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DEVELOPING POND FISHERIES IN BANGLADESH: SOME FINDINGS OF A STUDY ON CREDIT AND MARKETING ASPECTS*

M. Lutfur Rahman and Md. Harun Ali**

ABSTRACT

The article describes the credit and marketing aspects of pond fisheries in two districts (old) of Bangladesh. From each district 75 fish pond owners, receiving credit from banks for fishery purposes were studied. The recipients of fishery credit are generally the medium and large farmers, having average size of 7.50 acres in both the areas. Utilization of fishery credit was found to be more or less satisfactory. However, the repayment performance was disappointing. Less than ten percent of the borrowed amount were diverted for family consumption. Disposal of surplus fish did not pose a serious problem. In majority of the cases about half of the catch was consumed at home and the surplus was sold to the local fishermen. Non-availability of good quality fries from government fish farms was found to be the most discouraging factor for scientific fish culture. The performance of the Upazela Fishery Officer in rendering technical services to the pond owners for pisciculture was also found far from satisfactory. Thus provision of adequate credit facilities, good quality fish fries and technical knowledge for fish culture are essential for pond fisheries development in Bangladesh.

I. INTRODUCTION

Fisheries Resources in Bangladesh

Fisheries sector is of considerable importance in the economy of Bangladesh. The sector contributes about 3 percent of the Gross Domestic Product (GOB 1985). The contribution of fishery resources in earning foreign exchange is also commendable comprising 11 percent of the nation's export earnings in 1983-84. It is generally estimated

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** Respectively Professor, Department of Agricultural Finance and Assistant Professor, Department of Cooperation and Marketing, Bangladesh Agricultural University.

that about 8 percent of the nation's population directly and indirectly depend on fishing and ancillary industries for their livelihood.

Despite the potential of fisheries sector, fish production from inland waters in Bangladesh is officially estimated to have declined from about 729,000 metric tons in 1970-71 to about 585,000 metric tons in 1982-83, that is, a decline of 20 percent. This has cancelled out the concomitant rise in marine fisheries production over the period (BBS 1985). The combination of various factors, both man-made and natural has caused the decline in the total fish production from inland water.

More than 81 percent of total production of fish comes from inland sources. Generally controlled or managed fish culture is not possible in rivers, estuaries, etc. Only ponds and tanks are suitable for managed or controlled fish culture. In Bangladesh, total area under ponds and tanks is more than 3 lakh acres and the number of ponds are about 18 lakh (BBS 1984). Among the total ponds, 18.37 percent are identified as derelict, i.e., completely out of use and in most of the remaining ponds fish culture is partially practiced mostly by traditional means. On the other hand, about 39 percent of the total inland fish production comes from ponds alone. However, only 2 to 5 percent of total production comes from scientifically managed ponds and tanks (Ali *et al.* 1982).

Institutional Credit for Developing Inland Fisheries

All these offer an ample scope for increasing fish production from inland water resources. But due to shortage of capital, intensified and scientific fish farming in ponds and tanks is not possible. Higher initial cost is generally required for reclaiming or re-excavating the derelict or unused ponds. There are also the operational fish farming expenditure which are quite substantial.

Several studies identified lack of capital as a major constraint towards scientific pisciculture in ponds and tanks. About 68 percent of ponds in Bangladesh remain unused due to lack of capital (BBS 1984). So, external finance is urgently needed for developing pond fish culture and thereby increasing fish production in the country.

Considering this fact Bangladesh Government has given high priority in providing rural credit in its endeavour to achieve the objective of accelerated agricultural and fisheries production. Institutional sources of credit accounted for supplying about 20-25 percent of the total annual credit requirements of farmers and fishermen, the balance being provided by non-institutional sources. To reduce the dependence of rural people upon such sources, the Government is making considerable efforts to expand institutional credit. Credit for fisheries development is mainly channeled through Bangladesh Krishi Bank (BKB), Bangladesh National Fishermen's Cooperative Societies (BNFCS), the Nationalised Commercial Banks (NCBs), Bangladesh Samabaya Bank Ltd. (BSBL) and Bangladesh Rural Development Board (BRDB).

