World Bank
Government of the People's Republic of Bangladesh

Gumti Phase II
Sub-Project Feasibility Study

DRAFT FINAL REPORT

ANNEX G

SOCIOLOGY AND PUBLIC PARTICIPATION

June 1993

Mott MacDonald Limited
in association with
Nippon Koei Company Limited
House of Consultants Limited
Desh Upodesh Limited

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ANNEX G - SOCIOLOGY AND PUBLIC PARTICIPATION

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G.1 Introduction

Based on the Terms of Reference for the revised feasibility in Gumti Phase II sub-project which stipulates "identifying and evaluating alternatives to fulfil regional development objectives in a cost effective manner in maximizing the net present value of aggregate consumption benefits and employment", Annex G presents the key demographic and socio-economic parameters and the achievement of a bottom up approach to participatory planning exercise.

Related to the objectives it is also specified that "fulfilment of the objectives should minimize any regressive effects on the poorer population's income and welfare and/or adverse impacts on the physical environment". To address this issue the need assessment of the concerned population was performed and is a part of the social impact assessment which is followed by targeted programs emanating from the local people, Government and non-Government institutions.

In preparing the report, constant attention focused on the on going and completed FAP studies considering the best approach to bring up the opinions of directly concerned people. To structure in a comprehensive manner the following steps have been undertaken:

- The profile of the project area was analysed from the available BBS data, the agro-economic survey carried out at the beginning of the study and the data collected during the earlier study in 1988.

- Design of a methodology for participatory planning for identifying the water related problems and its remedy in order to coordinate all the disciplines for assessing the best solutions.

- Group Discussion throughout the project area to gain knowledge of the social context and the existing attitudes/behaviour of all sections of people towards the interventions identified. "To target short and long term benefit for the poor" (as stated in the FAP guidelines for participatory development need assessment) of this particular group was realized and cross checked with institutions dealing with this. Community and support programmes have been projected.

G.2 Existing Socioeconomic and Demographic Situation

In order to fully assess the demography of the area, the results of the 1991 BBS census data relevant to the Gumti project area are required. Unfortunately, this data has not yet been made available for Comilla or Brahmanbaria districts. Information is being released, but priority is being given to the coastal areas. Further attempts to obtain this data have been made until prior to writing the Draft Final Report, but, unfortunately they have been unsuccessful.

Therefore, the data presented in the following section are from 1981 BBS census though some information from the Upazila Development Monitoring Project (UDMP) was collected to have an idea of some key socio+economic variables such as income and poverty levels. Also, quantitative information was extracted from the project agro-socio-economic surveys whenever deemed relevant.

Socioeconomic information regarding the general patterns of the evolution of poverty in rural Bangladesh and on the processes of polarization which to a large extend explained the aggravation of poverty in rural areas, including Gumti Phase II, were largely extracted from a report to the Like-Minded Group published three years ago (ref. Rural Poverty in Bangladesh, coll. 1990).

G.2.1 Demography Features

G.2.1.1 General

To estimate the project area, e.g. the portion of each thana and union included in each zone, data from the "Small Area Atlas of Bangladesh, 1986" was used to identify, list and record all the unions and mouzas included within the project boundaries (cf second progress report, March 1993). In the meantime, the area, population and household number of each mouza was noted and included in a database. By summing the figures obtained for each mouza by union, then thana-wise and then on a zone-wise basis the total project area, population and household number was known. It should be noted that the figures shown for a given thana or union correspond to the portion which is inside the project and do not refer to the entire thana or union. The list of unions included in the project alongside with area, population and densities figures are presented in Appendix 1A.

At a later stage of the study, the project area was rechecked for the hydraulic model analysis. To date, the project area is 140,854 ha while the preliminary data based on mouza figures was close to 160,000 ha. Using the density figures previously calculated from mouza figures the population and household number was updated by multiplying the density of each thana by the area included in the project. The summarized results of this exercise is presented below in Table G.2.1 while detailed population figures are given scheme wise in Appendix 1B. For projection purposes to obtain 1993 figures, the consultant has assumed an annual population growth rate of 1.8%.

TABLE G.2.1

Project Area, Population, Household No and Densities

(density in no per sq.km)

Thanas	FAP 5 Data Area	1981 BBS Census Data				1993 Projection (1.8% annual growth)				2023 Projection (1.8% annual growth)			
		HH No	Density	Pop. No	Density	HH No	Density	Pop. No	Density	HH No	Density	Pop. No	Density
Brahmanpara	11,982	19,468	162	117,088	977	24,549	205	147,650	1,232	41,925	350	252,155	2,104
Burichang	9,558	17,609	184	106,496	1,114	22,205	232	134,294	1,405	37,921	397	229,345	2,400
Debidwar	6,895	12,721	184	74,527	1,081	16,042	233	93,980	1,363	27,396	397	160,498	2,328
Comilla Sadar	3,541	6,191	175	37,186	1,050	7,806	220	46,892	1,324	13,332	376	80,082	2,262
Total Zone A	31,976	55,988	175	335,298	1,049	70,602	221	422,817	1,322	120,574	377	722,081	2,258
Akhaura	2,524	3,806	151	20,727	821	4,800	190	26,137	1,036	8,197	325	44,637	1,769
Kasba	20,987	32,099	153	189,642	904	40,477	193	239,142	1,139	69,127	329	408,403	1,946
Nabinagar	3,271	6,466	198	39,018	1,193	8,153	249	49,203	1,504	13,924	426	84,028	2,569
Total Zone B	26,782	42,371	158	249,388	931	53,431	200	314,482	1,174	91,248	341	537,068	2,005
Nabinagar	20,400	32,927	161	191,800	940	41,522	204	241,863	1,186	70,911	348	413,049	2,025
Muradnagar	21,000	39,505	188	229,128	1,091	49,817	237	288,934	1,376	85,076	405	493,438	2,350
Total Zone C	41,400	72,432	175	420,928	1,017	91,339	221	530,797	1,282	155,987	377	906,487	2,190
Bancharampur	14,305	28,291	198	166,659	1,165	35,676	249	210,160	1,469	60,926	426	358,909	2,509
Daudkandi	7,623	14,883	195	87,175	1,144	18,768	246	109,929	1,442	32,052	420	187,735	2,463
Muradnagar	2,512	4,726	188	27,408	1,091	5,959	237	34,562	1,376	10,177	405	59,025	2,350
Homna	11,856	26,701	225	149,466	1,261	33,671	284	188,479	1,590	57,502	485	321,881	2,715
Nabinagar	4,400	8,676	197	49,373	1,122	10,940	249	62,260	1,415	18,684	425	106,326	2,417
Total Zone D	40,696	83,277	205	480,081	1,180	105,014	258	605,390	1,488	179,341	441	1,033,876	2,540
All Project	140,854	254,069	180	1,485,694	1,055	320,385	227	1,873,486	1,330	547,149	388	3,199,513	2,272

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G.2.1.2 Population and Household Number

Nearly 1.5 million people were living in the project area in 1981, corresponding to almost 260,000 households. Today, assuming a 1.8% annual growth rate, the population would be close to 1.9 million and the average density over 1,300 per sq.km. However, it should be noted that the validity of this assumption is depending upon the migratory patterns over the 1981 - 1991 period. It might well be that an increasing number of poor/destitute households have left the project area in search of livelihood opportunities in urban centres. However, this could not be ascertained because 1991 BBS census data are not yet available.

In October 1992 the BBS issued a document (Bangladesh Demographic Statistics) stating that the time required to double the population at present growth rates would be thirty four years. This projection was based on the data from the 1991 population census. This means that the national population will be around 220 million people by the year 2025. Assuming a 1.8% annual growth rate in the project area for the next 30 years would mean that the population would be close to 3.2 millions in 2023 and that the density would be well over 2,000 persons per square kilometre.

These population projections indicate that this enormous pressure on land has to be alleviated. In this respect any improvements in water control and management so as to increase agriculture and fishery productivity are commendable. Feeding more mouths from a more or less fixed land area is an objective to be strongly recommended; indeed at present it seems an absolute necessity if the people of Bangladesh are to enjoy food self sufficiency into the twenty first century.

With respect to gender differentials, there is a greater number of men than women in the project area (sex ratio 103.8) which is consistent with the general pattern in Bangladesh. However, this is at variance with most international figures which show that women generally enjoy a numerical superiority which is explained by the greater physical strength of the female child at birth. Cultural practices have been used to explain why this is the reverse in Bangladesh, for example, boy children being better fed and looked after immediately following birth and in times of food crises. Tables G.2.2 show population data and gender differentials on a zone-wise basis.

TABLE G.2.2

Estimated Population in the Project Area By Sex (in 1993)

Zones	Population	Male	Female	Sex Ratio
Zone A	422,817	217,244	205,573	105.7
Zone B	314,482	161,140	153,342	105.1
Zone C	530,797	268,266	262,531	102.2
Zone D	605,390	307,390	298,000	103.2
All Project	1,873,486	954,041	919,445	103.8

G.2.1.3 Population Density

The Gumti Phase II Project area has one of the highest population densities in rural Bangladesh. Returns from the 1981 BBS census show that the four zones of the project have an average of over 1,000 per square kilometre, the highest density being found in Zone D (close to 1,200) and the lowest in Zone B (931).

The distribution of unions by levels of population density gives precise indications with respect to the nature and extend of variations within the project area. Though the distribution follows a "normal" pattern, the range of variation among the different unions is quite wide, from 616 in one union of Kasba Thana (Zone B) to 1,748 in one union under Bancharampur Thana (Zone D).

The mode, the median and the average of the distribution are within the 1,000 - 1,250 class for all zones but it should be noted that a great number of unions of Zone D have a density over 1,250, indicating a relatively higher population pressure in this zone. One of the major reasons to explain this situation could be the better placement of Zone D in open water fisheries resources due to the proximity of the Meghna River and to the existence of numerous beels. In this regard, fisheries activities are offering substantial livelihood opportunities to the population besides traditional crop cultivation which would explain why a greater number of people can earn a living in this area from the same area of land than elsewhere in the eastern part of the project where cultivation is the only viable sources of livelihood.

Table G.2.3 and Figures G.2.1 and G.2.2 give a picture of the population density distribution in the project area. If the 1991 figures would have been available the changes between 1991 and 1981 could have been studied on a union-wise basis and the migratory patterns within the project area could have been investigated. Unfortunately, this was not possible within the course of the study since 1991 BBS census data for the concerned districts are yet to be released.

TABLE G.2.3

Distribution of Population densities (Zone-Wise)

Density (No per sq.km)	A	B	C	D	Total
< 500	0	1	0	0	1
500-750	0	3	2	0	5
750-1000	8	5	8	3	24
1000-1250	8	7	14	16	45
1250-1500	3	1	1	10	15
1500-1750	0	0	2	3	5
Total Unions	19	17	27	32	95

Figure G.2.1

Population Density Distribution

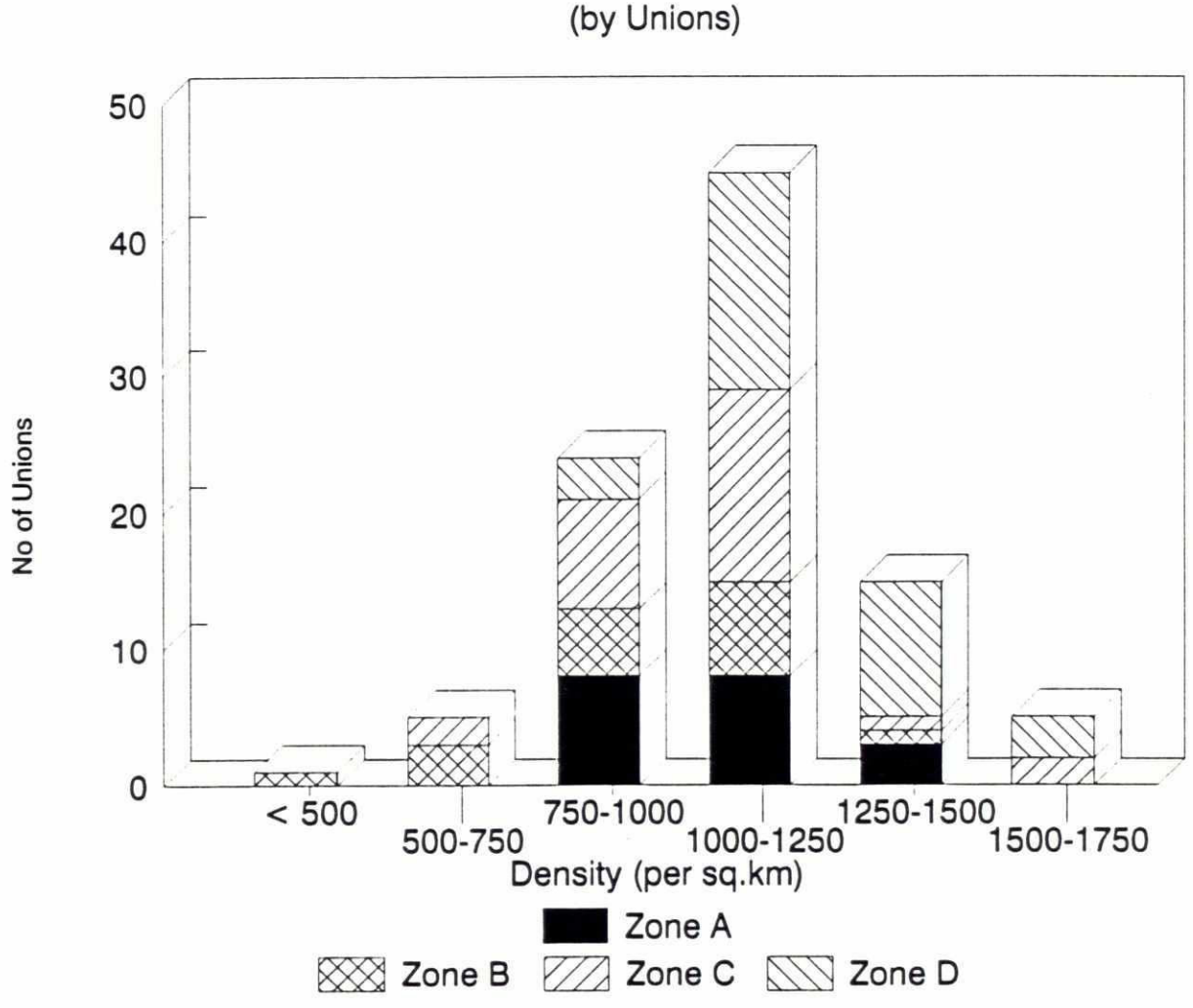
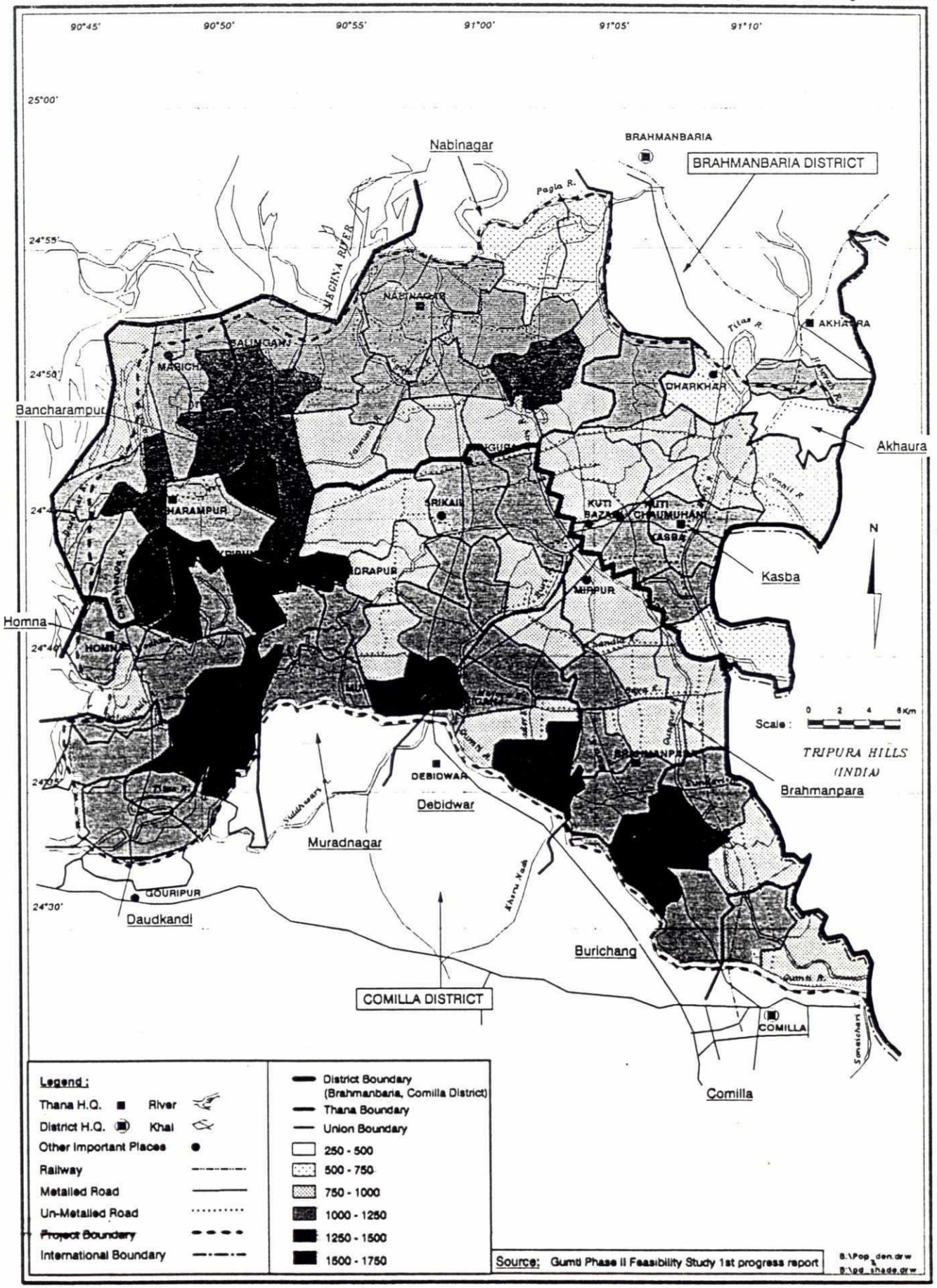


Figure G.2.2

Human Population Density 1981
Mean People/km² by Union



G.2.1.4 Household Size

The average household size in the project area is quite similar in each zone, varying from 5.78 in Zone D to 5.99 in Zone A. At the union level (see Table G.2.4) the differences are more substantial though they remain within a very limited range (from 5.2 to 6.5). The mode, median and average of the distribution are within the 5.75 - 6.00 class in each zone indicating very similar patterns in the project area.

TABLE G.2.4

Distribution of Household Size (Zone Wise)

Household Size	A	B	C	D	Total
< 5.50	0	2	2	3	7
5.50 - 5.75	2	4	9	11	26
5.75 - 6.00	10	7	12	14	43
6.00 - 6.25	6	2	4	4	16
6.25 - 6.50	1	2	0	0	3
Total Unions	19	17	27	32	95
Zone Average	5.99	5.79	5.81	5.78	5.83

G.2.2 Socio-Economic Characteristics and Poverty Trends

Some of the main socioeconomic features of each mouza (literacy, landlessness, type of house, economic activities, sanitation) were obtained from the communities series of 1981 BBS census and have been used to prepare union wise distribution tables, figures and maps. The crude union-wise data are presented in Appendix 1C.

G.2.2.1 Literacy and Education

Literacy rates and education are important indicators of the level of development of a given area and of the extent of the poverty as well. Areas characterized by low literacy rates are usually very remote, not well linked to more developed areas, such as urban centres, and poverty is usually more acute.

The average literacy rates (number of literate persons divided by the population over 5 years) in the project area vary from 15.2% in Zone D to 24.7% in Zone A. This is not surprising considering that Zone D is not only the most populated but also the most remote zone of the project, without even a road communication to the Thana headquarters (Bancharampur). A more precise idea of the distribution of literacy rates by unions is given in Figures G.2.3 and G.2.4.

Figure G.2.3
Distribution of Literacy Rates

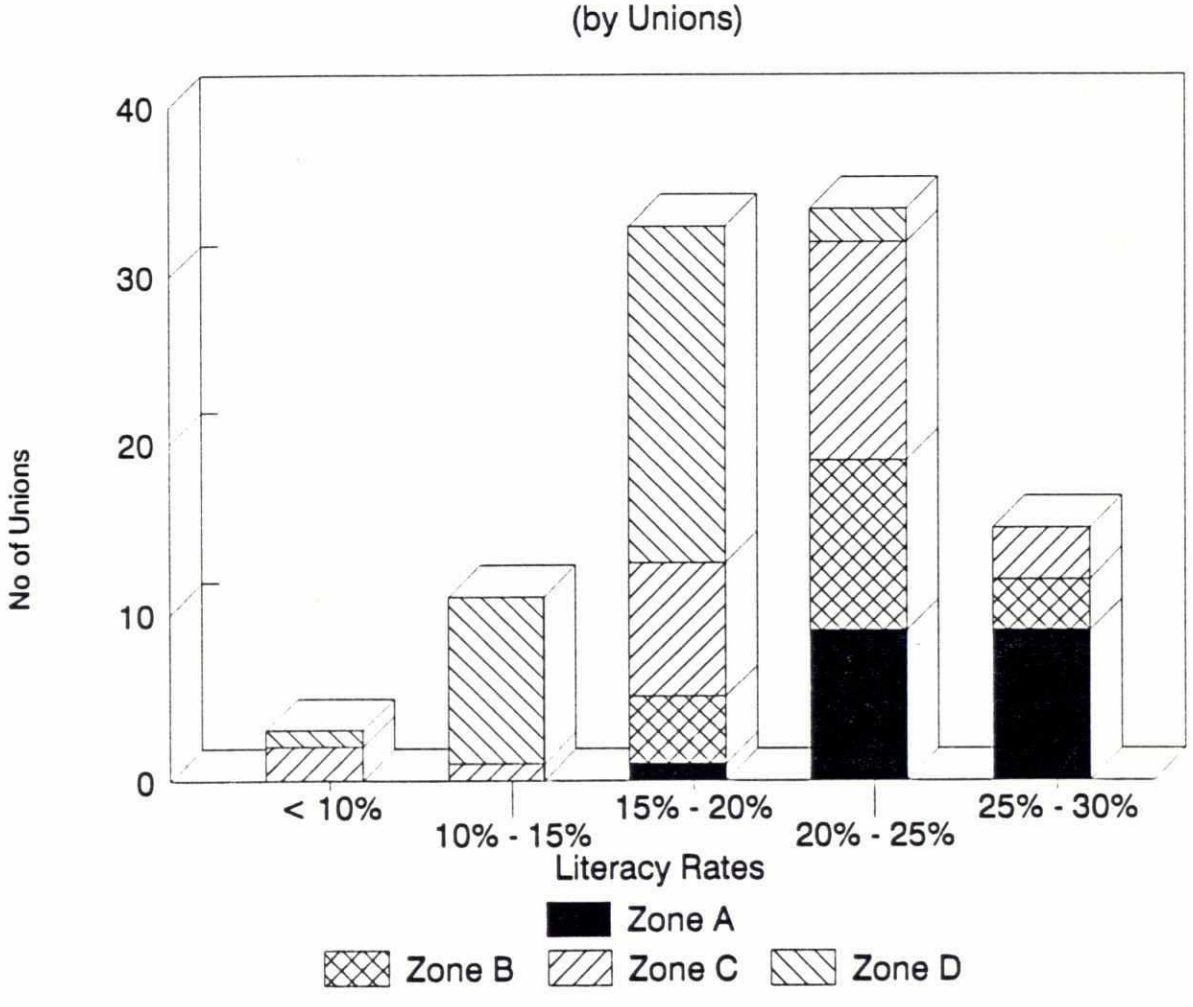
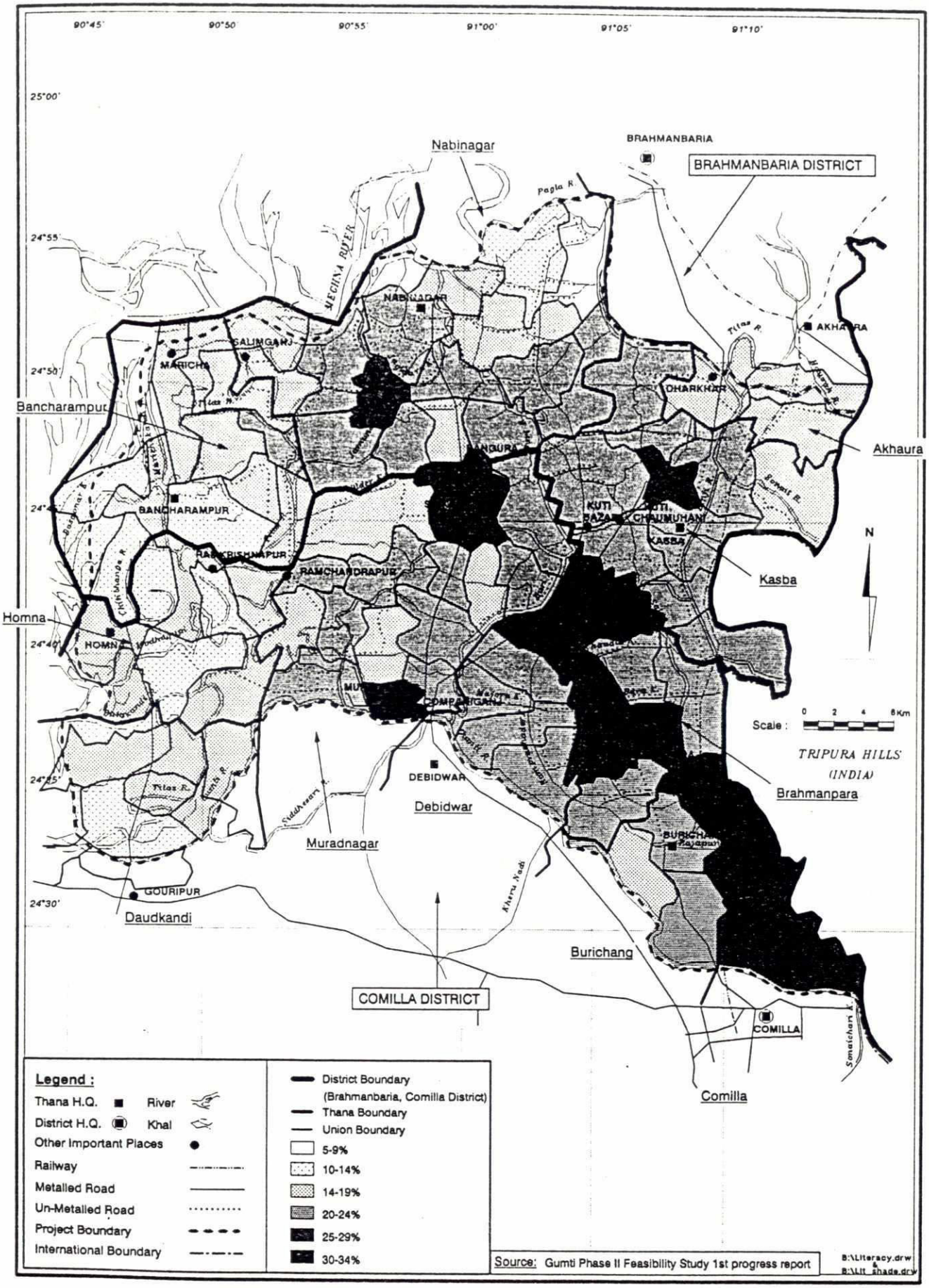


Figure G.2.4

Literacy Rate 1981



From Table G.2.5, it can be seen that the majority of unions have literacy rates between 15 and 25%, with very few below 10% and none above 30%. In the case of Zone D however, the mode of the distribution is the class 15%-20% opposed to class 20%-25% in the other zones. This highlights that low literacy is a general pattern in Zone D and not only concentrated in a few unions.

TABLE G.2.5

Distribution of Literacy Rates (Zone Wise)

Literacy Rates	A	B	C	D	Total
< 10%	0	0	2	1	3
10% - 15%	0	0	1	10	11
15% - 20%	1	4	8	20	33
20% - 25%	9	10	13	2	34
25% - 30%	9	3	3	0	15
Total Unions	19	17	27	33	96
Zone Average	24.7%	22.2%	20.0%	15.2%	19.9%

The pattern of the education levels of the population, defined as the highest class passed, is similar to the literacy pattern, with the highest rates of "no-schooling" and the lowest rate of population with secondary of higher level of education found in Zone D (see Table G.2.6).

TABLE G.2.6

Education Level of the Population (Zone Wise)

Zones	A	B	C	D	ALL
No Schooling	63.3%	67.8%	70.6%	74.9%	69.9%
Class 1 - 5	21.2%	19.1%	18.5%	16.0%	18.4%
Class 6 - 9	10.2%	9.5%	7.9%	6.4%	8.2%
Secondary and More	5.2%	3.6%	3.1%	2.7%	3.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

The higher number of educated persons in Zone A can be explained by its proximity to Comilla Town. Overall, it seems that the levels of literacy and education is decreasing with the increase in communications difficulties and with the increase in poverty levels.

The latest assumption is supported by the fact that in spite of all the school development efforts made in the last decades, the rate of student enrolment at schools at all levels has been steadily falling over recent years (BBS, socio-economic indicators of Bangladesh, 1981). This decline may have been caused by the increasing inability of the vast majority of the population, particularly the rural population, to send their children to schools because of the expence involved. Also, deepening poverty obliges parents to force their children into wage employment at an early age so that they can contribute to the family income.

G.2.2.2 Housing and Sanitation

To assess the socio-economic position of a household, the type of its dwelling unit as well as the source of its drinking water are useful indicators. Assuming that these basic facilities are improving with the increase in the level of household income, an idea of the social inequality prevailing in the area can be obtained by classifying the households according to the type of material of the roof of their dwelling units. Also, the importance of the number of households which do not have access to potable drinking water will give a good picture of the extent of the sanitation and health related problems.

Surprisingly, as shown in Table G.2.7, the proportion of households with the roof of their houses made of straw/bamboo is high in Zones A (57%) and B (55%) and much lower in Zone C (40%) and Zone D (22%). This seems to indicate that, though Zone C and D are much more remote, less educated and more crowded, a greater number of households live in better houses than in Zones A and B. This could mean that household income is higher, probably due to the substantial fisheries resources existing in those areas as opposed to the eastern part. In addition, public participation meetings held in Zone C indicate that many people work overseas and send much of their earnings back home to their families.

