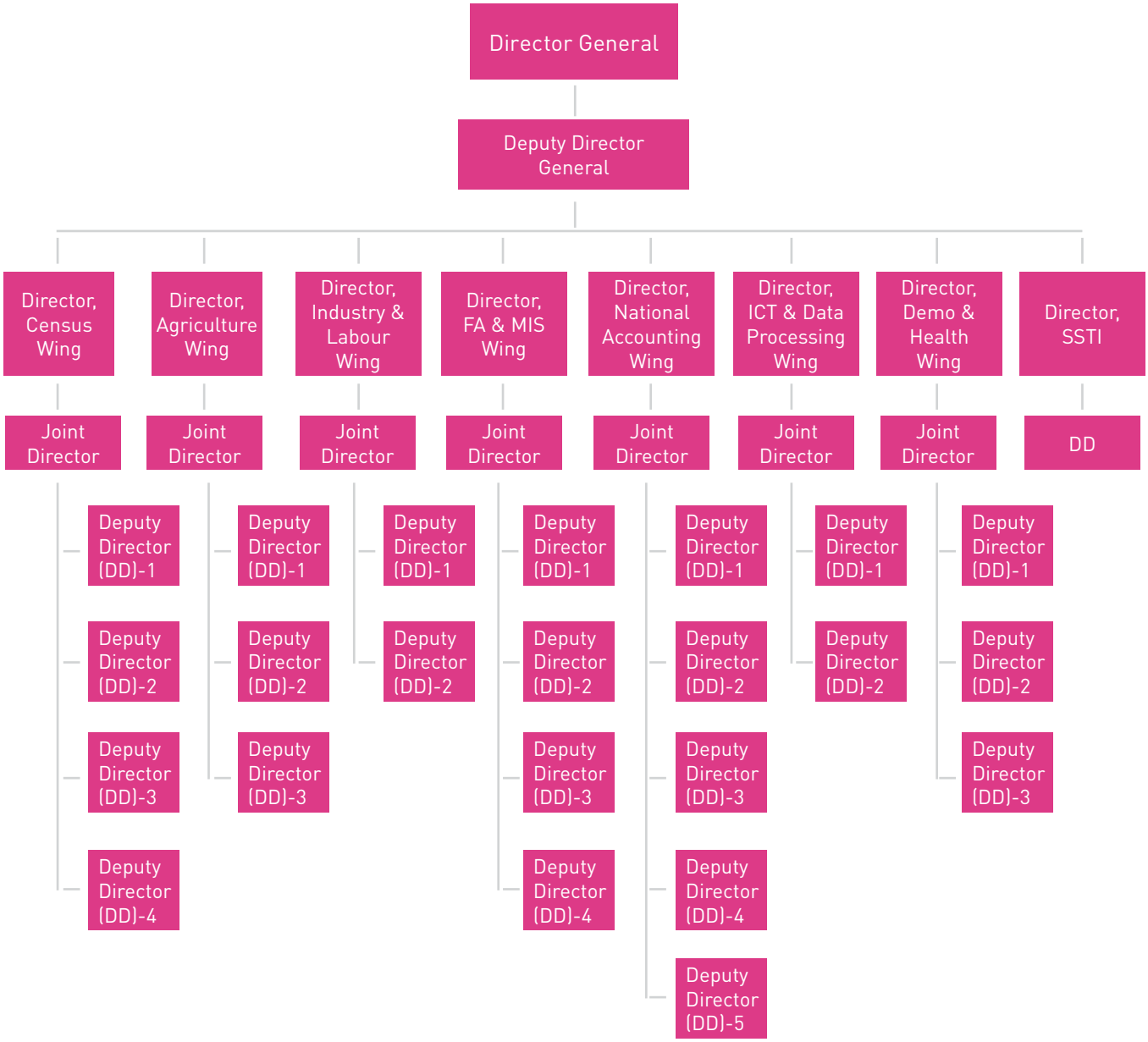
Figure 2.1 : Organogram of Bangladesh Bureau of Statistics



According to the provisions of Statistics Act, 2013, the government uses to form required number of committees and will decide their Terms of Reference to fulfill the objectives of the act.

Besides these, inter-ministerial effort for synchronisation of statistics of greater national interest is also underway. For example, the aspect of harmonisation of the methodology and estimation of three paddy crops has been looked into under an FAO supported harmonisation project (2012-13). During the consultations for the NSDS it became clear that the links between the BBS and other producers were very limited and immediate improvements in coordination were needed.

Based on the consultations a comprehensive list of partners in the NSS was established, and an initial set of 15 agencies was identified for immediate inclusion in the NSDS: (1) Bangladesh Bank, (2) Ministry of Finance, (3) Ministry of Agriculture, (4) Ministry of Health and Family Welfare, (5) Ministry of Education, (6) Ministry of Primary and Mass Education, (7) Ministry of Social Welfare, (8) Ministry of Women and Children Affairs, (9) Local Government Division, (10) Ministry of Disaster Management and Relief, (11) Ministry of Labour and Employment, (12) Ministry of Food, (13) Ministry Environment and Forests, (14) Ministry of Public Administration, and (15) Ministry of Communications.

These 15 ministries and agencies were considered for establishing the Statistical Cells of the BBS in the first phase during the implementation period of the NSDS. This is to be extended later in other ministries/agencies, but at present it is beyond the scope of the NSDS. The establishment of statistical cells is significant in data production, to promote consultation and coordination and such cells are envisaged to provide overall management and policy guidance to the ministries and to review and harmonise all statistical concepts, classifications and methods used by them in data collection, processing and dissemination. Furthermore, they will be responsible for compiling statistics from the data of the respective ministry.

The NSDS also provides for signing Memorandums of Understanding (MOU) between the BBS and other agencies so as to build a strong and sustainable relationship with them. Furthermore, it seeks to use, where possible, the field strength of the ministries/agencies during censuses or large scale surveys, which will help accelerate the statistical work and improve data quality at low cost.

2.4 National Strategy for the Development of Statistics

Further streamlining of the National Statistical System is aimed through the National Strategy for the Development of Statistics (NSDS), prepared in 2012 and approved by the government at the Cabinet of Ministers on 28 October, 2013. The NSDS is a long term strategic plan prepared for the development of the statistical system of the country including agricultural statistics. The NSDS focuses on the needs of all data users, to promote more effective dissemination of statistics and to strengthen all statistical services so that they meet the needs of a rapidly developing nation. Other concerns include the promotion of statistical literacy, strengthening relations with the media, promoting strong and sustained political support and emphasising the commitment of the national statistical system in meeting international standards and following result-based monitoring principles. The aim is to ensure that the statistical system provides comprehensive and coherent statistical data while making effective and efficient use of national resources.

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The mission statement of the NSDS includes:

(1) to establish an integrated, professional, efficient and effective national statistical system, under the guidance and leadership of the BBS; and

(2) to produce official statistics that meet the current and evolving needs of national and international users in a transparent and timely fashion, using international standards and the best statistical practices.

The lead agency for implementation of the NSDS is the BBS, recognising its following strengths:

- its long time reputation
- its general scheme of operating under existing law
- its use of sound methodologies
- its practice of having a well-defined operations plan and specific time schedules
- its familiarity with modern technologies and international standards
- its possession of formal data exchange protocols, etc.

Inadequate documentation of methods, weak infrastructure, inadequate financial resources, problems related to data dissemination including duplication of sources, inadequate metadata and poor access by users, and management and coordination problems may be looked into as probable weaknesses in the implementation of the NSDS. For output oriented action of the NSDS, the BBS has set up a Strategic Plan from 2013 to 2016 and beyond identifying its priority areas. The elements of the priority areas are as follows (detailed in Annex III):

- Take action to improve coverage, quality and timeliness and use of core statistics[4]
- Take action to strengthen statistical activities and statistics at the local level;
- Improve the dissemination of official statistics;
- Ensure that all statistical processes are properly documented;
- Improve the analysis and interpretation of official statistics and improve customer services;
- Strengthen and improve quality management in all producers of official statistics;
- Improve human resources;
- Improve coordination and management of the national statistical system;
- Build and maintain infrastructure for statistical activities.

The attainment of the strategic goals of the NSDS has been budgeted for about 620 million USD. The provision of budgetary allocation is not committed, however, but it has encouraged participation of development partners in fulfilling its goals and targets. The feedback from different stakeholders regarding different aspects of the NSDS were collected between October 2011 and March 2012 by the BBS before the strategy was accepted, which provides a meaningful insight into the perception of the stakeholders on utility and benefits of the NSDS. Details of the feedback is given in Chapter 6.

4 There is mention of core statistics in the NSDS, but such statistics are not specified. There are however, core statistical activities mentioned in the NSDS that are reflected in the Strategic Goals.

2.4.1 Synergy between NSDS implementation and the Global Strategy

The NSDS is to be implemented through the existing structure of the BBS. Eight Wings of the BBS will be responsible independently for the implementation of activities in the areas for which they have responsibility. This will involve coordination between a numbers of different agencies, including some of the development partners. The NSDS recognises the need of such consultations and has carried out a number of consultations with different development partner agencies in its preparation and implementation process.

The implementation plan of the NSDS has a total of 61 strategic goals with responsibility distributed over the functional wings of the BBS. Many of these strategic goals were found to have synergy with the Action Plan of the Global Strategy. This synergy was identified taking into account Core Data, Survey Operations, Master Frame, Data Management & Dissemination, Computers & Other Resources, and Training.

On finer scrutiny of the NSDS Goals, it was also noted to have relevance to one or more of the above six criteria. These synergies do not necessarily entirely cover the NSDS goals but are relevant for formulating specific capacity development proposals in the IdCA. The complete list of this matrix is given in Annexure IV. Table 2.1 gives a summary of this synergy.

The NSDS as well as the Statistics Act recognises the important role of line departments in generation of statistics on respective domains. Although there is provision for establishing statistical cells in the ministries, there is also a need for a strong institutional mechanism of coordination. The NSDS strategic goals having synergy with the Global strategy have been covered in the proposed TATRA in Chapter 7.

2.5 Stakeholder Analysis

Although the Statistics Act, 2013 bestowed BBS with the authority and responsibility of collection, compilation, analysis and dissemination of all types of social, economic and agricultural statistics in the country, there are other organisations and institutions having high statistics dependent policy framework. Historically, such organisations were engaged in collecting and furnishing their own statistics and some of them were mandated to provide official statistics. For example, the Fisheries Statistical Yearbook of Bangladesh is regularly produced by the Directorate of Fisheries since 1983 and is the main source of official statistics on the fisheries sub-sector. Many of these multiple orientation statistical system lacked sound methodology and other statistical know-how. Even private entrepreneurs were also seen to collect their own primary data for generating required statistics. These activities were mainly due to the demand for timely statistics on core indicators which sometimes were not available.

In terms of agricultural statistics, although the BBS plays the key and major role, there are other stakeholders also having an important role. Of the many such stakeholders, some are discussed in the following sections.

2.5.1 Bangladesh Bureau of Statistics

It is pertinent to note that the BBS is the leading producer of official statistics in most of the sectors of the economy and is also the user of its own data as input for other data indicators. The BBS has an independent wing dedicated for agriculture. With the leadership of a number of motivated experts, the wing has been the major contributor in the field of agricultural statistics in the country. For policy planning, policy formulation and for developing action programs in agriculture, basic data regarding the structural and other

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Table 2.1 : Summary of Implementation Plan of NSDS and Synergy with Global Strategy

Sl. No.	Functional Wings of BBS	Strategic Goals of NSDS		Number of Strategic Goals having Synergy with Global Strategy(with relevant thematic area)
		Number	Budget (Million USD)	
(1)	(2)	(3)	(4)	(5)
1	Computer Wing	8	18.00	7 Decentralised ICT processing, Capacity building, data management, National Data Centre
2	National Accounting Wing	15	20.24	7 Improve GDP computation, quarterly accounts, satellite environment accounts, supply use tables
3	Agriculture Wing	6	18.12	6 Improving Crop Estimation, non crop statistics, other rural agriculture statistics, Food Balance sheet, cost of production, ICT
4	SSTI Wing	3	17.93	3 HRD, development of core faculty, institutional development
5	Demography and Health Wing	6	57.89	1 Monitoring food security and nutrition,
6	FA and MIS Wing	10	116.69	6 Statistical Cells in ministries, sub national development in infrastructure, manpower, equipments, advocacy
7	Census Wing	5	11.23	1 Multi modal census
8	Industry and Labour Wing	8	11.23	3 Enterprise statistics (relation to food processing)
	Total	61	620.88	34

characteristics of agriculture are essential. Data required for these purpose are provided through the Agriculture Wing of the BBS.

The Agriculture Wing of the BBS has been undertaking different country-wide survey programmes on agriculture throughout the year for collecting agricultural statistics consisting of structural and annual production statistics. The statistics on the structural aspects of agriculture are generated through full count/sample census normally at a regular interval of ten years as per FAO guidelines. The annual agricultural statistics are generated through annual/seasonal sample surveys. The current programme of the Agriculture Wing is designed as:

- Prepare estimates of acreage, production and yield per acre of 6 major crops and more than 100 minor crops which are cultivated in the country;
- Prepare the area and production forecast report of 6 major crops;
- Estimate of crop damage caused by flood, cyclones, storms and natural calamities;
- Prepare monthly Agriculture Labour Wage Rate based on monthly agriculture labour wage survey;
- Produce annual land utilisation and irrigation statistics by region;
- Prepare annual publications "Yearbook of Agricultural Statistics of Bangladesh". The Yearbook is prepared exclusively with agriculture related data. Of these, data are collected and compiled by the BBS and some others are compiled from secondary sources of line ministries and departments;
- Produce annual fisheries, forestry, and livestock and poultry statistics by region. These are newly included from the year 2005-2006;
- Improve both the scope of current programs and estimation techniques.

The Agricultural Statistics Wing of the BBS is supported by about 450 professional level staff, including those posted in the field office. The field staff are generally engaged in multiple functions and support other statistical activities. The qualification requirement of the staff is a degree in statistics or in other related subjects with a paper in statistics. The staff receive training exposure to the survey subjects and other related areas, but not regularly. Therefore, capacity development in the specialised areas of statistics and particularly in agricultural statistics is considered to be an important requirement. This requirement is all the more important with the expected increasing role of these officials to interact with other ministries in discharging their duties with the NSDS implementation and enactment of the Statistics Act.

2.5.2 Ministry of Agriculture

The Ministry of Agriculture (MoA) is one of the key ministries of the GoB. It comprises seven wings with responsibilities of policy formulation, planning, monitoring and administration. A total of seventeen agencies operate under this Ministry, which are responsible for the implementation of different projects and plans of the MoA.

The MoA is led by a Minister who is supported by a Secretary, two Additional Secretaries, seven Joint Secretaries, a Joint Chief and a number of Deputy Secretaries/Chiefs, Sr. Assistant Secretaries/Chiefs and Assistant Secretaries/Chiefs.

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Allocation of business of MoA:

- Develop agricultural policies, plans, regulations, acts, etc. for sustainable agricultural development and for food sufficiency;
- Provide support in developing new agricultural technologies to boost agricultural production and coordinate with local and international trade agencies for marketing;
- Monitor implementation of agricultural polices, plans, projects, programmes and regulations;
- Monitor distribution of agricultural inputs and subsidies and marketing of agricultural products in local and international markets;
- Develop capacity of professionals and other team players with recent developments in the agriculture sector around the world;

The different wings of MoA are:

- Administration and Input Wing
- Policy Planning and Coordination Wing
- Extension Wing
- Audit Wing
- Research Wing
- Seed Wing
- Planning Wing

There is no statistics wing or cell in the MoA. The MoA, although mandated for monitoring agricultural inputs and subsidies and marketing of agricultural products, dependence on the statistical system for agricultural statistics is an inherent requirement of the organisation. Two of its agencies, the DAE and the DAM, are directly involved in data collection and disseminating the generated statistics to the government and the public. However, the DAE objectives do not include any statistical activities; their data collection is meant for administrative purposes only such as, monitoring crop area and crop condition. The DAM, on the other hand, is clearly mandated to collect and disseminate statistics on a high frequency. The objectives of the DAE and the DAM are given in the following section:

•Department of Agricultural Extension (DAE)

o Improve the productivity and production of primary food crops to sustain national food security;

o Increase farm income and employment through increased diversification of the sector with high value crops and farm enterprises linked with domestic and international markets;

o Improve longer term sustainability of the use and conservation of natural resources including mitigation of climate change induced vulnerabilities;

o Mobilise, build and develop farmer groups and organisations for better access to technologies, information and markets through aggregation, economies of scale and building social capital;

o Help alleviate poverty among the small and marginal farmers including removal of nutritional imbalances and ensuring food safety.

•Department of Agricultural Marketing (DAM)

o To collect market information at the farmer level, wholesale and retail prices, market arrivals, and movement and stock of farm products, and to disseminate price information through

radio, press and news bulletins for information on farmers, traders and consumers;

o To monitor the prices, identify reasons for price fluctuations and suggest corrective measures;

o To organise movement of farm products, especially perishable items, from glut to deficit areas/consuming centres in cooperation with trade and transportation agencies;

o To organise movement and sale of the produce of the farmers of new/ concentrated producing areas;

o To enforce the Agricultural Produce Markets Regulation Act, 1964;

o To conduct study/research on marketing of farm products, assess marketing costs and trader margins, identify marketing problems and problem areas, and suggest measures for improvement of marketing conditions and reduction of marketing cost;

o To construct wholesale markets with adequate facilities in important distribution/consuming centres and to introduce improved market practice;

o To provide extension services for improvement of flaying, curing and preservation of hides and skins to maximise foreign exchange earnings; and

o To advise the government on the production targets of different crops, procurement programmes and support price of important crops and in formulating policies on pricing, marketing, storage, distribution, and export and import of different farm products of the country.

The DAM is in the process of conducting significant restructuring with an organisational setup all the way up to the upazila level, which will be implemented phase by phase. Following the reconstruction/ reorganisation, the areas mentioned below will also formally come under the purview of the department:

- Agri-business and agro-entrepreneurship development
- International marketing and agricultural trade policies
- Quality and safety issues of agricultural produces

In near future the following improvements are to be considered to improve the existing data management systems:

- Including more markets to widen the area coverage
- Including more parameters like grade, volume, marketing cost, market margins, etc.

The existing system has room for improvement that ranges from methodological to operational aspects. Logistic support, skill development, and technical assistance are required for improving the agricultural marketing information system.

Other MoA Agencies:

- Agricultural Information Services (AIS)
- Seed Certification Agency (SCA)
- Cotton Development Board (CDB)
- Bangladesh Agricultural Development Corporation (BADC)
- Bangladesh Agricultural Research Council (BARC)
- BARIND Multi-purpose Development

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Authority (BMDA)

- Bangladesh Agricultural Research Institute (BARI)
- Bangladesh Rice Research Institute (BRRI)
- Bangladesh Jute Research Institute (BJRI)
- Soil Resource Development Institute (SRDI)
- Bangladesh Sugarcane Research Institute (BSRI)
- Bangladesh Institute of Nuclear Agriculture (BINA)
- Horticulture and Export Foundation
- Bangladesh Institute of Research and Training on Applied Nutrition (BIRTAN)

All these units of the MoA are users of agricultural statistics in some form or other. Some of them, like the SCA, CDB, SRDI (for soil survey, land degradation) and BADC (for minor irrigation census) generate administrative data in their respective domains.

