

*Annex I. BCAS Review of Socioeconomic Issues of
Third Fisheries Project*

A REVIEW OF SOCIO-ECONOMIC IMPACT
OF
THIRD FISHERIES PROJECT
UPON DIFFERENT CATEGORIES OF FISHERMEN.

PREPARED BY



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A Review of Socio-economic Impact of Third Fisheries Project upon Different Categories of Fishermen.

INTRODUCTION :

The fish production of inland open water has been steadily declining since nineteen sixties resulting in the reduction in per capita fish consumption in Bangladesh. In order to stop further decline one of the steps undertaken by the government was public stocking in floodplains. The programme started in 1991 and continued upto December 1996 (Proshika, November, 1996: 1). The stocking, however, was neither done simultaneously in all beels nor stocked every year in the same beels. The following table presented in a draft report of Proshika (1996:11) shows the stocked and unstocked beels:

Table 1. Selected Characteristics of the BIMS Beels (in 1995)

Beel Name	Years stocked under TFP	Approx. area (ha)	Approx no. of villages	Approx population	NGOs/PE	Polder	Comments
BSKB	1992, 1993, 1994, 1995	26,000	133	134,000	Prodipan (under TFP)	Yes	Flooding partially controlled; lease suspended since 1992; decreasing traditional population good scope in south for employment in Khuina; rapid expansion of shrimp in south
GARLIA	1991, 1994, 1995	800	16	12,000	GUP (TFP influenced)	Yes	Limited scope for urban employment
PANJIA Pathra	1994, 1995	800	17	19,000	GUP (TFP influenced)	Yes	Limited scope for urban employment
Tepu Balodhali	*	3,000	14		None	Yes	Waterlogged since 1988; Limited scope for urban employment
CHENKURU	Not stocked	22,000	149	170,000		Yes	96 km embankment to protect from tidal rivers
CHANDA	1992, 1993, 1994	11,000	41	53,000	CCDB, Caritas, World Vision	No	Lease not suspended in time to permit 1995 stocking; mainly Christians; some trade population; too isolated for regular urban employment

Beel Name	Years stocked under TFP	Approx. area (ha)	Approx no. of villages	Approx population	NGOs/PE	Polder	Comments
Mollar	Not stocked	4,000	34	62,000		No	Lease not suspended in time for 1995 stocking; some external fishermen come from Chenchuri; scope for employment at Mollarhat
Chaucha Boromath	Not stocked		16	6,000	Proshika, GB	No	Open fishing; some trade population; limited scope for urban employment
Tungipara	1994	8,000	35	38,000	BRAC, CARA, PE	Yes	Floods from Kumar system; lease not suspended in time for 1994 stocking; decreasing trade population; too isolated for regular urban employment
Bajunia Kajulia	Not stocked	8,000	32	39,000	Caritas, BRAC, PEP	No	Floods from Kumar system; open fishing; no trade population; possibility of work in Gopalgonj and Kotalipara

* Tepu Balodhali was stocked by DoF under the Revenue Budget in 1995.

A number of agencies were involved in evaluating the stocking programs. The major agencies were Bangladesh Centre for Advanced Studies (BCAS), Bangladesh Institute of Development Studies (BIDS), and Proshika. BCAS was involved in longitudinal as well as pre-and post-intervention surveys of three beels. The longitudinal data on fish consumption were collected by field monitoring team on a monthly basis. The pre-intervention data were used as baseline for the comparison with post-intervention period. Besides these longitudinal data, other studies conducted by BCAS were pre-and post intervention Socio-economic surveys, pre-and-post-consumption studies, minor floodplain study, study on Increased Intervention by NGOs in the Third Fisheries Project Flood plains and Leaseholder study. All these studies are not, however, assessment of impact of interventions. Some of them simply described the condition of beels, consumption patterns, identification of beneficiaries, and management patterns. BIDS had conducted five field studies in BSKB and Chanda beel between February 1992 to April 1994 where stockings were done. The studies covered both pre- and post-intervention periods. They looked into the actual beneficiaries of stocking in these two beels. Institute of Development Policy Analysis and Advocacy (IDPAA) of

Proshika undertook a study to ascertain whether the benefits of stocking had indeed gone to the intended recipients. The study covered three seasons (Proshika, 1996). In addition to these studies Management Technical Assistance (MTA) has also produces some documents to facilitate the stocking programs.