TABLE G.2.7

Percentage of Households by Tenure and Roof Material of their Dwelling Units

Zones	Owned House	Bamboo
Zone A	96.1%	57.2%
Zone B	93.6%	54.8%
Zone C	97.5%	39.8%
Zone D	98.4%	22.4%
All Project	96.8%	40.4%

As far as the access to potable water (tubewell and tap water), the pattern is exactly reversed. Most of the households have potable water in Zone A (20% rely on surface water) while the proportion decreases to 30-35% for Zones B and C.

The situation in Zone D is much worst since nearly 46% of the households have to rely on surface water for their drinking needs. The significance of the differences among zones becomes even more evident when looking at the distribution of the proportion of households without potable water by unions as shown in Table G.2.8 and Figures G.2.5 and G.2.7. The modal class is different for each zone, varying from 10-20% in Zone A up to 40-50% in Zone D.

TABLE G.2.8

Distribution of Households Without Potable Water (Zone Wise)

% of Households	A	B	C	D	Total
< 10%	3	1	0	0	4
10% - 20%	10	2	2	2	16
20% - 30%	3	5	6	4	18
30% - 40%	2	5	11	5	23
40% - 50%	0	2	4	11	17
50% - 60%	1	2	3	4	10
60% - 70%	0	0	0	5	5
> 70%	0	0	1	2	3
Total Unions	19	17	27	33	96
Zone Average	19.5%	31.1%	35.7%	45.9%	34.9%

G.2.2.3 Income Distribution and Poverty Line

At this stage of the study, the statistics on income which are available are all from secondary sources (Upazila Development Monitoring Project) and cover only one Thana of the project area located in Zone A (Burichang). Because significant differences have been noted in the project area in each socio-economic variable analysed, Burichang Thana is very unlikely to represent all thanas as far as income distribution is concerned. Therefore, the following information is purely indicative.

Figure G.2.5

Households Without Potable Water

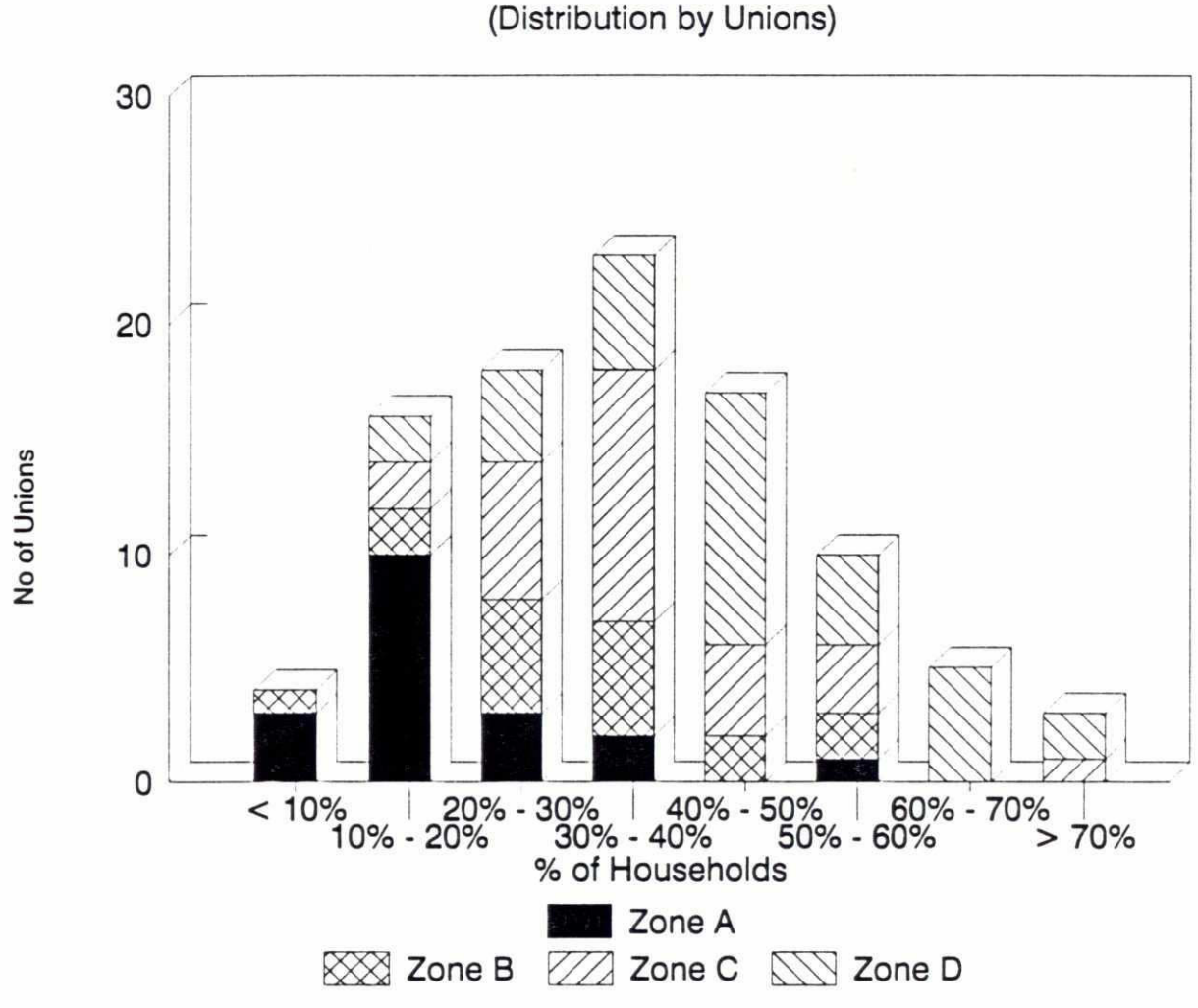


Figure G.2.6

Landless Households Distribution

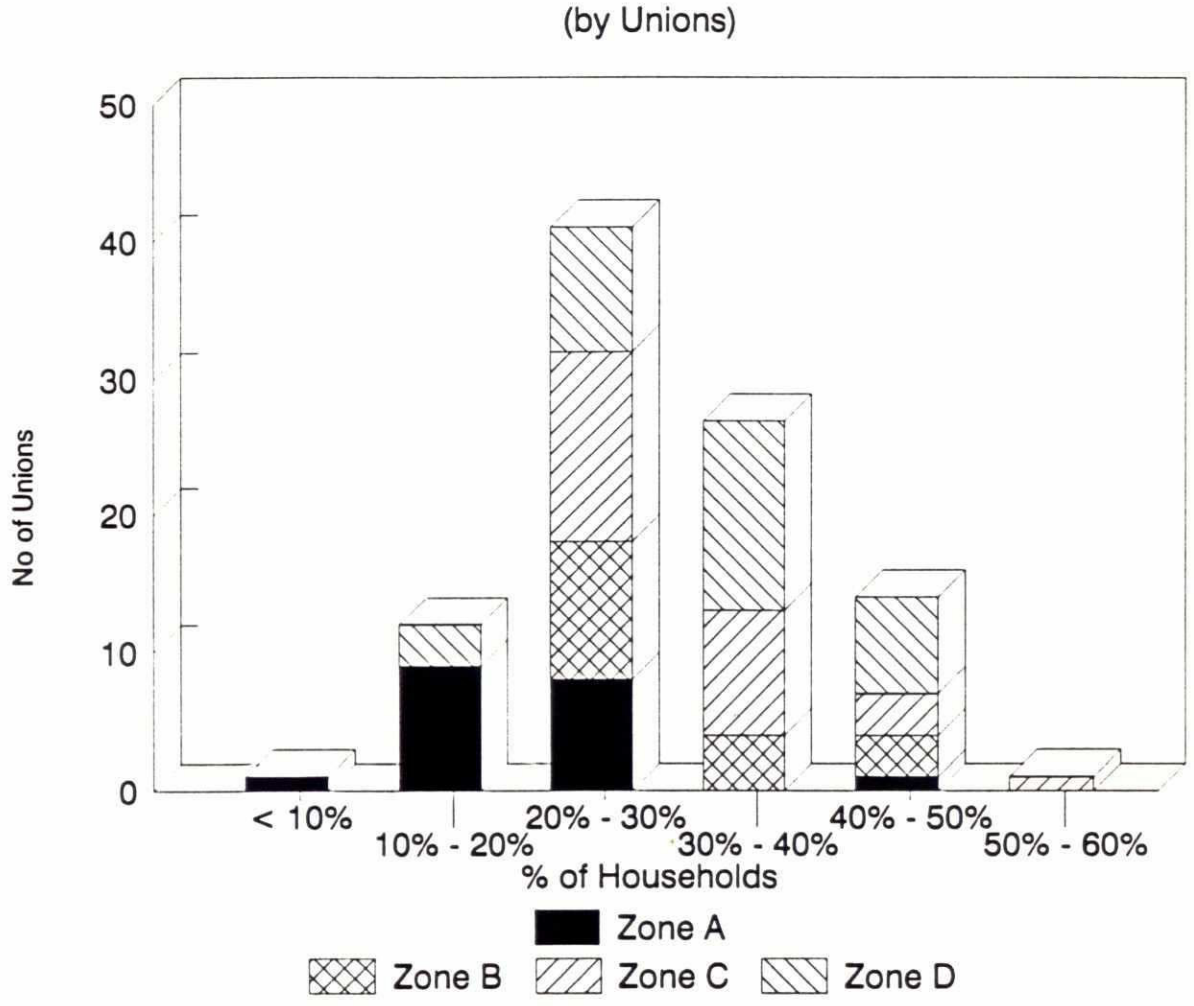


Figure G.2.7

Households with no Potable Water Supply 1981

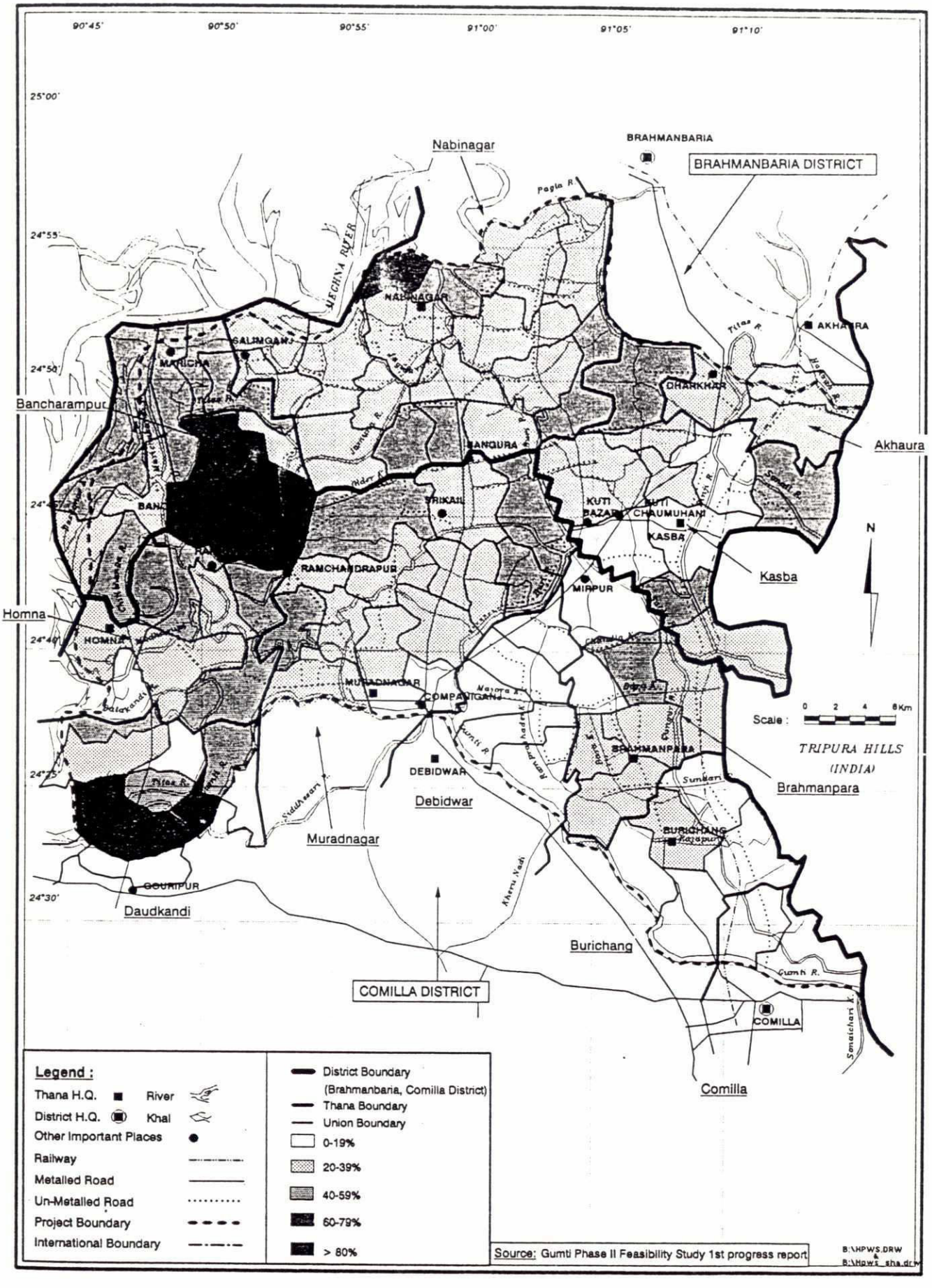
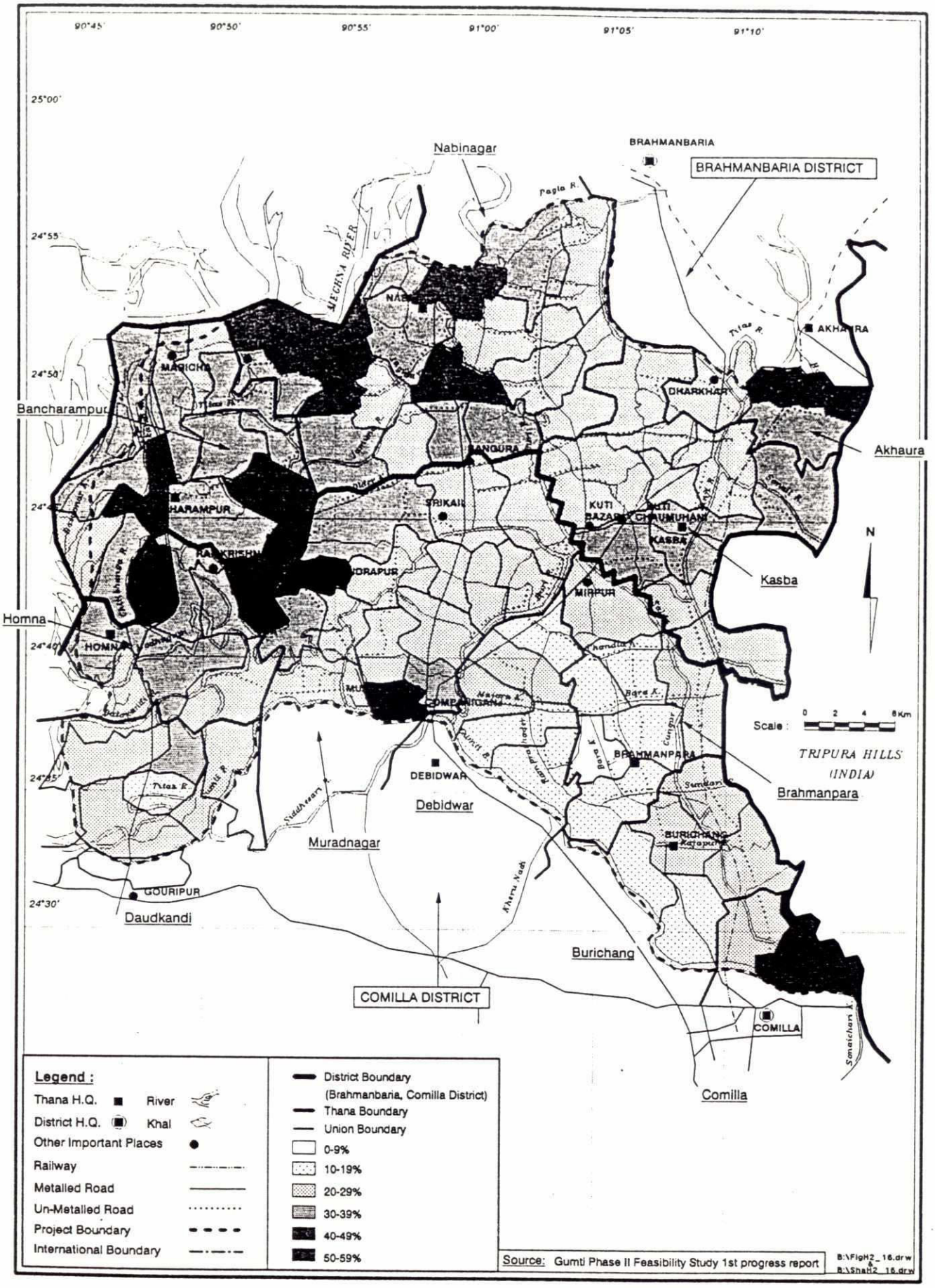


Figure G.2.8

Proportion of Population Landless 1981 (< 0.05 Acre)



As shown in Table G.2.9, the income distribution in Burichang closely follows the average pattern of the overall country with a majority of households earning less than 3,000 Tk per month. The incidence of such an inequitable income distribution on the extend of poverty is straightforward and it is estimated that 50% of the households of Burichang Thana (43% in Bangladesh) live below the absolute poverty line as defined by a joint WHO/FAO expert group. This means that the average per capita daily intake of calories in these households is below 2122 kilo calories and 48 grams of protein.

The poverty line expenditure was calculated by the Household Expenditure Survey (HES, 1989) by relating per capita calorie intake to the per capita expenditure for different expenditure groups, and then estimated the required level of per capita expenditure for the calorie line (2122 k.cal).

The results show that, in rural areas, the per capita poverty line was Tk 370 per month (1988-89). Assuming an average household size of 5.5, this would mean a monthly household expenditure of Tk 2,035 or Tk 25,000 per annum.

TABLE G.2.9

Distribution of Monthly Household Income

Income Group	Burichang % of HH	Bangladesh % of HH
< 1000	13.0%	13.0%
1000-2000	24.0%	22.9%
2000-3000	26.0%	25.9%
3000-4000	14.1%	16.1%
4000-5000	5.2%	6.3%
5000-6000	3.7%	4.0%
6000-7000	3.7%	3.1%
7000-8000	3.1%	2.6%
8000-9000	2.6%	2.4%
> 9000	4.7%	3.8%
Average	2,981	2,766

Source: UDMP (1992)

G.2.2.4 Land Distribution and Landlessness

The most important factor causing rural income inequality is the pattern of land distribution and access. Agriculture being the mainstay of the rural economy, the size of owned land is the most crucial factor in determining employment of family workers and, hence, of family incomes. The amount of owned land is strongly correlated to the level of household income and landownership distribution is therefore a key variable to explain the disparities in income distribution among rural households. Land ownership is not only a key-determinant of the economic position of household but also of its place within the patron-client relationship system which determines the access to government supplied resources.

In the study, the land ownership distribution has been ascertained based on a sample of households drawn out of the land tax list. This approach bears several limitations and the results should be used with great caution. However, using data from 1981 BBS census it has been possible to assess the extend of the landlessness phenomenon within the project area. Table G.2.10 gives the distribution of landless households while distribution graph and map is given in Figures G.2.6 and G.2.8.

TABLE G.2.10

Distribution of Landless Households (Zone Wise)

% of Households	A	B	C	D	Total
< 10%	1	0	0	0	1
10% - 20%	9	0	0	3	12
20% - 30%	8	10	14	9	41
30% - 40%	0	4	9	14	27
40% - 50%	1	3	3	7	14
50% - 60%	0	0	1	0	1
Total Unions	19	17	27	33	96
Zone Average	20.6%	31.1%	32.7%	33.6%	30.2%

In 1981, around 30% of the households living in the project area owned less than 0.05 acre (5 decimals) of agricultural land and are therefore considered as landless. This average figure hides significant variations among zones (21% in Zone A, around 32% in Zones B and C and 34% in Zone D). Only one union (in Zone A) had less than 10% of landless households while 15 unions are above the 40% level, mainly from Zone D.

G.2.2.5 Activity Status and Employment

Beyond the base of land ownership, the other essential source of income in rural areas is employment of varying type and duration. Accurate and recent employment statistics are difficult to find. However, within the data contained in the population census activity rates can be calculated at the union level.

The activity status of the population can be measured by the "Refined Activity Rate" which measures the proportion of economically active population (persons either working or looking for work) among the population. In Bangladesh the age of working is taken as 10 years and above, as per BBS standard.

In the project area, the rate stands at nearly 40% though slight differences occurred among zones with variations ranging from 37.5% in Zone A to 42.8% in Zone D. These differences become clearer when analyzing the activity status at the union level. The modal class for Zones A, B and C is 35-40% while it increases to 40-45% in the case of Zone D, as shown in Table G.2.11 and Figure G.2.8.

TABLE G.2.11

Distribution of Refined Activity Rates (Zone Wise)

Activity Rates	A	B	C	D	Total
< 30%	0	1	0	0	1
30% - 35%	4	1	5	0	10
35% - 40%	13	8	14	11	46
40% - 45%	1	6	7	16	30
45% - 50%	0	1	0	4	5
> 50%	1	0	1	2	4
Total Unions	19	17	27	33	96
Zone Average	37.5%	38.6%	38.7%	42.8%	39.8%

The higher participation in economic activities observed in Zone D could mean that children of the zone are entering in the active population earlier than in other areas due to the following three phenomenona:

- employment opportunities are greater due to fisheries, so the incentives to become active is higher than in areas where cultivation is the major source of activity
- lack of educational institutions in the zone which will mean that household heads have less incentives to send their children to schools

- widespread poverty which would explain why the poorest households are mobilizing their children for wage employment earlier than in other zones.

The last point can be supported by the fact that the percentage of the active population engaged in crop cultivation (self-employment and wage employment combined) is much lower in Zone D (51%) than in other zones (65% to 71%). In this zone, a larger part of the active population is engaged in other economic activities which might probably be less remunerative than crop cultivation. This would therefore explain why household heads of the poorest strata have to mobilize more members to sustain their livelihood than in other areas.

In the project area as a whole, crop cultivation provides employment to more than 60% of the economically active population and is therefore the economic activity which absorbs the larger majority of the active population.

However, as shown in Table G.2.12 and Figures G.2.9, G.2.10 and G.2.11, significant variations among zones and unions have to be noted, particularly in Zone D where the importance of cultivation is significantly lower than elsewhere in the project area.

TABLE G.2.12

Percentage of Economically Active Population Engaged in Crop Cultivation

% of Active Population	A	B	C	D	Total
< 30%	0	0	0	2	2
30% - 40%	0	1	0	5	6
40% - 50%	1	0	6	6	13
50% - 60%	2	1	3	8	14
60% - 70%	2	5	7	9	23
70% - 80%	13	5	9	2	29
80% - 90%	1	5	2	1	9
Total Unions	19	17	27	33	96
Zone Average	70.5%	71.1%	64.9%	51.5%	62.9%

When looking at the importance of non-crop cultivation (in fact mainly fisheries), the situation changes, with Zone D on the top and Zone A at the bottom, as shown in Table G.2.13. More detailed information on the occupational structure and employment patterns (wage employment versus self-employment) would have been available from the District 1991 BBS census, but as already mentioned, the results are not yet published.

Figure G.2.9

Activity Rates Distribution

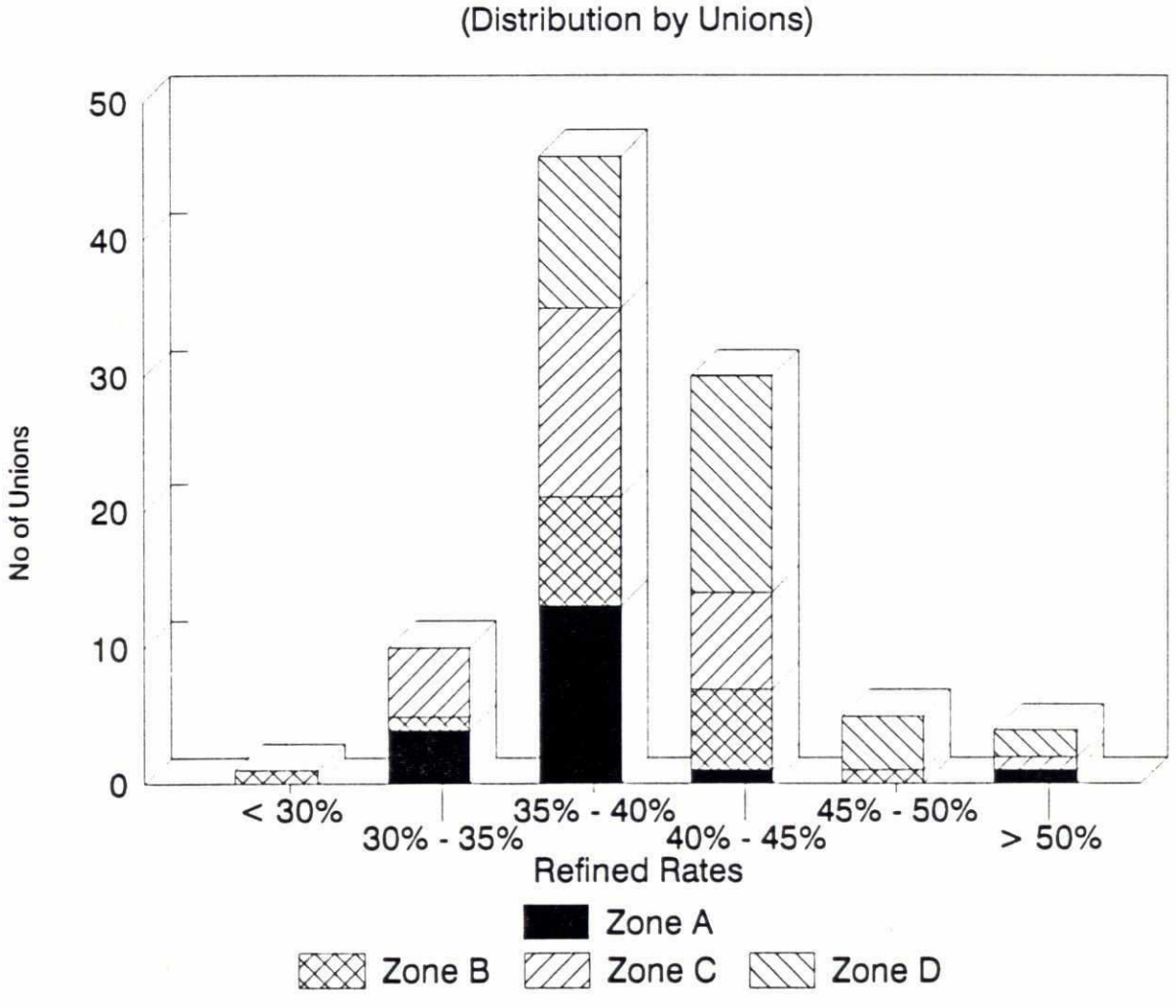


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Figure G.2.10

% of Active Population Employed in Farming

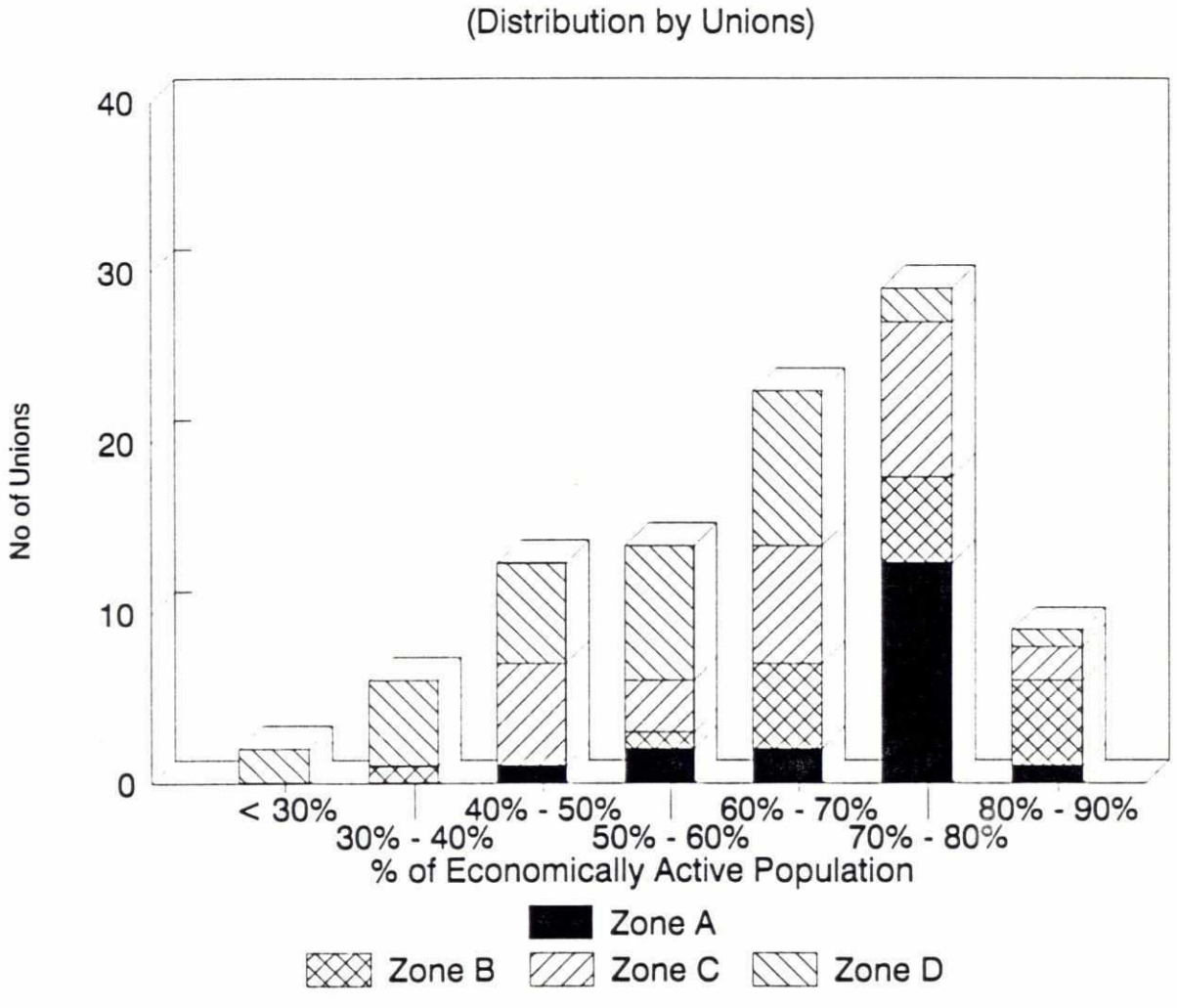


Figure G.2.11

Proportion of Population with Agriculture as Their Primary Economic Activity 1981