The BKB, BSBL and BRDB are supplying roughly 90 percent of the total fisheries credit disbursement and the nationalised commercial banks are supplying the remaining balance. Most of the credit from these sources has been disbursed in the form of short term production loans in aquaculture and medium term loans for capital expenditure (like re-excavation of ponds, purchase of net, etc.) in fishery sector.

The BKB advanced Taka 1.37 crore, 3.95 crore and 4.74 crore in the years 1977-78, 1978-79 and 1979-80. for development of 3507, 5420 and 8703 tanks and ponds respectively. Besides, BKB alone provided Taka 6.28 crore and Taka 6.73 crore in 1980-81 and 1981-82 for the development of fisheries sector with special emphasis on the improvement of ponds and tanks for aquaculture. In 1982-83, BKB disbursed a total loan of Taka 12.13 crore for fisheries development (excluding fish processing) which comprised 3.03 percent of BKB's total loan portfolio.

The present paper is derived from the findings of a research project which was undertaken to study the credit and marketing aspects of pond fisheries in two districts (old) of Bangladesh. In Section II data source and methodological considerations are discussed while findings of the study are presented in Section III. Concluding comments are presented in the final section.

II. DATA SOURCE AND METHODOLOGY

Mymensingh and Rangpur districts (old) were selected for the study to show whether any differences exist due to geographical location along with other factors. A list of owners of ponds and tanks receiving credit in the most concentrated subdivision of each district was prepared. Then, from the list, 75 fish pond owners were selected from each of the districts. Thus, the total number of sample fish pond owner became 150. The number of ponds of the selected owners were 104 in Rangpur out of which 75 were under fishery credit programme and the rest 29 were outside fishery credit. In Mymensingh, 102 ponds were owned by the selected owners of which 73 were under fishery credit and the remaining 29 were outside fishery credit programme. At the time of data collection from the fishery loanees of Mymensingh two owners were found to have no pond at all. So, the total number of ponds under fishery credit in Mymensingh were 73. All the 150 owners were interviewed by two trained enumerators. Data collection was started in December 1983 and completed by July 1984.

III. DISCUSSION OF FINDINGS

Socioeconomic Characteristics of the Owners and Ponds

In respect of some socioeconomic characteristics of the sample fish pond owners the findings of the study reveal that the average family size in Rangpur was about 6 while in

Mymensingh it was about 9. In Rangpur 96 percent of the fish pond owners were found to have education of different levels and in Mymensingh it was about 75. Most of the sample pond owners' main occupation was found to be agriculture in both the districts. Some pond owners of both the areas were associated with village cooperatives, union parishad and local leadership. The size of land holdings of about three-fourth pond of both the areas were within 7.50 acres.

Regarding the characteristics of the ponds the study reveal that over 70 percent of the ponds in Rangpur and about 56 percent in Mymensingh were of size less than one-fourth of an acre. Further, the study reveals that in Rangpur about 68 percent of ponds were under single ownership and the remaining 32 percent were under joint ownership; while in Mymensingh nearly 57 percent were under single ownership and the rest 43 percent were under joint ownership. The number of shares of a pond under joint ownership in both the districts varied from 2 to 9 (Table 1).

TABLE 1. DISTRIBUTION OF SELECTED PONDS BY NUMBER OF OWNERS

Number of owners(s)	Rangpur		Mymensingh	
	Number	Percentage	Number	Percentage
1	71	68.26	58	56.86
2	18	17.30	17	16.66
3	7	6.74	10	9.80
4	3	2.88	7	6.86
5	3	2.88	3	2.95
6	1	0.97	2	1.96
7	—	—	—	—
8	—	—	4	3.93
9	1	0.97	1	0.98
All	104	100.00	102	100.00

Source: Field survey, 1964.