All these organizations were conducting studies to monitor the progress or assess the achievement of interventions. Most of the studies were designed and implemented through a joint decision of the DOF and donor representatives. Enormous data had been gathered over a period of 5 years to answer various questions, but most crucial one was "who were the beneficiaries and how these benefits were distributed?"

METHODOLOGIES USED BY PREVIOUS STUDIES:

Both qualitative as well as quantitative techniques were used for the studies. In some cases one single study used different techniques depending upon the nature of research questions addressed by the studies. The data collection techniques used were survey, in-depth interview, Participatory Research Appraisal (PRA), Rapid Rural Appraisal (RRA), case study, and observation. BCAS studies used various techniques, such as survey, case studies, in-depth interviews, secondary documents, PRA, and RRA. In fact BCAS had done more studies than any other organization. BIDS, which used in-depth interview technique for data collection followed BCAS in terms of number. IDPAA, Proshika used survey and MTA both survey and in-depth interviews. Some of these studies were done for baseline data, some for understanding the past and the present leasing system, some for evaluating the achievement of interventions, some for assessing the attitudes of different categories of fishermen toward TFP, some for assessing the roles of NGOs in promoting TFP programs, and some to know the life and the living pattern of fishermen.

OBJECTIVE OF THIS REPORT

The present report is not a new study rather a review of socio-economic data to identify the beneficiaries and the factors that had enhanced the process.

PRESENTATION OF THIS REVIEW REPORT:

Since different studies used different techniques for collecting the same information, it has become extremely difficult to compare the finding to draw conclusions. For example, BIDS identified beneficiaries through qualitative methods while BCAS did that through both qualitative and quantitative methods. Keeping all these points in mind, we have tried to review the socio-economic impact of TFP interventions upon the potential beneficiaries. In making the comparison, we, however, have mentioned how the compared data were generated so that the reader can make her/his own judgement about the genuity of the data.

IMPACTS:

Benefit Flows :

The intended beneficiaries as specified in Staff Appraisal Report (SAR para 6.10, pp page 2 in Proshika, 1996: 2) are as follows:

- 67,000 families, totalling about 4,00,000 people living in and around 10,000 hectare projected stocked area.
- Of these 376,000 would be part-time/subsistence fish-folk, including destitute women and children; this would provide about Tk.720 value per person per year, representing 14% addition to their current income of about Tk.5,000.0
- About 24,000.0 existing full-time fishermen from 6,000 families would earn an extra Tk.3,750.0 net per person per year, representing a 75% increase in income.
- About 12,600 new full-time fishing jobs would be created.

The vast majority of the studies conducted for TFP were to identify the potential beneficiaries. In the following pages we have tried to do so by reviewing various studies conducted by different organizations.

BCAS had the baseline data regarding pre-intervention socio-economic and consumption of food (BCAS, 1992b, BCAS 1992c). In addition to these data they also collected longitudinal data of fish consumption for 3 years. All these data were collected from three stocked beels, namely BSKB, Chanda and Halti. Hence, BCAS had a reasonable ground to make some conclusion about the benefits derived by different groups of fishermen and others from TFP. BCAS post-intervention socio-economic study (1995) shows that land assets of professional fishermen and non-professional fishermen of all beels had improved in terms of money value. However, non-fishermen had more land assets than two other categories of respondents. The professional fishermen possessed least waterbody assets compared to non-professional fishermen and non-fishermen. Professional fishermen and non-professional fishermen had slightly increased their waterbody resources only in BSKB. Hence, it seems stocking did not do much in changing the possession of waterbodies assets for professional fishermen. Over 70% of the professional fishermen of all three beels earned more than Tk. 10,000 in both pre- and post-intervention period. However, further analysis showed that the income from fishing had increased only 8% for professional fishermen and 5% for non-professional fishermen in the post-intervention period.