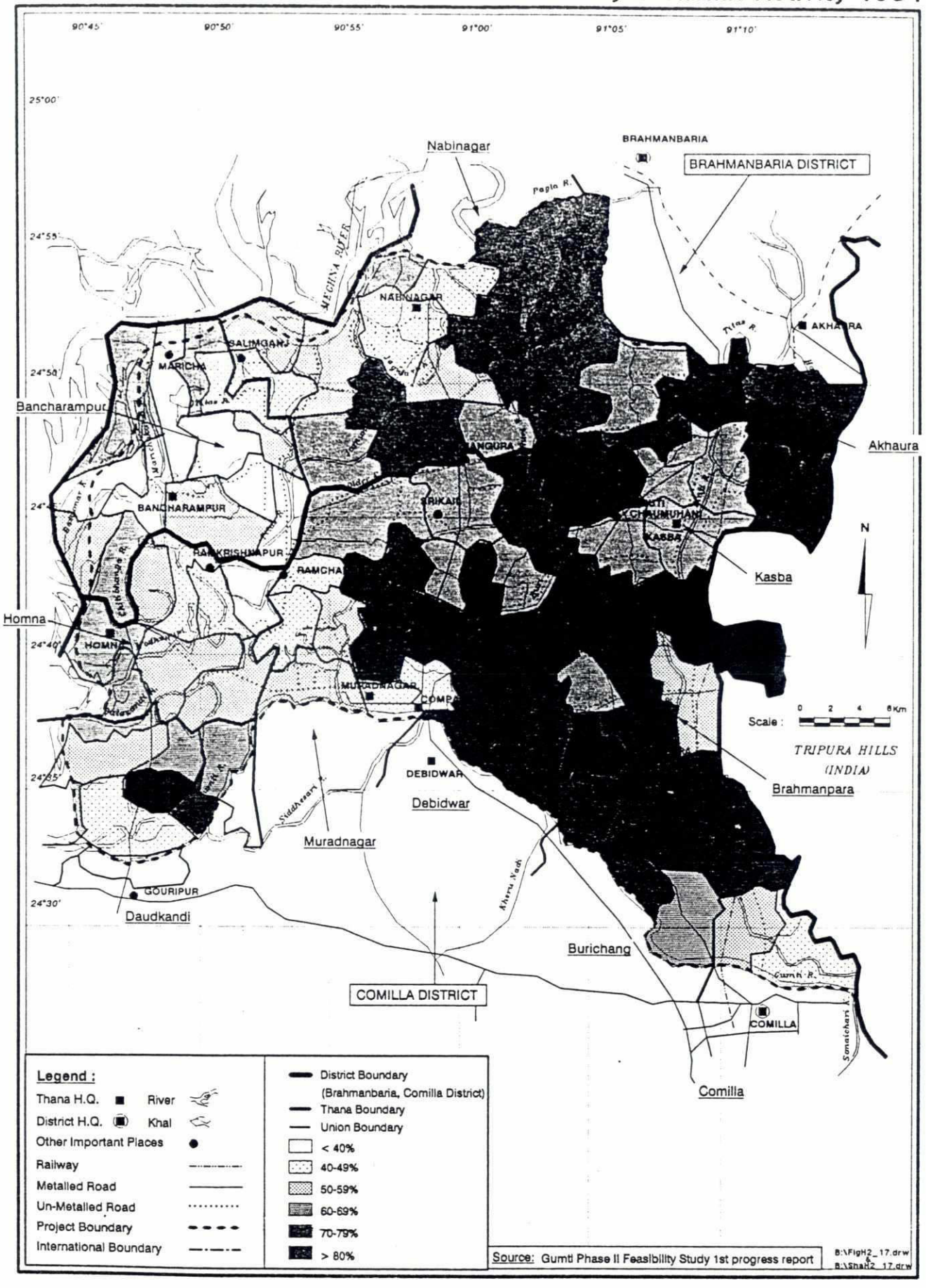


TABLE G.2.13

Percentage of Economically Active Population Engaged in Non-Crop Cultivation

% of Active Population	A	B	C	D	Total
< 1%	13	9	12	6	40
1% - 2%	2	2	9	4	17
2% - 3%	3	3	1	8	15
3% - 4%	1	3	1	7	12
4% - 5%	0	0	1	6	7
5% - 6%	0	0	3	0	3
> 6%	0	0	0	2	2
Total Unions	19	17	27	33	96
Zone Average	0.9%	1.5%	1.6%	2.8%	1.8%

The changes over time of the importance of cultivation as the main source of employment opportunities in rural areas have also to be ascertained to obtain some ideas on the likely future trends. Table G.2.14 presents the numbers of employed persons in agriculture by district between 1961 and 1981. For the purposes of comparison the two adjacent districts to Comilla are included.

TABLE G.2.14

Agricultural Workforce by District 1961 - 1981 (000s)

District	1961	1974	1981
Comilla	1,901	1,331	1,088
Noakhali	801	643	505
Sylhet	1164	1232	1,057

Source: (BBS : 1984)

Available information suggests that agriculture employment opportunities are declining while other rural employment opportunities are not growing fast enough to cope with the growth of rural labour force. Indeed nationally between 1961 and 1981 there has been a decline in the extent of employment for those employed (less days worked per year) while the crude activity rate for agricultural work fell from 34.2 to 26.5% of the total population (BBS ibid).

This took place against increased agricultural productivity and a population which was increasing by over 2% per annum. While it is accepted that definitions of economic activity may have changed over the period, the drop in agricultural employment opportunity is drastic for landless people. It goes a long way to explaining the large numbers of rural men who now migrate permanently and seasonally to urban areas for work.

Recent BBS figures taken from the census of 1991 indicate that between 1985 and 1990 the in-migration rates in urban areas rose from 17.2 to 31.2 per thousand population. Increases in rural employment as a result of the Gumti Phase II Project may assist in stabilising the rural population and prevent the social and psychological strain imposed on families in the absence of the male household head.

In terms of agricultural wages for day labour, Comilla District has experienced low levels of remuneration for a number of years. Table G.2.15 compares these levels with the two adjacent districts for four months of 1988/89.

TABLE G.2.15

Average Agricultural Day Wage 1988-89
(Taka per Day Without Food)

District	Comilla	Noakhali	Sylhet
September 88	30	45	35
October 88	32	46	33
January 89	29	41	34
February 89	30	48	36

Source: (BBS : Statistical Bulletin April 1992)

These figures show similar differentials for the entire period of 1988 and 1989 although in fact Comilla District is the richest agricultural area of the three. The same statistical source shows cropping intensities of Comilla (190.46), Noakhali (172.15) and Sylhet (162.51) for the same period.

G.2.2.6 Conclusion

The picture drawn above shows that poverty is the dominant feature of life in the project area though Zone D seems to be in a more extreme position than others zones. This would become more evident when looking at Table G.2.16 where the list of unions considered to be the most disadvantaged ones. The criteria used to identify those unions where poverty is more widespread are the following:

- literacy rates inferior to project average (19.9%);

- % of households without potable water superior to project average (34.9%);
- % of landless households superior to project average (30.2%);
- refined activity rates superior to project average (39.8%); the participation in economic activities is higher because children have to work earlier to contribute to the survival of the households;
- % of active population employed in cultivation inferior to project average (62.9%); there is less employment in the farming sector which is usually the main source of rural income. With less employment opportunities in agriculture, the poor have to get engaged in non-formal activities which are usually less renumerative.

TABLE G.2.16

List of the Most Disadvantaged Unions in the Project Area (1981)

Thana	Unions	Zone	Mouzas	Area	HH	Population
Muradnagar	Dakshin Ramchandrapur	C	8	2985	2503	14157
Bancharampur	Dakshin Bancharampur	D	4	3048	2535	14674
	Salimabad	D	14	6229	4469	26443
	Pachim Saifullah Kandi	D	9	3746	3283	19409
	Purba Daria Daulat	D	10	4997	3634	21432
	Purba Rupasdi	D	2	3296	2828	17376
	Pachim Rupasdi	D	4	2297	2744	16252
	Purba Tejkhali	D	8	3337	2965	17479
	Purba Ujan Char	D	4	3209	2584	14700
Homna	Purba Chandar Char	D	8	3287	3574	20984
	Pachim Chandar Char	D	8	3969	2872	16333
	Purba Ghagutia	D	17	2934	3443	19058
	Pachim Ghagutia	D	6	3386	3384	18325
Total			102	46,720	40,818	236,622

G.2.3 Household Survival Strategies

The purpose of this section is to give an outlook on the way of life of typical social groups, what they do and how they manage to survive. Here, only a few cases have been presented while a more complete picture is given in Appendix G.IV.

G.2.3.1 Landless and Marginal Landowners

- **Akhaura, a Group of Landless**

To earn a living they depend solely on the sale of their labour force, either through wage employment or sharecropping arrangements. They are not self-sufficient and are dependent upon others (kin, relatives or friends) for their survival during crisis periods. Throughout the year, they generally eat only one meal of rice in the evening and some chapatti in the morning and for lunch.

In this area, boro is the dominant crop though some farmers grow aman during the monsoon period on high land. However, they mentioned that the cropping intensity is low compared to Burichang and Comilla Sadar areas so employment opportunities in agriculture are limited throughout the year except during the planting (December-January) and harvesting (April-May) seasons of boro crops. During these periods, most of them migrate to Comilla to get employment.

When the boro harvesting season ends, during the monsoon period (until september) some of these landless are engaged in fishing in the surrounding open waters, either occasionally or as a member of professional societies. Also, some of them find employment in the water transportation sector as boat drivers (engine boat) or as a boat puller (non-engine boats).

From October to November, they find employment in the harvesting of aman crops either locally (very limited) or by migrating to other areas where the cultivation of aman is more significant than in Dorkhar. Also, some remain in the village living on occasional petty labour for landlords (aman) and on borrowing money from money lenders or relatives.

Low employment opportunities in the agriculture sector is their main problem. The reason they give is that only one important paddy crop is grown in the area (boro) during the dry season while limited cultivation of aman takes place during the monsoon. Moreover, the occurrence of flood frequently damages the standing crop reducing further the scope of employment.

Drainage congestion during the monsoon is also quoted as an issue since it is perceived as a limiting factor for the cultivation of an aman crop and for the generation of additional employment opportunities in the agriculture sector.

For those who are holding some land through sharecropping, one of the problems is linked with the unfairness of the sharing arrangements. For instance, it was reported that the sharecropper has to pay 90% of the inputs costs while he get only 50% of the total production. This is just enough to cover the renumeration of his own

labour and there is hardly any profit which could be used for further investment. Moreover, due to frequent flood occurrence at the time of harvesting (due to drainage congestion), quite often crops are damaged and they have to bear heavy losses.

- **Muradnagar, Marginal Farmers**

These people depend mainly on farming to sustain their livelihood. They grow 1 paddy crop from May to October (B aman) which provides a sufficient quantity of rice to feed their family during 2 to 3 months per year (November to January). In the winter season, on a small portion of their land, they grow some rabi crops such as wheat, sweet potatoes, mustard, pulses and chilies.

However, they mention that for the last five years, they could get only one aman crop in 1992. The other years (1988-1991), either flood waters or the breach of Gumti embankment have caused serious damaged to their crop, sometimes completely.

Throughout the winter season (from December to May) most of them migrate to other districts to work on others's land for the planting and harvesting of boro crop (December and April-May)) and to get engaged in earth cutting schemes. They mentioned that they would like to cultivate boro but there is gas in the ground so shallow cannot be used to extract ground water.

During the monsoon they are occasionally fishing in surroundings floodplain and khals, they work as boat paddlers or they do petty trading business.

In a "normal" year (without crop damages) food crisis occurred during the monsoon, just before harvesting of their aman crop (October-November) when the cash earned in the winter season as labour, runs out. During that time they eat about one meal of rice for 1 or 2 days and regularly some chapatti in the morning (wheat). The rest of the year they can afford two meals of rice per day.

They identified six major problems which are constraining their livelihood:

- damages to their aman crop due to breach of Gumti embankment (like in 1991) and monsoon flooding.
- irrigation from groundwater is not possible (gas) and surface water irrigation cannot be done due to insufficient water in Asia river. Therefore they cannot cultivate a boro crop.
- lack of employment opportunities due to non availability of rural cottage industries in the area.
- scarcity of fuel wood in the surroundings areas which force them to buy firewood in the market. This problem is very acute since Bagrabad gas station is only 2.5 km away and their village is not connected. They feel some resentment.
- heavy transportation costs due to poor communication network (roads) in the dry season.

- houses and amenities are deteriorating since they do not have sufficient income to maintain them
- the sharecropping system is unfair, 50% of the harvest goes to the landlord while almost all input costs are born by the sharecropper
- not enough institutional services from GOs (bank, agriculture extension, BRDB) and NGOs as well.
- ploughing costs are increasing because there are less and less farmers who are financially able to maintain draught animals. Therefore the number of ploughing animals is decreasing.

■ **Bancharampur, Chandan Beel, Hindu Fishermen**

They belong to the most deprived categories of the rural society, depending solely on fishing for their survival. These people depend mainly on beel fisheries to sustain their livelihood. They fish throughout the year though the most productive period is from October to December, at the time and water recedes to the River Titas. They have organized a "society" comprising around 400 members which has obtained the fishing rights for Chandan beel (65 Ha) through lease arrangements with the revenue department of Brahmanbaria district (ADC revenue).

The duration of the lease is three years and the official lease amount was 18,600 Taka, but adding a "hidden" cost, the total amount finally paid was 30,000 Taka for the entire three years period. To raise such an amount, the society collected individual subscriptions from each member. Some fishermen have been organized into groups by Comilla-Proshika and could obtained small loans to pay their contributions.

The fishermen mentioned that their most difficult period was before the monsoon (March to May), at a time when less fish is available in the beel. During this time, they cannot afford more than one meal of rice per day since their cash income is reduced to an average of 10 to 15 taka per day as compared to 30-40 taka per day when the season is good (post-monsoon). Fish catch is sold either at local markets (small fish) or to Narshindi (for urban markets) for bigger fish.

For these people, the problems which are constraining their livelihood are linked with:

- the reduction of fish availability in the beel due to the construction of a sluice gate on the southern canal linking the beel with the Titas River.
- the lack of capital to invest in fish drying and processing activities which could significantly raise their income and generate employment.
- the management system of open waters. Access to fishing rights is controlled by middle men (jotedar) who take the biggest share of the production leaving to the fishermen the strict minimum for their survival.

- **Bancharampur, Sonarampur, Weavers**

In Sonarampur village, a total of 120 households are involved in weaving activities and there are around 200 weaver labourers (threaders). They purchase raw materials from Narshingdi or Narayangonj from local market and sell their products in the same places to wholesalers.

This activity provides them work for about 8-9 months per year. During the monsoon, the work is severely hampered because thread processing cannot be done. As a result, during this slack period, some weavers migrate outside the area for work as wage labour (Narshingdi - Dhaka - Narayanganj).

The usual pattern of work is that all family members, including children of more than eight years old, are involved. All the women, besides the required time for cooking, participate too. They helped in preparing thread materials. However, only the adults of the family sit on the weaving machine.

Previously the price of thread was cheaper while the price of cloth was roughly the same as today. The margin was good while now the profit made out of this work is gradually shrinking. Another reason is that in the past, the weavers used to form a co-operative society through which they could get bank loans and purchase thread at a controlled price. At present, this cooperative is defunct due to outstanding overdue loans and the weavers loose their capability to control the price of thread.

Due to difficulties, like lack of funds, non-availability of thread at the right time at the right price and no credit facilities, some weavers left the profession and some work on others' weaving machines on a daily basis. The wage is around 40 to 45 taka per day without food for a 12 hours long day of work.

G.2.3.2 Larger Landowners

- **Kasba, small to medium farmers (0.4 Ha to 1.6 Ha)**

They mainly depend on farming for their livelihood which provides them sufficient food reserves for approximately 5-6 months. From May to September, they feed their family on the paddy (boro) they have produced using surface water irrigation.

Later, some of them survive by producing aman paddy, vegetables (rabi crops) or by engaging themselves in petty business such as paddy and vegetables trading. Occasionally, to face some unexpected hardships such as crop damages due to flood, they will work as daily labour and/or will request loan/help from relatives.

Fisheries resources from Sonai river have drastically reduced due to overfishing on the Indian side of the river. Whenever water levels are low, Indian fishermen use poison (such as derris root) to kill and catch fish and only a few are able to cross the border alive. As a result, capture fisheries is no longer an important source of livelihood in this area and more and more farmers are engaged in pond culture to supplement their income.

Throughout the year, they usually eat three meals a day, two of rice and one of wheat, though from October to November they generally face some difficulties and have to reduce their intake to only two meals a day, one of rice and one of wheat.

Today, surface water from Sonai is the only source of irrigation for the cultivation of paddy boro and other rabi crops. However due to gradual siltation, the storage capacity of the river decreases and dries up completely in February-March. Therefore, they rely on rain water for the end of the boro season (March-April) which is highly unpredictable.

In March-April too, depending upon years, they have to face flash floods which can cause serious damages to their boro crops. For instance, one farmer reports that after 3 hours of heavy rain, the water level in his field could raise by as much as 3 to 6 feet.

To develop groundwater irrigation, the farmers mentioned that they have no financial capabilities to purchase deep tubewells; since electricity is not available, the cost of irrigation will be high anyway. Moreover, obtaining credit from institutional banking systems is very costly and troublesome and, as a result, nobody goes to the bank.

In addition, these farmers complain that neither government services (agriculture-fisheries-livestock extension services, BRDB, health) nor NGOs services are available in their village. For instance, education facilities are not available though a primary school building has been constructed. However no teacher has ever been appointed. As a result, children of the village have to walk about 6 km per day to attend school in a nearby village. Needless to say that many of them do not attend.

- **Nabinagar, farmers who hold between 0.5 to 1.5 acres**

These people depend mainly on farming to sustain their livelihood. They grow 1 paddy crop from April to July (aus) which provides a sufficient quantity of rice to feed their family during 4 to 5 months per year (until October). During the monsoon they usually stay at home and are occasionally fishing, pulling boats or doing petty business or work for landlords.

In the beginning of the winter season (November-December) they have to obtain cash in order to purchase the inputs required to cultivate rabi crops (seeds, fertilizer, water, plough..). They quite often borrow money from village money lenders at a rate of 8% to 20% per month. Though they feel that this is very expensive, they find it more easy than going to the bank where they have to deal with unknown persons.

Throughout the winter season (December to May) they work on others's land for the planting and harvesting of boro crop (December and April-May) and look for employment, either locally or in other areas, in earth cutting schemes. They mentioned that they would like to cultivate boro but they have not enough capital to invest in irrigation facilities.

Food crises occurred twice a year, before harvesting of their aus crop (June-July) and when their reserves of aus run out (October-November) and job opportunities (for boro planting or earth cutting) are yet to be available (November-December). During that time they eat one meal of rice a day in the evening and some chapatti in the morning (wheat). The rest of the year they can afford two meals of rice per day.

These farmers identified four major problems which are constraining their livelihood:

- damages to their aus crop due to flood occurrence in the latter growing stage of the cultivation season (just before harvesting).
- frequent scarcity of rain water during the sowing period (April)
- lack of employment opportunities due to over population living in the area
- not enough institutional services from Government (bank, agriculture extension, irrigation facilities...)

Farmers also dilike the fact that the access to credit to finance the capital required to purchase irrigation facilities (tubewells) is not easy because they have not enough collateral to offer to banks and that rates of interests charged by moneylenders are too expensive. Moreover, they complain about the prohibitive hidden cost of taking a loan from the institutional banking system, which is highly prohibitive.

G.2.4 Women's profile

G.2.4.1 Women's Role

Women constitute about half the population of Bangladesh. A full-fledged study in an area needs the analysis of the role and involvement of both men and women. In rural Bangladesh most of the women's activities are performed within the homestead area and not remunerated. Their activities are often considered as 'housework' and not given proper emphasis at national level.

In B.B.S only the people engaged in productive market oriented activities of agricultural and non-agricultural works are counted as labour force.

Tables G.2.17 and G.2.18 describe the situation.

TABLE G.2.17

Economic Activity of Population by Locality and Sex 1981

Locality	Population 10 years and over	Employed persons						House wives		Not Working	
		Male		Female		Both Sex		House hold work			
		No	%	No	%	No	%	No	%	No	%
Comilla	45,17,233	16,32,0363	36.13	75,519	1.67	17,07,555	37.80	17,62,627	38.80	10,57,051	23.40
Burichang	1,27,061	46,623	36.69	2,209	1.74	48,832	38.43	47,675	37.52	30,554	24.04

Source: BBS.

TABLE G.2.18

Percentage Distribution of Population 10 Years & Above Male & Female by Economic Category

Zila	Thana	Population (age 10+)		Economically Active			Not economically active
				Total	Employed	Unemployed	
Comilla	Burichang	Male	62.66	48.53	47.30	1.23	14.13
UDMP - 1990		Female	62.31	4.80	4.38	0.42	57.51

In Burichang Thana only 1.74% female over 10 years old are employed persons, whereas 37.52% are engaged in household work. But in UDMP 1990 data on Burichang showed that 57.51% are considered as not economically active. Women doing household work are not counted as economically active population.

In such a situation, what the women generally do in the household and family can be studied for the better understanding of them in society. The guideline and definition derived from the work of Moser and Levy at the London School of Economics Development Planning Unit are followed. According to the guideline, the four types of gender roles are as follows:

- **Reproductive Role** - child-bearing and rearing responsibilities and also look after all family members, specially elderly people living within the homestead and also domestic work.
- **Productive Role** - work done for pay in cash or kind and also the work with potential exchange value.
- **Community Managing Role** - It is related to the extension of reproductive role i.e. the provision and maintenance of scarce resources for family needs,i.e. water,health care,education etc.
- **Community Politics Role** - Activities undertaken at the community level relating to national or local politics and village level decision making.

G 2.4.2 Main Objectives

The main objectives of enquiring about women in this project area are stated below:

- What do the women of different categories do, i.e. their productive and reproductive role.
- Household management, especially in crisis periods.
- Women's felt need and project intervention.

G 2.4.3 Methodology

To attain the objectives both qualitative and quantitative data were needed from the project area. For qualitative data **focus group interview** and **in-depth case studies** were taken. Public participation data from sixteen women's group meetings (four from each zone) also helped to get primary information regarding the area and also about women. Data from women's survey questionnaires and from 1st round public participation meetings were verified and clarified whenever necessary from the second round meetings. Thus the reliability of the data were justified.

N.G.Os and Govt. organizations working for women's welfare are also consulted in order to ascertain their present and future plans.

For quantitative data 100 women household's heads were interviewed with **structured questionnaires** by two trained female interviewers from October to December 1992.

Women's Survey:

It was decided before that from each of the agro-ecological zones 24 households would be selected on the spot for interview. Afterwards from Zone A, 28 households were selected instead of 24 households. Another 72 households were interviewed from the other three zones i.e. B,C,and D. Male interviewers interviewed farmers,landless,and fisheries people in different households in the same villages. Zone-wise different categories of women interviewed are given in Table G.2.19.

TABLE G.2.19

Zone-wise Different Categories of Women Interviewed

	Zone A		Zone B		Zone C		Zone D		Total	
	No	%	No	%	No	%	No	%	No	%
Fisherman group	3	11	4	16	2	8	2	8	11	11
Landless (0-0.05)	5	18	3	13	6	26	6	25	20	20
Marginal (0.05-0.5)	5	18	8	33	7	29	6	25	26	26
Small (0.5-2.5)	8	28	6	25	7	29	7	29	28	28
Medium & large over 2.5	7	25	3	13	2	8	3	13	15	15
Total	28	100	24	100	24	100	24	100	100	100

Source: Women's Survey (Gumti Phase II)

G 2.4.4 Activity and Employment

Women's nature of activities and employment patterns are very much influenced by the socio-economic condition of her family and by the main occupation of her husband.

It also depends on the domestic cycle she is in, i.e. whether she is a daughter of the house, mother or mother-in-law.

"It is generally estimated that holdings below two acres are insufficient to secure the livelihood of an average peasant family." Kirstan.

Table G.2.20 below shows that in Burichang Thana 6.2% rural households have more than 2.5 acres of cultivable land per family which is far below the national average of 15.9%.

TABLE G.2.20

Percentage distribution of households owning land by holding size:

			Acres	Acres	Acres	Acres	Acres	Acres
Zila	Thana	No land	0.01-0.04	0.05 0.49	0.50-0.99	1.00-2.49	2.50-7.49	7.50+
Comilla	Buri-chang	2.20	11.80	36.40	19.00	24.40	5.20	1.00
Bangla-desh		7.23	11.94	32.52	12.05	20.39	12.97	2.90

Source: UDMP 1990.

The situation will not be very different in other parts of the project area.

While analysing women's roles and activities it is found that in all societies roles are to a great extent determined by gender.

In rural Bangladesh, men generally play productive and community politics role. They play some role in community management as well. But women on the other hand play two vital roles, i.e. reproductive and productive. They also volunteer community management role, e.g. volunteer in helping pregnant woman in her delivery.

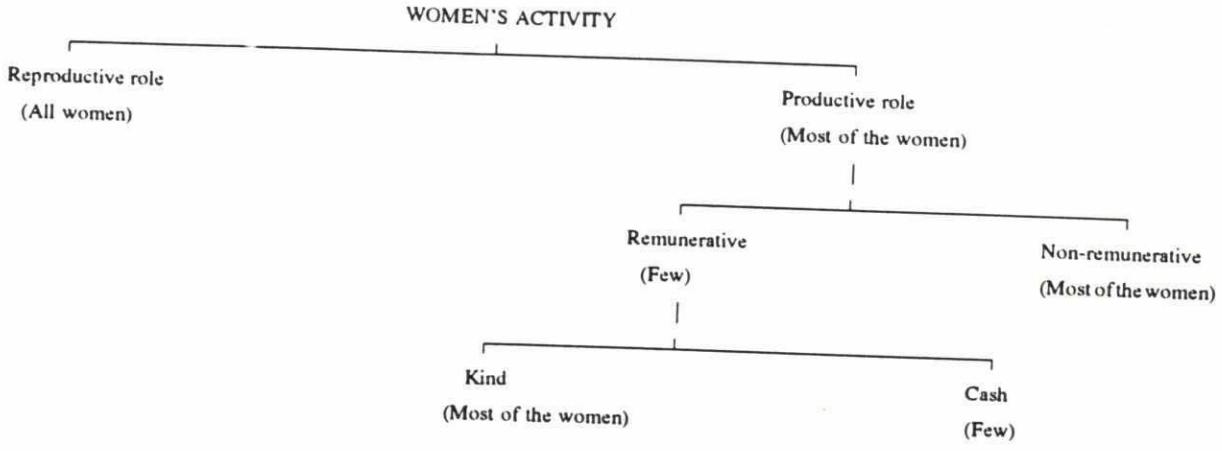
Here is the list of reproductive and productive roles generally performed by the women of Gumti Phase II Project Area.

TABLE G.2.21

Women's Roles and Activities

Reproductive Role	Productive Role
Rearing children and caring sick and older members of the household. Tending and feeding livestock and poultry. Collecting leafy vegetables (sak) from own or communal land, collecting fuel, collecting drinking water. Preparation for cooking, i.e. cutting vegetables, fishes etc, pasting spices, cooking, feeding all family members, cleaning utensils, house and homestead area, grazing and milking cows and goats, final checking of the household before going to bed.	Bari-based post harvest work like threshing crops,(in some parts of the Gumti Project area wheat is being threshed by women), winnowing, parboiling, drying and storing crops. Making and repairing fishing nets, drying fish, making handicrafts, poultry and livestock raising, kitchen garden,mending and repairing the households (specially mud houses), making 'Chira' 'Muri' (flat rice and puffed rice) for sale, picking chilies in the field. **Note:** Now a days husking of paddy is done in rice mills.

Who does what and why? ?



It is evident from group discussion and from survey done on women that most women are engaged in non-remunerative productive work and only few in remunerative work. Detailed information from the women's survey is given in Table G.2.22 and G.2.23 below:

TABLE G.2.22

Non-remunerative productive activities

ZONE	A		B		C		D		#%	%
	#	%	#	%	#	%	#	%		
Work in own field and garden	26	92.9	23	95.8	23	95.8	24	100.0	96	96.0
Handicrafts/weaving/sewing	0	.0	1	4.2	30	.0	0	.0	1	1.0
Poultry/livestock/fishpond	15	53.6	17	70.8	22	91.7	22	91.7	76	76.0
Make nets/dry fish	1	3.6	0	.0	0	.0	0	.0	1	1.0
Post-harvest work	20	71.0	17	71.0	16	66.0	16	66.0	69	69.0
Collect/make fuel	18	64.3	15	62.5	20	83.3	24	100.0	77	77.0
Total	28	100.0	24	100.0	24	100.0	24	100.0	100	100.0

Source: Women Survey, Gumti Phase II

TABLE G.2.23

Remunerative productive activities

ZONE	A		B		C		D		#%	%
	#	%	#	%	#	%	#	%		
Poultry/livestock/fishpond for sale	6	75.0	2	50	0	.0	0	.0	8	40.0
Process food for sale	0	.0	1	25	0	.0	0	.0	1	5.0
Work outside the home	1	12.5	1	25	5	100.0	3	100.0	10	50.0
Other (Service)	1	12.5	0	0	0	.0	0	.0	1	5.0
Total	8	100.0	4	100.0	5	100.0	3	100.0	20	100.0

Source : Women survey, Gumti Phase II

All women are doing domestic/family work in the household i.e. participate in the productive role. 96% of women work in own kitchen garden (Table G.2.22). If nothing else, they will grow pumpkins, chilies, beans etc by the side of their house. The second highest participation is in poultry or livestock raising and third highest is inpost harvest work. 69% of women heads of household are engaged in this work.

In the women's survey, only 11 women reported working outside their homes for remuneration. Among them only one has a salaried job, while the remaining 10 are employed in domestic and post harvest work. Eight out of ten women are paid in kind i.e. 1/2 to $1^1/_2$ kg. rice depending on the nature of the work. There is no hard and fast rule as regards food. Among these 10 women four are heads of the household.

Among the poor and destitute, those who do not have family and kin group support, go for work in other people's houses.