2.5.3 Ministry of Fisheries and Livestock (MoFL):

The role of the Fisheries and Livestock sectors in the development of the agro-based economy of Bangladesh is very important and promising. These sectors contribute around 8% to the national income, which is also 32% of the total agricultural income. About 90% of animal protein comes from fish and livestock. The main functions of the MoFL are to preserve fisheries resources, fulfill the requirement of animal protein through proper management and planned development, increase socio-economic conditions of fishermen, create employment opportunities for rural unemployed and landless people, expand foreign exchange earnings by exporting fish and fishery products and innovate new technologies through research for fisheries development and preservation.

The Ministry has high requirement of distinct and detailed official statistics concerning its subject areas for regular planning and policy making. Like the crop sector, this need is reflected both in the structural as well as performance data of the sector. There are gaps in data on structural and socio economic aspects of the fisheries sector. The key indicators like production, producers, types of fish catch, contribution to food and livelihood security etc. need improvement. The Ministry is constrained in statistical infrastructure, manpower, skill and expertise for formulating proper statistics as per requirement. The departments, as a result, mainly act as users of the limited data available from the BBS and a gap between demand and supply is apparent. The fisheries Resources Survey System (FRSS) in the fisheries department coordinates the compilation of statistics related to the fisheries sector. The FRSS collects information from their sub-national offices. There is a shortage of staff, and out of 64 districts only 28 districts have the staff in place.

The need is strongly felt for fisheries and livestock census and follow-up surveys to have detailed data on these sectors.

Both fisheries and livestock departments are stakeholders of their respective sector statistics. These sub-sectors have their policies and development programmes that converge into overall management of food security. However, these departments are very weak in terms of statistical infrastructure, both human as well as physical resources. There is no statistical cell in these departments. The MoFL is not identified amongst the 15 priority ministries in the NSDS for strengthening the statistical setup and statistical cell. In the context of the current IdCA exercise, inclusion of the MoFL for such strengthening is considered.

2.5.4 Food Planning and Monitoring Unit (FPMU)

The activities of the Food Planning and Monitoring Unit of the MoF, a government unit responsible for monitoring the food security situation in Bangladesh, include collecting, storing and disseminating information for food security analysis and policy formulation. It is also mandated for delivering evidence-based policy advice to the government on issues relevant to food security on its own initiative or on demand by the GoB. The activities of the FPMU fall under four different directorates:

1. Directorate of Food Availability
2. Directorate of Food Access
3. Directorate of Food Utilisation
4. Directorate of Management, Information and Communication

The FPMU provides secretarial support to the Food Planning and Monitoring Committee (FPMC) and contributes to other government committees relevant to food security, such as the Early Warning Technical Committee or the Safety Net Technical Committee.

In the course of implementing the National Food Policy and managing food security, the FPMU uses a wide range of statistics. These are mainly sourced from the BBS, but other sources such as the DAM and the DAE etc. also provide information on crop scenario, marketing and prices. The FPMU also analyses information on global food scenario, since the decisions on food security management need assessment for imports. The FPMU has established a data center of its own that has stored statistics on related aspects, mainly sourced from the BBS to meet its mandate stated above. It is important to recognise that in the event of food emergencies, the data use and analysis is often on "Just in case – Just in Time" basis.

The FPMU is one of the biggest stakeholders of forecasts of food situation. The NFP puts emphasis on a strengthened Early Warning Situation for Food and Agriculture.

2.5.5 Ministry of Environment and Forests (MoEF)

The Ministry of Environment and Forests is the nodal agency in the administrative structure of the central government for planning, promoting, co-ordinating and overseeing the implementation of environmental and forestry programmes. The MoEF oversees all environmental matters in the country and is a permanent member of the Executive Committee of the National Economic Council (ECNEC). Surveys of flora, fauna, forests and wildlife, prevention and control of pollution, forestation and regeneration of degraded areas and protection of environment fall in the mandate of the Ministry. Statistics on forest production of wood and non-wood are available at national level on a yearly basis. The latest year for which such statistics are available is 2013. The BBS and the MoEF are jointly responsible for generating data on wood production and non-wood forest production in quantitative and value terms.

The most significant contribution of the Forest Department towards the agricultural statistics system is in the area of forest cover. These are the administrative statistics from notified forest area under the jurisdiction of the Forest Department. This statistical input is an important component of land use statistics compiled by the BBS. Besides, the Forest Department also undertakes studies on actual green cover using the remote sensing methods and on the issues relating to climate[5]. There is likelihood of differences in

5 The National Forest and Tree Resources Assessment of Bangladesh (NFA) supported by the FAO and The Carbon Inventory in the Sundarbans Reserved Forest (SRF) supported by the USAID

forest area in the land use statistics and the actual green cover. These statistical aspects are not reflected in the official agricultural statistics.

It is interesting to note that although forestry, with about 9% share in the agricultural GDP, is relatively a smaller sub-sector of the agrarian economy. This, however, does not undermine the importance of its 17% share in the land use statistics of Bangladesh. There is a growing importance of environmental issues and climate change, particularly in reference to their impact on the farm sector. These aspects need to be studied in different perspectives requiring special orientation towards analysis and statistical inferences.

The Forest Department, like other line departments, does not have any statistical cell or dedicated manpower for undertaking statistical activities. This constraint invites to be reflected in the in-depth assessment of the capacity to produce agricultural and rural statistics. The special feature of forestry statistics are also discussed in chapter 3.

2.5.6 Ministry of Water Resources (MoWR)

The Ministry of Water Resources is the apex body of the Government of Bangladesh for the development and management of all water resources of the country. It formulates policies, plans, strategies, guidelines, instructions and acts, rules, regulations, etc. relating to the development and management of water resources, and regulation and control of the institutions reporting to it. It prepares and implements development projects relating to flood control and drainage (FCD); flood control, drainage and irrigation (FCDI); riverbank erosion control; delta development and land reclamation; etc. and provides irrigation, drainage, flood protection, bank erosion protection, land reclamation facilities by constructing barrages, regulators, sluices, canals, cross-dams, embankments and sea-dykes along the banks of the rivers and the coast, etc.

The MoWR, through its implementing arm, i.e. the BWDB, stores and disseminates hydrological and hydraulic data and information. It also provides flood forecasting and warning information through the Flood Forecasting and Warning Center (FFWC) of the BWDB.

Other principal activities of the Ministry include expansion of irrigated areas, water conservation, surface and ground water use, estuary control, anti-salinity measures and anti-desertification activities, re-excavation of canals and rehabilitation of embankments, international cooperation, liaison with the international organisations, processing matters relating to treaties and agreements with other countries and world bodies in the field of water development and management.

There is a National Water Policy (2014) and the MoWR is mandated to implement it. In the context of information and statistics, the policy envisages to develop a central database and management information system (MIS) consolidating information from various data collection efforts and research agencies on the existing hydrological systems, supply and use of national water resources, water quality, and the eco-system.

2.5.7 Ministry of Land (MoL)

The important aims and objectives of the Ministry of Land are management and settlement of the government owned lands (khas lands), sairat mahals (jalmahal, shrimp mahal etc.), vested properties and abandoned properties. Collection of land development tax is another important task of this ministry as well as land survey and record keeping and updating. Acquisition and requisition of

land are also important responsibilities of this ministry. Thus, this ministry is in charge of land administration, management and development for the benefit of the people of Bangladesh. The Directorate of Land Records and Survey has recently conducted a revision of land records and survey activities and in the process has prioritised the digitisation of records. A number of GoB and NGO supported projects are underway for the digitisation of land records.

2.5.8 Bangladesh Space Research and Remote Sensing Organization (SPARRSO)

The Bangladesh Space Research and Remote Sensing Organization or SPARRSO is a state agency concerned with space research. It is a multi-sectoral agency of the Government of Bangladesh involved in research and development and functions as an autonomous organisation. It is entrusted with space and remote sensing technology to survey natural resources and monitor the environment and natural hazards in Bangladesh. It also operates and maintains satellite ground receiving stations including data collection platforms. SPARRSO also develops instrumentation facilities and manpower capabilities for both visual and computer analyses of satellite and airborne data for application in various sectors of the national economy including agriculture. However, the agricultural data generated by SPARRSO are not disseminated as official statistics, rather they are used for administrative / validation purposes by inter-ministerial agencies.

The use of remote sensing is visualised in agriculture and allied sectors. The Department of Forest has used remote sensing technology for calibrating green cover. In crop monitoring and crop forecasting for areas not explored in Bangladesh, there is potential for using remote sensing techniques and SPARRSO has an important role in this regard in terms of technical and development support. SPARRSO also has potential for contribution in the assessment of fish catch areas.

2.5.9 Other line ministries:

The Ministry of Local Government, Rural Development and Cooperatives is an important stakeholder as the user of agriculture and rural statistics. It is responsible for policy formulation, planning, monitoring and administration of rural development and cooperative initiatives of the country. It also assigned to coordinate the activities pertaining to rural development undertaken by other ministries and provide policy guidelines to the Rural Development Academy (RDA) and the Bangladesh Academy for Rural Development (BARD). These two are serving the policy guidelines and formulating recommendations related to poverty reduction strategies through their symbiotic research and action- research programmes.

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Metadata compiled on the main statistical activities concerning the agriculture and rural sector of Bangladesh are given in Annex V. A brief description of the same is given below:

3.1 Censuses

In general, the major statistical activities are centralised in Bangladesh and carried out by the BBS. In fact, all census operations on different subjects are carried out by the BBS through its functional structure, the Census Wing.

The BBS has been regularly conducting three decennial censuses: the Population and Housing Census, the Agriculture Census, and the Economic Census. After the liberation of Bangladesh in 1971 the first Population and Housing Census was carried out in 1974, the first Agriculture Census in 1977 and the first Economic Census in 1986. Since Independence, there have been five Population and Housing Censuses with the last one completed in 2011; four rounds of Agriculture Census, with the latest one in 2008 and two Economic Censuses in 1986 and 2003. The next Agriculture Census will be carried out in 2018.

The Census Wing also carries out some other large scale ad-hoc surveys, including, for example, the Literacy Assessment Survey (LAS), which compiles information about the educational level of the population of Bangladesh. Currently, the BBS has undertaken the Census of Slums.

The Population and Household Census 2011 was the fifth census in Bangladesh since its independence. The main objective of the 5th census was to develop a benchmark demographic database for all areas of the country as well as a sampling frame for follow up socio-economic and demographic surveys and use in area delimitation and updating electoral demarcation of all national and local level elections. The census was conducted in three phases, main count, post enumeration survey and detailed enquiry in a sample census.

The Agriculture Census carried out in 2008 was more comprehensive in geographic and data coverage and is still used for several benchmark indicators. Some distinct features of the Agriculture Census, 2008 are as follows:

i. Its coverage was all the mouzas, unlike the earlier Agriculture Census (1996) when the coverage was mouzas with agricultural activities.

ii. Thus, in terms of coverage of geographical areas, there is a convergence of the 2008 Agriculture Census with the 2011 Population Census, as the sampling units of mouza / villages in both the cases were the same.

iii. The Agriculture Census, 2008 did not provide geo-referencing of the areal units. However, this was done in the following years in the Population Census, 2011.

iv. Its subject coverage was Farm and Non-Farm Rural / Urban Operational Holding in size class, land use, crop use (irrigated / variety), livestock holdings, livestock population, pisciculture, inland ponds, agriculture labour, farm machinery etc.

Bangladesh conducted the third **Economic Census** (EC) in 2013. Although the coverage of the EC is non-farm households in the context of prescribed core data in the Global Strategy, the EC is relevant in terms of providing statistics on agri-processing enterprises in the country. The Economic Census, 2013 covered all non-farm economic units, permanent & temporary establishments and household-based economic activities. However, agricultural establishments such as farm-based livestock, poultry and fishery were also included in this census, which

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were not covered in the earlier economic censuses. The census covered both economic households and all temporary and permanent establishments.

In 2014, a **Census of Slum and Floating Population** was conducted in Bangladesh by the BBS which was the third of its kind since the country's independence. This census carried out a count of slums, households and population living in the slums and their livelihood characteristics. The main objective of the census was to facilitate planning for improvement of the living condition of the slum population.

3.2 Crop Statistics

Owing to the endowment of plains of alluvial soil in the swath of delta and diversity of weather and climatic conditions, agriculture in Bangladesh has distinct diversity, with predominance of paddy cultivation. For assessment of crop area and production, there are mainline Agriculture Crop Production (ACP) Surveys which are conducted by the BBS. The ACP survey is one of the nine core surveys identified by the Expert Committee formed by the Government of Bangladesh and is one of the main activities of the Agricultural Statistics Wing of the BBS. This wing of the BBS is entrusted with the responsibilities of conducting ACP survey covering six major crops (aus - summer paddy), aman - rainy season paddy and boro – winter paddy, jute, wheat and potato) and 118 minor crops in the crop groups of cereals, pulses, vegetables, fruits, plantations and fibers) for generation of crop area and yield statistics.

The BBS is the official agency for the release of crop area and crop yield estimates. These official statistics are based on the results of ACP surveys. Besides the BBS, the crop assessment and monitoring activity is also carried out by the DAE of the MoA.

The ACP surveys for the assessment of crop yield are conducted following two approaches, the objective approach with crop-cutting experiments and the subjective approach with interview of selected farmer households. A brief description of these approaches and coverage is given below:

Salient features of Agriculture Crop Production Survey – the Observation Approach (commonly referred to as the Objective Approach)[6] are as follows:

- It is mainly for aimed at the assessment of six major crops.;
- It is a multi-stage stratified sample survey, with distinct sampling units at the first stage called Clusters (area unit of about 5 acres).
- There is a frame of 10438 clusters and about 150 clusters in each district (Zila). The frame of clusters was last updated in 2009. Thus, the frame of clusters itself is a (fixed) sample of total crop area.
- The stratum is the sub-district (upazila) and the sample size is 50 clusters in each district for crop-cutting experiments.
- In selected second stage units an experimental circular plot is selected for conducting crop-cutting experiment. The size of each experimental plot is 20 sq. meters.

It should be mentioned that cluster formation was done nearly two decades back. The need is felt to take another look and reconstruct the frame. This is identified as one of the

6 In the references in the statistical system of Bangladesh, the survey approach using crop-cutting experiments is referred to as the objective approach and crop surveys conducted using the household approach is referred to as the subjective approach. However, in this report, the former is mentioned as "observation approach" and the latter as the "interview approach". This is considered in recognition of the household approach as one of the standard approaches in several socio economic surveys.

strategic goals of the NSDS. Furthermore, the adequacy of clusters is also to be considered for precision of estimates, particularly for crops other than paddy.

The salient features of the Agriculture Crop Production Survey – Interview Approach (commonly referred to as the Subjective Approach) are as follows:

- In the administrative structure of Bangladesh, there are 64 zilas, 486 upazilas and about 56,349 mouzas. Between upazilas and mouzas is the administrative unit called union (4543 in number).

- In the Interview Approach, the sampling unit is farm household. Crop estimation is usually initiated at mouza level. At first, Upazila Statistical Offices select one mouza from each union by simple random sampling. Then a household list is prepared within the selected mouza. Large, medium and small farmers are marked from the household list. By simple random sampling, one large farmer, one medium farmer and three small farmers are selected. After that, Upazila Statistical Offices collect data through interview of those selected farmers for crop area and production of the previous and current years.

- Upazila area is obtained by addition of union figures and zila figures are obtained considering upazilas. The same procedure is followed to estimate crop production. Here also, those five selected farmers are interviewed. This method is used to collect and compile data to facilitate the validation of data obtained for six main crops using the objective (cluster) method. The subjective (farmers interview) method is also used to give estimates for 118 minor crops.

3.2.1 Crop Assessment and Monitoring

The DAE under the MoA is the extension service provider in Bangladesh having huge human and financial resources. The DAE has an important role in the development of agriculture, particularly the crop sub-sector in Bangladesh. Its main focus is on dissemination of technology among farmers. For this purpose, the DAE has a strong team of about 12,500 field extension workers spread over the country. The extension intervention covers different aspects of farming, from seeds of appropriate and improved varieties to use of inputs and farming practices. There is a regular need for data to assess the response to these interventions.

Such assessment is an integral activity of the monitoring wing of the DAE and for this purpose, DAE organises the collection and analysis of data. These data are in addition to the data collected by the BBS for generating statistics on area and production of crops. The BBS agricultural surveys cover 124 crops. However, the DAE uses less BBS data and mostly depends on their own data, covering 27 crops collected through its field extension workers. The methods and forms of data collection are devised by the DAE. In some cases, requiring special studies, the monitoring cells of the DAE at sub-national levels also devise forms for data collection. The productivity assessment is done by conducting crop-cutting experiments on 27 crops in the selected rectangular plot. This exercise is not necessarily to follow procedures of random sampling. The results of the DAE data exercise are for internal use of the department and are generally not disseminated. However, on request, these data are made available to scholars etc. for research and academic exercises.

Furthermore, the DAE also lacks the capacity to use statistical methods and tools to analyse data. It does not have any statistical staff and also lacks computer facilities.

There is divergence in the results / estimates of production and productivity derived from

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BBS and DAE data. The FAO is supporting a project to arrive at the harmonisation of statistics derived from these two sources.

In Bangladesh, there are disorganised activities carried out by different departments concerned relating to early warning on agriculture, crop forecasting and monitoring and a systematic mechanism for this purpose is not in place. The MoA monitors the status of crops and progress of plantation, more or less on a daily basis. For this purpose, its control room in the DAE receives information from its field offices on the status of fertiliser stock, progress of crop plantation, percentage of crop area under different stages of crop growth, plant protection and prevalence of diseases and pests, rainfall and other climatic observations. A daily crop situation report is internally generated and disseminated to the key decision-makers.

The Agromet Division of Bangladesh Metrological Department (BMD) brings out a weekly bulletin giving a synoptic assessment of crops in relation to the emerging weather scenario at the national level. However due to the constraints of professional manpower, agromet activities are limited. The Food Security Early-Warning Technical Committee, coordinated by the FPMU, also makes periodic assessment of food situation and will be one of the main users of these activities. There are some experimental efforts of crop forecasting using RS tools.

All these encouraging initiatives have their limitations, and there is scope for harnessing, organising and strengthening the existing potentials in the country for strengthening the capacities of periodic crop monitoring and development of crop forecasts and evolving the calendar of release of advance estimates of crop production.