With regard to movable property all categories of respondents had slightly improved their conditions but it increased more for professional and non-professional fishermen than non-fishermen in Chanda. However, on an average movable properties had increased from Tk.2800.0 to Tk. 3459.0 in the post-intervention period per household in Chanda. In BSKB on an average it increased from Tk.3016.0 to Tk.4023.0 per household but it occurred more among the non-professional fishermen and non-fishermen compared to professional fishermen. In the pre-intervention period 83% professional fishermen had movable properties below Tk.2000.0 or less while 100% of them reported to have movable properties of that amount in the post intervention period in BSKB. Hence, movable properties of professional fishermen had declined in the post-intervention period. In-depth interviews also showed that during the high price of rice many fishermen sold out their furniture and other movable properties (BCAS: 1995:28). In general, mean amount of movable properties increased from Tk.4580.0 to Tk.5210.0 in the post-intervention period in Halti but the non-professional and non-fishermen had accumulated more movable properties than professional fishermen (BCAS 1995:28).

In short movable properties of sample population had increased in the post-intervention period, the improvement, however, took place more among the non-professional fishermen and non-fishermen compared to professional fishermen. Although very small, the possession of livestock heads had increased in all three beels. A greater amount of inequality with regard to possession of cattle heads was observed among different categories of respondents. The professional fishermen had much lower number of cattle heads compared to non-professional and non-fishermen in all beels (BCAS:1995:32). No major change was observed between pre and post-intervention period in the possession of fishing equipment among the non-professional and non-fishermen other than professional fishermen. The professional fishermen acquired more fishing equipment in the post-intervention period compared to the people of other two strata.

In general, the economic condition of study population (three beels) had definitely improved in the post-intervention period, but it could not be assigned to stocking because the total fish income was very little compared to total household income (fish and non-fish income). It is also observed that income of the professional fishermen had increased only 8% and non-professional 5% in the post intervention period (BCAS, 1995; xi). All these evidence make it difficult to conclude that the public stocking has contributed to the improvement of economic condition of the professional or non-professional fishermen.

The type of housing unit being a reflection of the quality of life, an assessment was made to see the changes in it in the post-intervention period. On an average the values of dwelling units of Chanda, BSKB and Halti had increased about Tk. 917.0, Tk. 1218.0 and Tk. 299.0, respectively. Strata-wise non-professional fishermen and non-fishermen had more valuable dwelling units in all the three beels than the professional fishermen during both pre and post-intervention periods (BCAS: 1995: 62-63).

Although different categories of fishermen in their responses did not opine that they had benefited much, the elite members held a different opinion about it. The in-depth interviews with them showed that fishermen had harvested a large quantity of fish from September to November in every year since public stocking began in July 1991. The poor people around the beel were also benefited as these

beels being public properties, they could freely fish to consume. In fact, a large number of part-time and occasional fishermen consumed a considerable amount of fish during the peak months. (BCAS. 1995 : 96-97).

The rural elites and key informants asserted that the Kua owners who were usually rich or middle grade farmers, increased their harvest three to four folds in the post-stocking period compared to pre-stocking period. The Kua owners, however, did not disapproved the amount reported by the elite members, although agreed to have increased their income. The elite members were possibly not wrong as unexpected income from kuas spontaneously gave birth to a group of middlemen in the rural areas who managed to market the large quantities of Kua catch as the owners of the Kuas, who were traditionally farmers or absentee landlords, did not have the knowledge and skill of marketing of fish (BCAS : 1995:98).