The Case of Anwara of Gazipur village can be illustrated here (Appendix-2C). She is the deserted wife of a landless labourer who does not own a house. Her brother is a landless labourer too. She does not have a father or any kin group to support her. For her survival she has to work in other people's houses. She and her ten year old daughter live on whatever little she earns.

But in the **case of Asia** (Appendix-2A), we find a different picture. She is a widow and has three children. She was also the wife of a landless labourer but has a hut of their own to live in. She lives surrounded by kin group. She gets work in their houses, though it is not a very regular income. She is supported by a VGD card arranged by the local U.P chairman. She also gets help from her parental home during crisis periods.

There is not much work available in the villages. Only a few middle income and rich farmers employ women to work for them during post harvest or in other times of the year as required by them.

As husking is done in mills, many women of the poor category complained of their loss of provision for work. The cases of Asia and Anwara give a picture of seasonal work availability, duration, and remuneration pattern.

TABLE G.2.24

Probable Availability of Post Harvest Agricultural work

Seasonal work availability	Duration	Remuneration Pattern
Processing of rabi crop in Chaitra.	About one month (Chaitra).	Two meals and 1½ Kg wheat or rice per day.
Processing of irri crop.	About a month (from middle of Baishak to middle of Chaitra).	One 'sari',one maund of paddy,and three meals a day; or in some places 1½ Kg.rice and three meals a day.
Processing of aus.	One month (from middle of Asar to middle of Sraban.)	½ Kg.rice or 1½ Kg. paddy and food twice.
Taking out fibres from jute.	7/8 days in Ashwin and Kartik.	About 12 to 16 Tk. per day.
Processing of aman.	About two months (Agrahayan to Paus).	Two meals and 1¼ Kg. paddy or 1 Kg. rice per day.

Irri boro harvesting time is the busiest time for all the farmers and labourers as well.

Women work for remunerative work because there is no scope of work for educated and skilled women in the village. Poor women work for their survival in the society to satisfy their practical gender needs. The little they earn, they spend on food and other bare necessities of household expenses.

G 2.4.5 Role in Household Management

In a single household the female household head had to manage all the household activities. Female children help in the housework while the male children help in collecting fuel, fishing, shopping etc.

In joint households, or in the household where more than one adult female member live, they share the work. Generally the young women (i.e. daughter or daughter-in-law) cooks, collects drinking water, and looks after the family. As far as possible, they prefer to keep women inside the homestead and do not let them work outside for remuneration (Appendix G.II).

Management of major problems and issues faced by women in the household :

- **Drinking water:**

Dry season scarcity of drinking water, water for bathing and also for domestic purposes are considered as one of the major problems in Gumti Phase II project area. In the dry season they often put some water on the top of hand tubewells in order to prime them and then pump to get water. Thus there remains the possibility of drinking water pollution.

Among the 16 sample villages of public participation, only in Kalikapur of Zone A, women stated that they collect drinking water from DTWs during the dry season.

In Zones C and D, drinking water is great problem. According to Gumti Public Health Nutrition Study Report, 86% of drinking water source in Zone D is from tube wells. The remaining 14% drink khal water. From the public participation meetings, it is gathered that in Moholla (Zone C) there are 10 tubewells for drinking water in the village with a population of six thousand. About 40% of people take river water for drinking. In October, 1992, out of 50 people affected by diarrhoea, 10 died.

In Zones A,B,and D, when the water of rivers and khals dry up, tubewell water is used for washing and drinking purposes by some. (**Source:** Gumti Public Health Nutrition Study Report.)

Among the women interviewed in the Gumti project, poor women who do not own a tubewell stated that:

> "During dry season, rich people who have tubewells use tubewell water for domestic use, bathing, washing etc. The little water left in ponds and khals, becomes very dirty. We have no other alternative but to use it. We bring water for domestic purposes early in the morning because water remains clean at that time. Rich people do not object to us bringing drinking water from tubewells but do not allow us to use the water for other purposes. We and our children get skin diseases as we use dirty water of ponds and khals."

- **Fuel Collection**

Farmers those who grow jute, keep some jute-sticks as fuel for cooking purposes. After harvest, straws of wheat, pulses, mustard and paddy are dried and used for fuel. Dried up branches of trees, dried leaves of trees and bamboo sticks are generally used as fuel in the Gumti area.

In Zones A and B, poor children, men and some women collect firewood from the bushes and jungles of the Indian hills. Most of the fuel collected by women and children are used for their own consumption. If they can collect enough, they sell a share and spend the money on household consumption. They have to do that for survival.

In Zone D, women and children, often menfolk also, help to collect water hyacinths for fuel. Women dry them and keep them in a stack in one side of the homestead to use as fuel. Poor women use water hyacinths along with a few jute and 'Dhancha' sticks as fuel (Appendix-2D). Often poor women after finishing post harvest work request the farmer's wife and get some straws of crops from them for fuel.

Women are anxious to collect and store some fuel before the monsoon sets in. During monsoon periods, fuel is costly and it is difficult to get hold of dry ones. From the women surveyed it was found that 64.3% of respondents in Zone A, 62.5% in Zone B, 83.3% in Zone C and 100% respondents in Zone D collect and store fuel in preparation for the monsoon flood.

- **In time of crisis during short term migration of household head:**

Women have to manage the household when the household head migrates to find work. Among one hundred samples households, 17.9% of respondents in Zone A and 12.5% in Zone B migrate to find work, spending an average of 83 days per year away from home. No migrants were found among the sample taken from Zones C and D. How the migrant's family manages during these periods are stated below in Table G.2.25.

TABLE G.2.25

Management of Household by Migrant Family

	ZONE			
	A		B	
	#	%	#	%
With money sent by household head	5	100.00	3	100.0
Borrow from relative, neighbours, money lenders	2	40.00	0	0
Sale of assets (e.g. livestock)	2	40.00	0	0
Total:	5	100.00	3	100.0

Source: Women's Survey, Gumti Phase II

All the migrants send money to their families left behind. What the poor labourers send are not sufficient and at the same time, not very regular. At the time of crisis women often borrow money from shops, from relatives, or money lenders with 10% interest per month.

In Bandharampur village of Daudkandi (Zone D), it is reported (Appendix-2D) that when the household head stays outside home for 10-15 days for work, he then arranges with a shop to provide the necessities required by his family in his absence. If paid in cash, the price of rice is Tk.45 for 5 Kgs. But in credit it is Tk.47 for a week or two.

Amena of Bandharampur told:

> "To speak the truth we cook only once in the afternoon, when our husbands are out. I have given Tk.6 to a villager to buy 'Sidal'(dried and processed 'Puti' fish). With that 'Sidal' I manage nine days."

In slack season also they cook only once in the afternoon. When the children are about 7 to 8 years old, they catch fish from the 'khals' and flood plains. In the working season they sometimes cook twice. General pattern is to cook once in the afternoon and take the left over food in the morning. Most of the time they cook 'sak' collected from the field to have with rice.

- **Female headed households**

In Zone A, **Asia** (Appendix-2A) related that Kartic, Asar, and Chaitra are the most critical times for her. She sends her two sons to her parental home when she is unable to cope. As she is living within well-off kin groups, she gets help from them. She also borrows food-grains and money from neighbours.

Zaheda, a widow, mother of six, has been working in a CARE 'Rural Maintenance Programme' since 1984. Three of her daughters are now married. During the time of her third daughter's marriage, she had to give Tk.3000 as dowry to her son-in-law. She had to spend the loan taken from the R.S.S office at the time. She gets monthly salary of Tk.440 to maintain the family. To meet the social obligations and customs she had to take a loan during the last Ramadan EID festival because her newly married daughter with her husband and two other married daughters with their children came and stayed with her for a few days.

Her pay was also stopped for four months. To survive in those days, she borrowed Tk.1400 from the shopkeeper and 40 Kgs of rice from neighbours. Whenever needed she gets necessities of life from the shop on credit. She has grown vegetables on the adjacent courtyard of R.S.S office. Her children also catch fishes from flood plains and collect 'sak' and fuel whenever they can. As two of her sons regularly go to primary school, they do not get much spare time in the mornings to collect fuel,'sak' and catch fish like many other children.

Whereas **Anwara**'s (Appendix-2C) 10 year old daughter (she does not go to school) collects fuel, 'sak' and looks after the house when her mother is out at work. Anwara with her daughter have collected two maunds of paddy from the field in the month of Agrahayan in 15 days after the 'Aman' harvest. She will process that paddy in her neighbour's house with the 'Dheki' and try to manage during the crisis period.

These are the few cases of survival strategies of the female headed poor households.

■ **Preparation to face crisis periods**

The conception of saving money to meet the crisis period is not common even among well-to-do families in the village. Those who have money invest it in the business or use it to get property. For the poor, no question of saving arises as they live from hand to mouth. Though they cannot save money, the women of all categories make some preparation to face the normal natural problems of the year. Table G.2.26, below, shows what type of preparations women take for normal monsoon flood.

TABLE G.2.26

Women's Preparation for Normal Monsoon Flood

	ZONE							
	A		B		C		D	
	#	%	#	%	#	%	#	%
Collect fuel	18	64.3	15	62.5	20	83.3	24	100.0
Make khar	12	42.9	10	41.7	18	75.0	24	100.0
Preparation foodgrains or spices	12	42.9	7	29.2	2	8.3	2	8.3
Make 'alga chula'	22	78.6	23	95.8	24	100.0	24	100.0
Collect soil for mopping up	15	53.6	12	50.0	12	50.0	20	83.3
Total:	28	100.0	24	100.0	24	100.0	24	100.0

Source: Women's Survey, Gumti Phase II

In all the zones of the Gumti Phase II area, women have their 'chula' (hearth or oven) outside their rooms. Whenever it rains, they cook inside the kitchen or living room. Except for a few well-to-do people, nobody has a separate kitchen. Women prefer cooking outside the room as they use different types of straws and leaves as fuel.

Except the above preparations, they have to mend the houses and give support to the small plants around the house. Often poor people borrow money to mend theier house, to save it from collapse by the gusty winds and rain of the monsoon period.

G.2.4.6 Women's Required Needs and Project Intervention

People's needs and problems of the Gumti Phase II Project area have been identified through public participation meetings, discussions with women, visit to different households, in-depth case studies and focused interview. Reports and published materials on Gumti area are also consulted.

Flash floods and dry season paucity of water and drainage problems are considered as the first and foremost problems in the eastern part of Zones A and B by both men and women.

Lack of regular income earning activities are felt to be the major problem everywhere in all zones of Gumti Phase II project among both educated and uneducated women.

Dry season water scarcity both for drinking and for all other domestic purposes are considered to be a great problem to women. Water borne disease like diarrhoea is common in all parts of the project area. Every year men, women and children die of it. Poor women and children suffer from skin diseases as they have to use dirty water during the dry season.

There are primary schools in most of the villages. Primary education is free for all and education up to grade eight is free for female children. However, not all are going to school and when they do, attendance is irregular. In poor households they help the family the way they can for survival. In Daudkandi it is seen that boys are weeding fields with their parents and the girls carrying the weeds home to feed livestock. Children pick chilies with female members of the household. Remuneration is Tk 20 per maund of chilies. One girl studying in Class VI in Daudkandi told that education is not free because they have to pay an examination fee, buy 'khata' pencils etc. Thus when a family cannot even manage to earn enough to have one meal a day, how can they send children to school.

Facilities for health, sanitation and family planning are not enough. In remote areas there is no facilities. Where such facilities are available, the programme is not always successful. In Bandharampur village, from discussion with a group of women (Appendix-2D) it is clear that women are aware of family planning methods and necessity of it. But proper communication between the field worker and the target group is not yet established. There is an information gap. Family planning field workers have to be motivated and trained properly so that they can communicate with the target group properly and follow up the programme successfully. Illiteracy and poverty are the two other factors impeding welfare programmes.

Road communications are told by many to be a great problem.

In many places women were informed about the feasibilty planning of Gumti Phase II project. They welcome the project interventions in Zones A, B and C and the proposal to keep most parts of C and D zone without any embankment.

The people of Zone D are very much against the intervention of embankment in their area. Because poor people of those areas catch fishes in flood plains, khals and rivers for about five to six months in a year. They are against any intervention which will disturb fish and navigation.

The main objective of the project is the utilization of water resource and increase of crop production and thus improve the socio-economic condition of the area.

With the increase of crop intensity, all categories of people will be benefitted. Farmers, especially the rich farmers, will be more benefitted.

Poor men and women will get some jobs in re-excavation of canals, rivers and also in embankments. Wherever possible people want the re-excavation of rivers and big canals by dredger. If canal re-excavation is done by human labour, it has to be under the supervision of donor agencies, so that the work is done properly.

Poor women are ready to work in earth-cutting. Road and embankment maintenance and road forrestation programme.

Bangladesh Rural Development Board, N.G.O. and R.S.S. are working in some parts of project area. Their support can be asked to organise the women in anti-poverty activities, i.e. income generating activities through poultry, livestock raising, handicrafts, etc. and social welfare activities like health, sanitation and education.

G.2.5 Rural Development Institutions

G.2.5.1 Bangladesh Rural Development Board (BRDB)

In the early sixties the Bangladesh Academy for Rural Development (BARD), Comilla initiated its experiments under the leadership of Mr. Akter Hameed Khan, on rural institutions suitable for rural development. Through its experimentations BARD showed that co-operatives can be used not only for the limited purpose of credit operation but these institutions can be used as the main vehicle for attaining the objectives of rural development.

Under this system, the primary co-operatives with comprehensive purpose were organised at the village level and these village primary co-operatives (KSS) were federated at the Thana level into the Thana Central Cooperative Association (TCCA). Agriculture being the mainstay of the economy for the people of rural Bangladesh, most of these primaries were of agricultural type and membership coverage was mainly for the people dependent on agriculture. The TCCA provided them support in the form of credit, banking and training, and coordinated the supplies and services of the departments to make them available to the member primaries in time.

After repeated evaluation of the Comilla programmes during the decade of the 60s, the government decided for nationwide replication through an implementing agency known as Integrated Rural Development Programme (IRDP). This organisation actually start functioning in 1972. IRDP gradually grew in size and expanded its coverage and activities. During the 80's the co-operatives under the IRDP were reorganised into Bangladesh Rural Development Board (BRDB) and covered almost all the thanas of Bangladesh.

The Comilla model when it started had four main components:

- Rural Works Programme (RWP) to deal with flood embankment, roads, bridges, culverts, schools and other physical infrastructural investments.
- Thana Irrigation Programme (TIP) to provide for the mechanised irrigation of farm lands.
- Thana Training Development Centre (TTDC) to render services, such as training of farmers and officers, supplying of inputs for agricultural production and joint collaboration among elected leaders, govt. officers and villagers for rural administration and development.
- Krishi Samabay Samiti (KSS) - Thana Central Co-operatives Association (TCCA) to serve as a forum for primary village co-operatives and Thana central association in securing services and extension needed for agricultural growth.

These four components are interlinked conceptually and interdependent functionally to develop and support a harmonious uplift of rural conditions.

The democratic principles drawn from Comilla model initially were characterised by weekly, monthly and annual general meetings and regular savings, training and input supply.

The rapid replication in all thanas, with the emergence of the BRDB in the 80's as the major government agency in Rural Development, brought BRDB to coordinate multi sector projects due to number of foreign aided projects. Ultimately, components like loan operation went partly to banks, management of irrigation and supply of inputs to BADC, rural works programme to the Ministry of Food and LGRDC.

The main activities of BRDB reported are:

- Organisation of cooperatives (KSS, BSS, MBSS, MSS, B.Gr.)
- Capital formation (share and saving deposit)
- Credit operation (short term loan, term loan, RPP loan)
- Marketing programme (mukta marketing program)
- Training programme
- Irrigation programme (sale of irrigation equipments)
- Rural Poor Programme (production and Employment Programme)

On the other hand BRDB has fielded a high number of rural development programmes for the landless male and female (BSS and MBSS) to accelerate development in both farm and non-farm sectors. These programmes followed many principles of the Comilla model and aimed at developing income generating activities with credit support. The most prominent are localised and funded by international donor agencies, for example in the project area in Homna and Daudkandi thana (Model Rural Development Project-1). Extension of the programme under MRDP-2 is being prepared for Nabinagar, Debidwar and Bancharampur.

Some of the achievements of BRDB in the project area have been collected and presented (as per the statement given by the Deputy Director) thana-wise in Table G.2.27.

The result which is found in the BRDB report shows a high number of cooperatives formed and a large amount of accumulated saving. However, comments have been made on the quality of the organisation.

From a review of socio-economic trends over 1942-88, S. Adnan and published by the BARD it reveals " In a study of village KSS groups found that, in many cases, cooperatives had become defunct and inoperative through misappropriation of credit and accumulation of overdue loans. KSS irrigation schemes had been taken over by private entrepreneurs who earn profits by making use of irrigation equipment formally allocated to KSS while paying bribes to appease the officials in the Government agencies manning the delivery system i.e. the BADC, BRDB, etc."

Comilla Model of Rural Development (a quarter century of experience) published by BARD stressed in the introduction " The BRDB - the Government agency in charge of replicating the Comilla model throughout all thanas in Bangladesh seem more busy in increasing the number of KSS, BSS and MBSS than improving their functioning. In the same vein, TCCAs may be seen as more interested in imparting training to farmers than providing or securing input supplies."

TABLE G.2.27

BRDB achievement up to Dec 92 (KSS, BSS and MBSS formed)

Name of TTCA	No of KSS	No of KSS members	No of BSS	No of BSS members	No of MBSS	No of MBSS members
Muradnagar	160	5077	29	1326	31	1318
Nabinagar	352	10347	27	1537	10	240
Akhaura	43	1363	22	768	32	831
Kasba	238	10093	23	1420	31	1047
Bancharampur	175	9529	52	2535	39	1564
Brahmanpara	119	2779	15	269	14	246
Burichang	131	5337	26	778	20	870
Debidwar	69	1972	13	244	15	368
Homna	133	6242	47	2513	18	615
Total	1420	52739	254	11390	210	7099

Source: Office of the Deputy Director BRDB. Comilla and Brahmanbaria District

G.2.5.2 Non Government Organisations

Comilla - Proshika

Comilla Proshika is an NGO concerned with human development resources, since 1976, among the rural poor. They are well established in the project area and operate through six Area Development Centres (ADCs) in nearly all thanas.

The goal of Proshika Comilla is to promote participatory , self-reliant, environmentally sustainable development of the poor to help them alleviate poverty and achieve their potential.

Their purpose and activities are as follows:

Institutional Development

Support village level male and female groups and Thana level Central Associations.
Plan and implement programs aimed at achieving the goal of Comilla Proshika.

The achievement of group member organised and saving accumulated within the project area is given in Table G.2.28.

Human Resource Development

Promote community and human development through conscientisation and social action. Support income and employment generation activities of members and groups through skills development projects and activities by improving the management capabilities Increase awareness of women's potential and facilitate their participation in sustainable human, social and economic development. The development of human resources is essentially achieved through two types of training:

- Human development to analyse the socio-economic situation and enable the participants to implement concrete programmes and creating suitable strength to alleviate poverty.
- Practical skill to improve the skills of the people involved in income generating activities

Financial Resource Development

Comilla Proshika operates a revolving fund to

- Promote saving and provide credit for income and employment generation activates, projects and programmes undertaken by members of C P groups.
- Make organised groups increasingly financially self reliant.

The economic activities generally undertaken by the members fall into different categories and include among others: agriculture poultry and livestock raising, rice husking, rickshaw pulling, vegetable cultivation, small business, fish cultivation, small and cottage industries the financial support given to those activities aimed at raising their subsistence income and making them independent of money lenders and landlords.

Environmental Development

CP has undertaken an afforestation program in all the ADCs in addition to their regular programs to respond to the national demand. The goal of this afforestation program is to create forest resources by undertaking homestead afforestation, creation of new forest and road side plantation.

The action programs to contribute to the restoration of ecological balance and conservation of bio-diversity are:

* Roadside Afforestation

With the aim of protecting the environment, maintaining the roads, supplying humus to the adjacent agricultural lands, and providing employment opportunities to the poor, Comilla Proshika is undertaking the Roadside Afforestation Programme with the help of World Food Programme in most of the thanas of the zone, including Brahmanpara, Burichang, Debidwar, Bancharampur, Nabinagar and Kasba.

The last figures released shown that as on September 1992, 27 km of road were afforested in the project area and around 28,000 saplings were planted. This means that CP has generated around 600 man-days for planting the trees and distributed 4.67 kg of wheat per day per worker. In addition, around 45 male and female workers are employed for maintenance and will receive 4.67 kg of wheat on a daily basis but for a three years period only.

* Homestead Afforestation

In order to support the efforts of the people to maintain a balance between the exploitation of natural resources such as trees and the environment. CP motivates the villagers to plant trees around their homestead.

To achieve this CP organised training programmes on seedling and nursery preparation within its working areas. As a result of this training programme, some members of the village organisation have also set up private nurseries on their own initiatives to provide a source of income for their family, as well as fulfil the demand of saplings in the locality. Within the project area the members of different groups have planted 28225 trees.

* Block forestry

To meet the demand of fire wood, furniture and also building materials as well as curtailing destruction of the forest in an unplanned way, CP counteracted this situation in identifying area on barren Govt. khas land. Within the project a vast area of khas land in two hilly villages in Burichang Thana has been demarcated for afforestation programmes.

Comilla Proshika Approach to Agricultural Development

Comilla Proshika has always attached great importance to the agricultural development since its inception. In spite of its limited resources, it has been working alongside the Government in the implementation of projects and programs aimed at agricultural development of its organised target population.

Under its Agriculture Programmes, Comilla Proshika provides credit facilities to the members of the organised institutions for the acquisition of power tillers for mechanised cultivation, irrigation assets for the expansion of irrigation facilities, and also for the acquisition of pesticide, fertilizers and other inputs required for the development of agriculture. In addition, there exists marketing programs aimed at ensuring the fair price of the goods produced by the organised farmers.

Comilla Proshika ultimate goal

CP acts as a catalyst in helping the target group to understand and analyse the dependency relations and vested interests that perpetuate poverty and all kinds of social injustices.

Providing human resource development, financial and environmental seaport C P opens avenue for the poor to stand up for their rights and promote towards sustainable development alleviating poverty.

TABLE G.2.28

Comilla Proshika coverage in the project area

Sl. No.	Area Development Centre, Location (Thana)	Total group status (No.)		Total members status (No)	Total Saving Status (Tk).
		Male	Female		
1.	B. Para	27	22	2723	1902190
2.	Burichang	13	19	1341	528435
3.	Debidwar	16	40	2281	561825
4.	Bancharampur	25	14	1838	1281793
5.	Nabinagar	34	15	2776	2297235
6.	Kasba	19	25	1982	523885
	Sub Total	134	135		
	Total	269		12941	7095363

Source : Comilla Proshika, annual report 1992

Enfants du Monde

The Rural Family and Child Welfare Project (RFWCP) of Enfants du Monde (EDM) is assisting the implementation of the Rural Social Services Scheme (RSS) in collaboration with the department of Social Services (DSS) Government of Bangladesh, since 1974.

The RFCWP clearance procedure differs from the common steps (through the NGO bureau) due to the fact that the project has been integrated into the Annual Development Plan (ADP) of the GOB since 1990. The agreement for the RFCWP has been signed by both the Bangladesh and the Swiss Government.

The RFCWP's main objective is to improve the socio-economic conditions of the rural poor families in the project villages through the following major components:

- Formation of "working groups" and Project Villages Committee (PVC)
- Construction of Social Services Community Centres (SSCC)
- Socio-Economic Schemes (SES) for income generation
  * Handicraft (HC)
  * Family Planning (FP)
  * Primary Health Care (PHC) including MCH training
  * Community Development Services (CDS) including TW and latrine installation
  * Social forestry program
  * Promotion of treadle pumps for small scale irrigation

Formation of "working group" and Project Village Committee

On the basis of the 1989 survey baseline, the target families are organised in "working groups" consisting of an average of 22 families. There can be a maximum of 10 groups per village and each group is represented in the PVC by its leader, as shown in Table G.2.29.

Socio Economic Schemes

In order to help the most needy families to help themselves by increasing heir income and improving their social conditions as a whole, the Revolving Fund has been created by EDM-DSS for each of the project villages. This fund is to promote a welfare oriented program to target groups by providing supervised credit facilities and channelling village capital into the revolving fund with only 15% service charges. This fund creates opportunities for self- employment within a wide range of schemes, by motivating villagers to activate either unused or under used family labour. See Table G.2.30.

Rural Housing Project

As the objectives of all efforts of EDM are always addressed towards uplifting the socio-economic condition of the poorest of the poor in rural Bangladesh, DSS and EDM hold the view that Rural Housing within the RFCWP Project Villages will only be consolidating the attainments of the project activities.

TABLE G.2.29

The rural Family and Child Welfare Project of EDM, Involvement in the Project Area

Thana	Total target families	No of working group	No of families assisted	Fund invested	Saving	No of SES
Debidwar	1,360	54	340	1,000,000	22,080	507
Burichang	1,097	44	400	975,000	8,971	557
Nabinagar	1,208	47	472	843,000	5,383	595
Total	3,665	145	1,212	2,88,000	36,434	1,659

TABLE G.2.30

Major Socio-Economic Schemes (SES) implemented through RFCWP and %

Name of SES	Percentage
Petty business	32
Rice husking	21
Cow/Goat breeding	12
Agriculture	8
Van/Rickshaw	4
Grocery	4
Fishing	3
Poultry	2
Muri/Chira	2
Handicrafts	1
Tea stall	1
Cloth business	1
Hawker	1

Source: RFCWP & EDM annual report 1992

G.3 Peoples Participation in the Planning Process

G.3.1 Introduction

To achieve the long term sustainability of flood control and water management projects it is important to have the active participation of the affected social groups in all phases of the project - feasibility, design, implementation and operation and maintenance.

People's participation in planning is a vital process to ensure that different socio-economic interest groups gain a sense of commitment to development, by sharing responsibility for key decisions starting from a preliminary need assessment.

Under this component, efforts to organize meetings at village level started in early Oct 92. The active participation of several people from all disciplines, to do joint meetings at village level, broadened the approach.

The FAP guidelines, drawn on public participation before the start of the study, cover a comprehensive approach to assess the local needs of different sections of the population concerned.

The Guidelines for Project Assessment (GPA) issued in May 1992 emphasised the people's participation in planning:

> "To involve local people in the project starting with the project formulation phase to increase the chance of success by fully taking account of the needs, problems and solutions as perceived by the different socio-economic interest groups when identifying a program or project".

Furthermore for participatory development the concept of need assessment to elicit from the various interest groups their perception of:

- present water management regime
- main flood control and drainage problems and trends and
- preferred solutions to these problems

To achieve the intensive examination of a program or project concept, the two major interest group levels are defined in the GPA as follows:

- Original groups of large land holders, shop keepers and businessmen, transport and transport works, leasehold fishermen, Grameen bank members etc.

- Other groups may not be well organised; landless labour, destitute women, capture fisheries, marginal groups depending on foraging for grass or wood etc. During the feasibility study this second collection of social group need to be organised so that their views are represented. Community organisers contracted from local and national NGOs, established in the area, can help such marginal groups to make a self definition of their interests.

y2

This aspect of participation, mentioned above, is covered to the fullest extent possible, considering the resource constraints (time and staff) of the study.

The context of the public participation focused on zonal water development planning options. The main purpose of the intensive public participation was exercised to minimize the tendency of top down planning. Therefore the engineering interventions were formulated solely on the conclusions from the three rounds of participation meetings.

Nevertheless the comprehensive understanding and appreciation of the local need and commitment of the different sections of the population is summarised in the Social Impact Assessment Chapter G.4 and developed in Appendix G.II.

G.3.2 The Rationale

Until recently, one of the most neglected aspects of development strategies in Bangladesh was the involvement of local people in making decisions which affect local people's lives. All too often, experts and technologists in the water resource sector assumed villagers were largely ignorant of factors which would assist these same experts in understanding hydrological phenomena.

In fact villagers in Bangladesh have a profound knowledge of the behaviour of water on the floodplain. Indeed they have a vested interest in understanding the problems and the benefits that water holds for them since their lives depend upon this knowledge. Rice and fish are the two key elements on the floodplain; they both depend on villagers having a high degree of control of water resources. The Gumti II Phase Project is attempting to increase that degree of control and to augment the benefits villagers reap from the floodplain. The project staff realise that failure to consult the people living on the Gumti area of the floodplain will be an enormous *caveat* in the resource base needed to make the project a success.

This need to gather local knowledge can also be stimulated by local officials and people's representatives. Union and thana officials live very close to the villagers they serve and come into daily contact with the villagers' problems. Therefore they too are an indispensable element in any public participation exercise. Imams, local school teachers and kobiraj (village doctors) can also be a source of valuable information at village meetings. Ultimately, however, the greatest knowledge about local water behaviour will come from the people who farm and fish the floodplain.

A further element in the rationale for public participation stems from Flood Action Plan study findings, that local people have previously shunned involvement in schemes which involved their lives. This is especially true of flood control drainage and irrigation schemes and their operation and maintenance. A major reason for this is that villagers are not consulted about these schemes and all too frequently know about them only when the contractors move in to start. In the north-west region, the FAP2 field workers were frequently told by villagers when studying embankments....." it is a WAPDA (government) structure - why should we get involved?"

Finally there is the need in any democratic society to involve the maximum number of people concerned when major decisions are to be taken. Accountability to villagers whose lives will be affected by planning options must be a major condition of the planning process.

G.3.3 Methodology

Public Participation is relatively new in Bangladesh, with the possible exception of the non-government sector. Villagers can be suspicious of strangers who suddenly start asking them questions since this is not a normal feature of life in the villages. Yet when these suspicions are removed a Bangladeshi villager will be as animated and knowledgeable about local conditions as anyone. To facilitate the process of village-level participation the following contextual model was drawn up by project staff:

a) Select a manageable number of sample villages in which to carry out the participation meetings;

b) Ask communities in pre-arranged meetings what their particular water problems are and how they would solve these based on local knowledge of the hydraulic regime. In addition to meetings, discussions were held with various members of the community during transectional walks;

c) Take the findings of these meetings back to the office for consideration and analysis with the findings of the hydraulic model and engineering concepts;

d) Conduct a second series of meetings in the same villages as before where project options were presented to local officials and villagers for discussion and comment. Also, ask additional questions and attempt to resolve seemingly conflicting information;

e) Analyse the findings once more and draw up firm options based on both sets of findings i.e. from both specialist and villagers;

f) Present the findings, options and conclusions to public officials. This should be done at meetings in thana headquarters with the TNO, relevant thana officers, Union Council Chairmen and representatives from NGOs, Agricultural Cooperatives, and Fishermen Societies.