3.2.2 Project on Harmonisation and Dissemination of Unified Agricultural Production Statistics

Considering the need for reliable estimates of rice production and to remove the deficiencies in methodology by making it more scientific, the "Harmonisation and Dissemination of Unified Agricultural Production Statistics" project was undertaken by the BBS under the Statistics and Informatics Division, MoP with technical and financial support of the FAO. The BBS, DAE and SPARRSO are working in collaboration to implement this project. The project is expected to enhance the consistency and reliability of the rice production estimates derived by the BBS and the DAE.

3.3 Land Use Statistics

The BBS produces annual land use statistics for the country using secondary data. The land use statistics are available in the following five categories:

1. Forest area
2. Not available for cultivation
3. Cultivable waste area
4. Current fallow area
5. Net crop area

The crop area data also provide information on single crop area, double crop area, triple crop area, quadruple crop area and total crop area.

The aggregate land use is consistent with the total geographical area from the office of the Surveyor General of Bangladesh. The forest area is reported from the Office of the Chief Conservator of Forest. This area relates to notified gazette area and does not include private forest or forestry undertaken in public land under the social forestry programme.

The agricultural census provides a benchmark of land use with crop and non-crop utilisation of land. In subsequent years, annually the benchmark land use statistics are calibrated for crop area using annual crop statistics available from the Agriculture Crop Production Surveys conducted by the BBS. These calibrations are carried out by the field staff of the BBS at upazila level and are aggregated at zila, region and national level. The land-use statistics so generated have several limitations as listed below:

i. It is based on secondary data, which are not likely to capture some of the important phenomena and dynamics of land use such as movement of land from crop to non-crop (current and other fallow) and from fallow to cultivable waste.

ii. The forest land use corresponds to notified area and not to actual land used for forest and green cover. Social forestry which has gained momentum (please refer to section on forestry statistics), is not reflected in the land-use data.

iii. There is a large existence of water bodies in the total geographical area of the country. These water bodies are not reflected in land-use statistics separately and are likely to get included in land not available for cultivation. In Bangladesh, it is often cropland that is engulfed by the change of river courses, and un-cultivable land is released. Such changes in land use are not available due to limitations in LUS.

iv. A proper land use survey also can provide useful information on irrigated crop area, but the existing statistics are found to be weak in Bangladesh.

v. It is important to follow standard concepts, definitions and classifications suggested under the World Agriculture Census (FAO) programme.

vi. The staff both at field and headquarter levels need to be oriented through proper training to carry out statistical activities following prescribed procedures and methods.

Land use statistics is an important element of agricultural statistics and is identified as one of the core data in the Global Strategy. Given the limitations in these statistics in the agricultural statistics system in Bangladesh and the importance of information on land-use in a resource stressed country, it is considered important to have proper land use survey established in the country.

3.4 Estimation of Cost of Production

The Agricultural Statistics Wing also generates cost of production (COP) estimates for selected crops. These estimates are prepared through ad hoc surveys and a few crops are covered in each survey. The sample size of the survey changes from year to year. The FPMU requires such data, as they plan and organize procurement of paddy and other important crops. Estimation of COP is used for fixing procurement price. The DAM also estimates COP on selected crops and presents them in government induced price fixing mechanisms like setting of public procurement price of cereals (rice and wheat), minimum procurement price for tobacco industries to procure tobacco leaves from farmers, etc.

Since COP is important statistics for decision support and also for studying the aspects of social and economic dimensions of farming activity, it is included in the list of core data. There is a need to strengthen statistical activities for related to COP estimation.

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3.5 Fisheries and Aquaculture Statistics

The fisheries sector has a very significant role in the agrarian economy of Bangladesh. In the national GDP, this sector contributes about 4.4% and has 22.8% share in the agricultural GDP. The fisheries contribution in food, nutrition and livelihood security in the country is also very significant. This sector provides about 60% of animal protein intake and direct and indirect support to the livelihood of about 11% of the population of the country. The fisheries sector has potential for development. With over 3.2 million tonnes of production achieved in 2011-12, the sector has registered higher growth rate compared to other segments of the agriculture sector (crops, livestock and forestry). The sector requires varied statistics for informed decision-making and planning. The domain characteristics desire specific methods and survey techniques. However, this dynamic sector faces serious constraints in availability and generation of statistics.

Owing to its distinct features, the fisheries statistics system is a decentralised sub-system of the National Statistics System. There is a dedicated statistical unit at the headquarters of the Fisheries Department with core staff and limited IT infrastructure. However, there is no systematic capacity development on survey methodologies, data analysis and interpretations.

The sector has three distinct broad domains of inland capture, inland culture and marine capture fisheries. Inland capture fishery itself has a broad segregation of open (rivers and water channels) and closed (ponds) water bodies with distinct operational practices of production. The growth and diversification dynamics of the fisheries sector is stimulated with the dissemination of better methods and techniques in fish farming, processing in value chain and tapping export potential. With these distinctive features, there is a realised importance of statistics on fisheries and towards this end, the Fisheries Department has been organising fisheries statistics from the very beginning and bringing out a "Fisheries Statistical Yearbook of Bangladesh" since 1983. The 2012-13 fisheries statistics report is going to be released with the endorsement of the BBS in accordance with the provisions of the Statistics Act, 2013. It is titled the "Fisheries Statistical Report of Bangladesh".

For their survey exercises on inland acquaculture, the original frame of water bodies is of 1982 which is updated in an ad hoc manner. There are different survey approaches with separate frame requirement for the sampling units in closed inland and culture (water bodies) and open inland and marine (boats and trawlers) fisheries. Besides the deficiency of frame, there are limitations in these activities in terms of capacities of survey staff, their availability, survey infrastructure and survey designs such as required stratifications etc.

The current survey activities are carried out by the staff of the Fisheries Department at zila level (one person per zila). However, nearly 50% of posts are vacant.

3.6 Livestock Statistics

The livestock and poultry sector has multifaceted significance in the overall agriculture sector. It has about 2% of share in the national GDP and 13% in the agriculture GDP. This sub-sector is also important for improving food security as well as strengthening the income and livelihood security of the people in rural areas. The sector also holds promise for value addition, agro processing and export of such products. Therefore, the development and growth of this sub-sector in its diverse dimension is one of the farm sector priorities and accordingly, it is planned strategically. For this purpose there

is increasing demand for reliable and timely data on its different facets. The relevant line department (Department of Livestock) lacks resources in terms of statistical manpower and capacity, they have requested the BBS to undertake livestock census and other surveys to meet the data demand.

The planning and decision support process needs reliable and timely data and this demand is increasing. However unlike crop statistics, for which the data system is well-organised to provide season-wise statistics on area and production, the system for livestock statistics is disorganised and serious data gaps exist. The main source of livestock data is from livestock census that was conducted along with agriculture census. The last census was conducted in 2008 and its results were available in 2011.

However, the census data cover only limited aspects of livestock and poultry and are static in nature. In the absence of any time series of data on numbers, the projections are made using some old factors and type-studies by the Department that have not been updated for lack of statistical exercises needed for the purpose. For effective monitoring of food security and supply and availability of livestock and poultry products, periodic data on production, produced annually, monthly and quarterly are needed. This is provided by the livestock officers posted at zila and upazila levels who furnish data returns on prescribed formats. The limitations here are lack of proper methodology and primary data compilation.

3.7 Forestry Statistics

The forestry statistics, particularly related to forest area and forest produce, are administrative data compiled by the Department of Forest. These statistics are made available to the BBS for consolidation in agricultural statistics and used for economic indicators, such as the GDP. The Annual Year Book of Agricultural Statistics provides data on forestry. The forest land use is taken as part of the LUS compiled by the BBS. The forest land use relates to notified forests only and other forest area and green cover are not reflected.

The Forest Department also undertakes surveys using remote sensing for calibrating actual forest cover. These reports and other study reports on forestry are produced by the Forest Department for its internal use or dissemination to other users if considered. The Forest Department examines the provisions made in the Statistics Act, 2013 in the context of the flexibility of special studies / project related data collection.

Besides the statistics on forest area (mainly notified forests), data on forest produces both timber and non timber like honey and wild berries are also compiled by the Forest Department. They are mostly administrative data on minor forest produces (mainly notified forests) that rural people living in the vicinity of forests who are given permission to collect. These statistics are also furnished to the BBS. In addition, there are other activities taking place in the domain of forestry and there is no proper way to collect statistics on the same. Some of the minor forest items are processed and exported as well, but there are no statistics on it.

In the past nearly 2 decades, the government has promoted social forestry in a big way. There are success stories of the initiative of social forestry bringing multiple social and environmental gains. These are some positive development taking place in the agriculture and allied sectors (please see the Box below). The agricultural statistics system has to gear up to capture these activities.

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There is need to strengthen statistical capacities, both human resources as well as other infrastructure in the Forest Department. The Department however has no manpower and statistical staff to carry out such statistical activities.

Social Forestry: *With due concern for environment conservation and the important role of forestry in it, social forestry has been promoted by the Forest Department in the past two decades. This initiative has gained momentum particularly in the past one decade. Under the social forestry initiative, rural people are encouraged by the incentive to adopt a stretch of social forestry and ensure protection of trees from the stages of planting to maturity. In a stretch of 1 km along the roads, 1600 trees are planted. Upon maturity, the trees under social forestry are cut down and marketed. The people who have adopted the stretches of social forestry share nearly half of the economic realisation of the trees sold. There are more than 100 thousand beneficiaries reported to be covered under this scheme and so far, social forestry has stretched to 70,000 kilometers. For this purpose, more than 2 billion Takas (about 250 million USD) have been disbursed by the government to the people, mostly rural and poor. The economic grain accruing to some of the people in the rural area through this scheme is an impressive 15000 USD. These are a non-farm income generation activities in rural areas and there is no systematic way in the agricultural statistics system of Bangladesh to capture such economic gains. There is need for ad hoc surveys to measure these with suitable methodologies. The statistical personnel would be required to interact closely with the Forest Department for developing the design of the methodologies and producing such statistics.*

Information on wood energy consumption is collected through household surveys, and forestry related activities are counted as part of labour force surveys.

3.8 Agricultural Markets and Price Information System

The main source of price statistics is the National Accounting Wing of the BBS. It is responsible for collecting, compiling and disseminating price statistics. The main price indices include: the Consumer Price Index (CPI); the Building Materials Price Index (BMPI); the Wage Rate Index (WRI); the House Rent Index (HRI) and the Producer Price Index (PPI). The BBS compiles the CPI on a monthly basis and also publishes it. The CPI is for three groups of population: (1) national, (2) urban and (3) rural, and is used to adjust payments for changes in prices. It is directly involved in determining purchasing power of money as well as deflation of per capita income. These report indices of important agricultural commodities are used separately for direct consumption. Monthly retail and wholesale prices of various commodities and services are collected and used for computation of these indices. Annual indices are also computed by averaging the 12 months' indices. The weights of the CPI are derived from the 1995-96 Household Income and Expenditure Survey (HIES).

The Wholesale Price Index (WPI) is yet to be initiated in Bangladesh (but there is a plan to initiate it in near future) and the Producer Price Index (PPI) is compiled for non-farm commodities.

Specific to agricultural commodities there is a mechanism for collecting and compiling price statistics mainly through the BBS and also by the DAM. The DAM reports the retail and wholesale prices of about 200 agricultural commodities at different time intervals. There is no fixed set of identified

commodities; they are chosen on the basis of seasons, availability and government priority at the specific time. Some of the products are considered for daily price reporting and some for wholesale price reporting.

The methodological features of price collection by the DAM are: Sample Size: 9 markets, 129 pre-selected markets from the whole country for collection of data on wholesale prices; Sample Selection: Multi stage: Cluster (for Upazila Selection-Sadar is automatically selected and another is selected in terms of size and position of significant bazaars / markets)> Stratified (Size of traders-in terms of volume of produces handled-Large, Medium, Small)> Random (selection of 03 traders from each strata); Data Collected: Retail, Wholesale, Growers/ Farmgate, Level of disaggregation available: National/ Sub-national/ District; Timeliness of data release: Near real time/ Retail and wholesale data are reported daily, data on Growers are reported fortnightly.

For data on retail prices, the sample consists of the retail segment of the two selected wholesale markets from each district and seven retail markets of the capital city. The responsible DAM personnel collect the daily data on available commodities and electronically send them to the head office from where the Internet dissemination of the prices is made. The information is disseminated on the website. There is inadequacy of resources, both of skilled manpower and computational resources to carry out this important activity in a methodical and streamlined manner.

The District Marketing Officer or Market Investigator reports commodity prices daily from selected markets. Reported market prices are the average of at least nine prices for each commodity in the market. No quantities are associated with the price data nor are quality distinctions made. Daily price data are forwarded, primarily by Internet, hard copy or fax, to the district level offices, that further send the collected data to the head office. After cross checking and validation at the headquarters, these are published on the website. Local and regional level data dissemination is conducted through hardcopy, fax, or mail. Local market data are also routinely faxed to local government offices for official purposes of planning, but is not routinely posted in markets or otherwise disseminated to buyers and sellers.

Market prices and reports are collected daily, weekly, and monthly. The Yearbook of Agricultural Statistics publishes the annual average wholesale prices and harvest time market prices of agricultural crops, sourced from the DAM. There is a felt need to strengthen the Agricultural Marketing Information System (AMIS) due to inadequate information on stocks, domestic prices, and linkages between international and domestic markets, inappropriate and/or uncoordinated policy responses to market crisis. This need is keeping in view its importance for strengthening food security. High food prices and volatility have adverse effects on food security (The Global initiative of AMIS, FAO).

The Agricultural Market Information System (AMIS) is an Inter-agency Platform to enhance food market transparency and encourage coordination of policy action in response to market uncertainty. The initial focus of AMIS is on four crops that are particularly important in international food markets, namely wheat, maize, rice and soybeans. ("AMIS crops"). AMIS is supported by a joint Secretariat located in the Food and Agriculture Organisation of the United Nations (FAO), consisting of several international organisations with the capacity to collect, analyse and disseminate information on the food market

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situation and on policies that affect it. AMIS is structured around five main pillars that are interlinked and mutually reinforcing; Market Monitor, Capacity Development and Outreach and Policy Dialogue. AMIS builds on and complements existing systems with a view to improving the generation, analysis and dissemination of agricultural market information. Such strategy will be instrumental in tailoring the contribution of AMIS to fill prevailing knowledge gaps. It will also facilitate the realisation of synergies that will help ensure a lasting impact of the initiative.

details: http://www.amis-outlook.org/amis-about/en/

3.9 Water, Irrigation and Environment Statistics

Water is primary input for agriculture and a significant part of life in Bangladesh. Most of the country is a delta, described as the largest in the world, receiving between 1000 to 5000 mm of rain. The runoff flows through the intricate network of over 200 large and small rivers. The rivers mark both the physiographic of the country and the life of its people as the main source of water for cultivation, as principal arteries of commercial transportation and as habitat of fish – an important source of protein.

In Bangladesh, the cultivation of paddy in all the seasons requires water. Increase in production of paddy and other farm commodities depends upon irrigation. The promotion of new varieties for increasing production needs assured irrigation. The distribution of crop area statistics in the breakup of irrigated and un-irrigated croplands as well as production response is considered important for the management of the agriculture sector. According to the estimates of the BWDB, MoWR, about 47% of the crop area in Bangladesh is under irrigation.

The systematic compilation of water, irrigation and environmental statistics, however, is not in place. Due to the limitation of land-use statistics, the crop-wise area under irrigation cannot be derived. The BWDB has the mandate to develop and manage irrigation infrastructure in the country. In the course of its management of 102 major irrigation projects, the BWDB generates crop-wise, season-wise and project-wise irrigated area under major crops. The field data are collected in association with the field staff of the DAE. Besides the conceptual and methodological inadequacies in this process, the coverage excludes minor irrigation. The BADC has conducted large surveys / censuses of minor irrigation. It is apprehended that the concept of irrigation used in these two approaches may not be consistent. Furthermore, the BWDB data on irrigation is project-wise and not according to administrative geographic boundaries at sub-national level that is applicable for crop statistics. Hence, there is serious constraint of comparative use of these figures.

Considering the above limitations, generation of irrigation statistics using proper concepts, definitions and methodology is very important. While paying attention to this, harmonisation of irrigation statistics with land uses statistics should be also given consideration.

The paucity of data is also experienced in water statistics. Some indicators are available on water consumption, water quality and pollution based on type-studies conducted by the BADC and the BWDB. Given the importance of water in the social and economic life of Bangladesh and for attaining food, nutrition and health security of the people, systematic generation of statistics on

water and its quality is important.

The BBS has brought out the Compendium of Environmental Statistics of Bangladesh, 2009, and has carried out up-grading of the Compendium of Environment Statistics of Bangladesh, 2005 and the Bangladesh Framework for Development of Environmental Statistics (BFDES). The data included in these publications are mostly from secondary sources.

3.10 Rural development statistics

Most of the rural development statistics fall under the social dimensions of the core data prescribed in the Global Strategy. The twelve key variables on sex, age, country of birth, education level, employment status, workforce, household income, household composition, family and hired workers on holdings, and housing condition are available through the Population Census and / or surveys conducted by the BBS. Two important surveys contributing to these variables are Labour Force Surveys and Household Income and Expenditure Surveys. The source of housing condition data is the Population and Housing Census, last conducted in 2011.

3.11 Food security and nutrition monitoring

Food security has a multi-dimensional perspective, from macro availability of food from production and trade to its distribution and availability to the households. For the former, the Food Balance Sheet is one of the approaches, which however, is not prepared yet. Two staff members have recently been trained by the FAO in this methodology and the work is likely to be initiated soon.[7] The micro dimension for food security is facilitated by the consumption and expenditure distribution available from Household Income and Expenditure Surveys (HIES) conducted at periodically in Bangladesh. Based on this, poverty head count ratios are worked out. The local area poverty mapping has been prepared in Bangladesh using the small area techniques, interpolating consumer expenditure data with census data.

The BBS also conducted a Welfare Monitoring Survey (WMS) in March, 2009. The objectives of the WMS were to collect some core welfare indicators for assessing the poverty situation of the country excluding the income and expenditure dimension of poverty assessment. It is worth mentioning that traditional Household Income and Expenditure Survey is the main instrument for measuring poverty using the income/ expenditure behavior of the household. The WMS included a number of indicators which can be generated annually to measure the progress in the poverty reduction strategy of the government. The areas that were covered in the survey are household and housing characteristics, population characteristics, health situation, self-assessment of poverty, food security, clothing and footwear, crisis coping, credit and investment, participation in social organisations such as clubs and associations, security, women empowerment, recreation and leisure etc.

The FPMU is the main user of several agriculture and rural statistics for informed decision support. The FPMU has established a data centre of its own that has stored statistics on related aspects, mainly sourced from the BBS to meet its mandate stated above. It is important to recognise that in the event of food emergencies, the data use and its analysis is often on "Just in case – Just in Time" basis. From this point of view, there is an urgent requirement for food balance sheet, food stock survey and supply use table.