Availability of Credit

The institutional sources of fishery credit in the present study included Bangladesh Krishi Bank and the Nationalised Commercial Banks. In Rangpur, during 1980-81, the amount of credit offered by different sources to pond owners varied from 6.24 percent of the total credit by Agrani Bank to 38.58 percent of the total credit by Krishi Bank and during 1981-82 it varied from 30.71 percent by Krishi Bank to 69.29 percent by Janata Bank. In Mymensingh, only Krishi Bank supplied the credit to the pond owners in both the financial years (Tables 2 and 3).

TABLE 2. REQUIREMENT AND AVAILABILITY OF FISHERY CREDIT IN 1980-81

Area and sources of credit	No. of loanees	Amount applied for (Taka)	Amount received	Average amount of loan per loanee (Taka)	Average time gap in receiving the loan (month)
Rangpur					
Krishi Bank	27	186,000	122,200 (38.38)	4,526	2.05
Janata Bank	18	163,000	108,550 (34.27)	6,031	1.94
Rupali Bank	8	49,000	31,250 (9.86)	3,906	2.44
Uttara Bank	4	44,000	35,000 (11.05)	8,750	2.19
Agrani Bank	3	28,000	19,750 (6.24)	6,583	1.95
Total/Average	60	470,000	316,750	5,279	2.11
Mymensingh					
Krishi Bank	20	310,400	140,400	7,020	1.10

Figures in the parentheses indicate percentages

It is seen from Tables 2 and 3 that in Rangpur during 1980-81 the highest amount of loan was supplied by Krishi Bank and the lowest amount was supplied by Agrani Bank. During the year 1981-82 the highest amount of loan was supplied by Janata Bank and the lowest by Krishi Bank in the district of Rangpur. In Mymensingh during the years 1980-81 and 1981-82 the entire loan was supplied by Krishi Bank.

TABLE 3. REQUIREMENT AND AVAILABILITY OF FISHERY CREDIT IN 1981-82

Area and sources of credit	No. of loanees	Amount applied for (Taka)	Amount Received	Average amount of loan per loanee (Taka)	Average time gap in receiving the loan (month)
Rangpur					
Krishi Bank	7	48,000	29,600 (30.71)	4,229	1.95
Janata Bank	8	92,000	66,800 (69.29)	8,350	1.85
Total/average	15	140,000	96,400	6,427	1.90
Mymensingh					
Krishi Bank	55	691,162	361,800 (100)	6,578	1.30

Figures in the parentheses indicate percentages

Source : Field survey, 1984.

On an average more than two months were required to make a fishery credit available from different banks in Rangpur while in Mymensingh this was above one month (Tables 2 and 3). Besides, credit was disbursed in three to four installments. This method was time consuming and due to insincerity of the Bank Officials in visiting the ponds and thereby giving the reports, most of the pond owners had to face some problems. Moreover, it was a common observation that credit installments were disbursed to the pond owners when it was not the proper season to excavate or re-excavate the ponds and/or to release fish fries in the ponds. This has led the borrowers, in many cases, to use the funds for consumption purposes rather than for fish culture.

In Rangpur, out of 75 sample fish pond owners, 17 were found to have borrowed non-fishery loans from the institutional sources. While in Mymensingh out of 75 sample

fish pond owners, 20 were found to have borrowed non-fishery loans from the institutional sources. In addition, in Rangpur three fish pond owners received loan from non-institutional sources e.g., village money lenders, and friends and relatives for investment in business and for family expenditure. While in Mymensingh almost 50 percent of the sample fish pond owners received loan from non-institutional sources e.g., village money lenders, friends and relation, shop-keepers and others, for family expenditure, investment in agriculture, completing the re-excavation work of ponds and for purchasing fish fries. This was mainly due to insufficient loan provided by the institutional sources.