The villages in which first and second round meetings took place were chosen randomly from four mouzas from each agro-ecological zone in the project area, taken from the sample of 48 mouzas randomly selected for our agro-economic surveys.

The teams conducting the first and second round meetings were multi-disciplinary but included skilled Bangladeshi animateurs who ensured that all sections of the village community (fishermen, landless, farmers etc) would have the opportunity to present their views, without the meeting being dominated by representatives of the influential. As wide a range of opinion as possible was encouraged from the meetings.

A typical team comprised:

Sociologist/Animateur (m) (Local)
Sociologist/Animateur (f) (Local)
Engineer/Hydrologist/Planner
Agriculturist or Fisheries Specialist
Economist/Sociologist

One of the three last categories was an expatriate specialist who was present as much for exposure to life in rural Bangladesh as for his or her knowledge of a particular discipline.

The female sociologist carried out separate meetings with village women ensuring the process was not gender blind. The same objectives applied to the women's meetings. The problems they faced with water management and control and how they would solve these problems were the prominent features of the meetings.

To analyse the results of the first series of meetings the Team Leader convened a meeting of engineers and hydrologists in the project office. The problems and solutions offered by villagers, both male and female, were discussed village by village and issue by issue. This was to ensure that all opinions were fully taken into account before options were shaped to take back to the villages for the second series of meetings. The same process was carried out between the second and third series of participatory sessions. In the case of the third round, meetings were held in 10 of the 11 thanas with representatives listed in (f) above.

For the Gumti Project the randomly selected villages are shown in Table G.3.1 and their locations are illustrated in Figure G.3.1.

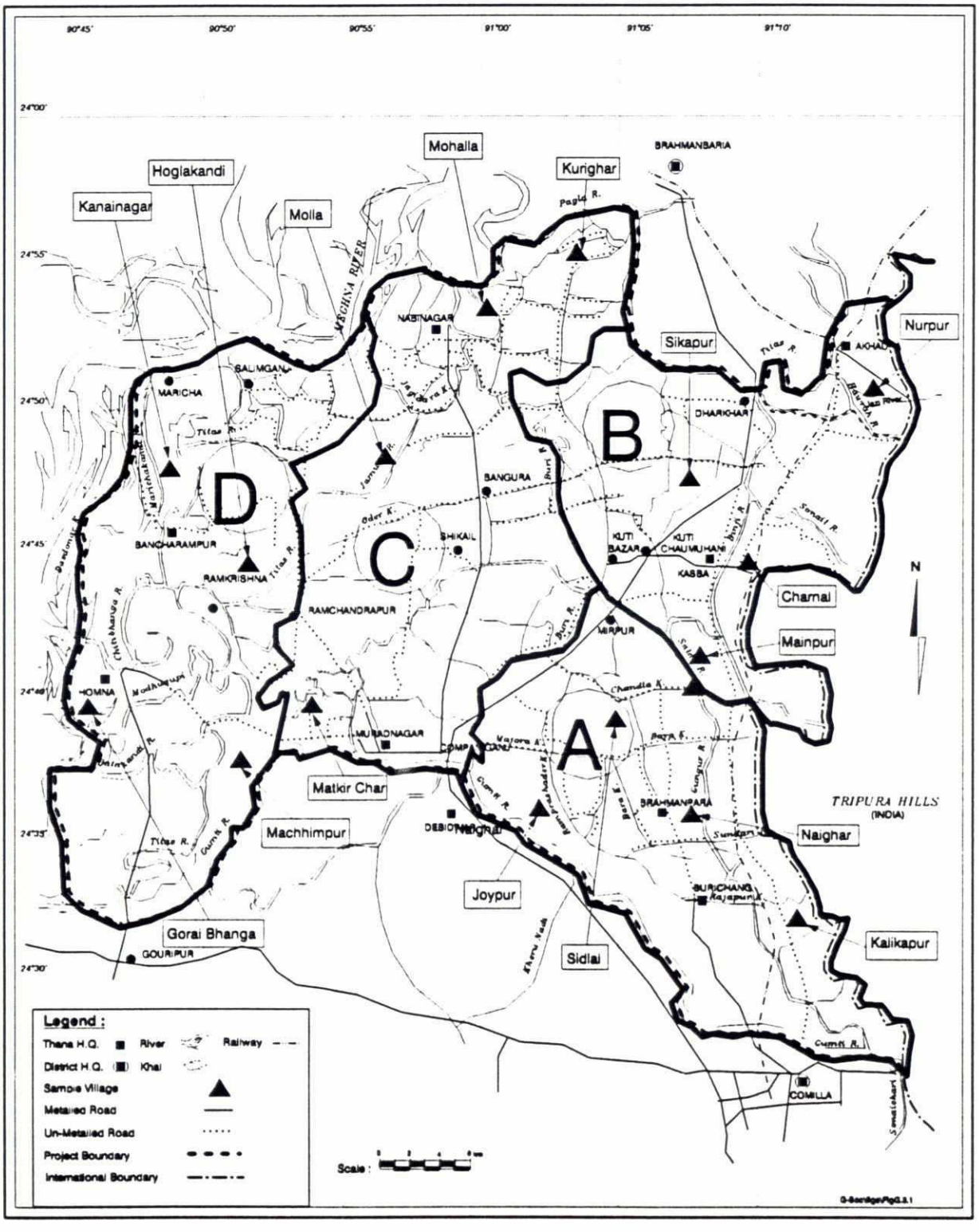
TABLE G.3.1

List of Public Participation Villages

Zone	Thana	Union	Mouza	Village
A	Burichang	Bakshimail	Manoharpur	Kalikapur
A	Brahmanpara	Purba B.	Naighar	Naighar
A	Brahmanpara	Paschim Chandala	Sidlai	Sidlai
A	Debidwar	Fatehabad	Joypur	Joypur
B	Akhaura	Dakshin A.	Nurpur	Nurpur
B	Kasba	Uttara Badair	Sikapur	Sikapur
B	Kasba	Kasba	Charnal	Charnal
B	Kasba	Kaimpur	Mainpur	Mainpur
C	Nabinagar	Natghar	Kurighar	Kurighar
C	Nabinagar	Paschim Rasullabad	Molla	Molla
C	Nabinagar	Purba N.	Mohalla	Mohalla
C	Muradnagar	Muradnagar	Matkir Char	Matkir Char
D	Daudkandi	Bitikandi	Machhimpur	Machhimpur
D	Bancharampur	Salimabad	Satdona	Hoglakandi
D	Bancharampur	Dakshin B.	Kanainagar	Kanainagar
D	Homna	Uttara Homna	Gorai Bhanga	Gorai Bhanga

Figure G.3.1

Location of Public Participation Villages



G.3.4 Analysis of People's Responses

G.3.4.1 General

The first round of public participation was carried out between 27 September and 28 October 1992, the second round between 13 December and 5 January 1993 and the third round between 22 February and 3 March 1993. The approximate attendances are given in Table G.3.2.

Attendances were considered to be satisfactory for a balanced set of views. The meeting in the village of Hoglakandi in Zone D was exceptionally well attended. Project staff were informed that because the area was difficult to get to, villagers were rarely given the chance to participate in schemes. Because of this, people from 3 different unions were present.

General attendance was lower in the second round than in the first. There are two possible reasons for this. The first is that people would feel that they had explained the situation during the first meeting, so it was now up to the project to provide physical solutions rather than hold further discussions. The second, more pragmatic, reason was that farmers were busy with their boro crops at the time the second round of meetings were arranged. Female attendance was much lower than male attendance, which is not surprising in a society where purdah is enforced in some instances.

The meetings were lively, and contributions came from people from all walks of life. Where specialised knowledge about a particular problem was sought the animateur would invite contributions from people with that specific knowledge; eg capture fishing in the Meghna would be the province of men who actually fished this major river.

It was explained in the first round of meetings at the outset that these were exploratory sessions and that the team would come back when options based on village, engineering and water modelling data were available. The idea that there would be a series of meetings was received enthusiastically in every instance. This level of consultation and participation has not been a prominent feature of development work in Bangladesh, but the way in which it was received in villages suggests that it is and can be developed further as a methodology for working in rural areas. Villagers display a knowledge of the local hydrological regime which can be invaluable to engineers and other scientists in solving problems facing a particular thana or district.

A summary of the main water related problems given in the first (and second) round of public participation meetings is given in Table G.3.3.

TABLE G.3.2
1st & 2nd Round Public Participation
Meeting Attendance (approx)

ZONE - A

Name of Mouza	Farmers		Day Labour		Women		Fisherman		Businessmen		School Teache		UP Members	
	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
Joypur	163	125	24	17	36	40	-	-	5	2	2	4	3	5
Kalikapur	192	107	30	11	30	55	-	-	3	5	3	2	2	4
Naighar	258	50	27	15	45	45	10	3	5	3	5	2	2	3
Sidlai	165	84	50	22	40	50	5	2	7	2	10	7	5	2

ZONE - B

Nurpur	80	65	33	12	20	30	5	-	5	2	4	3	3	3
Shikarpur	60	70	15	13	25	35	-	2	-	2	2	2	3	2
Charnal	100	30	25	10	38	35	-	-	2	2	2	-	3	3
Mainpur	140	50	25	20	42	30	5	5	-	5	2	2	6	2

ZONE - C

Molla	300	135	48	30	50	30	10	5	5	2	5	5	4	5
Mohalla	175	50	30	10	70	20	25	5	-	-	3	2	3	3
Kurighar	150	60	50	10	42	25	10	3	5	3	5	3	5	4
Matkir Char	55	100	20	16	35	35	3	2	2	2	2	3	2	3

ZONE - D

Machhimpur	45	30	10	15	30	-	5	-	3	2	2	4	3	2
Gorai Bhanga	200	25	50	10	40	-	10	2	-	-	3	2	3	3
Hoglakandi	350	50	150	30	200	-	50	10	6	2	4	2	5	2
Kanainagar	100	80	50	10	55	-	10	5	-	-	-	3	3	3

1st meeting 27/09/1992 to 28/10/1992

2nd meeting 12/12/1992 to 05/01/1992 (HYV Boro cultivation season)

TABLE G.3.3

Summary of Round 1 of the Public Participation Meetings

Issues/ Problems	Zone A				Zone B				Zone C				Zone D			
	[illegible]	Kallikapur	Neighar	Sidlai	Nurpur	Shikerpur	Charnal	Mainpur	Matkerchar	Molla	Mohalta	Kurighar	Masimpur	Gourikhanga	Kasainagar	Hogiakandhi
Peak flood depth	2 feet; during flash flood 4' for 3/4 days	3 feet	7 feet	Above 4 feet	2 feet	3-4 feet	2 feet	4-5 feet	3 feet	6 feet	15 feet	15 feet	5 feet	12 feet	14 feet	10 feet
Early flood damage	Comes from Tripura Hill; No flood in 1992	Comes from Tripura Hill; No flood in 1992	May-June damage to Boro during harvesting	May-June damage to Boro during harvesting	Comes from Tripura Hill; No flood in 1992	Comes from Tripura Hill; No flood in 1992	Comes from Tripura Hill; No flood in 1992	Early flood from Ghungur/ Salda causes crop damage	No flood in 1992	No flood in 1992	No flood in 1992	May to Nov. flood water stays because of poor maintenance of internal khals	No flood in 1992	No flood in 1992	Excessive water April to November	Much water April to November boro and B aman damage
Flash floods	From Tripura hill, villagers do not consider it as major problems	Flash flood from India	Flash flood more than once a year	Flash flood though not severe damage	Flash flood is not so much a problem now	Flash flood from Bijni river during pre-monsoon period	Flash flood causes damage to crops two to three years in five	Comes from Ghungur and Salda river	Comes from Titas and Gumti	Comes from Titas and Meghna	Comes from Titas and Meghna	Comes from Titas and Meghna	Comes from Titas and Gumti	Comes from Titas and Meghna	Comes from Titas and Meghna	Comes from Titas and Meghna
Drainage Congestion	Internal Khals cannot drain the water	Silting up of the local khals	Road (Sylhet-Comilla) with few bridges impedes drainage of water	Khals & rivers re-excavated for drainage and also for reservoirs	Rivers and Khals are silted up	Drainage problem in the beel area; khals are silted up	Insufficient cross drainage structures under the railway line	Rivers and Khals are silted up	Khals are silted	Siltation of Khals and Rivers	Siltation of Khal and River	May to Nov. flood water stays because of poor maintenance of internal khals	No problem	Rivers & Khals heavily silted	Khals heavily silted, causing congestion of water	Khal and Beel silted up
Irrigation facilities LLP/DTW/STW/ other	STW-No. 40 in dry season cannot supply sufficient water	Shortage of surface water problem for LLP Dry season low water table STW & DTW problem	DTW & STW inoperative during dry season	DTW-6 STW-15	LLP-3, STW-5 villages prefer LLP for irri-gation. Shortage of water is a great problem	DTW-5; STW-5	More than 200 STW-4 Artesian well working	LLP-7 STW-8	LLP-6 dry season problem of surface water	None	22 LLP	STW-15 LLP-40	STW=3 LLP=3 Power pump=100	STW=4 LLP=15 Power pump=200	STW=10 LLP=3 Power pump=200	DTW=2 STW=1 LLP=70 Rower pump=100
Ground water salinity DTW/STW	Not a problem	Not a problem	Not a problem	Not a problem	Not a problem	Not a problem	Not a problem	Not a problem	Saline; DTW Not possible	Not a problem	Not a problem	Not a problem	Not a problem	Not a problem	Not a problem	Not a problem
Gas problem DTW/STW	Not a problem	Not a problem	Not a problem	Not a problem	Not a problem	Not a problem	Not a problem	Not a problem	Gas problem STW Not possible	Gas for STW	Not a problem	Not a problem	Not a problem	Not a problem	Not a problem	Not a problem
Seasonal falling of water tables	It is a great problem during dry season	Great problem for irrigation by DTW & STW	Dry season falling of water is the great problem	Dry season problem is there. STW preferred to DTWs. People consider it less expensive	Dry season problem for STW	Water table goes down during later part of dry season	Though the GWT is dec-lining it is not alarming	Surface & ground water decrease during dry season	Dry season problem	Dry season problem	In dry season less water in khals and rivers	Dry season water level falls	Shortage of water January-March	Shortage of water January-March	Shortage of water December-March	Shortage December-March

Issues/ Problems	Zone A: Joypur	Zone A: Kalikapur	Zone A: Naighar	Zone A: Sidhi	Zone B: Narpur	Zone B: Shikerpur	Zone B: Charnal	Zone B: Maispur
Road Communication	Not too much of a Problem	Not too much of a Problem	Renovation of existing road	Renovation of Road and some bridges needed	Not too much of a Problem	Improvement of internal Road and Bridges required	No problem	No problem
Navigation	Not arise	Not arise	Not arise	Navigation problem	Not arise	Not arise	Not arise	Not arise
Electricity	No electricity	No electricity	No electricity	Electric poles are there, electric supply needed	Reliable electric supply	Electric supply is irregular	Electric supply is irregular	Electricity needed
Drinking water	Specially in March/April drinking water a great problem	Most drinking water brought from DTW in dry season	Not sufficient	Not sufficient	Paucity of drinking water during dry season	Not so much a problem	HTW are not yet affected	Not so much a problem
Fishing	Not much surface water	Flood plain fishing is insignificant	Not much surface water	Dry up surface water	Due to shortage of water. Pond fish also suffer	Scope of culture fisheries but multiple ownership of pond is a great problem	Scope of culture fisheries is there	Poor people live on fishing from June to to October. Beels and khals need to be excavated
Education	Primary & Madrasa Exists	Primary & Madrasa Exists	Primary & Madrasa Exists	Primary & High School Exists	Primary school. No other facilities for education	Madrasa, Primary school	Primary Secondary College	Primary Madrasa
Health	Health facilities 2.5 Km. Thana Headquarter	Health facilities 3.0 Km. Burichang	Health facilities 1.5 Km. Brahmanpara	Health facilities 5.0 Km. Brahmanpara	Scabage & diarrhoea is prevalent due to scarcity and polluted water. Akhara 2 Km.	12 Km Kasba Health Complex	Health complex is nearby	Facilities there.
Lack of wage payed Opportunity	Poor women want remunerative work.	Educated & uneducated want remuneratve work.	Poor women Collect fire wood from Indian Hills for sale & for domestic use.	Women want work facilities.	Women of this village badly wanted work or any kind of organisation for income generating programme.	Women are ready to give their labour in any remunerative work.	Both educated and uneducated women want remunerative work	Work is needed for women

Issues/ Problems	Zone C: Matkerchar	Zone C: Molla	Zone C: Mohalla	Zone C: Korighar	Zone D: Masimpur	Zone D: Gourbhanga	Zone D: Kasinagar	Zone D: Haghalmollik
Road Communication	Road Communi-cation is a problem	Has to be improved road & bridge needed	Road has to be built	Road communi-cation problem	Roads and culvert needed	Roads & culvert needed	Road commu-nication needed/ repair of roads	Road Needed
Navigation	Navigation problem	Dry season Navigation is a problem	Navigation is important	Navigation is important	Is very important	Is very important	Important source of communi-cation	Important source of communi-cation
Electricity	No electricity	Electricity needed	No electricity	No electricity	Electricity for irrigation	No electricity	Electricity needed	No electricity
Drinking water	11 HTW 3000 people; not sufficient	Not so problem. About 50 tubewells	6000 people but only 10 tubewells. 40% people drink river water	5000 people 100 tube-wells	Not enough tubewells	Paucity of drinking water	Drinking water problem	Drinking water problem
Fishing	Catch fish in flood plains & in river	Three to four months from flood plains	Capture fishery in river and flood plain is important	Capture fisheries in rivers	Too little water	Too little water	Problem is using current net. F. Net costly	Important source of living
Education	High school 1.5 km. Not so much a problem	Primary	Primary & Madrasa Higher education is a problem	Primary and Madrasa	Facilities are there	1 Madrasa 1 Primary school education	1 Primary school	1 Primary School
Health	Available 6 km away.	Govt. Hospital 1.5 Km.	Diarrhoea is very comman. 2 Km Nabinagar	No health facilities	Health Service inadequate	One health clinic in Homna 6 Km away.	Nearest Health clinic 6 Km away	Nearest Health clinic 6 Km away
Lack of wage payed Opportunity	Work is needed.	Both educative and uneducative women want remunerative work.	Women want remunerative work.	Women want remunerative work.	Limited work source.	Limited work facilities.	Work is needed.	Limited work source

G.3.4.2 The First Round Meetings

Zone A: Problems

1. Poor dry season irrigation

Reasons: Gumti Right Embankment impedes drawing off water
Insufficient shallow tubewells (STW)
Falling water tables

Solutions: Provision of better irrigation from Gumti (pumps)
Increase the number of STWs
Re-excavate khals and use them for water storage

2. Flash Floods from Tripura Hills

Reasons: The internal khals cannot drain the water
No planned drainage to solve this problem
The Comilla-Sylhet road forms an impediment

Solutions: Re-excavate khals to drain water from flash floods
Build an interceptor to the Gumti
More drainage channels through main roads

A number of other minority opinions from Zone A included embanking the left bank of the Meghna and the right bank of the Gunghur.

3. Livelihood

Farmers reported that in Sidlai 50% of land was previously under jute cultivation; now it is only 15%. This is mainly due to the fall of jute prices.

Scarcity of surface water in rivers/khals and ponds and also shortage of hand tubewells (HTWs) for drinking water was considered to be a big problem by the women. Surface water is needed for bathing, washing, par-boiling, cooking, for domestic animals and for other domestic purposes. This water is scarce, especially during March to May. In Kalikapur most drinking water is collected from deep tubewells (DTWs).

Road communication is considered to be a problem for the villagers. They suggested:

- The road should be renovated from Brahmanpara to Shashidal Railway station.
- A number of bridges over the road from Brahmanpara through Sidlai to Mokimpur.
- Renovation of the road from Shashidal railway station to Rasulpur Road.

Women from landless and marginal groups wanted remunerative work. Post harvest work is decreasing because husking is now done in rice mills. Some women are working in CARE's road maintenance programme.

During floods, fuel collection is a great problem. Fuel is collected by poor women and children from hilly areas before the monsoon.

Diarrhoea is quite common and health facilities are not considered to be adequate.

Zone B: Problems

1. Poor Dry Season Irrigation

Reasons:
- Falling water tables
- Jazi River is dammed in a number of places

Solutions:
- Change from STWs to DTWS
- Increase depth of STWs
- Re-excavate internal khals for water storage
- Make sluices in dams in Jazi River

2. Drainage Congestion

Reasons:
- Railway line impeding good drainage
- Internal roads impeding drainage
- No good drainage exit to Meghna or Titas

Solutions:
- Build a drainage khal along the railway to drain into the Bijni River
- Re-excavate khals to carry water both to and from the Titas
- Build drainage channels through the road from Sikapur to Saidabad

3. Flash Flooding

Reasons:
- High run-off from Tripura Hills
- Flash flooding from Meghna into Bijni
- Flooding from the Gunghur and Salda Rivers

Solutions:
- Better drainage to the Meghna
- Embank the Gunghur, Salda and Bijni Rivers

4. Livelihood

The women in Zone B also complained about the shortage of surface and groundwater. During the dry season owners of tubewells use more tubewell water but the poorer women have to depend on khals and ponds, which are dirty and polluted at that time. Some women do obtain drinking water from other people's houses.

Bijni, Salda, Jazi and its tributaries and extensive flood plains and ponds are used for capture and culture fisheries. Low water levels, over fishing, lack of support services and multiple ownership of ponds are the main constraints for fisheries development. In Mainpur, villagers related that in previous years, poor people used to live on fish caught from rivers and khals for at least four months in the year. Scarcity of surface water has now reduced this figure.

The remoteness of the area is an obstacle to development of culture fishery. Demand for extension of fishery support for culture fishery showed that there is little chance of conflict with the fishing community if the flood water can be controlled.

In Charnal, Grameen Bank and Comilla Proshika organised poor women's groups for generating income earning programmes. However, no such programmes existed in the other villages.

Flooding was not considered to be a severe problem in Zone B. Flash floods were also considered to be less of a problem than they were before.

Zone C: Problems

1. Poor Dry Season Irrigation

Reasons:
- Poor maintenance of internal khals
- Drying up of internal rivers
- Inadequate use of groundwater

Solutions:
- Re-excavation of internal khals
- Regulators built on Gumti/Guri Bhanga/Nandra Rivers
- Re-excavation of internal rivers
- Better electrical supply for cheap irrigation

2. Drainage Congestion

Reasons:
- Village roads impede drainage
- Rivers/khals are heavily silted

Solutions:
- Re-excavate internal rivers/khals
- Better and more connections between internal khals
- Build bridges/culverts on village roads

3. Livelihood

Titas is the main source of water. Farmers use LLPs for irrigation. There are few STWs in the zone. Part of the explanation for this is gas constraints. Villagers did not like DTWs because of their high initial cost.

Road communications are bad in the area and river travel is therefore common. In the dry season, when the river is dry, navigation becomes a problem. People wanted the road communications improved without disturbing the navigation system.

Fishing is one of the main sources of livelihood in the area. 90% of people living beside the river fish the rivers and flood plains. Government and NGO's should take special care in improving fishing in the area.

Drinking water is a great problem in Zone C. In Mohalla there are 10 tubewells for drinking water in the village, which has a population of 6000. About 40% of the villagers use river water for drinking. In October, 1992, 50 people were affected by diarrhoea, of whom 10 died.

Women have no remunerative work. No NGO's were reported to work here. Post harvest work is diminishing as LLP motors are used for separating crops and also for husking paddy.

Zone D: Problems

1. Poor Dry Season Irrigation

Reasons:
- Insufficient tubewells available
- Internal khals not storing water
- Poor and uneconomic electrical supply for irrigation

Solutions:
- Better and cheaper electricity for tubewells
- Re-excavation of internal khals as reservoirs
- Connect internal khals to main rivers
- Credit facilities for low lift pumps

2. Drainage Congestion

Reasons:
- Poor maintenance of internal khals
- Drainage impeded by village roads
- Internal rivers silted up

Solutions:
- Re-excavate internal khals
- Build bridges/culverts in village roads
- Embank sections of Meghna to stop erosion and internal siltation

3. Lack of Good Fishing Nets and other Gear

Reasons: Impoverished professional fishing communities

Solutions: Better access to credit at favourable rates of interest

4. Livelihood

People are reluctant to accept anything which may affect fishing, fish migration or navigation in the area.

Drinking water is a great problem here. As in the rest of the Gumti project area, women want some provision for remunerative work.

In Zones A and B women and children collect fuel from hilly areas but in Zones C and D, both low lying areas, fuel availability is a big problem.

In all areas, homesteads are high enough to be unaffected by normal floods. Villagers stated there was no need for flood proofing. Drinking water, communications, electricity, health and sanitation were given priority by the villagers in the public participation areas.

Apart from in the south of the zone, flash flooding is not considered a problem in Zone D. Paucity of water during the dry season is the greatest problem, exacerbated by the silting up of khals and rivers.

G.3.4.3 Second Round of Meetings

The second round of meetings were carried out in the same villages as the first. The main objectives were to:

- give our considered replies to issues raised in the first round of meetings
- present our tentative solutions to the villagers for discussion
- indicate changes in farming practice which will be required to get the full benefit from any scheme proposed, note the villagers' reaction to these changes
- confirm the findings of the first round after the villagers had given them further thought.

During the first round of public participation meetings, villagers informed the project staff of the water related problems they faced in the area. These problems included flash flooding in Zones A and B, but not Meghna related flooding; villagers had come to terms with this and organized their cropping patterns around it. However, in the second round of meetings, when potential solutions were discussed with the villagers in parts of Zones A, B and C, the provision of protection against Meghna flooding was put forward and was favourably received by the villagers. The villagers saw the benefit of altering their cropping patterns to produce greater financial gain. However, in Zone D, the provision of full flood protection was not well received. The villagers preferred the provision of irrigation water during the dry season as the major intervention, leaving the flood season open for fisheries and navigation.

Zone A

The two main problems identified in the first round of meetings were supply of irrigation water in the dry season and the damage caused by flash floods.

Because of the high ground level of most of the zone, together with the inconsistency of water supply from rivers entering the zone from India, tubewells were considered by the project staff the best way to irrigate the area. These could be augmented by LLPs when water was available in the rivers. The steady growth of tubewell irrigation over the past few years has shown that the water quality is satisfactory and the method is financially viable.

The proposals to construct an embankment on the west bank of the River Gunghur and link it to the Gumti embankment and Comilla to Sylhet highway are discussed in greater detail in Annex I. The recommendations were outlined to the villagers in the four sample villages and discussion followed.

Since the construction of the River Gumti right embankment, the problems of flash floods are less severe for Joypur than for Sidlai, Naighar and Kalikapur. Kalikapur will not be within the protected area, as the village is situated to the east of the Gunghur River embankment. The villagers from Kalikapur requested that the embankment should be constructed along the Indian border. However, this was considered impractical, as a river sized collector would be required between the embankment and the border. As well as having international implications, this is not considered practicable because of the volume of earthwork and area of land acquisition required.

An embankment on the eastern side of the Gunghur River was also put forward. However, this was discarded as it would be costly and would afford no protection against other inflows entering the zone from India and may cause serious drainage congestion on the countryside to the east of the embankment. Instead, excavation of the Gunghur River channel is proposed. The excavated material may be used to form the embankment to the west of the River Gunghur.

Many villagers were concerned that if a full flood embankment was constructed on the west bank of the Gunghur, they would not receive sufficient water for their aman crop. It was explained that the embankment would have a series of regulators which would allow controlled flow into the area via the existing khal system. This would also assist drainage of the area to the east of the Gunghur River.

Joypur, Sidlai and Naighar all stated that they were affected by the Meghna flood water entry during the monsoon season. The idea of protection against Meghna flooding was popular with the villagers as controlled flooding would eliminate risks of high floods and enable them to transfer from B aman to T aman during the wet season.

Although the area to the east of the Gunghur River would not benefit from flood protection (as was the case in the 1990 Feasibility Study recommendations), the area should be adequately drained by further excavation of the Gunghur and Salda Rivers and other distributary channels. Test runs on the hydraulic model will determine the anticipated water levels in the region with and without the proposed scheme. In order to stop unauthorised cuts of the proposed embankment, flood-proofing of the unprotected area should be carried out.

There were no objections to the scheme on the grounds of floodplain fisheries being affected. This is because the amount of floodplain fishing in the villages visited is insignificant.

Zone B

The main problems identified in the first round of meetings were supply of irrigation water in the dry season, damage caused by flash floods and drainage congestion.

In the village of Nurpur (see Figure 3.1) the local people favoured irrigation by LLPs from khals offtaking from the Jazi River and by diverting additional irrigation water from the Hawrah River into the Jazi, by excavating a short diversion channel. They proposed constructing sluices to carry water from the Jazi River and storing in the channels for irrigation. The possibility of pumping water from the River Titas into the River Jazi system was also discussed.

The villagers also proposed embanking the Hawrah River more effectively and re-excavating drainage channels in order to provide flood control and drainage.

The problems with these proposals were as follows:

- the Jazi River, and also the larger Hawrah River, are controlled by India. As such, there is no certainty of adequate water supply.

- other downstream farmers are already using any water which is in the Hawrah. Diverting water from the Hawrah into the Jazi would severely affect these farmers.

- the scheme outlined by the villagers is very small scale, covering only the local area. If the scheme were to be enlarged to cover the north-eastern part of the zone, the combined surface water availability of the Titas, Hawrah and Jazi would be insufficient to serve the area during the dry season.

The problems of the groundwater table in the area falling towards the end of the dry season may be overcome by the use of DSSTWs or forced mode tubewells in place of the normal STWs.

The other three villages in the area made extensive use of STWs. In addition the LLPs were used along the Salda and Bijni Rivers. In some areas along the Indian border, artesian wells are in use throughout the dry season. Although water availability did diminish towards the end of the dry season, this was not considered a very great problem.

Some villagers from Charnal village stated that drainage congestion was a problem, due to insufficient cross drainage structures under the railway line. However, other villagers cautioned that excessive drainage could damage their artesian wells, which require no pumping throughout the dry season.

Flash flooding in the area was reported to damage crops two or three years in five, with floods occurring two or three times a season.

The villagers wanted their boro and B aman protected from flash floods. They generally agreed that if their crops were given full protection against Meghna flooding they would grow T aman HYV instead of B aman.

The solutions, detailed in Annex I, were outlined to the villagers. However, only Sikapur is in phase 1 of the recommended embankment scheme. Improved drainage along with increased use of tubewell irrigation should assist the remainder of the area.