Contrary to the findings that fishing income of fishermen who fished in stocked beels had increased, the Proshika study (1996) which had different sample beels did not find any significant income difference between the traditional fishers who fished in stocked or non-stocked beels except in two beels out of 16. The difference between these two studies (BCAS : 1995 and Proshika 1996) could be due to the technique of assessment of income (BCAS used both survey and in-depth interviews while Proshika only survey). However, the most objective indicator of income rise could be the emergence of middlemen in the markets near the stocked beels. The presence of middlemen was definitely an indicator of greater amount of harvest of fish. This evidence was further authenticated by the fish traders who had some ideas of public stocking. They claimed that the supply of stocked fish had increased significantly in the post-intervention period. The statement of most of the fish traders contradicted the allegations often made by the local fishermen and villagers that the stocked fingerlings either died or escaped from the beel. They believed that the three months ban on fishing in the post-release of fingerlings was the major reason of rise of the production. They traded greater volume of stocked fish in the post-stocked period compared to pre-stocked period.

The fish traders although clearly stated that they had traded more stocked fish than before they believed that the fishermen were not benefited much due to the existence of Kuas (BCAS : 1995 : 103). This claim of the traders had also been

supported by BIDS studies (BIDS, 1993, 1994). Those studies conducted in different periods of the TFP in BSKB and Halti showed that the rich and the landed farmers in addition to their existing Kuas, dug several more not only in their own lands but also in Khashlands adjacent to their own lands. The incomes from those Kuas reported to have increased many folds. According to BIDS studies (1993a, 1993b), the Kua owners appeared to be the major beneficiaries of stocking. The Proshika study (1996 iii) also confirmed that the Kua owners had benefited most out of stocking. They, however, claimed that there had not been expansion of Kuas in stocked beels. The researchers of BIDS (1993a, 1993b) had repeatedly showed that the number of Kuas increased in the post-stocking period particularly in BSKB and Halti. The difference, however, could be due to the fact the sample beels of Proshika and BIDS were not same except two and the study periods were also different.

The least benefited group as reported by BCAS, BIDS, and Proshika was professional (traditional) fishermen. The sufferings of professional fishermen was highest during the three months restricted period of fishing for protecting the released fingerlings. A number of case studies conducted by BIDS (March, 1993 October 1993) depicted the distressing condition of fishermen who could neither fish nor go for alternative occupation in the absence of such opportunities. Some of the traditional Hindu fishermen, however, became agricultural wage laborers in this period who had very little skill and knowledge about it. Some of these distressed fishermen suffered from arrest, loss of nets and harassment when they fished out of desperation. According to BIDS reports the fishermen had disposed up some of their valuables only to allow the fishes to grow which were ultimately caught by Kua owners or individual leaseholders. The BIDS researchers (March, 1993: 26) claimed that on an average each household lost about Tk. five thousand during the fishing season. The findings of BIDS was also found consistent with the findings of BCAS socio-economic study (1995a) which showed that many fishermen sold household utensils and borrowed money for surviving during the three-month ban period. The fishermen also suffered due to the confusing instructions of the DOF. The conventional fisheries rules say that fishermen can't catch any fry less than 9 inches in length. TFP on the other hand had given the guidelines to their members that they could still catch other fishes but never they should catch the stocked fish before three months (BIDS, March 1993 : 25). Police often

misinterpreted this instructions and harassed the fishermen even for catching fishes like Koi, Magur, Sing etc. in the beels. Frustration of the fishermen reached at the highest points when they found after three months waiting that the fishes aggregated in Kuas or depressed areas of leaseholders' beels where they had no access (BIDS, 4 March 1993). Kuas in Halti beel emerged as the biggest problem for the local fishermen.

Being worst suffers, the fishermen whenever wanted to put up resistance, the power elite went for counter offensive. BIDS (October 1993) researchers found that power elites organized young musclemen for stealing boats and nets of fishermen and would give them back only if they would pay certain pre-fixed amount. One Mamata Rani, a member of the Matsajibi Samity told that two of her boats were stolen and she knew the Mischieves, who asked for Tk. 800.0 from her. The deal was incomplete even at the time of data collection. There were many other similar cases.