In respect of cost of obtaining fishery credit other than formal interest, the findings of the study reveals that the items of the costs were stamps and documents, loan registration fee, price of application form, form filling expenses, photograph, conveyance or cost of travelling for loan negotiation, cost of entertaining people who assist in loan negotiation, labour cost of the days spent for obtaining credit, tips and bribes given to the bank officials, etc., in both the areas. In Rangpur it was found that in addition to the official rate of interest the borrowers had to pay Taka 124.26 including cost of labour days and Taka 67.92 without the cost of labour days in obtaining an amount of loan of Taka 1000. The borrowers of Krishi Bank in Mymensingh had to pay Taka 162.88 including cost of labour days spent and Taka 121.52 without labour cost in obtaining loan of Taka 1000.

Utilization and Repayment of Credit

In respect of credit utilization pattern the results of the study indicates that in Rangpur about 83 percent of the borrowed funds were utilized for fish culture while it was about 89 percent in Mymensingh. The diversion of fishery credit for other purposes were found to be about 17 percent in Rangpur and 11 percent in Mymensingh (Table 4). Out of total fishery credit about 22 percent was spent for pond excavation and about 56 percent for re-excavation of ponds in Rangpur, while it accounted for about 17 and 68 percent for excavation and re-excavation of ponds respectively in Mymensingh. In current expenditure for fish culture, purchase of fish fries constituted about 4 and 3 percent of the credit in the district of Rangpur and Mymensingh respectively. Family expenditure for food items constituted the major part of diversion of fishery credit which accounted for about 7 and 3 percent in the districts of Rangpur and Mymensingh respectively. Next to food consumption, another diversion of fishery credit was found to be investment in business which accounted for about 4 and 1 percent in Rangpur and Mymensingh respectively (Table 4).

In Rangpur, the figures of outstanding credit with interest varied from 63.63 percent of total amount to be paid to Agrani Bank to 95.40 percent to Uttara Bank, the average of all banks being 78.74 percent (Table 5). In Mymensingh, the figures of outstanding debt with interest was found to be 72.57 percent of total amount to be paid to Krishi Bank which was to some extent lower than the average outstanding to all sources of fishery credit in Rangpur.

TABLE 4. UTILIZATION OF FISHERY AND OTHER CREDIT RECEIVER FROM DAVIOUS SOURCES IN BANGPUR

Item of expenditure	Fishery credit from institutional sources (Taka)	(%)	Non-fishery credit from non-institutional sources (Taka)	(%)	Non-fishery credit from institutional sources (Taka)	(%)	Total expenditure (Taka)
Pond excavation	87,900	21.28	—	—	—	—	87,900
Pond re-excavation	231,300	55.98	2,500	0.61	—	—	233,800
Purchase of fish-fries	16,325	3.95	—	—	—	—	16,325
Purchase of fish-feed	6,300	1.53	—	—	—	—	6,300
Purchase of fertilizer	150	0.03	—	—	—	—	150
Harvesting of fishes	1,200	0.29	—	—	—	—	1,200
Total for pisciculture	343,155	83.06	2,500	0.61	—	—	345,655
Purchase of land	3,000	0.73	10,000	2.42	—	—	13,000
Seed, fertilizer for other crops	3,170	0.77	6,800	1.65	—	—	9,970
Food	28,300	6.85	4,600	1.12	900	10.47	33,800
Construction	1,000	0.24	—	—	—	—	1,000
Education	900	0.21	—	—	—	—	900
Medicine/treatment	300	0.08	—	—	—	—	300
Clothes	1,200	0.29	—	—	—	—	1,200
Festivals	450	0.10	—	—	—	—	450
Repayment of old debts	8,700	2.10	—	—	—	—	8,700
Mortgage in land	5,600	1.36	—	—	—	—	5,600
Investment in business	16,900	4.09	—	—	7,000	81.39	23,900
Others	475	0.12	388,561	94.20	700	8.14	389,736
Total for non-fishery purposes	69,995	16.94	409,961	99.39	8,600	—	488,556
Grand total	413,150	100.00	412,461	100.00	8,600	100.00	834,211

—no information.

Source : Field survey, 1984.