Capture fisheries are significant in the zone, especially in the north and north-west. However, a permanent fisherman in Sikapur who attended the meeting was in favour of the embankment scheme as he saw it would increase the wealth of the village and he mainly concentrated his fishing efforts in the rivers. The capture fisheries for the areas outside the proposed embankment would be unaffected.

Zone C

The main problems identified in the first round of meetings were supply of irrigation water in the dry season and drainage congestion. Problems were also identified with tubewell abstraction, due to the presence of gas in Molla and Matkir Char villages (see Figure 3.1). Matkir Char also suffers from a high degree of salinity in the water, which restricts the use of DTWs.

Because of problems concerning groundwater constraints in the north and south of the zone, together with a silted khal system, irrigation has not been adopted, and so not much boro is grown in the area. Farmers therefore require khal excavation to link the Titas/Meghna to their specific areas.

The engineering proposals for the zone are presented in detail in Annex I. It can be seen that where feasible, Meghna/Titas water is to be pumped from a location either adjacent to Nabinagar or on the Jamuna River at its Meghna offtake, and passed along the re-excavated Jamuna River and Oder khal. It is unlikely to be feasible to extend the distribution network to the southern area, due to the high cost of excavating the canals as well as the high losses involved in conveying water a distance of 20 km.

Farmers in the proposed protected area agreed that flood protection would help them transfer from B aman to T aman HYV.

Re-excavation of the khals will have a positive impact on the capture fisheries in Molla. However, this will turn to a negative benefit if embankments are constructed.

The capture fishery industry near Mohalla and Kurighar is extremely important to the area, therefore embankments of any kind will be a major disadvantage to the area. In addition, there is extensive navigation in the low lying area of the northern Buri Nadi.

Capture fisheries in the southern areas around Matkir Char would benefit if the network of khals were re-excavated down to the south of the zone.

Zone D

The problems identified in the first round of meetings were supply of irrigation water in the dry season and drainage congestion.

Zone D is a low lying area within the project boundary and the problems and proposed solutions for the areas were often equally applicable to all four of the sample villages within the zone.

Generally, the villagers in the area do not want full flood control in the area; they have come to terms with annual flooding and fisheries and navigation are a very important aspect of the region. However, representatives of Hoglakandi village reported that often their boro and B aman crops were damaged by early floods. The concept of submersible embankments was explained to the villagers and was generally approved of, as long as fisheries were not disrupted. The village of Hoglakandi is located within the Satdona beel scheme, so when the scheme is complete, the area will be protected in the pre monsoon season. However, other locations at a similar level to Hoglakandi have been identified within the zone and two submersible embankment schemes are being considered. The local people in these areas will be consulted during the pre-design site visits. Also, relevant Government officials will be consulted concerning these specific proposals during the third round of public participation meetings.

Re-excavation of the khal and river system was strongly identified as the major intervention in the area. The use of tubewells is restricted in some parts of the zone due to the presence of gas in the shallow aquifer and salinity in the deep aquifer. The boro and B aman crops around Machhimpur had previously been affected by flash flooding from the Gumti River but after construction of the Gumti right embankment (or perhaps the hydro-electricity dam in India) the problem had been eliminated.

G.3.4.4 Third Round of Meetings

The method of selecting sample villages for public consultation is a very cost effective way of determining public needs, thoughts on development and concerns over the whole project area. However, it does have drawbacks. The first of these is that often villagers' problems relate to the immediate vicinity of their village. An example of this is Nurpur village, where villagers' proposals concerned re-excavation of small local khals. Whilst the proposals may have been sound as small scale water resource schemes, they were too localised for consideration within a Feasibility Study for an area of approximately 140 000 Ha.

The second problem is that a proposed scheme, for example a submersible embankment scheme in Zone D, may not be in an area in which one of our sample villages lies. It is for these reasons that the third round of public participation meetings took place at thana level, with Government Officials at thana and union level, as well as representatives from NGOs.

The proposals for each scheme were discussed in 10 of the 11 thanas within the project area. Comilla Sadar thana was not included as only a small area is within the project boundary and no separate scheme has been identified within that area.

The third round of public participation meetings started on 22 February and were be completed on 3 March 1993.

Table G.3.4 summarizes those present at the meetings. The term "others" included teachers, businessmen, service workers, bankers, lawyers and members of the press.

The project staff who presented the options comprised the following:

Zones B and D Team Leader/ Water Resources Planner
Deputy Team Leader/ Irrigation Engineer
Public Participation Expert

Zones A and C Water Resources Engineer
Design Engineer 1 (in charge of Zone A)
Design Engineer 2 (in charge of Zone B)
Public Participation Expert

TABLE G.3.4

Attendance of Third Round Public Participation

Thana	Thana Officials	UP Chairmen	NGOs	Political Party	Others
Burichang	12	4	1	2	-
Brahmanpara	12	10	1	2	5
Debidwar	8	5	-	-	-
Akhaura	7	3	-	1	4
Kasba	10	4	1	1	2
Muradnagar	9	9	-	-	-
Nabinagar	8	16	1	-	-
Bancharampur	11	14	-	-	1
Homna	12	7	-	-	1
Daudkandi	4	9	-	-	1

The pattern of all ten meetings was for the project staff to give a brief summary of the project and the aims of the three rounds of Public Participation. The options discussed at village level were presented, with special emphasis on the options in or near the thana in which the meeting was being held. The outline proposed interventions are shown in Figure 3.2. These options, as well as the proposed options from the 1990 study, were then discussed with those present. The meetings generally lasted between 2 and 3 hours.

Zone A

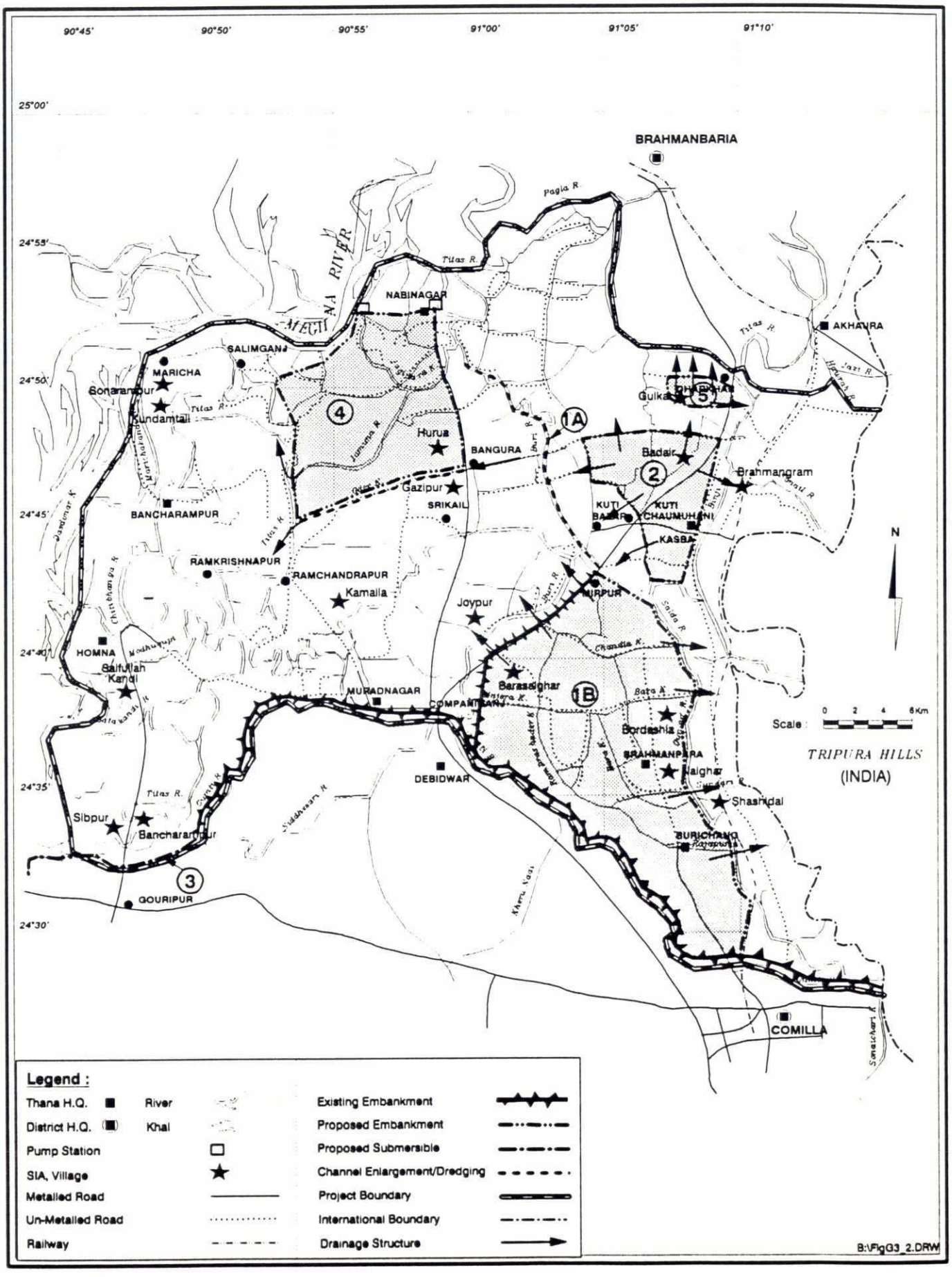
The option to embank the right hand side of the River Gunghur and seal the relevant section of the Comilla to Sylhet highway to complete an area for flood control was explained.

The thana officials pointed out that the scheme was very similar to the "North Debidwar, Brahmanpara and North Burichang Flood Control and Irrigation Project". This was a project discussed in a joint application of 17 union parishad chairmen and submitted to the Minister, Flood Control and Water Development on 11 November, 1991.

The scheme was well received in the three thanas as flash flooding was known to be a serious problem in the area. Brahmanpara thana was generally flooded twice a year, causing damage to boro and aman crops.

The main concern of those present was the effect on the area to the east of the Gunghur River. By preventing flash floods to the west of the Gunghur, water levels to the east would be much higher than they are at present.

Figure G.3.2
Proposed Interventions



The project staff replied that in addition to the embankment, the Salda and Buri Nadi would be excavated, which would improve drainage from the area. In addition, structures would be provided to allow a portion of the flow through the area in a controlled manner. These mitigating measures would be optimised by the computer hydraulic model.

Representatives from Debidwar thana were concerned that the protected area should be properly drained. They were reassured that 3 drainage structures were to be provided into the Buri Nadi. In addition, the existing khals would be re-excavated to improve drainage within the area.

Burichang thana requested facilities which would provide irrigation from the River Gumti and River Salda.

The project staff stated that they would maintain existing LLP arrangements by providing flanged metal pipes through the Gunghur embankment, through which water could be pumped. However, there were no proposals for further extraction from the River Gumti. This was because India was completing an upstream irrigation network which would be fed from the River Gumti. Future water supply from the river was therefore not assured.

Zone B

No objections were made against the two embankment schemes outlined in Zone B.

The meeting in Akhaura thana centred on problems concerning the Hawrah River. Both in terms of flash floods and irrigation requirements. The project staff stated that development of the Hawrah River was a complicated problem, requiring considerable additional data on siltation. A different Consultant had started work on development options for the river. However, it was beyond the scope of this consultancy to do the relevant feasibility studies.

Further suggestions were made for the excavation of the Titas River near Akhaura, as this measure would help irrigation, fisheries and navigation. However, the project staff explained that no immediate plans had been drawn to re-excavate the Titas, as it was not possible to draw water into this part of the Titas during the dry season. The best remedy would be to place a structure in Andersons khal, thereby controlling greater flows into the Titas, near Akhaura. This scheme was, however, beyond the scope of the present feasibility study.

At the Kasba Thana meeting, the embankment scheme was well received. Re-excavation was requested along the Oder Khal. The project team explained that in order to construct the north embankment of the southern scheme, material was required from the Oder khal.

Concern was expressed with regard to embanking the Gunghur and Salda Rivers on the left side, as it was thought that this would worsen flooding conditions in the south of Zone B. The project staff stated that the Salda and Buri Nadi would both be re-excavated, which would minimise the rise in water levels. This problem was noted and would be analysed on the hydraulic model.

Zone C

The schemes to re-excavate the existing khal and river systems and provide pumping stations, offtaking from the River Titas, were explained to the two gatherings at Nabinagar and Muradnagar. The construction of embankments around the irrigated areas was also discussed.

Although the excavation was approved of by all parties, concerns were expressed in Nabinagar about the strength of any embankment. It was correctly pointed out that overtopping of an embankment would cause far greater damage than if no embankment were there.

In addition, concerns regarding the effect on a thriving fisheries industry were expressed. Union Chairmen were split in their opinion concerning the embankment. Some supported the idea because it meant that 3 crops could be grown and others pointed out that 80% of the area depended on fishing for their living and they would be badly affected by full scale embankment protection.

In Muradnagar, questions were asked concerning the viability of pumping from the Gumti River. The problems of future water availability in the river were explained. On hearing this, in consideration of the tubewell constraints for the area, the idea of possibly pumping water from Nabinagar was well received.

Zone D

The outline proposals for khal excavation (for better irrigation and drainage) and possible submersible embankments were outlined to the meetings in Bancharampur, Homna and Daudkandi thanas.

In all thanas, the proposals to carry out khal and river re-excavation were well received. In Bancharampur thana, one of the Union Chairmen supported the option favoured in the 1990 study, to place a polder along the left bank of the Meghna River. It was agreed that since flooding was due more to rainfall than to the Meghna water levels, pumping the drainage water out was also required. After discussions comparing the benefits from the additional cropping and work for day labourers, with the dis-benefits from the destruction of floodplain fisheries, the majority of the Union Chairmen supported this measure. However, in Homna and Daudkandi, all those present were not in favour of full FCDI protection. It was considered that if measures were taken to re-excavate the principal rivers and khals, then present problems of irrigation, fishing and navigation would be overcome and any form of flood control against the Titas and Meghna would not be necessary.

In Homna and Daudkandi, representatives were of the opinion that the Gumti north embankment should be extended. At present the flash flooding which occurred in the Gumti was contained within the embankment, only to be released at this location. At the time of the meeting such flooding occurred, due to the rainfall which occurred around 20 February. The project staff were taken to the area in question to see the extent of flooding for themselves.

Although representatives at the Homna thana meeting stated that the embankment was only required to extend to Gouripur, at Daudkandi, Union Chairmen wanted the extension to carry on to the edge of the Meghna River. The difficulties associated with this, the effect on the southern floodplain and the closing of the Titas River were explained by the project staff.

The concept and need for submersible embankments were accepted at the meetings, as low areas were known to face damage to the boro crop when water levels rose too early.

G.3.4.5 Conclusions

The three rounds of public participation meetings were considered to be extremely useful. They were not used to push pre-conceived ideas at local people, but to identify problems and their solutions from those who would be most effected.

The very diverse nature of the different parts of the project area yielded differing sets of problems and solutions. Whereas flood control embankments were very appropriate in Zone A and parts of Zone B, they were less so in Zone C and generally thought to be quite inappropriate in Zone D.

The three rounds of meetings, which were carried out before any idea of costs or EIRR were known, strongly indicated that a single solution of FCD or FCDI embankment was not wanted. Instead, protection against flash flooding, cheap methods of irrigation supply, and drainage were required, with different priorities in different areas. It was also important not to diminish the huge floodplain fisheries present in much of the project area or to interfere with the navigation of the area.

From this basis, it was decided to propose a set of discrete, phased, interventions which would be sympathetic to the environmental considerations for the area.

G.4 Social Impact Assessment

G.4.1 Aims and Objectives

The Guidelines for Social Impact Assessment (SIA) for the Flood Action Plan drawn up by FPCO indicate that: "the main aim of SIA is to provide data on social impact in a form that can be used in the overall multi-criteria assessment of a project on the basis of which a decision will be taken on whether or not the project should be implemented".

In accordance with the general objectives of the Guidelines, the SIA component of the study is aimed to assess the likely social impacts of the water development options proposed within the course of the study.

The basic philosophy behind the SIA is the concept of sustainable development which aims to combine the need for economic growth with the need for a more equitable access to resources and distribution of incomes among the different strata of the rural society.

Following the widespread acceptance among development planners that there can be no sustainable development without the eradication of poverty, the people's participation guidelines released in November 1992 by FPCO clearly recommend (cf. page 7) **"to focus on the needs of the poor and disadvantaged, to ensure that their interests are taken into consideration in assessing project impacts and to target short and long term benefits to them".**

In the context of the Gumti Phase II project, this means that the negative impacts have to be mitigated and that specific programmes, targeted on the most deprived social strata, have to be supported by the project so as to address the poverty and equity issues in order to achieve sustainable development. In practical terms, this calls for the participation of the poorest strata of the rural communities, including destitute, homeless and landless households, women headed households, and marginal landowners in the economic development induced by the project.

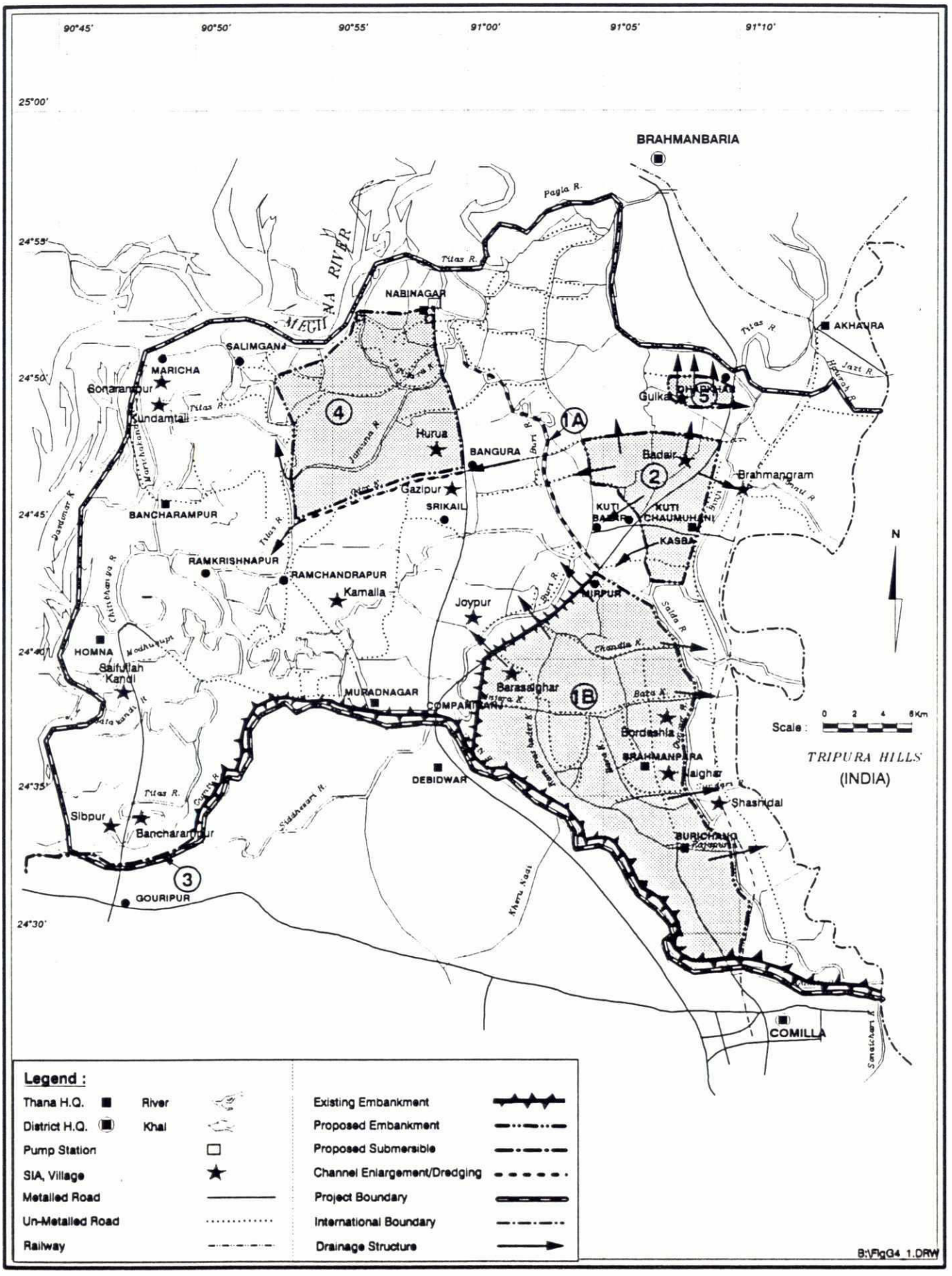
G.4.2 Approach and Methodology

As outlined in the FPCO Guidelines for Project Assessment, SIA involves the six following steps:

- Identification of the social groups to be affected.
- Description of the bases of their livelihood.
- Estimation of the project impact on their livelihood.
- Estimation of the overall impact of the project on income distribution in the project area.
- Assessment of the likely changes in the general quality of life of people.
- Estimation of the capital and recurrent costs of any mitigation measures.

To meet the requirement of the Guidelines, the social study has been divided into three different components including, agro-socio-economic surveys, local participation in the planning process, and people's participation in the social impact assessment exercise.

Figure G.4.1
Social Impact Assessment, Villages Location



In assessing the social implications of the project interventions the focus has been placed on measuring the impacts of the project on the livelihood of different communities; on identifying whether or not the project is likely to contribute to raising incomes, especially of the poor, and on whether or not the poverty and equity issues have been addressed.

Specific emphasis has been focused on obtaining the opinions of various strata of the population on the proposed interventions, including NGOs, in order to get their views and perceptions of the likely project impacts, benefits and dis-benefits. Figure G.4.1 indicates the villages where group discussion for SIA have taken place.

A comprehensive picture of the results of these investigations is presented in the following section while an exhaustive presentation of each group discussion and case study done is included zone-wise in Appendix G.2. The persons met are listed in Appendix G.4.

In several occasions during group discussions, attempts were made to focus on the 1990 Report options consisting in the complete polderization of the project area. However, local people met could hardly comment on it since they usually can express an opinion on development alternatives likely to occur within their immediate environment. Unfortunately no group discussion occurred close enough to the project boundaries as defined in the 1990 report.

In Zone A, the same area is proposed to be embanked in the present study, therefore there was no point of discussing the alternative.

In Zones B and C, the first claim was to get more surface water for irrigation and to improve the drainage. In putting forward the alternative proposal the people never came up with different opinions because they were enable to assess the effects of an overall embankment.

In Zone D, most of the people were not particularly concerned with annual flooding, their main concern being the availability of surface water and the improvement of drainage. Moreover, many people have fishing as primary or secondary activities and the proposal of an embankment along the Meghna was never raised because nobody perceived the need for it.

Overall, it seems that the need of embankment always received lower priority when compared with the need for improved drainage and surface water for irrigation. In this regard, any interventions aimed at developing irrigation and improving drainage is warmly welcome while embankment is not seen as essential. Because the 1990 Report options focused much more on embankments than the options proposed in this study, it can be said that the current proposals are more closely responding to the people's needs and as such should be preferred.

G.4.3 Impact of Development Options

G.4.3.1 Perception of Benefits

The proposed interventions in the Gumti Phase II project area, comprising Flood Control and Drainage (Zones A and B), Flood Control, Drainage and Irrigation (Zones C and D), Drainage and Irrigation (Zones C and D)

and Submersible Embankment Schemes (Zone D) seem to be well accepted by all the persons met during the field investigations carried out at the beginning of April by the SIA team.

However, it should be mentioned that embankment schemes, though not being opposed, do not seem to be perceived as essential and have usually received lower priority than interventions aimed at minimizing drainage congestion and increasing availability of surface water for irrigation during the winter season.

A very common argument in favour of the project interventions is its expected agricultural benefits. Farmers indicate that the re-excavation of canals will improve the drainage of flood water, minimizing damage caused to boro and aus crops by flash flood water during the pre-monsoon period. In addition, the better and quicker drainage of monsoon floods will enable farmers to expand areas under aman production and/or to shift from local varieties to higher yielding ones (HYV aman). Also, re-excavated canals will have a better storage capacity and will be able to help retain water throughout winter season. As a result, more surface water will be available for dry season farming and the irrigated areas will expand, especially the cultivation of IRRI boro.

As a whole, the project interventions are expected to lead to an increase in the cropping intensity, to reduce flood damage and to increase agriculture yields, production and value added. In turn, these induced changes in the agriculture sector are expected to contribute to raise farm incomes and would generate additional on-farm employment opportunities for members of farmers kin groups and/or for hired wage labourers. People also mentioned that if the production of paddy increases, poor women, who are quite often involved in paddy processing will get additional work and income.

Some people indicated that fish pond culture will benefit from the project since improved drainage and/or embankment will reduce the risk of ponds being submerged by flood waters resulting in fish escaping and therefore in loss for pond operators. With flood protection, pond culture will be less risky and more private investment in aquaculture is expected resulting in additional work opportunities and income in the project area.

The different project interventions are also expected to generate short-term benefits during the implementation phase in terms of additional employment opportunities and income for landless labourers and poor women who are often involved in minor earth cutting schemes.

Another benefit linked with the project interventions is the overall improvement of communication networks which would reduce transportation costs of traded goods. In places where canals will be re-excavated, navigation will be possible round the year and more people will get employment in the water transport sector. Where embankments are constructed, terrestrial transportation will become easier and will become cheaper and more competitive.

Generally, people expect rural incomes, household consumption, savings and investment to raise as a result of project interventions. This will have a positive impact on the overall economic development of the areas and on the economic well being of the population.

However, the realization of the agricultural benefits of the project is not straightforward and will critically depend on the quality of the construction and re-excavation works and on the farmers financial capabilities to increase the level of investment in their farm, especially to get irrigation water.

In this respect, some farmers indicated that the availability of more surface water does not necessarily mean that more areas will be irrigated. They underlined that capital investment is required to purchase pumps and to develop minor irrigation canals. Most of them mentioned that they cannot raise such funds by themselves and that credit support would be required to fully realize the agriculture benefits of the project.

People also indicated that the institutional framework through which the different interventions would be implemented must be appropriately chosen to avoid mismanagement and poor quality of the work. For instance, the traditional implementation system through a local "Project Implementation Committee" (PIC) comprising U.P. chairman and members has been widely criticized for its inefficiency (poor quality of the work, mismanagement and corruption) and inability to ensure a proper implementation of earth work schemes.

G.4.3.2 Perceptions of Negative Socio-economic Impact

Though the potential agricultural benefits of the project are well perceived by every stratum of the rural society, some localized issues linked with the loss of cultivable land, the reduction of open water fisheries resources and the disruption of navigation communication system were quite often raised in areas which are proposed to be sealed off by an embankment as part of FCD interventions.

Re-excavation of canals is not expected to have significant dis-benefits except in areas where the land along the channels is privately owned. To dispose of the excavated silt, land acquisition may be necessary which will result in loss of cultivable land for those having plots along the river banks.

- **Loss of Cultivable land and/or of Homestead Land**

The land acquisition requirements of the project are significant throughout the area but are more important in Zone A (FCD - south-east polder) and Zone C (Nabinagar - FCDI polder). The loss of cultivable land will affect all the households owning and/or getting access to a plot of land situated on the alignment of the proposed embankments. Knowing that access to land is a key determinant to the economic position and vulnerability of a household in rural Bangladesh, any development interventions involving land acquisition could have serious adverse negative social impact unless proper mitigatory measures are built-in the project design.

Several issues have to be considered to mitigate the loss of cultivable land. First, land should be acquired at current market prices and payment should be made to the owners before the beginning of the construction works.

Second, specific measures aimed to provide an alternative source of livelihood to those who have become landless as a result of the land acquisition process should be designed. Among these measures could be giving preferential rights of access to government land (borrow pits, slope of embankment, ponds etc.) and provide credit to support investment in income generating activities such as livestock farming and fish culture, or in certain types of small business.

Third, those who have lost their homestead should be resettled in surrounding areas and the resettlement costs, including purchase of homestead land and building of a new house, should be entirely born by the project.

- **Loss of Fisheries Resources and Impact on Fishermen Livelihood**

The overall impact on the fishery production system of FCD and FCDI is generally extremely negative because flood control reduces fish habitats, particularly in the floodplain, and inhibits access of fish to breeding and feeding areas. As a whole, fish production from flood lands and from beels is expected to be reduced and to be dominated by lower valued species. This also holds true in the case of submersible embankments which significantly hamper fish migration resulting in major changes in species in favour of low valued ones.

This assumption was supported by fishermen of Chandal beel (Zone D) who say that they are catching fewer and fewer "big fish" now that a submersible embankment and a sluice gate was built around the beel to prevent early monsoon flooding of boro crops.

Given the socio-economic importance of inland waters in rural Bangladesh (and particularly the Gumti Phase II area) the reduction of fish catch in both floodlands and beels is a major negative impact which has quite significant social implications. First, during the monsoon floods, fish is a common property resource which becomes available practically at the doorsteps of the people. As a result, during the monsoon months, where agriculture related works are limited, almost all members of poor households fish in the floodlands for their subsistence. A reduction of fish availability in the floodplain will have a direct negative impact on the poorest strata of the rural society.

Moreover, fishing provides full-time employment and is the main source of income of a small but significant number of households, especially in Zone D (3% in 1981). Because the management of most inland water fisheries is conducted through a regulatory system consisting of periodic leasing of segments of water areas to middlemen who subsequently engage fishermen under various sub-leasing arrangements, the fishermen are usually exploited and poor, since the biggest portion of the benefits go to the middlemen.

In fact, this system leads to a mode of production characterized by high dependency of fishermen to leaseholders and the appropriation of the largest portion of the benefits by the various members of the sub-leasing chains at the expenses of fishermen's share. With the decline of fisheries resources, which is to be aggravated by the project interventions (FCD/FCDI), professional fishermen's incomes will decrease sharply because the catch will be reduced while the amount of money paid to middlemen as lease fees will remain stable.

To have a more precise picture, it should also be indicated that a large portion of the full-time fishermen communities belong to low hindu casts who state that they are largely marginalized and their interests rarely considered when water management schemes are designed and implemented. However, it is clear that the proposed project interventions (FCD, FDCI) will give a serious blow to the traditional form of livelihood of these communities and this issue has to be addressed if the project is to be declared socially sound.

G.4.3.3 Equity and Poverty Alleviation Issues

If the economic objectives of the project interventions are likely to be met and realized through incremental agricultural benefits, the distribution of those benefits will be biased towards the households of the upper income

groups. Since the major benefits are obtained in terms of increased farm incomes, the main beneficiaries will be the landowners which, under the prevailing sharecropping system, are capturing the biggest portion of the farm profit. Those who have no access to land will be either indirectly concerned by the project effects through a probable raise in on-farm employment opportunities throughout the area (wage labourers) or severely affected (fishermen).