7 The project "Building statistical capacity for quality food security and nutrition information in support of better informed policies" (Project symbol: TCP/RAS/3409) is a regional project of the FAO, currently in progress. The project aims at enhancing the country capacity to generate and analyse data relating to food and nutrition that can be useful for generating food balance sheet.

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3.12 Other Important Statistical Domains

Disaster Statistics: Bangladesh has been suffering from natural disasters like, tornadoes, cyclones, frequent seasonal floods, tidal surges, earth sliding, earthquakes and incessant rains. The destruction and damage resulting from these natural disasters are so big that the impacts always hinder the country's economic growth and development. In many cases, the people have to depend on foreign aid to survive over the years. Different disasters and their trends of management at various places of Bangladesh are being reported in the Compendium of Environment Statistics.

Development of Environmental statistics is the main baseline for developing sustainable environmental management. It describes the state and trends of the environment, covering the natural environment (air/climate, water, land/soil, etc), the biota within the media, human settlements, natural events and its impacts, social responses to environmental impacts, and the quality and availability of natural assets.

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4.1 Features of Integration

The integration of statistical systems for diverse data sets is seen, as prescribed in the Global Strategy, to be coherent, relevant and user-friendly for dissemination, analysis, inference and decision support. The scope and significance of integration of agricultural statistics in the NSS is envisaged in the Global Strategy (FAO RAP 2013) to cover, inter-alia the development of a master sample frame as a means to coordinate data collection across sectors producing agricultural statistics and an integrated survey framework to bring together collected data to enable cross-cutting analysis, and the integration of agriculture into the NSS.

The focus of pillar 2 of the Global Strategy is on institutional settings of the national system for agricultural and rural statistics, evolving a harmonious survey infrastructure such as a master sampling frame with a view to attain integration of agricultural statistics system with the national statistical system.

The main advantages of such an integrated statistics system is to plan and develop a comprehensive statistical programme, restricting the duplication of statistical activities or the release of conflicting statistics, while ensuring the efficient and balanced use of available statistical resources, and increasing the scope of data analysis. It also takes into consideration large volumes of data expected to become available from administrative records from distinct domain characteristics. There is growing recognition of the importance of administrative records as a data source in considering of the cost associated with data generation from standalone survey operations. The methodological interest is on orientation of statistical designs on data as by a product of administration.

With this perspective, the aspects of integration of agricultural statistics with the NSS in Bangladesh are discussed in the following sections.

4.2 Extent of Integration in agriculture data system

4.2.1 Institutional setup for integrated statistical system

There is a commitment in Bangladesh towards the integration of agricultural data into the NSS, which is also articulated in the NSDS. One of the stated missions of the NSS is to establish an integrated, professional, efficient and effective national statistical system under the guidance and leadership of the BBS. Towards this end, the NSDS recognizes the importance to strengthen the relationship between the BBS and other data producers as well as users.

There is an institutional setting for integration of agricultural statistics system with the NSS. This is enabled from (a) in general, the centralised role of the BBS in generation and dissemination of various official statistics; (b) its guidance and direction for statistical engagement of different subject-specialised ministries, departments and entities in the country; and (c) umbrella organisational structure of the BBS having the subject-specialised wing for agricultural statistics, census and national accounts in its fold.

This institutional integration is internally synergised in the BBS by the integrated census wing that is responsible for carrying out all census operations such as population and housing condition and economic census as well as agricultural census. Similarly, the coordination and consolidation of macro-economic indicators by the National Accounting Wing adopting the integrated accounting framework recommended under the SNA adds to the integration in the statistical

Table 4.1 : Sampling designs, sampling units and the frames applicable in agriculture surveys in Bangladesh

Census /Surveys	Designs	Sampling Units	Frame Used / Provided	Digitisation	Lowest level of available statistics
Population Census	Census / Follow-up	Enumeration Area / Household	List Frame -Enumeration Area / Household	Yes	Mouza & village
Agriculture Census	Census	Mouza / Household	List Frame - Mauza	No	Mouza
Agricultural crop production survey (observation) for area	Uni-stage Stratified	Cluster	Cluster Frame (sub set of population)	No	Zila
Agriculture crop Production Survey (Observation) for Yield	Two stage Stratified	Cluster	Cluster Frame (sub set of population)	No	Zila
Agricultural crop production survey (interview) for area and production	Multistage Stratified	Mauza / Farmer Household	List frame	No	Zila

For details, refer to Chapter 3 on Assessment of Agricultural Statistics Activities

system. The data inputs for the production account for the agriculture sector, (more specifically the crop sector) are available from the Annual Crop Production Survey conducted by the Agricultural Statistics Wing of the BBS, generating production estimates of six major and 118 minor crops.

The institutional integration of statistical activities is strengthened with the provisions made in the recently enacted Statistics Act, 2013. The Act imposes statutory mandates on the BBS to coordinate and direct all forms of statistical activities including agriculture, carried out by BBS or by other agencies.

However, the statistical system of the BBS at its center requires a strong mechanism of

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coordination, internally within the elements of the organisation, and externally with other stakeholders and partners in generation and use of statistics.

4.2.2 Use of standard concepts and definitions across censuses and surveys

The institutional convergence of major activities of agricultural statistics with other statistical operations in the BBS provides a good basis for the harmonisation of concepts and definitions across censuses and surveys. Within the BBS, all censuses such as population and housing condition census, agriculture census and economic census are further under the unified operations of the census wing.

Thus, use of standard concepts and definition is more imperative in respect of concepts such as household, economic activities and classifications, labour force etc. common to different subjects of surveys and also for certain concepts specific to agriculture such as operation holding, irrigation and land use classification that are guided by the Agriculture Wing. However, for statistical activities undertaken by the line ministries and their departments for their specific use (such as agriculture extension, fisheries and livestock) or as a by-product of their administration, the role of guidance and ensuring harmonisation increases. There is very little interaction on the aspects of related concepts and definitions between the BBS and the line departments pursuing statistical activities. This is more at lower administrative levels and necessitates a strong coordination and interaction mechanism of the BBS with the respective departments.

There can be situations when field staff members of line ministries and departments engaged with data exercise are less oriented to statistical work. The limitations in the collection of data without proper framework of concepts and definition were also noted in the case of irrigation data being compiled by the BWDB. In the collection of irrigation data, it is important to have a definition of what is to be called irrigated crop area. Adoption of such a definition in a proper methodological framework by all the field staff is necessary for generating quality statistics. The need for training and capacity development assumes special importance. Equally important is the understanding of users of data statistics on the concepts and definition. In the absence of the same, coherent and consistent interpretation and secondary statistical analysis are likely to suffer. This issue needs to be taken into consideration.

4.2.3 Sampling frames and cartography

The Population Census, 2011 and the Agriculture Census, 2008 had consistency in the administrative units at different levels, district (zila), sub-district (upazila) and mouza. The initiative of the BBS to have geo referencing of enumeration areas improves the scope of using these for an integrated survey framework. However, for the design and frames used in the main agriculture surveys, ACPS limits the use of population or the agriculture census frame. Table 4.1 summarizes the different types of sampling designs, sampling units and the frames applicable in mainline Agriculture Crop Production Surveys in Bangladesh.

The design of ACPS has stabilized over the years. The datasets on livestock, poultry and fisheries have their distinctiveness in methods, projections and statistical application. There is less clarity on the aspects of frame. Fisheries, in particular, depend on different sampling units such as ponds, water bodies, fishing households, aquaculture farms, fishing boats and trawlers.

The livestock sector has also expressed the need for data from hatcheries. The frame for

the agro-processing industry may emerge from economic censuses.

Thus, the aspect of integration is limited on account of different sampling units for data collection and respectively frames used in the agriculture sector. This is an aspect that requires further study.

4.2.4 Existence of Master Sampling Frame for agricultural census/surveys

The above section has discussed the multiplicity of frames used in agriculture surveys in Bangladesh. The APCS (Obsevational) approach is one of the mainline surveys with a distinct sampling frame of list of clusters. In fact, this list of 10438 clusters is a master sample (fixed over the course of years) for area estimation of major crops and is the frame for selecting clusters for crop-cutting experiments. The list of clusters as a frame is at stratum level of the upazila (sub-district). In APCS (subjective approach), the list of unions (an administrative unit between sub-districts and mouzas) is the frame. In fisheries, the survey for inland (closed) is the frame of ponds whereas, the frame for Inland (open) and marine survey will be households with boats and trawlers. The discussion highlights the issues involved in integration with the master sampling frame.

4.2.5 Use of GIS to map households, agricultural holdings and land parcels

Agriculture census in Bangladesh is approached through the households and not through survey maps. In that respect, there is scope for greater convergence of agriculture censuses with population censuses. This convergence can avail the benefit of the geo-referencing initiated in the Population Census, 2011.

4.2.6 Existence of integrated databases

Many of the rural development statistics emerge from the population and other socio economic surveys conducted by the BBS. However, the database on these exercises is not placed in an integrated framework. In the case of irrigation statistics produced by the BWDB, it is not feasible to bring them on the common platform of the database due to the methodological differences and the inadequacies in the compilation of such statistics. While crop and demographic statistics are compiled with sub-national breakup in administrative boundaries, the aforesaid irrigation data are for irrigation projects. Furthermore, these irrigation indicators are restricted to major irrigation projects and do not cover other irrigation features. Therefore, compatibility of these indicators with other crops and social indicators for analytical inferencing is not possible. These are the areas considered to be relevant for methodological exploration. The consideration for such an endeavor is also reflected in the NSDS.

4.2.7 Priority action points from NSDS

Some of the priority action points in the NSDS are expected to contribute to strengthening the aspects of integration, although this is not explicitly reflected. To illustrate, a few such priorities of the NSDS are listed below:

- Regularly evaluating all statistical processes.
- Improving accuracy, reliability and timely production of data and dissemination of data.
- Improving and maintaining registers and sampling frames.
- Ensuring that classifications are kept up-to-date.

CHAPTER 4

INTEGRATION OF AGRICULTURAL STATISTICS INTO NSS

- Developing a geographic information system and making better use of geo-referenced statistical data.

- Defining the particular roles of the data producers along with their responsibilities and competencies, in order to ensure holistic coverage and to eliminate the duplication of data.

- Improving the tools of dissemination of official statistics and their usefulness by modernising the information services, particularly IT services, of the BBS and establishing a Statistical Databank of Statistics providing statistical information from the whole of the NSS to the government, private sector, academia, media and the public at large.

- Providing a sound basis for establishing statistical priorities in cooperation with users and producers of statistics.

- Enhancing the capacity to collect, compile, disseminate and especially use statistics at the local level, providing statistical information to help empower the citizens of Bangladesh.

- Identifying and reviewing administrative records to determine to what extent they can be used for statistical purposes.

- Set up a Research and Development Wing in the BBS.

- Setting up statistical cells in line departments.

In the context of the present IdCA exercise, the above action points can be translated to the specificities of agricultural and rural statistics.

4.3 Duplication in data collection

One of the important functions of the NSS is to review the statistical activities for averting duplication of efforts. Such multiplicity of data exercise not only leads to confusion among users in reconciling different sets of estimates, it also stresses the scarce resources. There has been a major data activity on crop production and crop area carried out by the DAE, parallel to the BBS surveys that provide official estimates of crop production. This duplication is being looked into and a FAO supported study on Harmonization of Estimates of Crop Production is currently in progress.

As mentioned in the earlier chapter, irrigation statistics in Bangladesh are not of good quality. Moreover, there are more than one agency producing numbers on irrigation. There is duplication of effort and absence of consistency in the concepts and methodology that is restricting the potential use of irrigation indicators. It is suggested to plan for better statistics not only to improve its quality but also to curtail duplication of efforts and inconsistencies.

In the areas of data gaps, some line ministries are undertaking sporadic data activities, which may not be very valid in the statistical sense. These are expected to create data on different time, not confirming to standards and procedures. There is a growing realization of the need for enhanced cooperation and active role of the BBS to look into such duplicated and unconfirmed methodology-based data exercise. This itself is an area of methodological studies. This aspect has been reflected in the NSDS and the Strategic Goal of the National Accounting Wing has a provision for such studies.

4.4 Scope for Building Synergies and Partnerships

The NSS in Bangladesh is a constantly evolving and improving system, with partnership and development engagement. There has been a long association with international partners on statistical system development. The NSDS has been developed with the involvement of the World Bank and the FAO has been instrumental in supporting methodological improvement in agricultural surveys and censuses. Over the years, synergies with partners have become stronger and the NSDS as well as the Statistics Act encourages such partnerships.

4.5 Other Related Issues

a. Advocacy for an integrated statistical system for other organisations engaging in statistical activities.

b. There are certain important segments of the agrarian sector where data gaps exist and it is under consideration to bridge the same by conducting new surveys. The most noticeable amongst such sub-sectors are livestock and fisheries. The significance of attaining features of integration in the newly evolving statistical exercise will be important. For this purpose, it is imperative to generate awareness and orientation in the NSS on the aspects of integration and approaches and ways to attain it.

c. Bangladesh has recently conducted an Economic Census (2013) that covered all non-farm economic units, permanent & temporary establishments and household-based economic activities. However, agricultural establishments such as farm-based livestock, poultry and fishery were also included in this census, which were not covered in the earlier economic censuses. Thus, the latest EC provided the scope for preparing an integrated framework for related agriculture surveys.

CHAPTER 5

CORE DATA AVAILABILITY

5.1 Accepted National Minimum set of Core Data

Looking at the types of variables furnished in agricultural statistics, the variables for Bangladesh are grouped into output, trade, stock of resources, inputs, agro processing, prices, final expenditure, rural infrastructure, international transfer, demographics of urban and rural population, land, water and air. While agricultural production leads the coverage of agricultural statistics in Bangladesh, other areas like inputs, prices and stocks and resources are deemed to be important and given considerable coverage. Extensive disclosure of crop production statistics is being supplemented by efforts in collecting fisheries, forestry, livestock and poultry statistics. The three varieties of rice, jute, wheat and potato are the major crops and meat, milk and eggs are the main livestock items from the point of view of prominence in food and livelihood security. Fisheries and aquaculture products are also important for food security as well as trade value. Due to the stress of being over-populated, demographic features are of perpetual interest in Bangladesh and related statistics like gender, labour force participation and urban-rural classification are well coordinated with agricultural statistics. The indicators of market prices, farm-gate prices and cost of production are important for proper management and decision support in the agrarian economy.

Although accuracy and timeliness of the derived statistics have always been sought but often not possibly been adhered to, lapses and gaps in data quality have become an apparent challenge. Keeping in view the national and international requirements of quality data, the minimum core data have been identified for Bangladesh which need to be produced ensuring quality. The crop profile is dominated by paddy with about 77% of total cropped area, but the remaining 23% of the crop area is very diversified in terms of pulses, oilseeds, fruits, vegetables and other crops and, therefore, is important. Hence for the purpose of core data, 11 crops are considered. These crops represent one or two most important crops of different crop groups. A complete list of the core data set is given in Annex VI.

5.2 Data Gaps and Future Requirements

The government of Bangladesh has formulated a comprehensive NSDS that has identified the demand, needs and priority (see Chapter 2) of the NSS as well as goals for future statistical activities. The document emphasizes on improving the quality of statistics provided by the BBS and other institutions. The strategy document has acquired a solid anchor in the form of the enacted Statistics Act 2013, However, the NSDS does not categorically identify the required core indicators, which actually can be easily extracted from the NSDS. Indicators have been thus identified to help in monitoring and evaluating progress. These are outlined in Annex IV. The core set of indicators was prepared during the exercise of the IdCA, and the resulting indicators for the agricultural sector are shown in Table 5.2. For each indicator, the concepts, definitions, classifications, data collection agency, data collection methodology, level of disaggregation provided and data collection frequency have been documented. The items are listed under 10 headings:

- Output: 3 variables (Production / Area / Yield)
- Trade: 2 variables (Export / Import)
- Stocks: 1 variable (Storage quantity)
- Stock of Resources: 5 variables (Land / Workforce/ Livestock machinery/ Surface water, Ground water)
- Inputs: 5 variables (Water, Fertilizer, Pesticides, Seeds, Feed)
- Agro processing: 3 variables (Inputs, Outputs, Other- biofuel etc.)

CHAPTER 5

CORE DATA AVAILABILITY

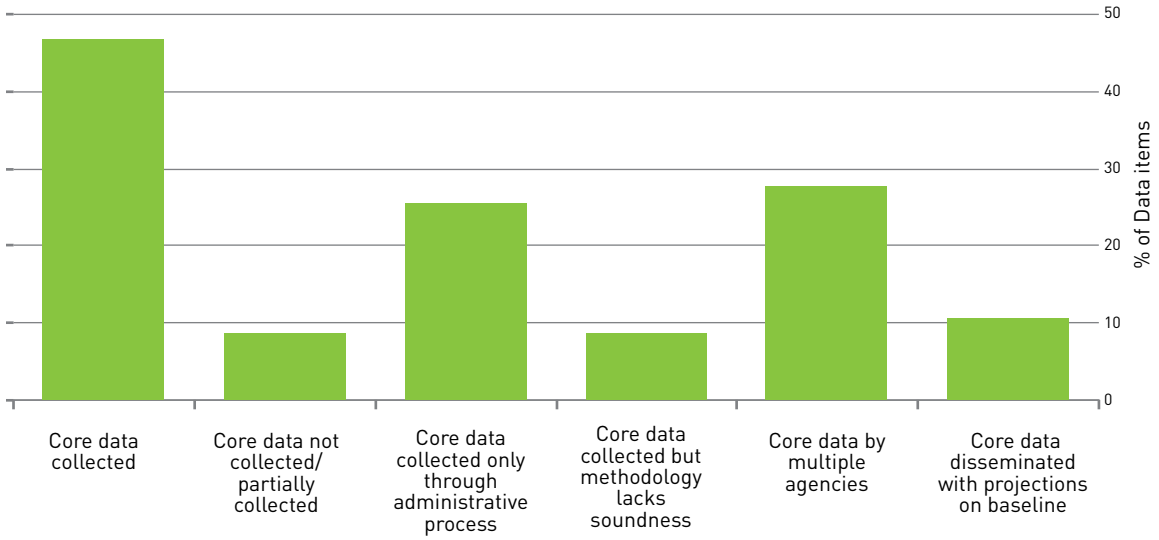
Table 5.1 : Gaps analysis regarding core data

Data Issues	Core Data
Core data collected	Crop statistics, Major crops , Land cover and Land use, Employment, HCI, Animal feed, CPI, Demography
Core data not collected/ partially collected	Agro processing, Commodity prices, Foodstock, Food balance sheet, Environmental data
Core data collected only through administrative process	Forestry, Trade, Fertilizers, Pesticides, Seeds, Govt. expenditure, Rural infrastructure
Core data collected but not at needed frequency	Agriculture machinery
Core data collected but precision is lower than demanded	Crop statistics, Minor crops
Core data collected but methodology lacks soundness	Fisheries, Water use, CPI, Rural infrastructure
Core data disseminated with projections on baseline	Livestock and poultry, Trade
Core data by multiple agencies	Crop Statistics, Major and Minor Crops, Livestock and Poultry,Trade , Land Cover and Land Use

- Prices: 2 variables (Producers, Consumer)
- Final Expenditure: 3 variables (Govt., Private, Household)
- Rural Infrastructure (Capital stock): 4 variables (Irrigation, Roads, Railways, Communication)
- International Transfer: 1 variable (ODA)
- Demographics of Urban and Rural Population: 12 variables (Sex, Age, Country of birth, Education level, Employment status, Workforce, Household income, Household composition, Family and hired workers on holdings, Housing condition)
- Land: 1 variable (Soil degradation)

Gap analysis can be made on the issues listed in Table 5.1. The number of variables with each type of data issues was also analyzed, which revealed that about 25% of the core data were collected by multiple agencies, another 25% were collected through administrative processes while more than 42% were collected maintaining statistical standards. Figure 5.1 gives the percentage of data with different data issues. A detailed list of core data and corresponding data gaps with linkage with the agencies relevant to the data collection are presented in Figure 5.2.