TABLE 5. REPAYMENT OF FISHERY CREDIT

Sources of credit	Amount received	Amount to be paid including interest (Taka)	Amount repaid with interest (Taka)	Outstanding with interest	
				Amount	percentage
Rangpur					
Krishi Bank	151,800	203,554	40,103	163,451	80.30
Janata Bank	175,350	254,735	61,783	192,952	75.75
Rupali Bank	31,250	43,504	9,462	34,042	78.25
Uttara Bank	35,000	52,134	2,400	49,734	95.40
Agrani Bank	19,750	26,671	9,700	16,971	63.63
Total/average	413,150	580,598	123,448	457,150	78.74
Mymensingh					
Krishi Bank	502,200	604,450	165,779	438,671	72.57

Method of Production and Marketing Aspects of Fishes

Most of the pond owners, 67 and 71 percent in Rangpur and Mymensingh respectively, were found to cultivate Rui, Catla and Mrigal and the rest of the pond owners of both the areas were found to cultivate different combinations of Rui, Catla, Mrigal, Kalbaus, *Telapia/Nilotica* and other local varieties.

The retail traders were found to be the main source of fish fry supply in both the areas. They supplied to 67 percent of fish pond owners in Rangpur and 73 percent of fish pond owners in Mymensingh. In Rangpur, the next largest fish fry supplier was Fishery Department and in Mymensingh it was local fishermen. Besides, in Rangpur the price per 1000 fish fry varied from Taka 100 in case of local fishermen to Taka 173 in case of Fishery Department and the price per-seer of fish fry varied from Taka 94 in case of Fishery Department to Taka 172 in case of retail traders. In Mymensingh, this information could not be obtained from the fish pond owners (Table 6).

The main methods of harvesting fishes were by self, fishermen, by angling in both the areas. About 61 percent pond owners in Rangpur reported to have harvested fishes by themselves through nets, angling, etc., and also by hiring fishermen. While in Mymensingh almost 62 percent pond owners reported to have harvested fish by themselves, fishermen and through angling by others.

The disposal of fishes were categorised into three heads, viz., consumed at home, sold and given to friends and relatives. In both the districts majority of pond owners, ranging from 42 to 77 percent consumed at home, and also sold to the fishermen. In Rangpur nearly 50 percent of the total catches were consumed at home and the remaining 50 percent were found to be sold to the fishermen or market. In Mymensingh, these information were not available.

Three types of intermediaries were identified in marketing of fishes. They were local fishermen, wholesalers and retail traders. The local fishermen generally purchased

TABLE 6. QUANTITY AND PRICE OF FISH FRIES BY SOURCE IN RANGPUR

Quantity and price	Sources					Total or average
	Local fishermen	Retail traders	Other pond owners	Fishery department	Others	
No. of fish fries	6,000 (16.13)	7,500 (20.16)	7,500 (20.16)	14,200 (38.17)	2,000 (5.38)	37,200 (100)
Fish fries (seers)	32.50 (20.25)	111.50 (69.47)	2.00 (1.25)	14.50 (9.03)	—	160.50 (100)
Price per 1000 fries (Taka)	100	115	150	173	—	135
Price per seer (Taka)	138	172	150	95	—	139

Figures within parentheses indicate percentages.

The sources of fish fries used were not mutually exclusive. It means that the fish pond owners collected fish fries from more than one sources.

Source : Field survey 1984,

fishes just after harvest at the boundary of the ponds. About one-fourth of the total sale value in Rangpur and only seven percent of the sale value in Mymensingh were received by the pond owners by selling fishes to this group. The fishermen, in turn, sold the fishes to the wholesalers, retail traders and even directly to the consumers. General consumers of the market were the ultimate buyers of fishes. They purchased fishes not only directly from the pond owners but also from the fishermen, wholesalers and retail traders. About 36 percent of the total sale value of fishes were received by the pond owners by selling fishes directly to the general consumers in both the areas.