Income distribution and equity issues were raised several times during the SIA field investigations, especially by landless members of Comilla-Proshika organized groups. Although they consider that the agricultural benefits of the project are real and that, indirectly, landless labourers will be better off due to the induced increased duration of their employment in a year, they did mention that the biggest share of the project benefits will be captured by higher income groups, mainly landowners and businessmen. To them, the "inequity" of the prevailing sharecropping system, where 50% of the harvest is going to the landowners though he does not bear any input cost, is one of the main obstacles towards improving income distribution in the project area. This is also perceived as a constraint for the rise of the socio-economic status of the poorest economic groups. To back up such a statement, they often indicate that the earnings of a sharecropper are just sufficient to cover the cost of his labour, i.e. to pay for the time he spends working in the farm, while the profit is going to the owner of the land.

The engineering interventions alone do not intend to address the issue of poverty alleviation and fail to recognise that there can be no sustainable development without eradication of poverty. Given the severity of the poverty problems and some of the worsening trends of the evolution of poverty in rural Bangladesh over time (see section G.2.2), poverty alleviation has to be a built-in component in any rural development project. In this respect, some of the project interventions should be targeted to low income and minority groups so as to improve their living conditions and contribute to reducing poverty in the project area.

However, to design appropriate poverty alleviation strategies, it should be recognized that "poverty is grounded in the lack of access to resources, stemming in turn from the existing inequitable distribution of resources of all kinds, the resultant power structure, and institutional structures" (Rural Poverty in Bangladesh, a Report to the Like-Minded Group, coll.1990). In fact, without addressing these issues, an increased supply of resources will be of little help to tackle poverty because the poor cannot get access to them. Instead, the enlarged supply is more likely to reinforce the polarization process unless social and political actions are taken to counter the inequitable distribution of resources.

Bearing in mind these general social realities, supporting poverty alleviation efforts could mean, in the context of Gumti Phase II project, supporting the extension of NGOs activities in the project area on the grounds that NGO targeted programmes are the only ones to date with positive records in addressing poverty. Also, the project support to an NGO should be understood as a major effort to involve as many people as possible in the project by ensuring that every stratum of the society will get some benefit out of the project. Within the government framework, BRDB has developed the Rural Poor Programme which also opens scope to support poverty alleviation efforts although its effectiveness in reaching the poor has yet to be ascertained.

G.4.4 People's Perception

G.4.4.1 Zone A

All the farmers contacted throughout the project area expect that farm income will rise as a result of the project interventions and so will their economic well being. This benefit is equally well perceived by the male and female members of the households.

For instance, a group of women belonging to medium farming households (Brahmanpara, Zone A) mentioned that they expect the overall increase in agriculture production in the area to lead to additional income for their households. They also indicate that if the economic position of the household is better then they, as women, will be automatically better off since they will be able to afford to get somebody to help them carry out household work. Also, they underline that the health of family members will improve because they will be able to afford medicines whenever required. Also, food crises will no longer occur and family members will have a more regular food intake throughout the year.

A group of landless widows (Brahmanpara, Zone A), who are within the kin group of a farming household, expect that their income will increase due to the extra demand of labour linked with the increase in the cropping intensity. However, few expect to participate in earth cutting work since, by doing so, their kin's status will be depreciated and they will not let this happen.

Several poor landless women working in the Rural Maintenance Programme (RMP) sponsored by CARE in Debidwar thana (Bara Salghar union, east of Buri River) expressed their feeling that the whole area will benefit from the re-excavation of the Buri River, including themselves and fishermen. They underline that farmers will grow more crops and will have better yields due to a better drainage of monsoon water. In turn, landless labourers will have additional employment opportunities in the short-term (re-excavation and embankment construction) and in the long-term (additional demand of labour for agriculture). These women expect also to benefit from the project by participating in the re-excavation works and in the maintenance of the completed scheme.

Landless labourers extend their support for the project on the grounds that development of agriculture will bring additional well-being for the majority of the population. However, they mentioned that the main beneficiaries of the project will be those who have land while they will only indirectly benefit from the project if more employment is available for them.

According to these landless people, the dependence of poor people on floodplain fisheries for their livelihood is very minimal and they do not perceive that the embankment will seriously alter their living conditions.

However, they do not reject the possibility of emergence of localized conflicts linked with the land acquisition process, especially if the motivation and the compensation of the likely "losers" are not properly dealt with.

According to area coordinators of Comilla-Proshika met in Brahmanpara and Burichang, the re-excavation of canals is expected to bring benefits to the entire population, including landless. These benefits are linked with:

- the improvement of navigation and road networks (due to embankment) which would increase the volume of traded goods to be transported. This means additional income for landless involved in the transportation sector.

- the increase of the cropping intensity (better drainage and expansion of irrigation), of paddy production and of the related demand for agriculture labour.

- the reduction of flood damage to crops. Therefore, the sharecroppers and lessees will have more secure earnings.

- the increase of paddy production and of the employment opportunities in rice processing during and after harvesting.

- the protection of fish ponds from flood. Therefore, pond culture will become more profitable and will expand. As a result, the landless groups who lease these ponds will have better and more secure incomes.

However, they both noted that the bulk of the project agricultural benefits is going to be captured by landowners which will contribute to raising the equity gap a bit further. Given the existing sharecropping system where the sharecropper bears all input cost and gives away 50% of the harvest, the farm profit is most entirely captured by landowners. In fact, what is left to the sharecropper is merely sufficient to cover the cost of his own labour. As far as the lease system is concerned (pathan), the lessee has to pay to the owner a fixed amount annually before getting access to the land. In both cases, landowners are getting the majority of the farm profit while farmers' income are not much higher than those of a daily labour.

G.4.4.2 Zone B

For the farmers consulted, the proposed project (polderization and khal re-excavation) seems to be well accepted on the grounds that the development of agriculture production will benefit a majority of people including landowners, sharecroppers and wage labourers. However, they did perceive a negative impact for the fishermen communities if the embankment is constructed.

If interventions are carried out, the area under HYV aus and aman cultivation will increase leading to higher levels of paddy production and farm income. Wage labourers will have additional employment opportunities in the agriculture sector to meet the surplus labour demand linked with the increase of cropping intensity. They will also have additional earth cutting work during the re-excavation of Sonai River. Eventually their income will increase and their dependence upon others (loan) to sustain their livelihood could be reduced.

Moreover due to polderization and improved drainage, fish ponds will not be submerged at the time of flood and benefits derived from culture fisheries will be more secure.

However, these farmers understood quite well that, if implemented, this project will have two major dis-benefits, the loss of cultivable land and the reduction of capture fisheries resources. In this respect, they indicate that these two issues should be properly addressed so as to avoid the emergence of a conflicting situation with landowners trying to impede the construction of the embankment and/or fishermen trying to cut it to allow water inside the polder.

The area coordinator of Comilla-Proshika in Kasba agreed with the proposed interventions in this area. According to him, the project will contribute to increase the agriculture production and farm incomes due to reduction of flood damages and increase of irrigation facilities.

Though he mentioned that the main beneficiaries will be the landowners, he did note that sharecroppers and lessees (landless farmers) will have better production too and their investment will be less risky. As a result, their income will become more stable and secure.

However, he indicated that the dredging of Buri Nadi River will require motivation of the landowners and settlers because all the land along the river banks is privately owned. Therefore, land acquisition will be necessary and some difficulties could occur if the compensation process is not properly handled and implemented.

In Akhaura, Dhaka-Proshika extended its full support to the khals re-excavation component of the project which he perceives as a priority work to solve the drainage congestion occurring in the area during both pre-monsoon and post-monsoon periods. However, he does not fully realize the necessity of the Dorkhar polder. In this respect, he has noted that the embankment will adversely affect fisheries within the polder causing difficulties for the fishing communities.

G.4.4.3 Zone C

In Muradnagar (Akubpur union), in a village located outside the initially proposed polder on the south of Oder khal a landless woman mentioned that if the Oder khal is re-excavated many people will be able to use this water for agricultural purposes and she believes that the entire population will be better off. Currently, there is a surface water scarcity in the area impeding the expansion of irrigation. Therefore, employment opportunities are limited and many people have to migrate out of the area to find employment. She hopes that with the project, less people will be forced to leave the village. Also, she mentioned that she will be ready to participate in the project by doing earth cutting works.

In Zinotpur union (inside the initially proposed polder), the farmers met supported the project (polderization and pumping in the canals) because it would allow them to increase the cropping intensity (additional boro crop due to surface water irrigation) and to transfer to more productive crops (T aman instead of B aman). Being protected from flood and drought, the crops will be more secured and the risks of damage will be reduced. As a result, farm income will improve.

They also noted that more work for agricultural labour will be available and the wages are likely to increase due to the higher demand for labour, especially during paddy harvesting periods. Therefore, wage labourers are likely to have a better and more regular income and their propensity to migrate to find employment will reduce. Their livelihood will be more secure and stable.

However, these farmers do not reject the possibility of emergence of localized conflicts linked with the land acquisition process (for the embankment construction) if the compensation of the "losers" is not properly done. For khal re-excavation, the participants mentioned that the spoil, if piled on the river bank, is likely to be taken away by nearby households who will use it to raise their homesteads. Therefore, the possible damage on cultivable land located along the canals is likely to be minimized.

As farmers, they do not depend much on flood plain fisheries though they occasionally fish during the monsoon for home consumption. They perceive that with the embankment, floodplain fisheries will be adversely affected and that less fish will be available. However, they have already faced such a situation in 1992 where the floodplain remained more or less dry during the monsoon and they mention that though it created some difficulties, they were not major ones.

Yet, they reckon that the people who depend more on capture fisheries will face serious difficulties which, according to them, could be minimized since more employment opportunities in the farming sector are available. Moreover, they feel that culture fisheries (in pond, ditches, borrow pits, etc.) has a good scope of development and could provide alternative sources of income for the fishermen and landless people.

G.4.4.4 Zone D

The fishermen of Chandal Beel mentioned that no changes will be induced by the project. As fishermen, they have nothing to gain from the proposed interventions.

For the farmers near Homna, the proposed project (khals re-excavation) seems to be well accepted. If the proposed interventions are carried out, the area under boro and aman cultivation will increase leading to higher levels of paddy production and farm income. The increase in the cropping intensity will generate additional demand of agriculture labour and landless labourers will get more work and therefore more income. Also, with more water in the khals, the fisheries resources will increase and so will fishermen's income.

However, these farmers understood quite well that, if implemented, this project could have one major dis-benefit linked with the loss of cultivable land due to the earth cutting required for the re-excavation of the canals. In this respect, they indicate that it should be properly addressed so as to avoid the emergence of a conflicting situation with landowners whose land is going to be lost.

In Majidpur union (Daudkandi), inside the southern submersible embankment, some landless sharecroppers mentioned that the proposed project seems to be well accepted. If the submersible embankment is constructed, the increase in the cropping intensity will generate additional demand for agricultural labour and landless labourers will get more work and more income.

However, these participants underlined that, if implemented, this project could have three major dis-benefits linked with the loss of cultivable land, the reduction of fisheries resources and the disruption of communication waterways. In this respect they did note the occurrence of conflicts linked with land acquisition and with the loss of livelihood for fishermen.

The area coordinator of Comilla-Proshika based in Sonarampur (Bancharampur) fully supported the re-excavation of canals proposed under the project which, according to him, will contribute to raise agricultural production and related employment for landless labourers. Also, more scope for selling water for irrigation will be available to landless groups supported by his organization.

As a whole, he indicated that rural incomes will increase and that communication through waterways will be facilitated. This would contribute to reduce transportation costs for trading goods and will have a positive impact on the overall development of the area.

However, he regrets that the problem of beel fisheries did not seem to have be fully investigated in the nearby Chandal beel, where local hindu fishermen felt that a recently constructed sluice gate in the southern end of the beel is hampering fish recruitment from the River Titas. He mentioned that a more "fish friendly" type of sluice gate could be constructed to replace the controversial one.

G.4.5 People's Participation in the Design Phase

G.4.5.1 Issues to be Addressed

Until very recently, the development approach followed by government and donor agencies hardly recognized any roles to local communities in project planning and design. This attitude contributed to failures of water development projects throughout the country to achieve their developmental objectives. This is particularly true for FCD and FCDI schemes which, in many cases, where not able to meet their agricultural production objectives. Among the reasons often quoted are the following:

- opposition of adversely affected people resulting in such actions as breach of embankments, which are ultimately aimed at restoring pre-project situation;
- poor implementation due to mis-management and corruption practices resulting in the development of infrastructure which did not follow the required technical specifications and thus were not effective in meeting their objectives;
- poor maintenance of the infrastructure resulting in low efficiency of the scheme;
- lack of technical and financial support to avail the improved agriculture production opportunities allowed by the construction of the scheme.

The involvement of local people, in a structured and coordinated manner, right from the design and planning phase, could minimize such failures and improve the efficiency and effectiveness of development projects. People's participation is required so as to get opinions and ideas from various quarters of the local communities and to include them in the project design.

In particular, the participation process should enable the planners to address the following issues in a socially acceptable way:

- mitigation of negative impacts e.g. identification of dis-beneficiaries and design of socially acceptable compensation measures and procedures;
- implementation and maintenance procedures, e.g. how the project/scheme will be implemented and how the maintenance of the infrastructure will be ensured;
- technical and financial support required by the would be beneficiaries to allow them to maximize the benefits to be derived from the scheme.

If people's participation is widely and seriously ensured in the design phase, the project designed from the outset is likely to be socially viable, acceptable and commendable. To achieve that, it is essential that:

- the economic and social interests of various socio-economic groups, e.g. including those of the poor and the destitute, are considered in the project design;
- the interests and opinions of the majority have superseded the vested interests of the few privileged elites;
- those who are going to loose all or part their livelihood as a result of the project are precisely identified and taken care of;
- the amount of compensation is fair and matching the real loss incurred by these people;

Based upon the above considerations, the issues which will have to be addressed through people's participation are linked with the following aspects:

G.4.5.2 Questions to be Discussed with People

- **Khal Alignment, Disposal of Spoil, Land Acquisition and Compensation, Displacement**

These issues are closely interrelated because each possible option in terms of alignment and disposal of spoil can be translated in terms of area of land to be acquired and/or compensated and in terms of number of people to be displaced. As a result, the choice of a particular option for alignment and soil disposal cannot be entirely based on technical criteria but should also be socially acceptable, and, as

such, should be assessed through the participation process. In particular, the following questions should be answered by all the local people concerned:

- should the width of the khal be extended or is it better to leave it as it is and to instead increase the depth of the khal?

- should the spoil be spread over cultivable land? is it better to raise small embankments along the khal which could be used as roads? or it may be that local people need soil to raise their homestead ?

- if the spoil is spread over cultivable land, who is going to be affected (owners and/or sharecroppers), how (which crop will be lost, and how many) and by how much (crop valuation);

- if land acquisition is inevitable, which landowner/landholder is going to be affected, how (loss of homestead, loss of cultivable land) and by how much (area to be lost and estimated value)?;

- what are the socially acceptable mechanisms for compensation to be defined in terms of timing of the compensation (before the work during or after), its amount (land/crop/house valuation) and its nature (in cash or in kind);

■ **Implementation and Maintenance Procedures**

Traditionally there are two different ways used by BWDB to implement earth work schemes in Bangladesh. In Food-For-Works schemes, BWDB is disbursing wheat to a Project Implementation Committee (PIC) formed at the Union Parishad level which is then responsible for the implementation and supervision of the work. This usually applies to minor works with low technical requirements. For other works, BWDB is executing the work via civil work contractors or, recently, via Labour Contracting Societies (LCS) which are registered as D-class contractor. A LCS is a group of 50 labourers previously organized by either BRDB or a NGO.

- LCS are registered under BWDB as a D-class contractor.

- LCS will take up the schemes as per standard BWDB estimates.

- BRDB or the concerned NGO will sign a letter indicating that they stand as guarantor for a given LCS in order to fulfil the clause of solvency which is required to be a contractor.

System Rehabilitation Project (SRP) representatives expressed their full satisfaction upon the work accomplished so far by LCS and indicated two aspects of the system which need to be developed and could be generalized:

- The labourers are trained before starting the work and they are paid upon measurement and on a regular basis. Therefore, the labour force is found to be exceptionally good and productive.

- The other great benefit which does not exist with contractor or Project Implementation Committee (PIC) is that the labourers get full payment of the work done because they are paid directly without intermediaries.

For the proposed re-excavation works, local people should be consulted on the implementation system which seems to be the most appropriate. Also, the procedures for maintenance should be defined and commitment from people obtained prior the beginning of the work.

From the experience of SRP, who is now working on FCDI projects which were designed and implemented without consultation with the beneficiaries, it seems that involving the beneficiaries in the operation and maintenance through direct contributions, is very difficult because the project is considered as a gift, and everybody expects that the implementing agency will take care of the maintenance.

However, people's attitude could have been different if direct consultation of the beneficiaries had be done during the design phase of the project so as to assess which level of commitment they are prepared to give to the project.

Based upon proposals made by the beneficiaries, there should be some sort of undertaking or commitment from their ends to ensure the sustainability of the project through proper maintenance. Following this general commitment to sustainability, the beneficiaries should form a group and gradually built up and maintain a fund with members's contributions which will be used for the regular maintenance of the schemes.

An alternative to the raising of monetary contributions from the members for the establishment of a "maintenance fund" would be to obtain a commitment from the beneficiaries group that the maintenance will be taken care of by the members through contribution in kind. e.g. by their own labour.

The on-going experience of SRP project which has developed specific approach to maintenance of different infrastructures, should also be discussed with the people and their relevance for Gumti Phase II assessed. A brief description of the SRP approach is given below:

- **Maintenance of the Embankment**

This is done by a ten members group of female labourers which is either a BRDB organized group (MBSS), or a NGO one if available. This institution is called Embankment Maintenance Group (EMG). Each EMG is responsible for 7 km of embankment and all members must live in the vicinity of the embankment. They work 5 hours a day and are paid Tk 25 for each working day, excluding weekly and national holidays. The EMG must be recognized and registered by an organization which will stand as guarantor. The work is supervised by a section officer from BWDB who will certify that the EMG is working as per normal procedures, on a weekly basis. Also, the consultant from SRP is also inspecting the EMG. The payment of EMG is made monthly by a transfer from BWDB account to EMG account upon recommendation of the consultant. The equipment supplied to EMG are spade, basket and durmus.

- **Maintenance of the Khals**

The project has not started this activity yet but they plan to maintain the khals through the same procedures. The groups in charge of the work will be called Canal Maintenance Group (CMG). The CMG will be composed of male labourers who will work 8 hours a day and will get Tk 40 per working day.

■ Fisheries

Some fishermen recommended that the re-excavated khals be divided into lots and leased out to fishermen societies. Also, ponds and/or ditches could be leased out for culture purposes to those affected by the project construction works. The participants indicated that there are already some successful cases where fishermen have leased out ponds to culture fisheries. This practice could be developed more to mitigate the loss incurred from floodplain fisheries.

They also underlined that culture fisheries development should be focused on and supported by GOs and NGOs. More particularly, support could be given to re-excavate old ponds and to facilitate fingerlings supply.

To improve their situation, some fishermen indicate the following points:

- longer lease term for the lease of the beel (10 years). This will secure their livelihood for a longer period and will allow them to invest in fishing equipment.

- access to credit facilities in order to raise funds to purchase fishing gear and boats as well as to develop fish drying/processing activities.

■ Women's Participation and NGOs support

Most of the poor/destitute women are demanding more employment opportunities in order to have a regular income throughout the year. They are ready to participate in the earth cutting work required for the re-excavation of rivers and canals. They mention that women's groups could be organized by NGOs and contracted to do the excavating work and later the maintenance.

Moreover, these women are demanding the support of NGOs to help them with income generating programmes and social welfare programmes such as sanitation, health and education. As far as these destitute women are concerned, alleviating poverty should become one objective of the project. To this end, it seems that the support of specialized NGOs should be envisaged and put forward.

However, for "social status" reasons, the majority of the middle and upper class women would not engage themselves in outside work and though they are not demanding employment opportunities, they have expressed an interest for income generation programs (poultry, handicraft etc) and for the support of NGOs.

Most of the women consulted said they would welcome, and are prepared to participate in, income generating programs including tree plantation along the embankment. Here again, they advocate the role and support of

specialized NGO services such as Comilla-Proshika which has recently started up a roadside afforestation programme in the project area.

- **NGOs Support**

Beyond the indirect benefits which might accrue to them through additional employment opportunities and income, most of the poor persons (including fishermen and weavers) met mentioned that the support of NGOs to provide them with credit for income generating activities could help them to raise their living conditions and achieve self-reliance.

During field investigations, the members of Proshika-Comilla organized groups were very strongly expressing the need to extend the support of NGOs in the area. They mention that, as far the poor and needy are concerned, income generating and credit programmes are required to raise their living standards and, from their experience, they reckon that NGOs are very effective to provide them with support and hope.

They also indicated that the support of NGOs could be necessary to improve the overall socio-economic development in the area and to help the poor. Also, NGOs could be involved in the organization of labour groups which could then be contracted to perform the re-excavation work.

Credit support should be extended to landless organized groups to enable them to purchase irrigation tools (pumps and tubewells) and operate them. They will then sell the water to farmers capturing hereto a part of the farm income.

For the people who are likely to be worse off as a result of the project, some targeted interventions should be designed to provide them with alternative sources of livelihood. For instance, through skills training and development of income-generating activities these people could be made better off, reducing the risk of conflicts and increasing their acceptance of the project.

G.4.5.3 Proposal from NGOs Representatives

- **General Views**

From discussion with representatives from Comilla-Proshika, with their group members and with other landless "non-affiliated" persons, some practical measures which would contribute positively to raise lower classes income could be adopted by the project.

- re-excavation works should not be done through local project implementation committee (PIC) because, due to common abuse of power and mismanagement practices by PIC members, the labour force is usually underpaid, e.g. a portion of their wages is retained by "the authorities in charge". This is a very common situation in all Food For Work (FFW) schemes, even those implemented through CARE.

- instead, minor works should be done through organized labour groups of LCS types (Labour Contracting Society) under the supervision of NGOs. For instance Comilla-Proshika which is well established throughout the project area.

Also, some persons put forward the idea of "village-based-committees" to supersede the traditional union-based committee (PIC system) but there is no guarantee that they will be more efficient.

- **Brahmanpara, Comilla-Proshika ADC**

  - fish pond re-excavation and culture fisheries should be further encouraged and developed through CP and relevant government agencies (DOF)

  - there is a large scope to extend the on-going CP afforestation programme on the newly constructed embankment and on existing roadsides

  - development of electricity supply

- **Burichang, Comilla-Proshika ADC**

  - duck farming in borrow pits and re-excavated khals could be developed and supported by CP and relevant government agencies

  - roadside and highway afforestation

  - development of pond re-excavation for fish culture

  - landless labourers could be organized in groups of LCS type to execute minor earth works, such excavation of small canals and construction of internal embankments

  - monitoring and supervision of minor earth works (measurement of quantities, payment of labour, work quality) could be done by CP since they have equipment and engineering staff for such work.

- **Kasba, Comilla-Proshika ADC**

  - roadside afforestation and plantation

  - organization and support to landless labourers (through credit) to purchase low lift pumps which they will use to sell water for irrigation

  - changing of the existing sharecropping system (50% to sharecropper - 50% to landowner) to reduce its current exploitative nature. Through organization and awareness raising among landless farmers, the Tebaga system, also called the "three shares system" should be encouraged. In this system, each production factor (land, labour, capital) is given an equal share of the harvest, e.g. 33%, which enables the sharecropper to capture a bigger portion of the farm profit. With this system, a sharecropper who bears all input costs and provides his labour, would receive 66% of the harvest as against 50% in the current system.

- fish pond re-excavation and culture fisheries should be further encouraged and developed through CP and relevant government agencies (DOF)

■ **Akhaura, Dhaka-Proshika ADC**

- landless labourers could be organized in groups of an LCS type to execute construction and maintenance works (earth work)
- landless groups could also be involved in selling water for irrigation through credit support for purchase of low lift pumps or tubewells.
- roadside and embankment afforestation programme
- fish pond re-excavation and utilization of borrow pits and ditches for fish culture should be encouraged and developed

■ **Bancharampur (Sonarampur), Comilla-Proshika ADC**

- landless labourers could be organized in groups of LCS type to execute re-excavation works
- landless groups could also be involved in selling water for irrigation through credit support for purchase of low lift pumps or tubewells.
- the roadside and embankment afforestation programme could be expanded and included in the proposed project interventions
- the fate of hindu fishermen minorities (like those living near Chandal beel) should be considered and specific poverty alleviation schemes could be targeted to improve and secure their livelihood. Comilla-Proshika could be involved to provide them credit support and other informal health and education services.

G.4.6. People's Participation and Poverty Alleviation Programme

Given that around 30% of the households were already landless (households with less than 0.05 acres of agriculture land) in 1981 this proportion has probably reached the level of 40 to 50% today. Earning a living through farming (sharecropping), fishing and wage employment in agriculture and non-agriculture sectors, the landless households are mostly living around the poverty line depending upon the seasons and the related employment opportunities.

As a result, they regularly suffer temporary "food crises" during which they cannot afford more than 1 meal of rice in a day or two, living on petty loans from neighbours, relatives and moneylenders.

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As already mentioned, the landless will be only indirect beneficiaries and most of the project benefits will be captured by higher income groups. Needless to say, that this is a "normal" pattern in an exploitative and inequitable society, in which the distribution of natural resources are uneven and concentrated within the hands of the upper class of the rural society.

In such a societal context, designing interventions to promote income transfer and redistribution and to tackle poverty as well, is not an easy matter which could be solely addressed at the micro-level of a project. Obviously, there is a need for global policy decisions on these issues, which extend far beyond the scope of this study.

However, it should be underlined that it is possible to design specific targeted interventions as part of a water development project like Gumti Phase II, which could have positive redistribution and poverty alleviation effects. As far as the project is concerned, this would mean to maximize the amount of benefits going to landless groups, or, in other words to improve the "participation" of the low income groups to the distribution of project benefits.

The participation of poor people to the benefits of a water development scheme cannot be achieved without specific targeted interventions for the simple reason that the poor lack the key resource to benefit from the scheme: they do not own land. Moreover, whenever they hold some agriculture land through sharecropping or leasing arrangements, the terms and conditions are not in their favour and they get little benefit out of it.

As a result of the project SIA it is recommended that specific interventions be designed, within the Gumti Phase II project area, to address the poverty and the equity issues on a more significant scale. The proposals developed below intend to indicate what kind of measures could be feasible and how to achieve them.

As already outlined, the prerequisite to poverty alleviation and to the participation of low income groups to the project benefits needs support. The Rural poor programme of BRDB is gradually expanding but seems to suffer from the traditional difficulties for government agencies to effectively reach the poor. However, the capabilities of NGOs in this field have already been widely demonstrated and praised by numerous donor agencies. In this respect, the Gumti Phase II project should support and sustain the expansion of the activities of Comilla-Proshika which is the sole Bangladeshi NGO to work in the area.

To be comprehensive, the people's participation and poverty alleviation programme should have four interrelated goals and objectives, viz. (a) institutional development (group formation, awareness raising and group savings), (b) human resources development (training and capacity building), (c) socio-economic development (income generation, credit support), and, (d) environmental development (roadside-embankment afforestation, homestead afforestation, open water fisheries). Because Comilla-Proshika is already present in the area implementing programme having similar objectives, the project could support the efforts of this NGO to expand and intensify their activities within the project area.

As shown in Appendix G.3, Comilla-Proshika is prepared to expand its activities in the project area to target an additional 50,000 households over a 5 years period. The main features of the activities which could be performed by Proshika are presented below:

- **Institutional Development** through group formation and savings. Among the target beneficiaries will be landless labourers, water users, fishermen, women and other rural poor. This component covers the organization of landless labourers in "Labour Contracting Societies" (LCS), supervision of the re-excavation and/or construction work which would be contracted to them.

- **Human Resource Development** achieved through regular training of both staff and group members (beneficiaries).

- **Capital Resource Development** through a credit programme aimed at supporting the development of income generating activities for group members. Among others, the development of fish/duck culture (pond / ditches / borrow pits) by helping the organized groups to get access to khas land and to raise capital investment funds will be supported. Also support to organized groups to purchase irrigation tools (pumps, tubewells) for water selling to farmers will be provided. Also, specific attention could be given to support the landless to improve fishing equipment and to invest in connected activities such as fish drying/processing, net making and boat repairing.

- **Environmental Development** through social forestry (homestead afforestation) and roadside/embankment afforestation programme.

- **Skill Training** for group members. This covers training in irrigation and water management pump maintenance, fisheries, poultry and livestock as well as farm management.

- **Informal Primary Education Programme**

As shown in Appendix G.3, the estimated cost is 168 million Tk for 5 years period out of which Tk 100 millions are a revolving fund to support income generating activities for the poor, including fishermen, destitute women and landless. The overall package to ensure the participation of the poor and to address poverty and equity issues presented by Proshika costs an average of Tk 3,360 per household or Tk 700 per person.

However, considering the extent and scope of work proposed by Proshika, the Consultant would recommend to scale it down since it seems very ambitious and too large to be manageable and to be really effective to achieve its objectives. This is particularly true for the credit component which plans to extend 5000 small loans per year and for the non-formal primary education programme. The proposal developed by the consultant is presented in Tables G.4.1 to G.4.4 based on unit costs given by Proshika. The number of beneficiaries has been reduced by 30% and 35,000 households are expected to be covered by the programme throughout the project area. The revised cost of the programme is close to Tk 70 millions which would generate a huge flow of socio-economic benefits for the poor. However, because they are not easily measurable, the cost of the poverty alleviation component should not be included in the economic analysis of the project returns. However, it is worth mentioning again that achieving sustainable development requires that the poverty issue is addressed. In this respect, the proposed interventions of Proshika are socially commendable and should be incorporated in the project design.