Figure 5.1 : Percentage of core data with different types of data issues

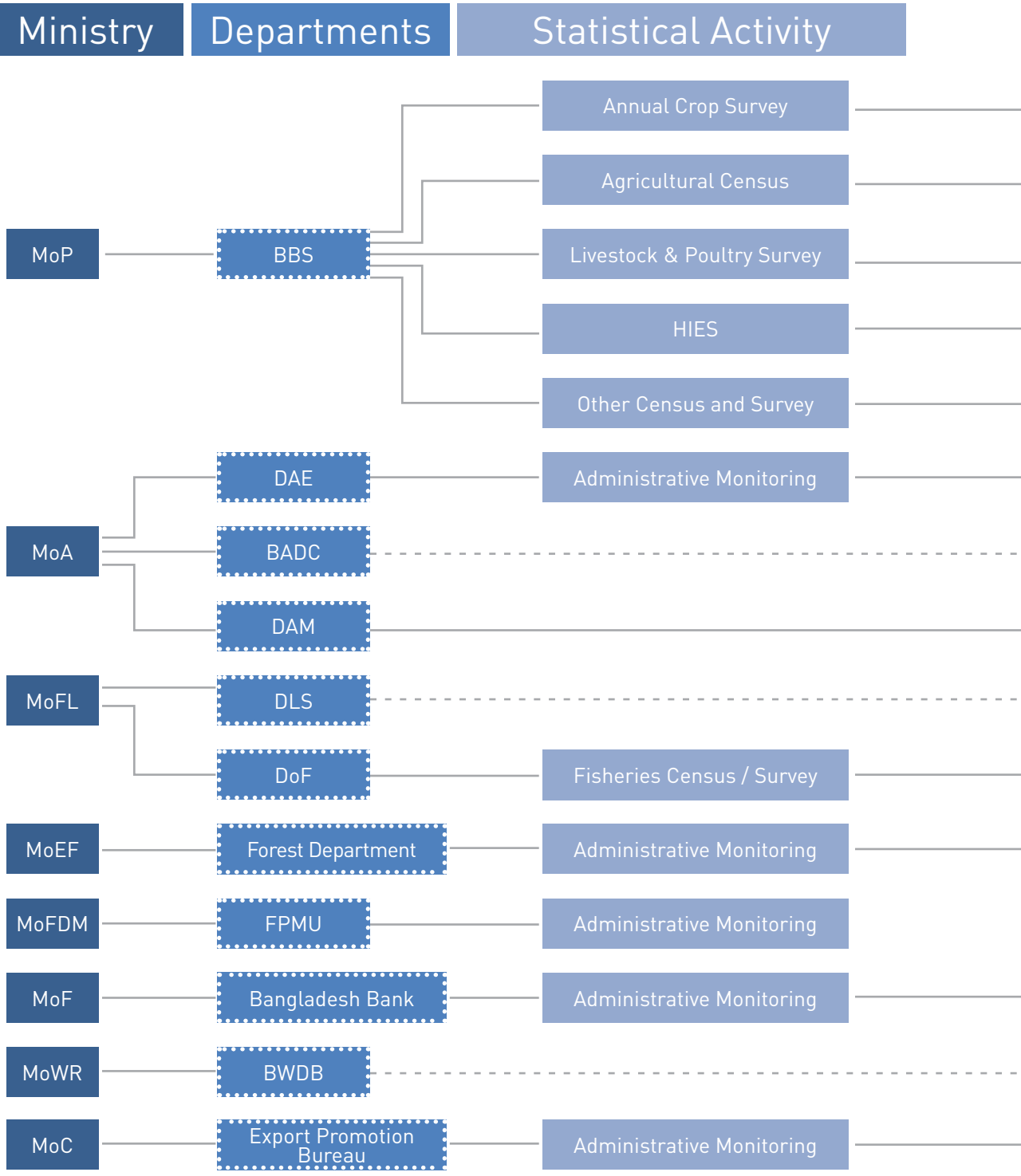


CHAPTER 5

CORE DATA AVAILABILITY

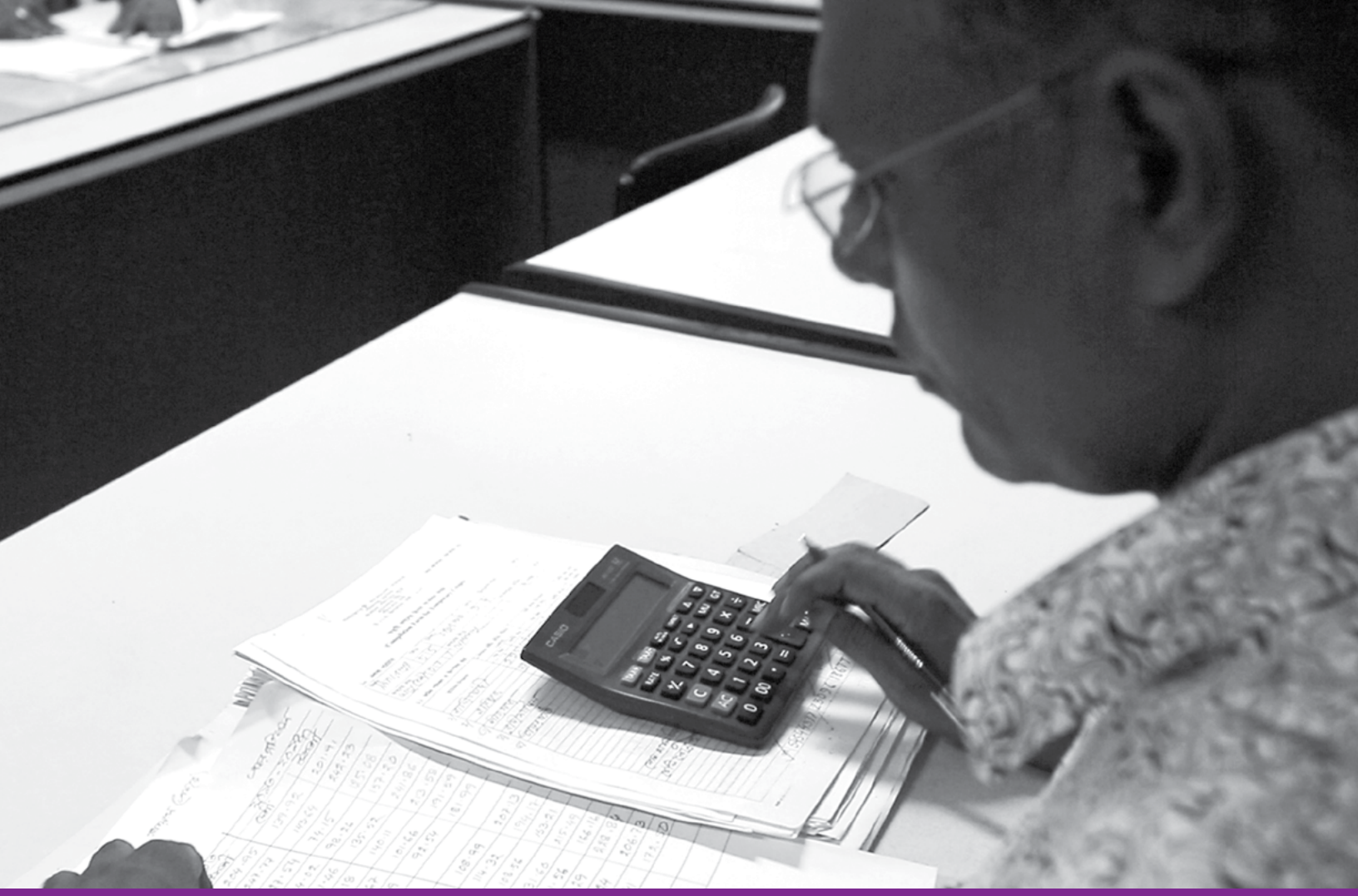
Figure 5.2 : Ministries, departments, statistical activities and data availability

Data Flow by Institutions



Data Items

Rice Aus, Rice Aman, Rice Boro, Jute, wheat, Potato, Maize, Fruits (Mango, Jackfruit), Vegetable (Brinjal, Tomato), Pulses (Mashoor, Khesari), Plantation (Coconut)
Land cover and use, Economically active person, Cattle, buffaloes, poultry, goats and pigs. Agricultural machinery: tractors, harvesters, seeders, seeds, Animal feed purchased, Number, inputs, outputs, other-biofuel etc (agro processing)
Cattle, Buffaloes, Poultry, Goats and Pigs. Agricultural machinery: tractors, harvesters and seeders
Household consumption of core crops/ livestock/ Fisheries products/ Household Income Expenditure
Sex by age, Education level by age, Highest level of education, Labor force status (employed, non- employed, not in labor force), status in employment (self-employed, employee), Economic sector of employment, Occupation of employment, Number of Hired worker on farm holdings, housing condition.
Rice Aus, Rice Aman, Rice Boro, Jute, wheat, Potato, Maize, Fruits (Mango, Jackfruit), Vegetable (Brinjal, Tomato), Pulses (Mashoor, Khesari), Plantation (Coconut)
Minor irrigation, water use for agricultural purpose, Fertilizer use, pesticide use
Farm gate Price, Consumer Price
Milk, Egg, Meat
Marine fisheries, inland / aquaculture fisheries, Fishing vessels, engines, fishing gear(net & long lines) (D/ Fisheries)
Forestry: Wood, Forestry: Non-wood
Official development assistant for agriculture and rural development
Surface Irrigation
Export of Aquaculture



CHAPTER 6

ASSESSMENT OF CAPACITY TO PRODUCE CORE DATA

6.1 Statistical Capacity Building Framework

The Global Strategy is being implemented in countries, recognising that throughout the world, the organisation of their respective statistical activities, requirements and the allocation of responsibilities among agencies within their systems would vary greatly. To implement a common methodology for capacity assessments and to produce a common set of internationally comparable indicators, it is necessary to use a shared core set of questions applicable to all countries and regions.

The agriculture and rural statistics capacity assessment framework (FAO Handbook 2013) provides a standard structure that can be applied in a wide variety of situations to assess statistical systems based on quantitative and qualitative information. It provides insight into most aspects of the statistical environment in which data are collected, processed and disseminated, and also assesses the government's commitment to provide the conditions necessary to increase user confidence in the information produced. This confidence emits from the institutional mechanism such as legal framework, strategic vision, institutional infrastructure and resources that support sound and timely statistical practices. The FAO framework for assessing statistical capacity for agriculture statistics is the result of an international collaboration effort. While it is customised to agricultural and rural statistics, it has a great deal in common with other capacity assessment frameworks, specifically the United Nations Statistical Commission's Generic National Quality Assurance Framework (NQAF), the Paris21/IMF Task Team Statistical Capacity Building Indicators and those used by the World Bank. The tools for using the framework to assess statistical capacity at the country level have been built upon the FAO's experience in conducting questionnaire-based inquiries and reviews to monitor the progress of agricultural statistics in Asia and Africa.

A range of information about the features of the NSS and the NSO was compiled in the Standard Country Assessment Questionnaire (SQ) that formed the basis for building capacity indicators. The SQ was meant to be canvassed to the NSO for a major part of the information input. The SQ was also meant to be canvassed to other major line ministries/departments, generating agricultural statistics for stakeholders in the process to acquire information on resources, constraints faced and use of agricultural and rural statistics.

There are a total of 23 indicators, grouped in four dimensions, (i) Institutional Infrastructure, (ii) Resources, (iii) Statistical Methods and Processes, and (iv) Availability of Agricultural and Rural Statistics, on which the capacity of the countries to produce agricultural and rural statistics is measured.

6.2 Capacity Indicators for Bangladesh

These capacity indicators are generated in respect of Bangladesh. The main SQ was meant for the NSO and in respect of Bangladesh, information on different aspects in the above-mentioned four dimensions was collected from the BBS. In addition, the SQ was also canvassed to some important line departments, namely, the DAE, the DAM, the DoF and the Department of Livestock. In Bangladesh, the majority of statistics is generated by the BBS and it may need to be kept in view that the interpretation of indicators reflects the situation in the decentralised institutional and operational setup. The BBS is now statutorily the nodal agency for production / coordination of all the official statistics, including agricultural and rural statistics. Therefore, in the

CHAPTER 6

ASSESSMENT OF CAPACITY TO PRODUCE CORE DATA

interpretation of indicators, some balancing clarifications / observations also should be given for ease of interpretation. The aggregate indicators for the four capacity dimensions are shown in Figure 6.1 below and the indicators of respective elements with graphic presentation are discussed subsequently. The indicators reveal relative strength in institutional infrastructure, moderate status of statistical methods, practices and availability of statistical information and low capacity in resources.

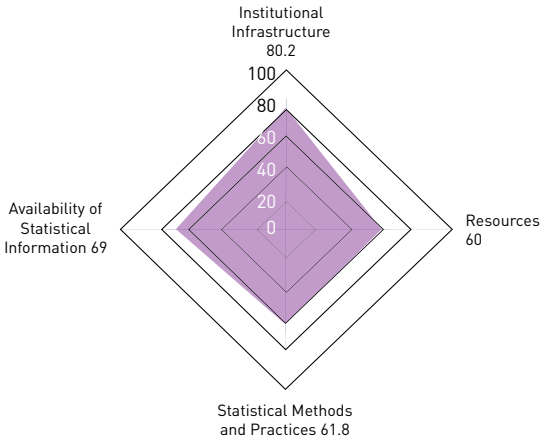


Figure 6.1 : Agricultural and Rural Statistics Capacity Indicators of Bangladesh

6.2.1 Institutional Infrastructure

The first dimension of the capacity indicators is institutional infrastructure. It has five elements, legal framework, coordination in the national statistical system, strategic vision and planning for agricultural statistics, integration of agriculture in the national statistical system and relevance of data (Figure 6.2).

In Bangladesh, institutional infrastructure is rated high. The strength to infrastructure is provided by the legal framework available from the Statistics Act and the NSDS. The Act is currently at the implementation stage and its provisions are being explored. There is a coordination mechanism in the national statistical system that is articulated in the NSDS as well as the Statistics Act. However, with a more proactive role foreseen to be taken up by the BBS, backed by the implementation of the NSDS and the Statistics Act, the coordination aspect would need to be strengthened.

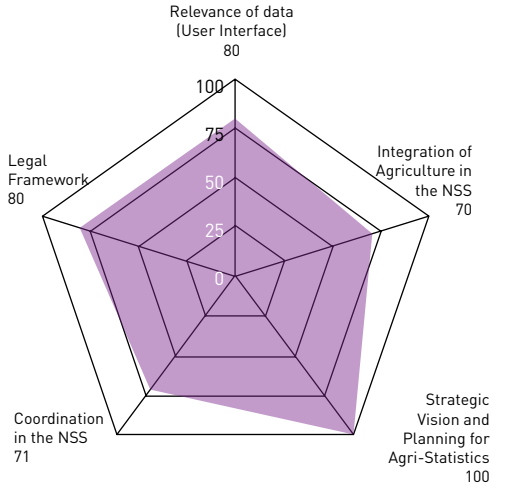


Figure 6.2 : Agricultural and Rual Statistics Capacity Indicators of elements of Institutional Infrastructure in Bangladesh

There are aspects of integration of agriculture in the national statistical system such as use of master sample frames, existence of different frames and exploring the frames for newer statistical activities that need to be looked into to improve integration. Integration of Agriculture in NSS is stronger for crop statistics and weak for livestock, fisheries and forestry. Different BBS agriculture survey programme and census have limitations on the aspect of integration. There is need and scope of strengthening internal and external coordination of BBS.

The context of strategic vision for agriculture

statistics, that has scored full points, may need to be viewed from the point that the NSDS covers the aspects of agricultural and rural statistics. However, it was noted that there was no separate strategy for agricultural statistics and that it was part of the national strategy into the NSDS. Certain aspects, particularly statistics on the allied sectors of livestock, fisheries and forestry, falling in the domain of line departments are not adequately reflected. Hence, there is need for a sector-specific strategic vision and planning for agricultural statistics. This is expected to compliment and supplement the strategic framework of the NSDS and provide greater synergy with the Global Strategy.

Regarding the indicator on the relevance of data, the NSDS and the Statistics Act have special articulation. An official forum for dialogue between suppliers and users does exist with well-established channels for receiving feedback. There is scope for strengthening this forum, keeping in view the greater responsibility entrusted to the BBS with commitment to the guiding principles of official statistics[8] expressed in the NSDS and to the provisions of the Statistics Act.

6.2.2 Resources

The resource capacity indicator combines four elements financial resources, human resources (staffing), human resources (training) and physical infrastructure. These are presented in Figure 6.3. In resource dimension, there are constraints in capacity. In terms of physical infrastructure, the BBS is well-equipped. However, the availability of physical infrastructure is a constraint in the production of agricultural statistics. These constraints and inadequacies are particularly high in line departments.

The constraints are in terms of financial resources and human resources/ staffing. At the BBS, approximately 80-100% of statistical activities related to agriculture are funded from the government budget. However, in bridging data gaps and providing core data, the BBS as well as line departments are expected to face financial constraints in budgetary support.

On the staffing front, 3316 professional and technical support positions are officially established in the BBS to produce agricultural statistics, but only 434 professional and 1540 technical support staff posts are currently filled. On the other hand, there is no statistical strength in line ministries such as Ministry of Fisheries and Livestock and in the MoA. These constraints are reflected in the capacity indicator.