Another type of buyers of fishes were the wholesalers of the market who purchased fishes from local fishermen or from the pond owners directly. They generally sold the fishes to the retail traders and also to the ultimate consumers at higher prices. In Rangpur, nearly one-third of the total sale value was derived by the pond owners by selling fishes to the wholesalers. While in Mymensingh, this group along with retail traders accounted for about 57 percent of the sale proceeds. Local retail traders are the persons involved in the marketing channel of fishes who purchased fishes from the local fishermen, wholesalers and also directly from the fish pond owners. They generally carry the consumers. In Rangpur, they purchased fishes from the pond owners worth only nine percent of the total sale proceeds. In Mymensingh, the amount of fishes purchased by local traders were included in the term 'araddars'/wholesalers which was very difficult to separate. Another type of purchasers of fish was identified in Mymensingh and was grouped into the category 'others'. They were the local consumers or neighbours of the pond owners and purchased fishes at the boundary of the ponds just after harvest. They were shown together with the general consumers. The average price per maund offered by different buyers varied from Taka 905.40 by general consumers to Taka 839.98 by local fishermen in Rangpur. In Mymensingh these information could not be obtained from the pond owners. The item of cost of marketing of fishes was identified as hired labour, rickshaw, taxes and others in both the areas (Table 7).

Socioeconomic Problems in Pond Fish Culture

In respect of socioeconomic problems faced by the fish pond owners in Rangpur, a substantial majority (89 percent) mentioned non-availability of fish fries as the major problem for pisciculture in ponds. In Mymensingh, about 37 percent of fish pond owners complained about this problem. Lack of sufficient fund in time for pisciculture was the major problem to 63 and 32 percent of the fish pond owners in Rangpur and Mymensingh respectively. About 45 percent of the selected fish pond owners in Rangpur felt that joint ownership right of the pond was the major problem for scientific pisciculture while in Mymensingh none of the fish pond owners considered it as the major problem. Lack of marketing and preservation facilities was regarded as the major problem by 23 percent of

TABLE 7. ANNUAL DISPOSAL OF FISHES

Mode of disposal	Total quantity disposed (mds)	Total value (Taka)	Average disposal per fish pond owner	
			Quantity (mds)	Value (Taka)
Rangpur				
Consumed at home	127.75	108,775	1.69	1,450
Sold	123.13	106,825	1.64	1,424
Given to friends and relatives	2.50	2,200	0.03	30
Total :	253.38	217,800	3.36	2,904
Mymensingh				
Consumed at home	N.A.	55,048	N.A.	754
Sold	N.A.	102,067	N.A.	1,398
Given to friends and relatives	N.A.	10,300	N.A.	141
Total	N.A.	167,415	N.A.	2,366

N.A. Data not available.

Source : Field survey, 1984.

the owners in Rangpur and in Mymensingh about 43 percent reported it as the major problem. About 21 percent of fish pond owners in both the areas reported to be reluctant for scientific fish culture for fear of theft and enemies. Lack of scientific knowledge and technology for pisciculture was regarded as the major problem by 15 and 11 percent of the fish pond owners in Rangpur and Mymensingh respectively. Finally, in Rangpur 7 per-

cent of the fish pond owners reported that lack of proper care was a major problem towards pisciculture due to their involvement in other profession (Table 8).

An attempt was also made in the present study to show how far the fish pond owners were getting help and cooperation from the Upazela Fishery Officer (UFO). In this connection the results of the study reveal that only 35 and 25 percent of the fish pond owners in Rangpur and Mymensingh respectively reported that UFOs visited their ponds once or twice before giving certificate for sanction of loan. Besides, they did not get any help or cooperation from the UFOs regarding

TABLE 9. FISH POND OWNERS' RESPONSE REGARDING MAJOR PROBLEMS IN FISH CULTURE

Nature of problems	Rangpur		Mymensingh	
	No.	Percent	No.	Percent
1. Non-availability of desired fish fries at proper time	67	89	28	37
2. Lack of capital for pisciculture	40	53	24	32
3. Joint ownership of ponds	34	45	—	—
4. Lack of marketing facilities	17	23	32	43
5. Lack of scientific knowledge and technology	11	15	8	11
6. Problems of theft and fear of enemies	16	21	16	21
7. Sandy soil of ponds causing dry up of pond's water, slower growth of fishes and breakdown of boundaries	12	16	53	71
8. Attack of fish parasites and diseases	7	9	28	37
9. Lack of sufficient care for fish culture due to lack of time	5	7	—	—