The stress that would fall upon the fishing community due to non-fishing for 3 months to protect the stocked fingerlings was anticipated by STA and DOF and accordingly two NGOs, Prodipan in BSKB and Usha in Halti were contracted to organize the fishermen from refraining them from fishing during the restricted period and to improve their economic condition. Prodipan had been successful in organizing the fishermen for refraining them from fishing but was not very successful in getting institutional credit and improving their condition (BCAS, 1995b). However, the activities of Prodipan was limited to only 12 villages out 127. Usha in Halti had failed utterly in organizing the fishermen dueto their intra-organizational problems. Hence, the potential roles of NGOs werevery limited in promoting the stocking program and particularly to relieve the fishermen from the economic stress that fell upon them during the three months restricted period.

One of the indicators of benefits of public stocking being consumption of fish and other items by the people of the locality, two studies were conducted by BCAS in BSKB, Chanda, and Halti with a difference of two years (BCAS, 1992 : BCAS, 1995). In addition to these two studies BCAS monitored fish consumption of sample households during the project implementation period. The household monitoring data showed that after two years of stocking a strong association was found between consumption of fish with stocking. Per day household fish consumption

increased 74% in Chanda, 38% in BSKB, and 13% in Halti in the post-intervention period. Although both fishermen and non-fishermen households had increased their consumption the increase was more among fishermen households than the non-fishermen ones (BCAS, 1995).

The study confirmed the increase of fish production in the post-intervention period in all three beels. The survey findings indicated that non-stocked fishes such as Koi, Taki, Singh and other mixed species (mostly small fishes) were eaten in large quantities during the post-intervention period. A greater quantity of consumption of non-stocked fish could be due to the fact that professional fishermen and non-professional fishermen who used to sell fish sold the stocked ones for better price than the small ones which had lower price in the market (BCAS 1995). In view of the above facts it may be concluded that consumption of higher amount of indigenous variety of fishes was perhaps possible due to the larger quantity of catch of stocked fishes. With regard to gender discrimination in consumption BCAS' post-intervention study (1995b) showed some difference with pre-intervention study (1992c). The pre-intervention consumption study (BCAS 1992c) found a gross discrimination in fish consumption between the male and female in all three beels. T-test of post-intervention study (BCAS; 1995a), results showed that a significant discrimination in fish intake did not exist between males and females in Chanda while statistically significant discrimination was found between males and females of BSKB and Halti.

The consumption of non-fish food items manifested a mixed picture. Items like vegetables, sugar, and spices were consumed in large quantities in all the beels by males compared to females. The pre-intervention study found that the male members of every stratum consumed larger amount of food than the females. The post-intervention data did not seem to quite agree with the claim. The most commonly believed gender discrimination was not found universally valid with regard to all food items that were included in the study, although a higher quantity of food intake by males was a general pattern. The post-intervention consumption study (BCAS: 1995b) showed that there was no difference between males and females in Chanda with regard to rice consumption while it was in BSKB and Halti. With regard to wheat consumption significant discrimination between male and females existed only in BSKB, but not in other two beels (BCAS, 1995b).

Discrimination in favour of males was universally found in all three beels with regard to vegetable consumption. Husbands of Chanda and first sons of BSKB consumed significantly more meat than their counter-parts but this was not the case for first sons of Chanda and husbands of BSKB. In Halti no significant difference was observed between any of the male-female pairs in meat consumption. Significant difference was also not observed between any of the male-female pairs of Chanda and BSKB with regard to consumption of other food items while it was found to be significant between the male-female pairs of Halti only (BCAS: 1994b: 77-78). The above facts confirm that the gender discrimination was not a universal phenomenon in the post-stocking period as it was claimed in the pre-intervention ones. It is, however, difficult to conclude that the stocking was the only cause of it because fish income could hardly bring such an attitudinal change in such a short period.