The weakest area in resource capacity is training. The resource constraints in the line departments are realised and the NSDS has also acknowledged the need to address it by setting up statistical cells. There exist official training programmes for agricultural statistics for BBS staff, but the training is not conducted regularly. Provision of training is

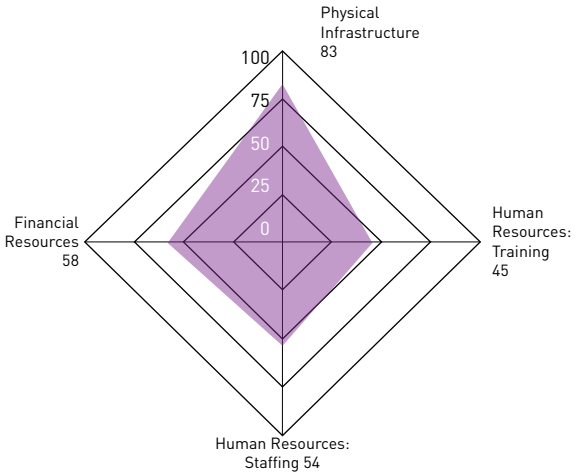


Figure 6.3 : Agricultural and Rural Statistics Capacity Indicators of elements of Resources in Bangladesh

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ASSESSMENT OF CAPACITY TO PRODUCE CORE DATA

also negligible in the line departments.

6.2.3 Statistical Methods and Practices

The statistical method and practice dimension, with its 10 different elements gives an overall picture of the capability of the country to undertake statistical activities in a professional manner. Figure 6.4 gives a pictorial demonstration of the elements

The first three elements relate to the use of IT which includes statistical software capability, data collection technology and IT infrastructure. Bangladesh, particularly the BBS, was found to be well-equipped in these aspects. Various statistical software packages are utilised for processing, analysis, and database activities including: SPSS, STATA, ORACLE, and Microsoft ACCESS (in the BBS). Technology used (in the BBS) for data collection and transfer of survey data include: GPS, Computer assisted Telephonic interviews, PDA and Tablet use, manual data entry, scanning of questionnaires, and compass/ measuring tapes. The computer to staff ratio is also higher than 1 in the BBS. There are, however, serious constraints and inadequacy in line departments on these aspects, in varying intensity.

The general statistical infrastructure that relates to sampling frame etc. was found to have a lower score and this is the area of capacity development clearly identified both in the BBS as well as in line ministries. This is evident from the limitations in operational integration of agriculture surveys with different sampling units and frames, as discussed in Chapter 3 on assessment of statistical activities. Furthermore, the capacity in user departments to use, analyse and infer statistics in a methodological manner also needs to be considered.

The limitations are also reflected in the

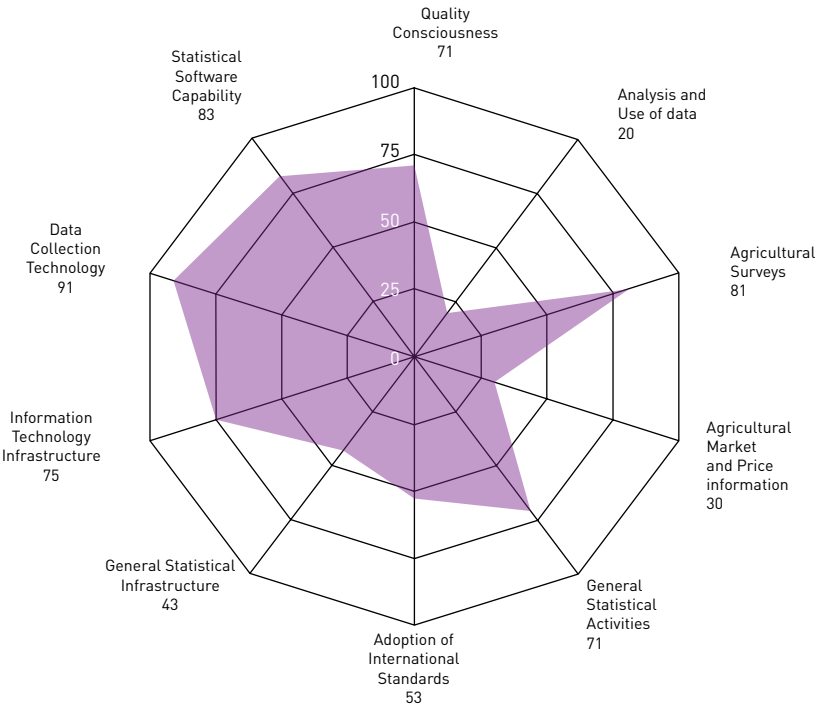

Figure 6.4 : Agricultural and Rural Statistics Capacity Indicators of elements of statistical methods and practices in Bangladesh

adoption of statistical standards although the general statistical activities have a satisfactory score. As is evident, the major statistical activities of censuses, both population and agriculture, have been regularly conducted in the country. Quarterly production is not estimated. Bangladesh is yet to subscribe to the SDDS. A wholesale price index is however not published. The decentralized survey activities conducted by line departments are less oriented to such standardisation.

The country was found to have very weak capacity in agricultural market and price information. Consumer and producer (industrial products only) price indices are currently produced. Although the wholesale price index is not currently produced, it is planned for the future. The limitations on this count have been discussed in the earlier chapters as well.

On the element of agricultural surveys, the capacity indicator was found to be reasonably fair. A variety of agricultural surveys are carried out in the country relating to crops, livestock, fisheries, water, forestry, and rural development. However, there are issues of coverage, methodology and constraints in surveys on fisheries and limitations in livestock as well as water service surveys.

Another area of weakness in the capacity is reflected in the analysis and use of data. It is evident that the statistics are derived for economic accounts in production and income for the agricultural sector; but several core data and policy-needed statistics such as food balance sheets, commodity balances for crops, stocks, livestock, and agri-environmental indicators are not derived.

On quality consciousness, which reflects use of sound statistical practices by the BBS, the capacity score was found to be relatively better. The probability sample, sampling errors, metadata, and micro data are compiled for many agricultural surveys. However, there are issues of coverage, methodology and consistency in respect of surveys not only for livestock, fisheries and water but also for crops and land use statistics. As can be seen, there was wide divergence in the capacity level at different elements and overall statistical methods and practices need attention for capacity enhancement.

6.2.4 Availability of Statistical Information

Finally, the dimension of availability of statistical information (Figure 6.5) has four elements, core data availability, timeliness, overall data quality perception and data accessibility. The overall capacity of the country in terms of core data availability is found to be less than satisfactory. As discussed in the previous chapter on core data availability, the

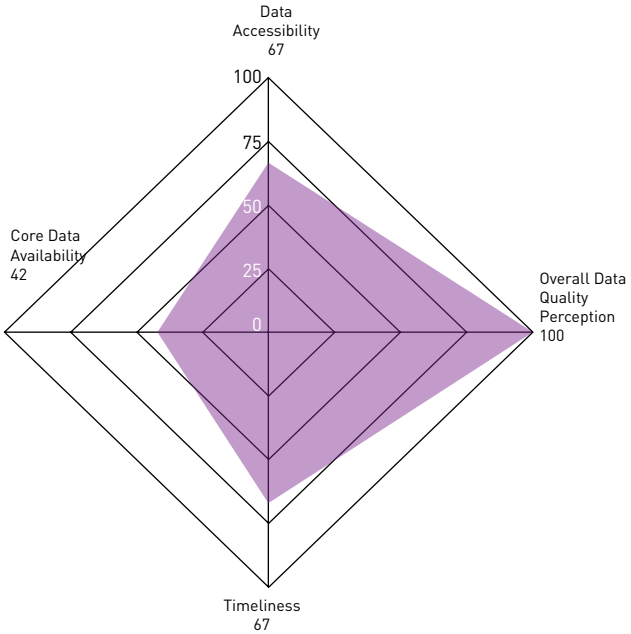

Figure 6.5 : Agricultural and Rural Statistics Capacity Indicators of elements of availability of statistical information in Bangladesh

CHAPTER 6

ASSESSMENT OF CAPACITY TO PRODUCE CORE DATA

limitations of the NSS are assessed in terms of producing core data on livestock and poultry, fisheries, LUS, foodstock, food balance sheet and agricultural inputs and assets.

On the other three elements, the capacity score is relatively better. However, it can be noted on deeper scrutiny that several of the minimum set of core indicators have deficiencies (Chapter 5) and the availability of prices, agro processing, water resources and environmental data seriously suffer from deficiency.

6.2.5 Stakeholders' Perceptions on Capacity of BBS

The feedback of different stakeholders regarding different aspects of the NSDS were collected between October 2011 and March 2012 by the BBS before the strategy was accepted. The questionnaire was distributed to different stakeholders, including users and producers. A total of 85 responses were received. This stakeholder analysis provides a meaningful insight into the perception of stakeholders on the utility and benefits of the NSDS. The NSDS report gives the frequency distribution of the responses, and in this report the results have been used to obtain a composite index on the feedback of the NSDS. The cases with responses 'Do not know or cannot assess' and 'Not applicable' were first discarded and the other five options were given a score as given in Table 6.1. The averaged composite scores for the different items are given in Figure 6.6.

Table 6.1 : Scores given for different responses

Response	Score
Not in place or not observed at all	0
In place or only observed to a limited extent	1
About half in place or observed, but more needs to be done	2
Mostly in place or mostly observed or Fully in place or fully observed	3

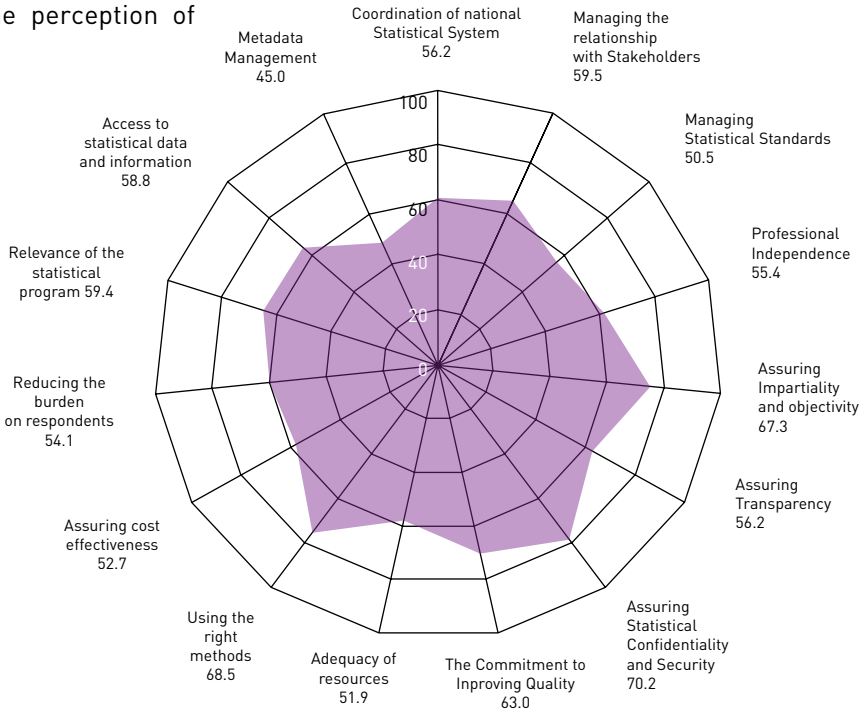

Figure 6.6 : Stake holders' perception about BBS

As can be seen in Figure 6.6, the stakeholders rate the NSO relatively high on assuring statistical confidentiality, security, impartiality and objectivity and on using right methods. However, the perception of stakeholders is rather low on the aspects of metadata, management, managing statistical standards, adequacy of resources, cost effictiveness, reducing burden on respondents, and coordination in statistical system.

6.3 Strengths, Weaknesses, Opportunities and Threats

6.3.1 Overall agricultural statistical system

The formulation of the NSDS took cognizance of the fact that the national statistical system was not working effectively and was unable to provide data and information to policy and decision makers. Similarly, there was insufficient capacity for effective monitoring of progress and performance in a number of important areas, such as measuring the progress of the society, achieving the MDGs, poverty reduction, social development, macro-economic performance, and environmental sustainability. At the same time, technical staff at the BBS lacked the necessary expertise and analytical skills required to provide timely, reliable, and relevant statistics.

The SWOT analysis for the system stated in the NSDS is generic and covers the agricultural and rural statistics system. This SWOT is summarised in Table 6.2 below:

Table 6.2 : SWOT analysis of NSS in Bangladesh

Sl. No	Strengths	Weaknesses
1	Good reputation with established processes for regular collection of data and production of statistics.	Problems related to data production including inadequate documentation of methods.
2	Follows, to the extent possible, existing laws, sound methodologies, a well-defined operations plan, specific time schedules, modern technologies and international standards.	Weak physical and statistical infrastructure , lack of expertise, poor ICT infrastructure, Inadequate Research and Development.
3	Established formal data exchange protocols with a number of local institutions, and regional and international organisations.	Inadequate financial resources.
4	Maintains a Geographic Information System (GIS), where modern technology utilised to produce digital mapping.	Problems related to data dissemination including duplication of sources.
5	The most significant strength of the BBS is its organisational/infrastructural set up at the headquarters and at the regional and upazila levels and regular funding by the government.	Inadequate metadata and poor access to users; inadequate appreciation of the need to ensure quality data and poor advocacy.
6	Partnerships/technical assistance from development partners, which is expected to continue in the near future.	Management and coordination problems, internal coordination as well as inadequate coordination between the BBS, line departments and other data producers.
7	Strong legal mandate.	Limited training capacity.

CHAPTER 6

ASSESSMENT OF CAPACITY TO PRODUCE CORE DATA

Sl. No	Opportunities	Threats
1	The NSDS to promote a sustained improvement in the national statistical system.	Lack of firm commitment from development partners and the government to provide investment that will be needed to implement the NSDS.
2	Expects support for better statistical operations, and more cooperation between producers and users.	An increasing lack of awareness of the importance of statistics among policy designers and decision makers.
3	The government's promotion of administrative reform provides an opportunity to establish units for the production of statistical data needed for policy design and decision-making in a number of agencies.	Lack of cooperation between producers and users; flexible to the adoption of the concept of 'evidence-based policy making' by decision makers; negligence in following modern and scientific methods in data gathering.
4	Experience accumulated over the last five decades.	The non-adoption of international guidelines related to classification, definitions, and statistical standards resulting in the production of data.
5	Good relations with users in Bangladesh as well as regional and international organisations, statistical and non-statistical alike.	

6.3.2 Agricultural and Rural Statistics Sector

The recent developments in the statistical system of Bangladesh in terms of the integrated framework of the NSDS and the Statistics Act (2013) give the BBS a central role in the NSS including agricultural statistics. However, given the diversity of the agriculture sector, the line departments concerned are key stakeholders in policy formulation and decision-making for the development of the respective sub-sector. Table 6.3 summarises the SWOT, specific to agricultural and rural statistics, also taking into account the relevant aspects of line departments and sub-sectoral issues.

Table 6.3 : SWOT analysis of the agriculture and rural sector of Bangladesh

Sl. No	Strengths	Weaknesses
1	Experience in organising agricultural and rural statistics surveys and censuses.	Problems related to production of data (livestock and fisheries) including inadequate documentation of methods.
2	To the extent possible, follows statistical methodologies complying with international standards and concepts.	Weak infrastructure, lack of expertise, poor ICT infrastructure particularly in line departments.
3	Institutional arrangements with line ministries and users for data exchange.	Inadequate financial resources; more so in line departments
4	Organisational/infrastructural set up at the headquarters of the BBS and the MoA and at regional and upazila level, and regular funding by government.	Problems in data dissemination include the duplication of sources.
5	Partnerships/technical assistance from development partners such as the FAO. It is expected that this technical assistance will continue in the future.	Limitation of statistical orientation and staffing in line departments and user departments. Inadequate metadata and poor access of users.

6	Strong legal mandate of the Statistics Act covers Agriculture and allied sector.	Management and coordination problems including internal coordination, and inadequate coordination between the BBS and line departments as well as other data producers
7		Limited training capacity, specifically oriented to survey methodologies, agricultural and rural statistics and allied sectors.
8		Limitations in integration of agriculture with the NSS
9		Different needs for frame and benchmark data for surveys in different sub-sectors such as livestock, poultry, fisheries, aquaculture etc.
	Opportunities	Threats
1	The NSDS framework for integrated development of the NSS including agriculture and rural statistics	Inadequate statistical management capacity in line departments.
2	Expects support for better statistical operations, and more cooperation in agriculture and rural statistics (GS) between producers and users.	Lack of awareness on the importance of agricultural and rural statistics among policy designers and decision makers.
3	Emphasis on National Agriculture Policy	Lack of cooperation between producers and users; inadequate flexibility regarding adoption of the concept of 'evidence-based policy making' by decision makers; lack of awareness in following modern and scientific methods in data gathering;
4	Experience of the Agriculture Wing and Census Wing of the BBS	Inadequate understanding of sector specific concerns in the BBS.
5	Positive interest of the BBS and line departments in improving agricultural and rural statistics	

6.4 Concluding Synthesis

The review brings out the limitations in meeting data demands of the livestock and poultry sub-sector, inadequacy in methodology, skills and resources in line departments carrying out statistical activities of respective sub-sectors, e.g. irrigation, land use statistics, fisheries, agricultural marketing and forestry and data gaps in price, inputs and resources and appreciation of the statistics and its importance in their respective fields of work. The IdCA also took note of the issue of duplication in crop production estimates by the BBS, DAE, and FAO supported project on harmonisation of these estimates and methods. From the SWOT analysis made in the previous section, the agricultural and rural statistics system is found to have very good infrastructural strength associated with a sound mission and vision in the NSDS, NAP and Statistics Act. The main weakness of the agricultural and rural statistics system is observed to be a lack of co-ordination and integration among agencies, and unavailability of a unified and standardised system for frame, methodologies and documentations. However, opportunity remains in addressing such deficiencies in future exercise, for example, the next Agricultural Census 2018 may be planned to address many of these weaknesses. The threats apparently are the shortage of resources, lack of awareness and capacity both in terms of manpower and statistical skills in the BBS and in line departments.

CHAPTER 7

PROPOSED AREAS OF TECHNICAL ASSISTANCE AND TRAINING NEEDS

7.1 Basis

The objective of the Global Strategy is to bring improvements in the capacity of the countries for producing core agricultural and rural statistics in a sustainable manner. The assessment of existing country capacities in terms of the status of agricultural and rural statistics system, its institutional environment in conjunction with the overall institutional set up of the NSS, the ongoing statistical activities, institutional and operational strengths, weaknesses and limitations and analysis of gaps in producing core data in consonance with the conceptual framework of the Strategy, forms the basis of the identification of technical assistance, training, research and advocacy needs (TATRA) in Bangladesh.

The NSS in Bangladesh in the recent past was also guided by the NSDS that has identified several strategic goals and priorities in different subject dimensions of official statistics, including agriculture and rural statistics. For meeting its desired goals, the NSDS has encouraged engagement and association with development and resource partners. These endeavours ought to be in the spirit of the Statistics Act 2013.

The identification of TATRA needs is therefore synergised with the identified strategic goal in the NSDS (please see section 2.4.1). There is a difference in the approaches of the NSDS and the IdCA. The IdCA is aligned with the framework of the Global Strategy and its Regional Action Plan. There are some identified areas from the IdCA, not reflected in the NSDS whereas, some NSDS areas are considered to be inadequately addressing the desired needs.

