

Need Assessment of Farmers' of the Sugarcane Based Farming Systems Research and Development Project Site

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A study was conducted on farmers need assessment at the Sugarcane Based Farming Systems Research and Development Project (FSRD) site at Charmirkamari, Ishurdi, Pabna, Bangladesh with the aim to investigate physical and economical problems of the farmers. Field information through questionnaire was collected during 1998-99 season from representative farmers of small, medium and large farm group. Study results showed that farmers do not use recommended doses of fertilizer, quality seed, production technology packages in different components, and 67% small, 61% medium & 62% large farmers faced problems in procuring seed in time. About 45% of the large farmers experienced problems in getting seeds of high yielding variety, 69% small, 42% medium and 36% large farmers could not afford to buy required quantity of fertilizers due to high price. Due to inadequate and number of shallow and deep tube well, 64% small, 48% medium and 45% large farmers could not irrigate their crops. Medium and large farmers used both gypsum & zinc for most of the crops they planted, but the small farmers did not. The use of lime in fishpond is practiced by all categories of farmers but the use of cowdung and chemical fertilizer is very limited among them. About 3-5 kg rice straw, 10-15 kg grass and 1.5 kg concentrate are feeded to lactating and draft animals and considered quite insufficient for optimum milk and meat production. Use of manure and fertilizers are in practice for homestead gardening but the agro-forestry plants received practically no care. Utmost efforts should be undertaken for substantial development of all agricultural components in an integrated approach to earn maximum profit ensuring credit facilities from institutional sources.

Agriculture sector in Bangladesh directly contribute about 32% to GDP and employed 55% of the total work force (Anon, 1996). Farmers are mainly classified into three groups namely, (a) small (b) medium and (c) large farmers. They have lot of problems viz. (i) inadequate availability of production inputs like, improved seeds, fertilizer and pest control chemicals etc. (ii) fragmented holding inhibiting mechanization programme (iii) poor irrigation infrastructure scheme (iv) farmers limited access to modern agricultural knowledge and management of natural calamities like drought and flood. But nature of problems differ among the groups. It is very important to study the present socio-economic conditions and needs of the farmers in order to formulate and implement technology dissemination in programmes among the farmers' FSRD site of BSRI. According to

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Eponou (1996), involving farmers in on-farm research does not allow them to contribute any real input into the research agenda, nor does it allow them to become part of the decision-making process. According to Fujisaka (1997), farmers' participatory research is especially useful for developing technologies for low-income farmers and for remote areas. In this approach (FSRD) farmers have an active role to play in the decision-making process with regard to setting up and implementing the research agenda and evaluating its results (Eponou, 1996). This study was undertaken to identify the physical and economical problems of the farmers and to determine the farmers' needs round the year.

Data were collected in 1998-99 season from the farmers of FSRD site Charmikamari, BSRI. A list of all farmers was made first, then 90 sample farmers were selected by adopting stratified random sampling technique. Based on information obtained from preliminary visits, a draft questionnaire was prepared and pretested in the study area. Then data were collected, analyzed, compiled and summarized to arrive at a meaningful conclusion. Tabour method was used in analyzing and interpreting the collected information.

Selected sample farmers were classified into three groups i.e. small, medium and large farmers based on farm size. Physical constraints of the farmers as appeared in the study area was seed, variety, pest, disease, water logging, drought and flood problems. Table 1 revealed that scarcity of seed was a major problem for small, medium and large farmers. About 67% of the small, 61% of medium and 62% large farmers faced constraints in collecting seeds. Lack of seed of high yielding varieties was a severe problem for 45% of the large farmers, which might be due to their higher requirement of HYV's. Lack of knowledge of farmers regarding new technologies and financial constraints to procure inputs were also major problems.

Economic constraints of the farmers as appeared in the study area are shortage of human labour (family and hired), animal labour, mechanical labour, fertilizer, irrigation, pesticides and fund shortage in time of need. Table 2 showed that fertilizer and irrigation are the major problem for all categories of farmers.

In the study area only 1% farmers availed irrigation facilities owing to inadequate number of shallow or deep tube wells, 64% small, 48% medium and 45% large farmers faced problems in receiving water for irrigation due to non-availability of required number of deep tube wells at least sometimes during the year. Due to higher price of fertilizers, more than two thirds (69%) of the small farmers could not afford to buy fertilizers which ranged 42% and 36% in case of medium & large farmers.

In the study area broadcast aus, wheat, sugarcane and turmeric are the major crops. Table 3 showed that small farmers didn't apply gypsum and zinc to their paddy fields for want of knowledge and capital. They thought that Urea, TSP and MP are enough to harvest desired yields, but medium and large farmers used at least some quantities of gypsum and zinc to turmeric, wheat and sugarcane crops to harvest higher yields.

Table 1. Physical constraints encountered by different groups of farmers regarding availability of inputs for sugarcane and other crops.