Source : Field survey, 1984.

scientific pisciculture in their ponds. Only 3 and 20 percent fish pond owners in Rangpur and Mymensingh respectively reported to have got technical advice for pisciculture from the UFOs. The attitude of the sample fish pond owners towards the activities of the UFOs was also considered in the study. About 33 and 25 percent of the fish pond owners in Rangpur and Mymensingh respectively informed that the performance of the UFOs was more or less satisfactory though they did not get any technical help from the UFOs except in obtaining the certificate for sanction of loan. Only 3 and 5 percent owners in Rangpur and Mymensingh respectively indicated that they were satisfied with the work of the UFOs. About 60 and 53 percent owners in Rangpur and Mymensingh respectively reported that they did not know the UFOs personally, but they got the certificate from the UFOs.

IV CONCLUSION

Several conclusions and policy implications can be drawn from the findings of the study :

1. The recipients of fishery credit are generally the medium and large farmers, having average size of holdings 7.50 acres in both the areas. They have also big families, particularly in Mymensingh district, having 9 members on average. Thus the general impression that fishery credit is concentrated to large farmers is substantiated.
2. More than two-thirds of the sample ponds in Rangpur and more than 50 percent in Mymensingh were of size equal to or less than 0.25 acre. This shows that average size of ponds are very small to make profitable scientific aquaculture with borrowed funds. The other physical characteristics of most of the ponds are also not very suitable for a lucrative fish culture. Therefore, improvement in size and quality of ponds is essential for the success of scientific fish culture.
3. It was found that Bangladesh Krishi Bank (BKB) was the major supplier of fishery credit in the study areas. Of the Nationalised Commercial Banks (NCBs) only Janata Bank supplied a sizeable amount of fishery credit in Rangpur. The role of other NCBs, BRDB and Fishermen's Cooperative Association has much to be desired in this respect.
4. Utilization of fishery credit was found to be satisfactory more or less. Less than ten percent of the borrowed funds were diverted for family expenditure. About three-fourth of the expenditure was incurred for capital items and the rest for current expenditure for fish culture. This also indicates favourable trend in the use of funds. However, the repayment performance was disappointing, similar to most other loan programmes of BKB. Only about one-fourth of the outstanding loan amount was repaid.
5. The extent of non-fishery credit received by the pond owners from both institutional and non-institutional sources was higher in Mymensingh than in Rangpur. The

average amount of fishery credit received by pond owners in Rangpur was also lower than that of Mymensingh. These findings indicate that credit facilities in general are poor in Rangpur in comparison to Mymensingh.

6. Disposal of surplus fish did not pose a serious problem. In majority of the cases surplus fish was sold to the local fishermen. In majority of the ponds, harvesting was done by the owners themselves and about half of the catch was consumed at home. Thus it can be said that local demand along with development in the communication sector may absorb the surplus fish production from ponds.

7. Non-availability of good quality fries from government fish farms seems to be the most discouraging factor for scientific fish culture. In more than two-third cases, fish fries were purchased from retail traders whose quality of fish fries was far from satisfactory. Thus establishment of more fish farms and fish hatcheries by the Department of Fisheries and Fisheries Development Corporation is most urgent for providing good quality fish fries to the pond owners.

8. Last but not the least, non-availability of technical knowledge for scientific fish culture was reported by majority of pond owners. In less than one-third of the cases, the Upazela Fishery Officer (UFO) visited the pond and rendered technical advice to the pond owners. Thus fisheries extension activities by the UFOs are to be geared up for scientific fish culture. A dedicated and devoted technical manpower such as the UFOs is the precondition for any amount of success of scientific fish culture in a rural society which is dominated by poverty, illiteracy and lack of initiative.

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