In addition to above mentioned studies another study known as 'Minor Floodplain Study Report' was undertaken by BCAS (1993). The primary goal of the study was to undertake a study on minor floodplains. The Third Fisheries project had followed the New Management Plan of 1991 BHUM/7/5/91/424 (12) of September, 1991] (Ali, 1992). According to current management practices, only genuine fishermen's cooperative societies can submit tender for obtaining lease irrespective of their place of origin. If only one or no fishermen cooperative societies competes for the lease, the tender is considered invalid. Thereafter, submission of tenders for jalmohal lease are made open to all. Individual person or any organization including fishermen cooperative societies can compete in the second round of leasing through traders. Another way of leasing a jalmohal over 20 acres by fishermen cooperative societies is to have a 4 to 10 years development program of Jalmohal. Such settlements can be executed through the process of invitation of tenders or through negotiations even with private parties or cooperative societies (Ali, 1992: 10).

The BCAS study of minor floodplain's was conducted in 22 baors/beels/lakes, of which 5 were leased out to private entrepreneurs, 2 to IFAD/NGO supported fishermen groups through negotiation and the rest by fishermen's cooperative societies. These three types of lessees had three different types of management patterns.

The private investors were the supreme bosses of their own unit of operation. They maintained a chain of command for efficiently running the projects. Since efficiency was the key to ensure profit, the investors were found to have upto date knowledge of technology of culture base fish production. Modern management concepts were followed by giving equal importance to human as well as material resources in the production process. Peace and stability being the pre-conditions for the continuity of production, the investors tried to meet the demands of local community as much as possible. From the point of view of production, the private entrepreneurs appeared to be the best. They demonstrated that stocking had increased production. The management pattern was purely profit oriented and capitalistic.

NGO/IFAD supported fishermen groups were comprised of both traditional and non-traditional fishermen. Members of all categories played vital roles in decision-making because almost all including presidents and secretaries were from similar backgrounds. Hence, theoretically none had the power and resources to dominate over others. Despite group decision, motivation and youthfulness of the groups, their management pattern was nothing revolutionary, rather it was close to the management pattern of traditional fishermen's cooperative societies. After 2 years of management by the NGOs the baor was not ready for stocking and no significant benefits were derived by the fishermen group.

The management pattern of fishermen' cooperative society was a traditional one in which the primary goal of the lessee was to extract as much naturally available stocks as possible without stocking or any investment. The presidents and secretaries of cooperative societies played the roles like the previous wealthy non fishermen lessee. Their relationships with general members was a kind of patron-client. relationships. The top bearers of cooperative societies used the organization at their own advantages and cared very little for the general members. They often supplied the lease money at a very high interest rate for paying rent for lease, shared substantial percentage of sale proceeds of fish and collected tolls from the harvesters of fish. The management approach of these societies were directed toward leasing the baor, harvesting whatever fish were naturally available and collecting tolls from the fishermen or Katha holders.

Almost all cooperative societies were characterized by weak structure, poor cohesion among the members, practice of non-democratic values, such as arbitrary selection of office bears by the rich. The new system of leasing simply strengthened the hands of the presidents and secretaries of the fishermen cooperative societies who are by birth low caste hindu fishermen. They became proxy of the non-fishermen local elites who previously used to lease the boar. However, some of the previous rich lessees had entered into fishermen cooperative societies in the pretext of fishermen.

Private lessees stocked fishes and made considerable profit. Out of five baors under private entrepreneurs, only two were in full operation. The experiences of those two were very encouraging even from the point of distribution of benefits. Fishing in these two waterbodies were done all around the year. This had generated employment¹ for a significant number of fishermen and guards. Employment, however, did not guarantee a fair share relative to total income. Discussions with fishermen of both privately leased operating baors indicated that the fishermen had more continuity of employment and absolute income than before. However, the fishermen had the feeling of loosing their traditional rights over the beels.

The benefits derived from NGO supported beels by fishermen were not encouraging. The management of the beels was very poor. Although apparently all members of the group appeared to be equal with equal rights and privileges but in reality some rich and influential entered into the groups with the help of the influential members of the Thana committee in which NGO representatives had very little to say. The traditional rich fishermen who owned the boats and nets reaped almost 50% of the profits as rent of those essential fishing items. The remaining profits which were distributed among other members were not substantial. During the two years period of involvement of NGO organized groups, the achievements of these groups were negligible in terms of stocking, increasing production, and earning an income.