Constraints	Small farmers (%)			Medium farmers (%)			Large farmers (%)		
	Some-times	Always	Never	Some times	Always	Never	Some-times	Always	Never
Seed	67	24	9	61	10	29	62	27	11
Variety	24	39	37	68	16	16	37	45	18
Pest	26	74	0	22	78	0	22	72	6
Disease	41	46	13	25	60	15	27	51	22
Water- logging									
Drought	46	19	35	24	14	62	19	44	37
Flood	10	13	77	4	8	88	3	2	95
	0	0	100	0	0	100	0	0	100

Table 2. Economical constraints encountered by differed groups of farmers

Constraints	Small farmers (%)			Medium farmers (%)			Large farmers (%)		
	Some-times	Always	Never	Some times	Always	Never	Some-times	Always	Never
Labour:									
a. Own	37	24	39	45	38	17	42	41	17
b. Hired	33	36	31	43	34	23	39	42	19
Power source:									
a. Animal	29	42	29	44	37	19	40	27	33
b. Mechanical	45	30	25	32	42	26	31	30	39
Input Cost:									
a. Fertilizers	69	19	12	42	42	16	36	40	24
b. Irrigation	64	24	12	48	42	10	45	31	24
c. Pest Control	48	33	19	47	43	10	36	42	22

Table 3. Use of fertilizers by different groups of farmers (Kg/ha) for sugarcane and other crops

Farmers group		Rainfed		Irrigated	
		B. Aus	Turmeric	Wheat	Sugarcane (conventional)
Small Farmers	Urea	60	220	150	250
	TSP	18	177	55	200
	MR	12	170	40	120
	Gypsum	0	110	50	130
	ZnSO ₄	0	0	0	0
Medium Farmers	Urea	60	220	160	270
	TSP	15	180	60	200
	MP	12	185	40	140
	Gypsum	0	190	45	150
	ZnSO ₄	0	4	2	2
Large Farmers	Urea	70	240	180	290
	TSP	20	185	80	220
	MP	20	190	50	150
	Gypsum	0	110	50	160
	ZnSO ₄	0	7	4	5

Small farmers for pisciculture mainly use derelict ponds. Seasonal pond found in the area dries up early due to initial low ground water level as such these could not be used economically. All categories of farmers collected fingerlings from hatchery. Farmers use lime in fishponds irrespective of groups, 69% of small, 50% large and 100% of the medium farmers practiced use of lime to increase yield and quality of produced fishes (Table 4).

Table 4. Input used by different farmers group for fish cultivation

Input	Small Farmers		Medium Farmers		Large Farmers	
	Number	Percent	Number	Percent	Number	Percent
Lime	2	67	2	100	1	50
Urea	1	33	0	0	1	50
TSP	0	0	0	0	0	0
Cowdung	0	0	0	0	0	0

Purpose of livestock & poultry rearing in the study are aimed at milk production, draft power, meat and egg production respectively. The results showed that goats are fully dependent on grazing in the field and chicken are reared as scavenger (Table 5). The full-grown cattle is supplied with 3-5 kg straw, 10-15 kg grass and 1.5 kg concentrate besides

occasional grazing on fallow lands. The lionshare goes to lactating cows. Most of the farmers irrespective of group, they belong, could avail treatment facilities from Upazilla Veterinary hospital for cattle and poultry reared.

Table 5. Use of animal feed (kg/ha) in the project area

Type	Straw (kg)	Grass (kg)	Concentrated feed (kg)
Cattle (200-250 kg wgt)	3-5	15-16	1.5
Goat	depend on field feed		0
Chicken	depend on field feed		0

Table 6 revealed that farmers do not use any fertilizer other than urea for homestead gardening and do not use any kind of fertilizer and manure to increase production of their agro-forestry plants. Trend of inputs used in homestead gardening is almost similar in all categories of farmers. Among different fertilizers, urea is being used in higher volumes, but use of other fertilizers like TSP, MP and cowdung are remarkably low. Farmers use their labour force only for homestead gardening as it gives return in short time, as such agro-forestry plants receive little attention in respect of care and fertilization.

Table 6. Input and labour use in homestead gardening and group (%)

Groups		Urea	TSP	MP	Cowdung	Labour (hr/day)
Small Farmers	Homestead gardening	20	4	1	3	2-3 hr
	Agro-forestry	0	0	0	0	0
Medium Farmers	Homestead gardening	15	2	2	2	2-3 hr
	Agro-forestry	0	0	0	0	0
Large Farmers	Homestead gardening	18	5	3	1	2-3 hr
	Agro-forestry	0	0	0	0	0

Table 7 revealed that 44, 29 and 25 percent of small, medium and large farmers respectively received loans from Rajshahi Krishi Unnayan Bank (RAKUB) under institutional credit programme. As non-institutional credit 19% of small, 21% of medium and 33% of large farmers obtained credit from relatives. At the same time 67% of the large farmers borrowed from friends. The maximum loans have been received and utilized only for crop production. Small and medium loanee farmers had problem in repayment of loans but they are habitually regular in repayment of loan than large farmers.

In conclusion it may be summarized farmers should apply zinc and gypsum to their field for higher and sustainable crop yields. Farmers should develop their seasonal ponds for additional income through fish culture. Goats and chickens, the potential livestock sector of the site should be taken care in proper scientific way. Agro-forestry, a potential crop sector particularly for the area in question, should be developed through

proper management. Fertilizer and irrigation are major problem of all categories of farmers. Irrigation facilities and management practices should be developed to increase yield and profitability. Good quality of seed especially for vegetables should be made available in required quantity & time. Agricultural inputs should be supplied in time for sustainable crop production.

Table 7. Distribution of farmers according to source of credit.

Source of fund		Small farmers		Medium farmers		Large farmers	
		Number	Percent	Number	Percent	Number	Percent
Institutional:	Krishu Bank	7	44	4	29	2	25
	Private Bank	0	0	0	0	0	0
	Sugarmill	5	31	5	36	4	75
	Others	0	0	0	0	0	0
Non-Institutional							
	Mohajan	1	6	1	7	0	0
	Relatives	3	19	3	21	1	33
	Friends	0	0	1	7	2	67
	Others	0	0	0	0	0	0

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