Capacity assessment in IdCA is on the lines of its three pillars, viz. producing core data, integration of agriculture with the NSS and sustainability of generating these statistics. The NSDS has identified goals and actions along national priorities in the organisational framework of the NSS, BSS and line departments.

7.2 Assessment Synopsis

Considering the identified limitations and constraints in the country and synergy with the NSDS, the proposed areas of TATRA are identified as follows:

i. The IdCA provides the status of availability of identified set of core data in the country, the agencies involved and the data gaps such as partial availability, methodological weakness, poor timeliness and frequency, inadequate administrative data, duplication and statistics derived from projections on baseline.

ii. The capacity indicators as discussed in Chapter 6, bring to focus the aggregate capacity levels of the NSS in its four dimensions and the dimensional elements. A summary of these indicators is given in Figure 6.1.

iii. The above indicators are derived from information available from a Standard Questionnaire. With regard to the institutional aspect, it was noted that although the NSDS aims to cover all the sectors under the NSS, including the agriculture and rural sector, certain aspects, particularly contextual to the limitations related to generation of core data, integration of agriculture in the NSS, coordination with line ministries and methodological issues in crop and non-crop segments are still not completely reflected. This invokes the need for a more specific strategic plan for the agriculture and rural sector.

7.3 The Proposals

The in-depth assessment of country capacity to produce agricultural and rural statistics accordingly identifies several areas needing

CHAPTER 7

PROPOSED AREAS OF TECHNICAL ASSISTANCE AND TRAINING NEEDS

technical assistance, training and research. The proposals have been organised in major groups. Each proposal is expected to have several components addressing the dimensions. An attempt has been made to map these broad group proposals and their elements to the pillars of the Global Strategy, the existing NSDS proposals and the stakeholders. Advocacy is a generic aspect for the overall proposals. There is likelihood of some overlap in technical assistance, research and training.

Some technical assistance proposals may have inherent capacity development and research requirements. e.g. evolving methodology for some statistical exercise and skill development of staff to be involved with such exercise. The research aspect can be specific to a particular subject or an area or a generic one in the larger context. Thus, the major relevance of the proposal is on technical assistance and training. The training proposals can be classified into basic statistical methods (T1); methods used in agricultural statistics (T2); advanced statistical methods (T3); and specialised techniques (T4). This can be looked into while formulating a roadmap for SPARS. The proposals are listed below:

Proposal I: Development of a Strategic Plan for the improvement of Agricultural and Rural Statistics (SPARS) in Bangladesh.

Proposal II: Strengthening the crop estimation system, including crop forecasting and crop monitoring for important crops and promoting in the process, the use of upfront technologies of GIS and remote sensing.

Proposal III: Developing an integrated framework of census and surveys for the agriculture and rural sector covering crops, livestock, fisheries, inland water bodies and other such related areas. This will include:

a. Decision on types of sampling frames (area, list or multiple) to be used for different surveys, and mechanisms to keep them updated;

b. Follow-up current surveys on sub-sectors (livestock, fisheries and related subject) to meet the annual data requirements;

c. Improvement of land use and irrigation statistics;

d. Periodic, less frequent surveys like cost of production surveys for specified crops;

e. Ad hoc surveys to estimate the norms and technical conversion factors e.g., those required for preparing the Supply-Utilization account and Food Balance Sheet.

Proposal IV: Strengthening analytical capacity of institutions involved in the production and use of agricultural and rural statistics to better use the data for management of the sector, policy making and monitoring progress in domains such as:

a. Food security: food stock survey, food balance sheet, agricultural market information system, agricultural price statistics, and statistics on agro-processing enterprises.

b. Building macro-economic indicators, national accounts, quarterly estimation of production and other indices like agri-environmental indicators.

c. Strengthening statistics for natural resource management and environmental conservation such as land, water and air.

Proposal V: Strengthening the mechanism of coordination, documentation, research and

analysis in the NSS for improving agricultural and rural statistics.

Proposal VI: Human Capacity Building

a. Establishing statistical cells in the line ministries and agencies and strengthening sub-national entities engaged in the collection of agricultural and rural statistics.

b. Strengthening the capacity of national institutions to impart training in agricultural and rural statistics which will involve development of course modules and curricula, creating a pool of training faculty, and strengthening of training facilities and infrastructure.

Proposal VII: Promoting ICT applications in agricultural and rural statistics including promoting appropriate use of technology, hardware and software resources, digitisation of survey frames, data management, national data centre, data dissemination and user interface.

Proposal VIII: Sensitising respondents and users for building up trust and reputation of statistical products.

7.3.1 Mapping the Linkages of the proposals with GS, NSDS and stakeholders

The proposals stated in the earlier section are wide-ranging from strategic planning to institutional development, capacity development, and methodological development and contribute in multiple dimensions of the endeavour for improving agricultural and rural statistics in Bangladesh. These multiple dimensions are illustrated in Figure 7.1 below.

The proposal (I) relates to an overall strategic plan to cover all the other identified areas of capacity development corresponding to respective stakeholders. This proposal embraces all the stakeholders and is planned to dovetail with the NSDS, supplementing it with areas not covered. The other proposals are, however, different in terms of their relevance to the GS pillars, the NSDS goals and targeted stakeholders. A detailed mapping of the dimensions is given in Table 7.1. While proposal III is in concordance with GS pillars 1 and 3, all other proposals address all the three GS pillars. The MoP (BBS), MoA and MoFL are the common stakeholders in each of the proposals, whereas proposals III, IV and VI also involve the MoWR and the MoEF, and proposals II, III, IV and VI involve the MoF. All the proposals relate at least to one of the goals of the NSDS.

Figure 7.1 : Dimensions of Contribution of the TATRA proposal

CHAPTER 7

PROPOSED AREAS OF TECHNICAL ASSISTANCE AND TRAINING NEEDS

Table 7.1 : Mapping of TATRA proposals for capacity development in agricultural and rural statistics in Bangladesh

Proposals for Capacity Development	Dimensional Mapping		
	Global Strategy Pillars@	NSDS Strategic Goals #	Main Stakeholders
Proposal I	Strategic Plan to cover all the following identified areas of capacity development corresponding to respective stakeholders. The plan to dovetail with NSDS, supplementing it with areas not covered		
Proposal II	P1, P2, P3	C 1	MoA, MoFL, MoF (FPMU), MoP(BBS), MoD (SPARRSO)
Proposal III	P1, P2	B4, C1, C3, C5, C6, G1	MoA, MoFL, MoWR,MoEF, MoP(BBS), MoF (FPMU)
Proposal IV	P1, P3	B 2, B3, B4, B9, C4, E3, H3	MoA, MoWR, MoEF, MoP(BBS), MoF (FPMU)
Proposal V	P1, P2, P3	Expressed in NSDS	All stakeholders
Proposal VI	P1, P2, P3	A2, D1, D2, D3, F2, F7, F9	MoA, MoWR, MoFL, MoEF, MoP(BBS), MoF (FPMU)
Proposal VII	P1, P2, P3	A1, A3, A5, A6, A7, C2	All stakeholders
Proposal VIII		F10	All Stakeholders and users

@ Pillars of Global Strategy

P1. Enhancement of capacities of the countries to produce a minimum set of core agricultural and rural statistics with desired quality and timeliness,
P2. Support to the integration of agricultural statistics in the national statistical system, and
P3. Strengthening of the institutional mechanism for the sustainability of these actions.

 # NSDS Strategic Goals in Annex IV indexed to Wings of BBS

A: Computer Wing, **B:** National Accounting Wing **C.** Agriculture Statistics Wing **D.** Statistical Staff Training Institute (SSTI) Wing **E.** Demography and Health Wing **F.** Financial Administration (FA) and Management Information System (MIS) Wing, **G.** Census Wing **H.** Industry and Labour Wing

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Annex I

Bangladesh Bureau of Statistics: Focal Point Officer of different ministries/ agencies In-depth Capacity Assessment (IdCA)

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1	Mr. Md. Naser Farid Director General	FPMU, Ministry of Food	+88 01720343864 dgfpmu@fd.gov.bd
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Annex II

The Functions of Bangladesh Bureau of Statistics :

1. To collect, compile, process, analyse and publish statistics using ICT of all sectors of the economy for meeting needs of development planning, research and decision making.
2. To preserve data of Censuses & Surveys in Optical Data Archive System for future use.
3. To promote latest ICT training for the staff members of BBS to develop their skill.
4. To furnish and disseminate statistical information.
5. To organise and conduct national censuses & statistical sample surveys.
6. To conduct research and develop standards.
7. To compile and publish all statistics in both ad hoc and regular publications.
8. To exchange statistical publication and maintain library and information services.
9. To establish and maintain a permanent record of the statistical activities.
10. To organise and publish all statistics in both ad hoc and regular publications.
11. To compile and publish information on national accounts, domestic products, national income and national balance sheet.
12. To recruit, train and control (including transfer, etc) statistical and other administrative personnnel of the BBS.
13. To create and organise a unified service for all, statistical personnel.
14. To prepare annual working programme and budget.
15. To request from all government officials data and background information relating to statistics.
16. To advise and coordinate statistical works for all offices of the government.
17. To promote and maintain application of statistical standards.
18. To co-operate with all other offices in production of statistics.
19. To promote and develop training programmes in the field of statistics, especially for government statistical personnel.
20. To obtain facilities for training abroad of statistical personnel of the government.
21. To review questionnaire, report, forms and related documents.
22. To sponsor national statistical conferences and workshops.
23. To co-operate with foreign and international statistical organizations.

Annex - III

Priority Areas of Action identified in NSDS

Actions to improve the coverage, quality and timeliness and use of core statistics:

i. Improve national accounts, including applying SNA 2008 and subscribing to the IMF's Special Data Dissemination Standard
ii. Improve price statistics
iii. Strengthen external statistics
iv. Broaden and deepen industrial and labour statistics, including the generation of a core set of annual and quarterly labour market indicators
v. Develop and implement a comprehensive programme of surveys and censuses, including a national population register and a national data archive for all census and survey data
vi. Improve demographic and health statistics
vii. Improve statistics on poverty and well-being including reducing delays in disseminating the results
viii. Strengthen and deepen environmental statistics
ix. Improve statistics on government finance, money and banking in line with the requirements of the SDDS
x. Improve education statistics, including carrying out a regular large scale survey
xi. Compile and disseminate more comprehensive gender disaggregated statistics
xii. Regularly review all national statistics to ensure that they remain relevant and meet the needs of users

Actions to strengthen statistical activities and statistics at the local level:

i. Open statistical offices at the district and division level
ii. Identify and review administrative records to determine to what extent they can be used for statistical purposes

Improve the dissemination of official statistics:

i. Develop and put into effect a clear dissemination policy
ii. Establish an advance release calendar for all official statistics
iii. Improve and make better use of the BBS website
iv. Create a publications catalogue
v. Improve the quality of all statistical reports

Ensure that all statistical processes are properly documented

i. Establish a national data archive and statistical data bank
ii. Compile and publish relevant metadata for all statistical processes and ensure that this is kept up to date

iii. Adopt international standards for all metadata
iv. Provide training to staff on how to prepare and maintain metadata

Improve the analysis and interpretation of official statistics and improve customer services

i. Set up a Research and Development Wing in BBS
ii. Identify and train staff in the analysis and interpretation of core statistics
iii. Establish regular consultation with data users in different areas
iv. Arrange regular press conferences for the release of key statistics
v. Establish a user support service to help users access and make use of statistics
vi. Carry out regular customer satisfaction survey
vii. Provide access to micro-data for research and further analysis
viii. Establish a clear and comprehensive charging policy

Strengthen and improve quality management in all producers of official statistics

i. Regularly evaluate all statistical processes
ii. Develop a national quality assurance framework and assess statistics against this at least once every three years

Improve human resources

i. Make working in statistics more attractive
ii. Gradually increase staffing levels to meet the increasing workload
iii. Invest in skills and competencies of all statistical staff
iv. Improve human resource management throughout the NSS

Improve coordination and management of the national statistical system

i. Strengthen accountability and the role of the National Statistics Council
ii. Finalise and enact the draft Statistics Law
iii. Strengthen management skills in all areas

Build and maintain the infrastructure for statistical activities

i. Improve and maintain registers and sampling frames
ii. Ensure that classifications are kept up to date
iii. Develop the geographic information system and make better use of geo-referenced statistical data
iv. Improve data management and strengthen the security of all statistical data
v. Improve the efficiency of all data collection activities and ensure that they are benchmarked at regular intervals
vi. Invest in and make more effective use of information and communications technology

Annex - IV

NSDS Implementation Plan and Synergy with Global Strategy Action Plan

				Relevance to Global Strategy Action Plan							
Sl.No.	Strategic Goals	Million Taka	Million USD	Core Data	Survey Operations	Master Frame	DM & dissemination	Computers & other Resources	Training	Other	Explanatory Notes
	A. Computer Wing										
A1	Decentralisation of ICT Process in Statistical System	70	0.90				y				
A2	Capacity Building of ICT Professionals	13.4	0.17				y	y	y		
A3	Development of Efficient Data Management System & Maintenance	11.35	0.15				y				
A4	Time-Need Global ICT Cooperation & Data Development (Using GIS System)	207.4	2.66		Y	y	y				
A5	Statistical Data Management System Software Including Statistical Data and Metadata Exchange (SDMX)	8.5	0.11				y				
A6	Setup of National Data Resource & Processing Centre	800	10.26				y	y			

				Relevance to Global Strategy Action Plan							
Sl.No.	Strategic Goals	Million Taka	Million USD	Core Data	Survey Operations	Master Frame	DM & dissemination	Computers & other Resources	Training	Other	Explanatory Notes
A7	Data Archive & Networking	281.7	3.61	y	Y	y	y	y			
A8	Forward to Cloud Computing	11.72	0.15								
	Subtotal	**1404.1**	**18.00**								
	B. National Accounting Wing										
B1	Automation of data transfer for various indices	121	1.55	y							
B2	Revision and Rebasing of GDP	390	5.00	y							
B3	Compilation of Quarterly National Accounts (QNA)	150	1.92								
B4	Compilation of Supply and Use Table (SUT)	146.5	1.88								
B5	Compilation of Input-Output Table	-									

Annex - IV

				Relevance to Global Strategy Action Plan							
Sl.No.	Strategic Goals	Million Taka	Million USD	Core Data	Survey Operations	Master Frame	DM & dissemination	Computers & other Resources	Training	Other	Explanatory Notes
B6	Implementation of SNA 2008 by compilation of Institutional Sector Accounts	73	0.94								
B7	Compilation of Green GDP (System of Environmental Economic Account/ SEEA)	150	1.92								
B8	Compilation of Satellite Accounts following SNA 2008	360	4.62								
B9	Institutionalization of Environmental Statistics (part of SEEA)	120	1.54	y	y	y	y	y	y		
B10	Compilation of Resource Accounts (Part of SEEA)	-		y	y	y	y	y	y		
B11	Compilation of Regional (District) Accounts	48	0.62				y				
B12	Improving different methods of GDP compilation	-		y							
B13	Compilation of Social Accounting Matrix (SAM)	-									

				Relevance to Global Strategy Action Plan							
Sl.No.	Strategic Goals	Million Taka	Million USD	Core Data	Survey Operations	Master Frame	DM & dissemination	Computers & other Resources	Training	Other	Explanatory Notes
B14	Monitoring the Situation of Climate change	-								YY	
B15	Compilation of Balance Sheet of Bangladesh Economy	20.5	0.26								
	Subtotal	**1579**	**20.24**								
	C. Agriculture Wing										
C1	Reviewing & Improving Agricultural Crop Estimation System	120	1.54	y	y	y			y		
C2	Developing Crop Statistics using ICT	940	12.05	y	y	y	y	y	y		
C3	Compilation of Cost of Production Statistics of important crops	90	1.15	y	y	y	y	y	y		
C4	Compilation of Food Balance Sheet (FBS)	60	0.77	y			y	y	y		
C5	Improving different types of Important Rural Agriculture Statistics	53	0.68	y	y	y			y		

Annex - IV

				Relevance to Global Strategy Action Plan							
Sl.No.	Strategic Goals	Million Taka	Million USD	Core Data	Survey Operations	Master Frame	DM & dissemination	Computers & other Resources	Training	Other	Explanatory Notes
C6	Improvement of Non-Crop Statistics	150	1.92	y	y	y	y	y	y		
	Subtotal	**1413**	**18.12**								
	D. SSTI Wing										
D1	Making Human Resource Development	333.3	4.27					y	y		
D2	Strengthening Statistical Staff Training Institute	565.3	7.25					y	y		
D3	Establishing Statistical Training Academy	500	6.41					y	y		
	Subtotal	**1398.6**	**17.93**								
	E. Demography and Health Wing										
E1	Monitoring the situation of vital statistics	744.33	9.54								
E2	Strengthening the Health and Demographic Statistics	90	1.15								
E3	Monitoring the food security and nutritional status	500	6.41	y	y						

				Relevance to Global Strategy Action Plan							
Sl.No.	Strategic Goals	Million Taka	Million USD	Core Data	Survey Operations	Master Frame	DM & dissemination	Computers & other Resources	Training	Other	Explanatory Notes
E4	Monitoring the nutrition status of child and mother	350	4.49								
E5	Gender Statistics	4	0.05								
E6	Violence Against Women	30	0.38								
	Subtotal	**4515.53**	**57.89**								
	F. FA and MIS Wing										
F1	Innovation of automation system in the two libraries of BBS	87.5	1.12					y			
F2	To establish and strengthen the Divisional and District statistical offices	3840	49.23					y			
F3	To innovate electronic recruitment system	26.8	0.34								
F4	To introduce automation system of all sections of MIS	5	0.06					y			
F5	To ensure transport facilities for all employees of BBS.	1000	12.82								

Annex - IV

				Relevance to Global Strategy Action Plan							
Sl.No.	Strategic Goals	Million Taka	Million USD	Core Data	Survey Operations	Master Frame	DM & dissemination	Computers & other Resources	Training	Other	Explanatory Notes
F6	Strengthening the equipment support for auditorium and conference room of BBS.	3.4	0.04								
F7	To strengthen local level data collection providing necessary manpower and equipment.	3419	43.83		y			y	y		
F8	Restructuring organogram and reshuffling & increasing manpower	360	4.62								
F9	Establishing statistical cell to other ministries and agencies	180	2.31	y		y			y		
F10	Sensitizing the respondent & building up the trust and reputation of statistical products	180	2.31							y advocacy	
	Subtotal	**9101.7**	**116.69**								
	G. Census Wing										
G1	Multimodal Censuses (Preferably e-censuses)	12591	161.42	y	y	y					
G2	Developing national Population Register (Civil registration)	15000	192.31								