¹ Employment refers to continuous engagement with economic activities that could be salaried or share of sale proceeds.

The case studies (BCAS : 1993) showed that the members of the cooperative societies were the worst of all beneficiaries. The new management system restricted the non-fishermen to grab the beels through leasing but in practice it remained with the rich and the influentials who supplied the capital for leasing and subsequently fishing equipment. Hence, those who controlled the organizations also controlled the resources. In many occasions these fishermen cooperative societies acted as front organizations of previous rich lessees.

The discussions on the minor floodplains indicate that the members of NGO supported fishing groups and fishermen cooperative societies did not benefit much under the new management system as power of the organizations remains in the hands of previous elites who were linked with it. The resourceless members of NGO supported and cooperative societies lessees could hardly improve their economic standing. Contrary to these two management systems the private individual entrepreneurs who went into operation increased the production and the trickle down effect of the increased production went to the fishermen and local population in terms of higher income for the fishermen and higher amount of consumption of fish for the local people. It may be mentioned that the private individual entrepreneurs were engaged in scientific fish culture and stocking of fast growing species. However, the fishermen communities of the waterbodies leased to private individual entrepreneurs were unhappy due to their year old loss of control over the beels although their absolute income had increased under the present lessees than the previous ones.

Another study by using PRA and PRA was conducted by BCAS in June 1994 covering 16 beels within a period of six weeks. Of these 16 beels 3 beels were stocked in different times. The stocked beels were Chanda, BSKB and Hilna. Here we have only covered the impact of stocking as assessed by the research team in these three beels. The BSKB beel system had several hundred full-time fishing households belonging to Rajbangshi caste of Hindu religion. After the stocking of the last two years, they have caught on an average of 3-4 hundred kgs of fish during the fishing period. Besides during the fishing ban period they cleverly caught indigenous fish like Koi, Sing, Magur and other species with line-hook and small gears, and thus managed to tide over the ban period. The area part-time and occasional fishing households had also benefitted to the tune of several hundred

takas, depending on their level of effort and gear availability (BCAS : June, 1994 : 27-28).

There were no concentrated full-time fisherfolk in Chanda area. The fisherfolk of the area were Muslims and other scheduled caste Hindu part-time fishing households in the area. On an aggregate basis the part-time fishing households reaped most benefits from the stocking program as they intensely fished in the beel in the season. The annual household catch of part-time fisheries varied between 3-10 thousand Takas depending on level of effort and gear availability while it was between 3 to 8 thousand Takas for full-time fishers. According to the assessment of the researchers Kua owners and leaseholders received the most lucrative windfall benefit among all groups followed by part-time and occasional fisherfolks who outnumbered the full-time fishing households.

The above discussions indicate that in general, fisherfolks in stocked beels had benefited from the stocking program but the benefits were uneven. Although benefits were uneven among various groups, the full-time fisherfolks in both Chanda and BSKB gained much from stocking program. Their economic well being were reflected in the form of new improved houses (tin roofed), more cash to tide over the lean months of Chaitra-Baishakh, expenses borne for marriage and other social ceremonies etc. (BCAS : 1993 : 28). In Hilna beel each occasional fishermen had highest amount of post-stocking catch (6 kg/day) which is valued at Tk. 180/-. Each full-time fishermen gets in the next highest post-stocking catch in the same beel.

CONCLUSION:

In general the economic condition of fishermen of stocked beels had improved to some extent in the post-intervention period. However, the extent of benefits flowed to the fishermen reported by various studies differ significantly. The objectives set in SAR do not seem to have achieved by the TFP as benefits that have gone to the fishermen are too meager even to be near to the intended benefits. The Kua owners seemed to be the most important beneficiaries as they had harvested considerable stocked fishes. This had also been reported by the local key-informants and even fish traders who sold more stocked fish in the post-intervention period. The full-time fishermen had suffered most during the 3 month ban period as they had no alternative sources of income. Many of them had to survive by disposing up their household items. The review of different reports have clearly shown that the production of stocked fish had increased during the project implementation period.

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