				Relevance to Global Strategy Action Plan							
Sl.No.	Strategic Goals	Million Taka	Million USD	Core Data	Survey Operations	Master Frame	DM & dissemination	Computers & other Resources	Training	Other	Explanatory Notes
G3	Preparing data base of Poor Population and Social safety net Coverage	0	0.00								
G4	Identifying the Socio-economic problems of Slum dwellers through Census	100	1.28								
G5	Developing literacy and education statistics	450	5.77								
	Subtotal	28141	360.78								
	H. Industry and Labour Wing										
H1	Generation of Annual/Quarterly Key Labour Force Indicators	282.667	3.62								
H2	Conducting of Annual Establishment &Institutional Survey (AEIS) on a regular basis to cover Service sector in two years interval	84.9	1.09								
H3	Conducting of Survey on Manufacturing Industries with 2 years interval regularly	158.4	2.03	y							

Annex - IV

				Relevance to Global Strategy Action Plan							
Sl.No.	Strategic Goals	Million Taka	Million USD	Core Data	Survey Operations	Master Frame	DM & dissemination	Computers & other Resources	Training	Other	Explanatory Notes
H4	Generation of ICT Indicators	164.4	2.11								
H5	Automation of data collection and processing	47.6	0.61								
H6	Updating Business Register	60	0.77								
H7	Updating of Statistical Classification in conformity with global classification	8.6	0.11	y							
H8	Generation of informal sector statistics	69.4	0.89	y							
	Subtotal	**875.967**	**11.23**								
	Grant Total	**48428.9**	**620.88**								

Annex- V

Metadata: details of major data collections activities

1. Agriculture Crop Production Survey (ACPS Observation approach)	
Data collecting agency	BBS
Data collection frequency	Season-wise (Four time in a year)
Data collection methodology	Sample Survey, Crop-Cutting Experiments
Data collection staff	Field Staff of BBS
Sample size (if applicable)	10,348 Clusters for crop area, 50 clusters in each district and one experiment each selected cluster
Sample selection (if applicable)	Multistage stratified, FSU : Cluster, SSU, sample plot (Circular)
Frame	Stratum: Upazila, Frame: List of Clusters in each stratum (Cluster is an aerial unit of about 5 acres
Data collected	Crop Area and Production (Paddy – Aus, Aman, Boro), Wheat, Jute, Potato
Data processing	Agriculture Wing, BBS
Data dissemination	BBS
Level of disaggregation available	National, Region, Zila
Timeliness of data release	Two months
Latest data available (at December 2013)	2012-13

Remarks:

- The ACPS (observation approach) follows a standard stratified multistage survey methodology, covering six crops only.
- The frame, list of clusters, is specially evolved to meet its survey design requirement. This frame itself is a fixed sample from a large domain of crop area. The need for updating the frame is recognised in the NSDS. Since the frame itself has inherent sampling fraction, adequacy of sample size for crops other than paddy may need to be examined for better precision of estimates.
- The standard errors are not calculated and this limits validation of process. Improvement in the crop estimation survey is identified as one of the areas of capacity development.
- The scope of availability of cadastral maps as a more comprehensive frame may also be explored.

2. Agriculture Crop Production Survey (Subjective approach)	
Data collecting agency	BBS
Data collection frequency	Season wise (Four time in a year)
Data collection methodology	Sample Survey, Farm Household response
Data collection staff	Field Staff of BBS
Sample size (if applicable)	One mouza from each Union, 5 Households in each selected Mouza
Sample selection (if applicable)	Multistage stratified, FSU : Mouza, SSU, Household
Frame	List of mouza in Union and list of household in selected mouza
Data collected	Crop Production (124 including those covered in objective method)
Data processing	BBS Ag. Stat Wing
Data dissemination	BBS
Level of disaggregation available	National, Region, Zila
Timeliness of data release	Two – three months
Latest data available (at December 2013)	2012-13

Remarks:

- The interview/ subjective approach provides an estimate for large number of crops, quite a few are identified in core data.
- Here also, there is limitation in assessment of precision of estimate since standard error is not calculated.
- In the review of crop estimation survey it will be useful to have an assessment of precision of estimates.

Annex- V

3. CROP ASSESSMENT, MONITORING (Department of Agriculture Extension - DAE)	
Data collecting agency	DAE
Data collection frequency	Seasonal
Data collection methodology	Selected crop cutting (square cuts)
Data collection staff	Field Staff of DAE
Sample size (if applicable)	Not applicable (To give Block wise data :640 Blocks)
Sample selection (if applicable)	Not necessarily random
Frame	List of Blocks, list of Household
Data collected	Crop area and productivity of 27 major crops
Data processing	DAE
Data dissemination	Internal use
Level of disaggregation available	National, Region, Zila, Mouza, Block
Timeliness of data release	--
Latest data available (at December 2013)	--

Remarks:

- The crop assessment and monitoring is undertaken by DAE to have indicators on crop performance in relation to the sector development initiatives of the Ministry. This exercise is in addition to the surveys conducted by BBS.
- DAE also lacks the capacity to use statistical methods and tools to analyse data.
- There is divergence in the results / estimates of production and productivity derived based on BBS data and DAE data. DAE does not have any statistical staff and also lacks computer facilities. These are integration issues due to duplication, reflected in Ch-4.
- A FAO sponsored study has recently looked into the aspects of harmonisation of two approaches with focus on paddy.
- The review of crop estimation survey may look into this aspect in a wider context.

4. Cost of Production Survey	
Data collecting agency	BBS
Data collection frequency	Ad Hoc (different crop coverage)
Data collection methodology	Sample Survey
Data collection staff	Field Staff of BBS
Sample size (if applicable)	Changes from survey to survey
Sample selection (if applicable)	Multistage
Frame	List of Mouzas
Data collected	Cost of production of selected crops, Inputs, returns
Data processing	BBS Ag. Stat. Wing
Data dissemination	BBS
Level of disaggregation available	National,
Timeliness of data release	Six months
Latest data available (at December 2013)	2012 (four crops)

Remarks:

- These estimates are prepared through ad hoc surveys and a few crops are covered in each survey. The sample size of the survey changes from year to year.
- Systematically organised cost of production survey can provide several indicators on input use that are covered in identified core data.
- Here also some duplication of efforts that will be reviewed perhaps in the course of improvement of agricultural statistics to be undertaken by implementing the GS.

Besides, input surveys (ad hoc) are also done by MoA

Annex- V

5. Agriculture Census	
Data collecting agency	BBS
Data collection frequency	Decennial
Data collection methodology	Census of Operational Holdings, each rural household
Data collection staff	Field Staff of BBS
Sample size (if applicable)	NA
Sample selection (if applicable)	NA
Frame	NA
Data collected	Farm and Non Farm Rural / Urban Operation Holding in size class, Land Use, Crop use (irrigated / variety), Livestock holdings, livestock population, pisciculture (inland ponds) agriculture labour, farm machinery
Data processing	BBS Computer Wing
Data dissemination	BBS
Level of disaggregation available	National, Region, Zila, Mouza
Timeliness of data release	4 Years
Latest data available (at December 2013)	2008

Remarks:

- Agriculture Census 2008 was more comprehensive in geographic and data coverage and is still used for several benchmark indicators.
- In terms of coverage of geographical areas, there is a convergence of 2008 Agriculture Census with the 2011 Population Census, as the sampling units of mouza / villages in both the cases were the same.
- However, Agriculture Census 2008 did not provide geo referencing of the areal units. This was done in the Population Census of 2011.
- The next agriculture census is proposed to be held in 2018. There is a greater demand from different sub-sectors for data. It is expected that formulation of the next agriculture census will meet the requirement of different sub-sectors and improve integration.

6. Livestock and Poultry	
Data collecting agency	Dept of Livestock
Data collection frequency	Using Agriculture Census for Livestock baseline
Data collection methodology	
Data collection staff	
Sample size (if applicable)	NA
Sample selection (if applicable)	NA
Frame	NA
Data collected	
Data processing	
Data dissemination	
Level of disaggregation available	
Timeliness of data release	
Latest data available (at December 2013)	2008

Remarks:

- Unlike crop statistics, the system for livestock statistics is not well organised and serious data gaps exist.
- The main source of livestock data is from livestock census that was conducted along with agriculture census. The last census was done in 2008 and its results were available in 2011.
- Annual indicators on livestock and poultry are based on some type studies and extrapolation
- For effective monitoring of food security and supply and availability of livestock and poultry products, periodic data on production, annually, monthly and quarterly interval is needed.

Annex- V

7. Fisheries	
Data collecting agency	DoF
Data collection frequency	Annual
Data collection methodology	Sample in four domains, Inland- Open, Inland Closed, Inland- Culture and Marine
Data collection staff	Field Staff of DoF
Sample size (if applicable)	
Sample selection (if applicable)	
Frame	List of Ponds. Frame of Boats and Trawlers
Data collected	Fish production (catch) by types
Data processing	DoF
Data dissemination	DoF
Level of disaggregation available	National, Region, Zila,
Timeliness of data release	2 years
Latest data available (in December 2013)	2011-12

Remarks:

- Owing to its distinct features, the fisheries statistics system is a decentralised sub-system on National Statistics System.
- There is a dedicated statistical unit in the headquarters of the Fisheries Department with core staff and limited IT infrastructure. However, there is no systematic capacity development on survey methodologies, data analysis and interpretations.
- There are different survey approaches with separate frame requirement for the sampling units in closed inland and culture (water bodies) and open inland and marine (boats and trawlers).
- There is limitation in these activities, besides the deficiency of frame, on capacities of survey staff, their availability, survey infrastructure and survey designs such as required stratifications etc.

8. Forest produce	
Data collecting agency	Forest Department
Data collection frequency	periodic
Data collection methodology	Adm. Records, Reserved Forest, specified points of entries
Data collection staff	Field staff of DOF
Sample size (if applicable)	
Sample selection (if applicable)	
Frame	
Data collected	Production of forest produce, forest area cover, collection of honey, logs etc.
Data processing	DoF
Data dissemination	DoF
Level of disaggregation available	National / Sub National
Timeliness of data release	As per Administrative requirement
Latest data available (at December 2013)	--

Remarks:

- There is a need to strengthen statistical capacities, both human resources as well as other infrastructure in the Forest Department.
- The forest cover data are inputted in LUS.
- There are newer data issues emerging such as social forestry.
- The Department, however, has no manpower and statistical staff to carry out such statistical activities.

Annex- V

9. Prices of agricultural commodities	
Data collecting agency	BBS / DAM (Department of Agricultural Marketing
Data collection frequency	Daily / Weekly/ fortnightly / monthly
Data collection methodology	Collection from Produce Markets (Place of Transactions)
Data collection staff	Field Staff of DAM / BBS
Sample size (if applicable)	9 price quotations per market
Sample selection (if applicable)	Multistage Cluster
Frame	Markets,
Data collected	Producer / farm gate/ Whole sale prices
Data processing	DAM / BBS
Data dissemination	DAM / BBS
Level of disaggregation available	National / Sub National / Zila
Timeliness of data release	Near Real time, / Retail and wholesale is reported daily, Growers is reported fortnightly
Latest data available (at December 2013)	2013

Remarks:

- DAM collects daily prices from the markets and is the source of the district wise retail and wholesale prices in Year Book of Agriculture Statistics, released by the BBS.
- There is inadequacy in resources, both of skilled manpower as well as computational resources to carry out this important activity in a streamlined manner and methodically.
- There is a felt need to strengthen Agricultural Marketing Information System (AMIS) due to inadequate information on stocks, domestic prices, and linkages between international and domestic markets, inappropriate and/or uncoordinated policy responses to market crisis. This need is keeping in view its importance for strengthening food security. High Food prices and volatility have adverse effects on food security (The Global initiative of AMIS, FAO).
- The Cost of Production (COP) on selected crops for government induced price fixation mechanisms like setting of public procurement price of cereals (rice and wheat), minimum procurement price set for tobacco industries to procure tobacco leaves from farmers, etc. are also done by DAM

Annex -VI

Accepted minimum set of core data and Data Gap

Variable group	Items	Detail required	Data needed	Frequency	Source	Gap Code (see end note)
Economic Data						
Output	Rice AUS	Zila by irrigated and rain-fed / Local/ HY	Area, production, yield	Seasonal	ACP Survey	
	Rice Aman	Zila by irrigated and rain-fed / Local/ HY	Area, production, yield	Seasonal	ACP Survey BBS	1, 8
	Rice Boro	Zila by irrigated and rain-fed / Local/ HY	Area, production, yield	Seasonal	ACP Survey BBS	1, 8
	Jute	Zila by irrigated and rain-fed / Local/ HY	Area, production, yield	Seasonal	ACP Survey BBS	1, 8
	Wheat	Zila by irrigated and rain-fed / Local/ HY	Area, production, yield	Seasonal	ACP Survey BBS	1, 8
	Potato	Zila by irrigated and rain-fed / Local/ HY	Area, production, yield	Seasonal	ACP Survey BBS	1, 8
	Maize	Zila	Area, production, yield	Annual	ACP Survey BBS	1, 8
	Fruits (Mango, Jackfruit, Lichi, Banana)	Zila	Area, production, yield	Annual	ACP Survey BBS	5, 8
	Vegetables (Brinjal, Tomato)	Zila	Area, production, yield	Annual	ACP Survey BBS	5, 8
	Pulses (Masoor, Khesari, Mustard)	Zila	Area, production, yield	Annual	ACP Survey BBS	5, 8
	Plantation (Coconut)	Zila	Area, production, yield	Annual	ACP Survey BBS	5, 8

Variable group	Items	Detail required	Data needed	Frequency	Source	Gap Code (see end note)
Output	Milk	National /district (M/ Livestock) by cattle/ buffaloes	Production, yield	Annual	BBS and DoL	7, 8
	Eggs	National/district (M/ Livestock)	Production, yield	Annual	BBS and DoL	7, 8
	Meat	National /district (M/ Livestock)by cattle/ goats & sheep/pigs	Production, yield	Annual	BBS and DoL	7, 8
	Marine fisheries	National - Coastal and Offshore (D/ Fisheries)	Production	Annual	DoF	6
	Inland/ aquaculture fisheries	National - capture and culture (D/ Fisheries)	Area cultured, Production	Annual	BBS & DoF	6
	Forestry: wood	National	Area under forests, Production of wood	Annual	Forest Department	3
	Forestry: non-wood	National	Production of Non-wood products	Annual	Forest Department	3

Annex -VI

Variable group	Items	Detail required	Data needed	Frequency	Source	Gap Code (see end note)
Trade	Exports	National	Quantity and value	Annual	BB, Export Promotion Bureau, BBS	7, 8, 3
	Imports	National	Quantity and value	Annual	Export Promotion Bureau, BBS	7, 8, 3
Stock of resources	Land cover and use	National	Area	Decennial	Agri. Census (BBS), Annual Land Use Survey	1, 8
	Economically active persons	District (rural areas)	Number of persons	Annual	Labour Force Survey; Pop. Census (BBS)	1
	Cattle, buffaloes, poultry, goats and pigs	District	Number of animals	Annual	BBS,	7
	Agricultural machinery: tractors, harvesters seeders	National	Numbers of machinery items; numbers of farm households using the machinery.	Decennial	Agri. Census (BBS)	4
	Fishing vessels, engines, fishing gear (nets & long lines) (D/ Fisheries)		Number of vessels, No. of engines, No. of fishing gear (D/Fisheries)	Annual	Fisheries Census and surveys BBS and DoF	6, 8
Inputs	Water used for agricultural purposes	National by crop type	Quantity	Annual	BADC, Water development Board	6
	Fertilizer use	National by crop type and fertilizer type	Quantity and value	Annual	MoA	3
	Pesticide use	National by pesticide type	Quantity and value	Annual	MoA	3
	Seeds	National by crop type and seed type	Quantity and value	Annual	MoA, BADC	3
	Animal feed purchased		Quantity and value	Annual	Agri. Census (BBS)	1

Variable group	Items	Detail required	Data needed	Frequency	Source	Gap Code (see end note)
Agro Processing	Number, Inputs , outputs, other-biofuel etc			Annual	Economic Census, Follow up Surveys BBS	2
Prices	Farm-gate prices	National by core crops/ livestock/fisheries	Average price	Monthly	BBS adhoc, DAM	2, 8
	Consumer prices	National by crop/ livestock/fisheries products	Average price	Monthly	BBS	1, 6
Final expenditure	Government expenditure on agriculture and rural development	National by sub-sector	Amount	Annual	Budget documents	3
	Agricultural subsidies	National by sub-sector	Amount	Annual	Budget documents	3
	Government expenditure on fisheries	National by sub-sector	Amount	Annual	Budget Documents	3
	Household consumption of core crops/ livestock/fisheries products	National	Quantity and value	Three-yearly	HIES, BBS	1
Rural infrastructure	Area equipped for irrigation	National	Area	Annual	Water Dev. Board	6
	Rural roads	National	km	Annual	MoLGRDC	3
	Railways	National	Km	Annual	Bangladesh Railways	3
	Agri Produce Storages / Cold Storages	National	Number	Annual	FPMU	3
International transfer	Official development assistance for agriculture and rural development	National	Value	Annual	BB, BBS	3

Annex -VI

Variable group	Items	Detail required	Data needed	Frequency	Source	Gap Code (see end note)
Social Data						
Demographics of urban and rural population	Sex by age	District	No. of persons	Decennial	BBS Census and surveys	1
	Education Level by sex	District	No. of persons	Decennial	BBS Census and surveys	1
	Highest level of education	National by sex	No. of persons	Decennial	BBS Census and surveys	1
	Household Income / Expenditure	National/ Region/zila	Average and class distribution	Decennial / Quinquennial	BBS Census and surveys	1
	Labour force status (employed, unemployed, not in labour force)	National by sex	No. of persons	Annual	BBS Census and surveys	1
	Status in employment (self-employed, employee)	National by sex	No. of persons	Annual	BBS Census and surveys	1
	Economic sector of employment	National by sex	No. of persons	Annual	Labour Force Survey (BBS)	1
	Occupation of employment	National by sex	No. of persons	Annual	Labour Force Survey (BBS)	1
	Number of hired workers on farm holdings	National by sex	No. of persons	Decennial	Agri. Census (BBS)	1
	Housing Condition				BBS Census and surveys	1
Environmental						
Land	Soil degradation	National	Area			2
Water	Water pollution due to agriculture	National	Pollution parts per million (ppm)			2
	Water pollution due to fisheries(fuel and fish wastes)	National	Pollution parts per million (ppm)			2
Air	Emissions due to agriculture	National	GHG			2

Data issues (Gaps)	Gap Code	Data issues (Gaps)	Gap Code
Core data collected	1	Core data collected but precision is lower than demanded	5
Core data not collected/ partially collected	2	Core data collected but methodology lacks soundness	6
Core data collected only through administrative process	3	Core data disseminated with projections on baseline	7
Core data collected but not at needed frequency	4	Core data by multiple agencies	8

NOTE

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NOTE

IMPROVING AGRICULTURAL STATISTICS
Global Strategy

Food and Agriculture Organization of the United Nations

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