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TABLE G.4.1

Recommendations from the Consultant

Comilla-Proshika Proposal	Decrease
No of beneficiaries	30.00%
Human Resource Training	30.00%
No of Loanees	70.00%
Forestry	30.00%
Skill Training	30.00%
Motorcycles (in No)	3
Bicycles (in No)	9
Education Programme	80.00%

TABLE G.4.2

Activities/Scope of Local Participation and Poverty Alleviation Programme

Activities and Scope of Programme	Unit	Year 1	Year 2	Year 3	Year 4	Year 5	Total
A- Institutional development							
New Beneficiaries	No	7000	7000	7000	7000	7000	35000
All Beneficiaries	No	7000	14000	21000	28000	35000	
B- Human Resources Development							
Staff Training	Man-Days	441	462	567	672	777	2919
Training of Beneficiaries	Man-Days	3500	5600	5600	5600	5600	25900
C- Capital Resource Development							
No of Loanees	No	1500	1500	1500	1500	1500	7500
D- Environment							
Social Forestry	No Trees	70000	70000	70000	70000	70000	350000
Afforestation/Maitenance	No Trees	105000	105000	105000	105000	105000	525000
E- Skill Training	Man-Days	5600	5600	5600	5600	5600	28000
F- Equipment Cost							
Jeep	No	1					1
Motorcycles	No	9					9
Bicycles	No	21	21	21	21	21	105
Furniture	L.S.	1	1	1	1	1	5
G- Non-Formal Education Programme							
Students	No	900	1800	2700	1800	900	8100

TABLE G.4.3

Unit Costs

(in Tk)

Unit Prices in Tk	Year 1	Year 2	Year 3	Year 4	Year 5	Total
A- Institutional development						
New Beneficiaries						
All Beneficiaries	189	152	140	134	130	140
B- Human Resources Development						
Staff Training	161	166	168	169	170	167
Training of Beneficiaries	99	105	105	105	105	104
C- Capital Resource Development						
No of Loanees	4000	4000	4000	4000	4000	4000
D- Environment						
Social Forestry	5	5	5	5	5	5
Afforestation/Maitenance	12	12	12	12	12	12
E- Skill Training	99	99	99	99	99	99
F- Equipment Cost						
Jeep	1300000					1300000
Motorcycles	75000					75000
Bicycles	4500	4500	4500	4500	4500	4500
Furniture	20000	20000	20000	20000	20000	20000
G- Non-Formal Education Programme						
Students	330	330	330	330	330	330

TABLE G.4.4

Proposed Budget for Local Participation and Poverty Alleviation Programmes

(Tk in '000')

Proposed Budget	Year 1	Year 2	Year 3	Year 4	Year 5	Total	%
A- Institutional development	1,326	2,134	2,943	3,751	4,560	14,715	20.9%
B- Human Resources Development	418	662	680	699	717	3,176	4.5%
Staff Training	71	77	95	114	132	489	0.7%
Training of Beneficiaries	347	585	585	585	585	2,687	3.8%
C- Capital Resource Development	6,000	6,000	6,000	6,000	6,000	30,000	42.7%
D- Environment (Afforestation)	1,610	1,610	1,610	1,610	1,610	8,050	11.4%
Social Forestry	350	350	350	350	350	1,750	2.5%
Afforestation/Maintenance	1,260	1,260	1,260	1,260	1,260	6,300	9.0%
E- Skill Training	554	554	554	554	554	2,772	3.9%
F- Equipment Cost	2,090	115	115	115	115	2,548	3.6%
Jeep	1,300	0	0	0	0	1,300	1.8%
Motorcycles	675	0	0	0	0	675	1.0%
Bicycles	95	95	95	95	95	473	0.7%
Furniture	20	20	20	20	20	100	0.1%
G- Education Programme	297	594	891	594	297	2,673	3.8%
H- O&M/Contingencies (10%)	1,229	1,167	1,279	1,332	1,385	6,393	9.1%
Grand Total	**13,524**	**12,836**	**14,073**	**14,656**	**15,238**	**70,327**	**100.0%**

APPENDIX G.1

SOCIO-ECONOMIC AND DEMOGRAPHIC TABLES

APPENDIX 1A

ZONE A

Initial Study Area (acres), No of Households, Population and Density (no/sq.km) (by Unions and by Zones)

DISTRICT	CODE	THANA	Code	Union	Zone	Mauzas	Area	HH	Popln	Density
COMILLA	40	DEBIDWAR	5	Uttar Bara Sha	A	8	3430	2191	13077	942
	40		11	Dakshin Bara	A	6	2965	2254	13321	1,110
	40		47	Fatehabad	A	14	5238	4620	26765	1,263
	40		89	Uttar Subil	A	4	3307	2504	14321	1,070
	40		95	Dakshin Subil	A	5	3638	2308	13781	936
	15	BRAHMANPAR	18	Purba Brahma	A	6	3734	2345	13516	894
	15		30	Pachim Brahm	A	4	3175	2498	14885	1,158
	15		44	Purba Chandla	A	4	3536	2344	13454	940
	15		50	Pachim Chandl	A	5	4008	2757	16749	1,033
	15		56	Madhabpur	A	9	6206	3086	19608	781
	15		82	Sahebabad	A	13	5131	4101	25189	1,213
	15		88	Shashidal	A	13	6065	3823	22574	920
	18	BURICHANG	6	Bakshimail	A	27	6102	3681	22204	899
	18		31	Purba Buricha	A	7	3975	3963	23448	1,458
	18		37	Pachim Burich	A	13	2768	2565	15798	1,410
	18		75	Rajapur	A	15	5499	3719	22282	1,001
	18		94	Sholanol	A	27	6030	4252	26173	1,073
	67	COMILLA SAD	9	Amratali	A	27	5349	4035	24354	1,125
	67		94	Panchthubi	A	36	6136	4094	24456	985
TOTAL ZONE A						243	86292	61140	365955	1,048

APPENDIX 1A

ZONE B

Initial Study Area (acres), No of Households, Population and Density (no/sq.km) (by Unions and by Zones)

DISTRICT	CODE	THANA	Code	Union	Zone	Mauzas	Area	HH	Popln	Density
B'BARIA	2	AKHAURA	9	Uttar Akhaura	B	12	3439	3003	15946	1,146
	2		19	Dakhin Akhau	B	23	3140	2774	15465	1,217
	2		57	Dharkhar	B	16	8087	3264	20466	625
	2		76	Manianda	B	29	4971	2357	9765	485
	2		95	Mogra	B	27	4560	3376	18773	1,017
	63	KASBA	18	Utta Badair	B	9	3018	2056	11578	948
	63		25	Dakshin Badai	B	7	2911	1722	10320	876
	63		31	Bayek	B	23	5674	2924	16931	737
	63		37	Binauti	B	24	5921	3893	22960	958
	63		50	Gopinathpur	B	27	7341	3167	18307	616
	63		56	Kaimpur	B	18	4385	3156	18026	1,016
	63		63	Kasba	B	19	5622	4044	25550	1,123
	63		69	Kuti	B	10	5022	3567	21703	1,068
	63		82	Mehari	B	8	6030	3502	20164	826
	63		94	Malgram	B	15	5205	3629	21432	1,017
	85	NABINAGAR	22	Bitghar	B	11	3590	3662	21417	1,474
	85		40	Kaitala	B	13	4856	3097	19355	985
TOTAL ZONE B						291	83772	53193	308158	909

APPENDIX 1A

ZONE C

Initial Study Area (acres), No of Households, Population and Density (no/sq.km) (by Unions and by Zones)

DISTRICT	CODE	THANA	Code	Union	Zone	Mauzas	Area	HH	Popln	Density
B'BARIA	85	NABINAGAR	13	Bidyakot	C	10	6716	3455	20242	745
	85		27	Ibrahim Pur	C	3	4033	2823	17329	1,062
	85		31	Purba Junedpu	C	5	4038	2436	14261	873
	85		36	Pachim Junedp	C	9	3366	2287	13131	964
	85		49	Purba Nabinag	C	4	3862	2840	16379	1,048
	85		54	Paschim Nabin	C	5	2548	2145	12279	1,191
	85		58	Natghar	C	11	6427	2886	17852	686
	85		63	Purba Rasulah	C	6	3458	2228	12960	926
	85		67	Pachim Rasula	C	5	3892	2818	16128	1,024
	85		72	Ratan Pur	C	13	6295	4155	22456	881
	85		90	Sibpur	C	12	4871	3688	21856	1,109
	85		94	Sreerampur	C	6	5734	4337	25308	1,091
COMILLA	81	MURADNAGA	4	Akubpur	C	6	6316	4342	25958	1,016
	81		9	Andikot	C	8	5431	3994	23688	1,078
	81		13	Purba Bangara	C	4	2496	2072	11509	1,139
	81		18	Pachim Bangar	C	7	4442	2848	16505	918
	81		22	Chapitala	C	11	5463	3904	23396	1,058
	81		45	Purba Jatrapur	C	6	3565	2552	14164	982
	81		49	Pachim Jatrapu	C	3	3385	2593	14513	1,059
	81		54	Muradnagar	C	10	4920	4359	24551	1,233
	81		58	Purba Nabipur	C	3	3428	3131	17920	1,292
	81		63	Pachim Nabip	C	5	2175	2677	14479	1,645
	81		76	Purba Purbadh	C	6	3196	1866	11271	871
	81		81	Pachim Purbad	C	8	2740	1947	11241	1,014
	81		85	Uttar Ramchan	C	2	2495	2669	15400	1,525
	81		90	Dakshin Ramc	C	8	2985	2503	14157	1,172
	81		94	Srikail	C	13	7601	4726	28996	943
TOTAL ZONE C						189	115878	82281	477929	1,019

APPENDIX 1A

ZONE D

Initial Study Area (acres), No of Households, Population and Density (no/sq.km) (by Unions and by Zones)

DISTRICT	CODE	THANA	Code	Union	Zone	Mauzas	Area	HH	Popln	Density
B'BARIA	4	BANCHARAMP	7	Uttar Banchara	D	7	3521	3121	18305	1,285
	4		14	Dakshin Banch	D	4	3048	2535	14674	1,190
	4		21	Salimabad	D	14	6229	4469	26443	1,049
	4		29	Purba Saifullah	D	3	1969	1967	11375	1,428
	4		36	Pachim Saifull	D	9	3746	3283	19409	1,280
	4		43	Purba Daria D	D	10	4997	3634	21432	1,060
	4		51	Pachim Dariad	D	5	5247	2715	16149	761
	4		58	Purba Rupasdi	D	2	3296	2828	17376	1,303
	4		65	Pachim Rupas	D	4	2297	2744	16252	1,748
	4		73	Purba Tejkhali	D	8	3337	2965	17479	1,294
	4		80	Pachim Tejkha	D	5	2232	1786	9967	1,103
	4		87	Purba Ujan Ch	D	4	3209	2584	14700	1,132
	4		94	Pachim Ujanch	D	3	3252	2505	15112	1,148
	85	NABINAGAR	4	Uttar Barikand	D	5	3263	2431	13798	1,045
	85		9	Dakshin Barik	D	8	2298	2074	11882	1,278
	85		85	Shyamgram	D	8	4052	3169	17973	1,096
COMILLA	36	DAUDKANDI	4	Uttar Balaram	D	9	2827	2618	15748	1,377
	36		8	Dakshim Balar	D	10	2981	2354	13847	1,148
	36		17	Biti Kandi	D	4	4628	4100	23562	1,258
	36		21	Uttar Daudkan	D	6	3988	2164	12485	774
	36		43	Gobindapur	D	2	419	0	0	0
	36		56	Uttar Jagatpur	D	14	2413	2119	12060	1,235
	36		60	Dakshin Jagatp	D	4	3494	2903	16357	1,157
	36		69	Majidpur	D	13	4451	3753	21919	1,217
	36		77	Narayandia	D	4	4883	3769	23249	1,177
	54	HOMNA	9	Bhasania	D	11	4775	4361	25094	1,299
	54		28	Purba Chandar	D	8	3287	3574	20984	1,577
	54		38	Pachim Chand	D	8	3969	2872	16333	1,017
	54		47	Purba Ghaguti	D	17	2934	3443	19058	1,605
	54		57	Pachim Ghagut	D	6	3386	3384	18325	1,337
	54		66	Uttar Homna	D	6	3189	2815	15470	1,199
	54		76	Dakshin Homn	D	12	3215	2329	12850	988
	54		85	Nilakhi	D	12	6023	5285	28910	1,186
TOTAL ZONE D						245	116855	96653	558577	1,181

APPENDIX 1B

Final Households No Distribution Under Gumti Phase II Project

(From 1981 BBS Census Data)

Date 21-Apr-93

Thana Name	Total HH No	HH No in different zones				HH No in different projects											Tot. HH No inside	Total HH No outside
						Zone A	Zone B		Zone C		Zone D							
		A	B	C	D	# 1	# 2(I)	# 2(II)	# 3(I)	# 3(II)	# 3(I)	# 4(I)	# 4(II)	# 4(III)	# 5	# 6		
						FCD	FCD	FCD	FCDI	DI	FCDI	DI	FCD(P)	FCD(P)	FCD(P)	FCD(P)		
Nabinagar	48,069		6,466	32,927	8,676				16,681		3,139	5,537					25,356	22,712
Muradnagar	44,231			39,505	4,726					22,362		4,726					27,087	17,143
Kasba	32,099		32,099				7,647	459									8,106	23,993
Bancharampur	28,291				28,291							16,492			10,191	1,608	28,291	0
Brahmanpara	19,468	19,468				17,234											17,234	2,234
Homna	26,701				26,701							23,188	3,513				26,701	
Burichang	17,609	17,609				10,811											10,811	6,798
Daudkhandi	14,383				14,383							12,814		2,070			14,383	
Debidwar	12,721	12,721				12,254											12,254	467
Kotwali	6,191	6,191				495											495	5,696
Akhaura	3,806		3,806					789									789	3,018
Total HH No	254,069	55,988	42,371	72,432	83,277	40,794	7,647	1,248	16,681	22,362	3,139	62,756	3,513	2,070	10,191	1,608	172,008	82,061

APPENDIX 1B

Final Population No Distribution Under Gumti Phase II Project

(From 1981 BBS Census Data)

Date 21-Apr-93

Thana Name	Total Pop. No	Pop. No in different zones				Pop. No in different projects											Total Pop. No inside	Total Pop. No outside
						Zone A	Zone B		Zone C		Zone D							
		A	B	C	D	# 1	# 2(I)	# 2(II)	# 3(I)	# 3(II)	# 3(I)	# 4(I)	# 4(II)	# 4(III)	# 5	# 6		
						FCD	FCD	FCD	FCDI	DI	FCDI	DI	FCD(P)	FCD(P)	FCD(P)	FCD(P)		
Nabinagar	280,190		39,018	191,800	49,373				97,163		17,864	31,509					146,536	133,654
Muradnagar	256,536			229,128	27,408					129,697		27,408					157,105	99,431
Kasba	189,642		189,642				45,181	2,711									47,892	141,750
Bancharampur	166,659				166,659							97,153			60,035	9,472	166,659	
Brahmanpara	117,088	117,088				103,652											103,652	13,437
Homna	149,466				149,466							129,799	19,667				149,466	
Burichang	106,496	106,496				65,382											65,382	41,114
Daudkhandi	87,175				87,175							75,053		12,122			87,175	
Debidwar	74,527	74,527				71,793											71,793	2,735
Kotwali	37,186	37,186				2,972											2,972	34,214
Akhaura	20,727		20,727					4,295									4,295	16,432
Total Pop. No	1,485,694	335,298	249,388	420,928	480,081	243,799	45,181	7,006	97,163	129,697	17,864	360,922	19,667	12,122	60,035	9,472	1,002,926	482,768

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APPENDIX 1B

Final Households No Distribution Under Gumti Phase II Project
(Consultant Projection for 1993)

Annual Growth Rate 1.80%

Date 21-Apr-93

Thana Name	Total HH No	HH No in different zones				HH No in different projects											Total HH No inside	Total HH No outside
						Zone A	Zone B		Zone C		Zone D							
		A	B	C	D	# 1	# 2(I)	# 2(II)	# 3(I)	# 3(II)	# 3(I)	# 4(I)	# 4(II)	# 4(III)	# 5	# 6		
						FCD	FCD	FCD	FCDI	DI	FCDI	DI	FCD(P)	FCD(P)	FCD(P)	FCD(P)		
Nabinagar	60,616		8,153	41,522	10,940				21,034		3,958	6,982					31,975	28,641
Muradnagar	55,776			49,817	5,959					28,199		5,959					34,158	21,618
Kasba	40,477		40,477				9,643	579									10,222	30,255
Bancharampur	35,676				35,676							20,797			12,851	2,028	35,676	0
Brahmanpara	24,549	24,549				21,732											21,732	2,817
Homna	33,671				33,671							29,240	4,430				33,671	
Burichang	22,205	22,205				13,632											13,632	8,573
Daudkhandi	18,768				18,768							16,158		2,610			18,768	
Debidwar	16,042	16,042				15,453											15,453	589
Kotwali	7,806	7,806				624											624	7,182
Akhaura	4,800		4,800					995									995	3,805
Total HH No	320,385	70,602	53,431	91,339	105,014	51,441	9,643	1,573	21,034	28,199	3,958	79,136	4,430	2,610	12,851	2,028	216,905	103,480

APPENDIX 1B

Final Population No Distribution Under Gumti Phase II Project

(Consultant Projection for 1993)

Annual Growth Rate 1.80%

Date 21-Apr-93

Thana Name	Total Pop. No	Pop. No in different zones				Pop. No in different projects											Total Pop. No inside	Total Pop. No outside
						Zone A	Zone B		Zone C		Zone D							
		A	B	C	D	# 1	# 2(I)	# 2(II)	# 3(I)	# 3(II)	# 3(I)	# 4(I)	# 4(II)	# 4(III)	# 5	# 6		
						FCD	FCD	FCD	FCDI	DI	FCDI	DI	FCD(P)	FCD(P)	FCD(P)	FCD(P)		
Nabinagar	353,325		49,203	241,863	62,260				122,524		22,527	39,733					184,784	168,541
Muradnagar	323,496			288,934	34,562					163,551		34,562					198,113	125,384
Kasba	239,142		239,142				56,974	3,418									60,392	178,750
Bancharampur	210,160				210,160							122,512			75,705	11,944	210,160	
Brahmanpara	147,650	147,650				130,707											130,707	16,944
Homna	188,479				188,479							163,679	24,800				188,479	
Burichang	134,294	134,294				82,448											82,448	51,846
Daudkhandi	109,929				109,929							94,643		15,286			109,929	
Debidwar	93,980	93,980				90,532											90,532	3,448
Kotwali	46,892	46,892				3,748											3,748	43,145
Akhaura	26,137		26,137					5,416									5,416	20,722
Total Pop. No	1,873,486	422,817	314,482	530,797	605,390	307,434	56,974	8,834	122,524	163,551	22,527	455,129	24,800	15,286	75,705	11,944	1,264,708	608,779

APPENDIX 1C

Union wise, Literacy, HH without Potable water, landless, Activity Rate and Farming Activity

THANA .	U	Union	Zone	Literacy Rate	HH with No Water	Landless <0.05 acre	Activity rate	Farming
40 DEBIDWAR	5	Uttar Bara Shalghar	A	29.8%	9.8%	14.8%	34.5%	77.4%
40	11	Dakshin Bara Shalghar	A	22.6%	5.0%	20.8%	35.3%	78.5%
40	47	Fatehabad	A	22.8%	12.6%	16.1%	35.2%	78.8%
40	89	Uttar Subil	A	21.7%	10.9%	22.5%	35.6%	76.8%
40	95	Dakshin Subil	A	22.2%	14.4%	17.6%	34.1%	78.9%
15 BRAHMANPARA	18	Purba Brahmanpara	A	27.7%	29.0%	13.6%	37.4%	75.6%
15	30	Pachim Brahmanpara	A	25.1%	25.1%	9.8%	31.2%	81.0%
15	44	Purba Chandla	A	22.9%	56.3%	18.1%	36.6%	78.9%
15	50	Pachim Chandla	A	25.4%	12.5%	14.7%	40.2%	61.9%
15	56	Madhabpur	A	26.5%	18.2%	25.1%	33.1%	75.7%
15	82	Sahebabad	A	22.8%	37.1%	18.6%	37.8%	75.6%
15	88	Shashidal	A	22.7%	29.5%	20.7%	53.1%	50.6%
18 BURICHANG	6	Bakshimail	A	28.3%	14.1%	20.3%	38.2%	72.9%
18	31	Purba Burichang	A	22.5%	38.8%	20.5%	38.2%	74.3%
18	37	Pachim Burichang	A	19.6%	9.3%	19.1%	38.0%	76.4%
18	75	Rajapur	A	27.9%	10.9%	21.5%	35.9%	71.7%
18	94	Sholanol	A	23.1%	10.4%	19.2%	37.9%	68.0%
67 COMILLA SADAR	9	Amratali	A	28.3%	15.0%	23.0%	37.0%	59.6%
67	94	Panchthubi	A	26.3%	11.5%	42.6%	37.3%	48.8%
2 AKHAURA	9	Uttar Akhaura	B	30.0%	22.6%	48.8%	46.9%	37.9%
2	19	Dakhin Akhaura	B	28.7%	36.6%	43.2%	40.4%	53.6%
2	57	Dharkhar	B	18.2%	26.6%	25.9%	41.8%	83.3%
2	76	Manianda	B	15.4%	32.3%	30.5%	41.9%	81.9%
2	95	Mogra	B	17.1%	28.3%	42.8%	43.3%	75.0%
63 KASBA	18	Utta Badair	B	23.3%	34.2%	24.4%	36.9%	78.2%
63	25	Dakshin Badair	B	27.0%	25.8%	24.4%	28.6%	66.4%
63	31	Bayek	B	22.0%	24.6%	27.2%	39.6%	84.4%
63	37	Binauti	B	22.2%	19.0%	28.8%	35.1%	66.6%
63	50	Gopinathpur	B	17.0%	40.6%	30.5%	40.5%	79.7%
63	56	Kaimpur	B	21.6%	42.0%	25.4%	42.0%	80.5%
63	63	Kasba	B	23.8%	9.4%	35.8%	36.2%	60.6%
63	69	Kuti	B	23.2%	18.4%	35.7%	37.3%	64.0%
63	82	Mehari	B	22.7%	32.3%	22.5%	34.8%	81.2%
63	94	Malgram	B	23.1%	58.7%	27.0%	36.0%	67.3%
85 NABINAGAR	22	Bitghar	B	22.2%	32.5%	26.0%	37.1%	78.3%
85	40	Kaitala	B	21.7%	50.7%	26.5%	39.2%	73.8%

APPENDIX 1C

Union wise, Literacy, HH without Potable water, landless, Activity Rate and Farming Activity

	THANA	U	Union	Zone	Literacy Rate	HH with No Water	Landless <0.05 acre	Activity rate	Farming
85		13	Bidyakot	C	11.2%	24.8%	34.8%	44.1%	76.8%
85		27	Ibrahim Pur	C	22.2%	33.8%	41.0%	34.1%	50.6%
85		31	Purba Junedpur	C	23.7%	30.1%	30.7%	37.2%	62.1%
85		36	Pachim Junedpur	C	15.2%	49.4%	37.3%	40.2%	70.7%
85		49	Purba Nabinagar	C	19.9%	51.2%	46.7%	41.3%	48.6%
85		54	Paschim Nabinagar	C	8.3%	77.1%	35.5%	44.0%	64.9%
85		58	Natghar	C	9.4%	28.0%	27.7%	42.9%	83.2%
85		63	Purba Rasulahbad	C	23.0%	52.0%	27.9%	37.0%	76.9%
85		67	Pachim Rasulahbad	C	26.0%	37.0%	21.5%	36.0%	78.5%
85	NABINAGAR	72	Ratan Pur	C	22.4%	35.9%	35.9%	36.8%	69.0%
85		90	Sibpur	C	16.6%	28.7%	27.2%	38.0%	84.3%
85		94	Sreerampur	C	20.9%	29.3%	34.8%	56.0%	46.7%
81	MURADNAGAR	4	Akubpur	C	26.0%	34.4%	26.0%	35.9%	69.9%
81		9	Andikot	C	21.5%	40.1%	29.7%	37.5%	70.6%
81		13	Purba Bangara	C	21.3%	23.7%	29.1%	34.0%	69.0%
81		18	Pachim Bangara	C	22.3%	35.3%	23.4%	31.0%	70.9%
81		22	Chapitala	C	24.2%	27.2%	25.1%	36.9%	77.1%
81		45	Purba Jatrapur	C	18.9%	30.4%	29.3%	38.1%	71.2%
81		49	Pachim Jatrapur	C	20.0%	34.6%	28.6%	41.3%	55.7%
81		54	Muradnagar	C	20.1%	38.8%	29.8%	36.7%	58.3%
81		58	Purba Nabipur	C	21.9%	13.4%	39.0%	32.1%	44.4%
81		63	Pachim Nabipur	C	27.7%	15.6%	46.4%	39.0%	45.1%
81		76	Purba Purbadhair	C	20.9%	45.4%	26.5%	37.3%	67.4%
81		81	Pachim Purbadhair	C	17.4%	34.4%	26.3%	34.6%	75.8%
81		85	Uttar Ramchandrapur	C	20.3%	37.7%	55.9%	36.4%	43.5%
81		90	Dakshin Ramchandrapur	C	15.7%	57.3%	37.8%	42.6%	44.0%
81		94	Srikail	C	18.8%	41.0%	33.3%	38.6%	69.3%
4	BANCHARAMPUR	7	Uttar Bancharampur	D	17.4%	28.3%	44.2%	40.9%	37.1%
4		14	Dakshin Bancharampur	D	12.0%	56.7%	38.0%	46.3%	29.1%
4		21	Salimabad	D	11.1%	65.9%	34.4%	44.3%	52.1%
4		29	Purba Saifullah Kandi	D	21.0%	44.0%	36.6%	38.7%	50.8%
4		36	Pachim Saifullah Kandi	D	16.6%	64.3%	33.8%	56.9%	22.6%
4		43	Purba Daria Daulat	D	16.4%	48.1%	31.1%	44.8%	36.2%
4		51	Pachim Dariadaulat	D	7.7%	51.2%	32.3%	44.0%	66.4%
4		58	Purba Rupasdi	D	15.4%	64.1%	41.1%	41.7%	35.1%
4		65	Pachim Rupasdi	D	15.7%	80.3%	46.9%	45.5%	30.2%

APPENDIX 1C

Union wise, Literacy, HH without Potable water, landless, Activity Rate and Farming Activity

THANA	U	Union	Zone	Literacy Rate	HH with No Water	Landless <0.05 acre	Activity rate	Farming
4	73	Purba Tejkhali	D	16.2%	41.8%	36.3%	40.8%	43.5%
4	80	Pachim Tejkhali	D	15.2%	44.9%	27.6%	41.1%	63.5%
4	87	Purba Ujan Char	D	13.7%	50.6%	36.6%	44.4%	61.6%
4	94	Pachim Ujanchar	D	11.5%	30.8%	29.3%	47.1%	56.8%
85 NABINAGAR	4	Uttar Barikandi	D	18.4%	35.3%	41.8%	39.4%	57.4%
85	9	Dakshin Barikandi	D	17.6%	33.3%	38.6%	44.0%	40.4%
85	85	Shyamgram	D	23.2%	26.9%	40.1%	42.9%	57.3%
36 DAUDKANDI	4	Uttar Balarampur	D	19.1%	13.4%	31.9%	37.0%	61.4%
36	8	Dakshim Balarampur	D	16.6%	41.2%	17.5%	35.9%	80.8%
36	17	Biti Kandi	D	15.5%	41.9%	24.1%	35.2%	68.0%
36	21	Uttar Daudkandi	D	14.3%	85.9%	28.1%	39.5%	69.1%
36	43	Gobindapur	D	16.3%	47.8%	18.8%	37.7%	75.3%
36	56	Uttar Jagatpur	D	14.2%	51.3%	29.4%	37.0%	68.8%
36	60	Dakshin Jagatpur	D	17.3%	24.1%	28.7%	38.0%	56.2%
36	69	Majidpur	D	10.4%	69.4%	20.0%	54.6%	41.1%
36	77	Narayandia	D	15.3%	68.3%	21.0%	38.6%	75.4%
54	9	Bhasania	D	17.0%	48.5%	28.7%	42.0%	55.6%
54	28	Purba Chandar Char	D	17.7%	41.3%	42.4%	44.8%	30.9%
54	38	Pachim Chandar Char	D	14.9%	39.0%	34.5%	44.4%	46.4%
54 HOMNA	47	Purba Ghagutia	D	15.2%	41.5%	38.6%	45.5%	40.5%
54	57	Pachim Ghagutia	D	13.1%	48.6%	40.6%	41.6%	50.0%
54	66	Uttar Homna	D	15.5%	32.3%	34.2%	42.6%	63.9%
54	76	Dakshin Homna	D	15.6%	14.5%	26.5%	36.6%	65.1%
54	85	Nilakhi	D	12.2%	29.7%	38.8%	43.4%	54.9%

APPENDIX G.2

GROUP DISCUSSION/CASE STUDIES FOR SOCIAL IMPACT ASSESSMENT

APPENDIX 2

Group Discussion/Case Studies for Social Impact Assessment

Appendix 2A ZONE A

A.1. Discussion With Women

A.1.1. Brahmanpara (No1)

- **Location**

Thana :	Brahmanpara	**Zone :**	A / outside
Union :	Shashidal	**Village :**	Sasidal

Located outside the project intervention (embankment), this village is situated along the eastern side of river Gungur.

- **Participants**

  - 3 household head landless women.

- **Description of livelihood : the case of Asia Khatun**

All of these household head women are landless and depend on their sole labor force for survival. However, some of them concede to be engaged in smuggling activities to earn a better living. During the working season (monsoon) they eat 2 meals a day while during the slack season, their daily food intake reduced to one meal only.

Asia's husband died sometime ago leaving behind one daughter and two sons. Now she lives with her children in her own hut within the surroundings of her husband's kin group. Having no agricultural land of her own, she earns a living by working for others, but only within the kinship group of her husband. Her two sons go irregularly to school (primary) while her daughter is helping her in her daily activities, including working outside in kin's houses or in the field during the agriculture season.

In a "normal" year, without significant flood damages, she can work during three months for post-harvesting works:

- Baisak-Jaistha : 1 to 1.5 months
- Bhadra : 15 days to 1 month
- Agrahayan : 15 days to 1 month

During these months, she works from morning till evening, gets food twice a day and 1.25 seers of rice every day as wages.

During other months, her daughter and herself work in kin's houses (household works) in exchange of some sort of wages either in cash or in kind (food, clothes). Moreover, quite often her relatives give food for her two sons as well. During the months of crisis e.g. Kartic, Asar and Chaitra, she generally can afford to cook and eat only one meal per day, so quite often she sends her two sons to her parental house in order to ensure that they will be looked after.

Recently, the U.P. chairman arranged a VGD card for her which enables her to get about 20 Kg of rice or 30 Kg of wheat every month. This helps her to maintain her family alive. Another important aspect of her livelihood is fuelwood which is collected by her 10 years old son from indian hills. Part of it is used for home consumption while the remaining portion is sold out locally to relatives and neighbors. In addition , Asia collects some vegetables (sak) from field and her elder son is catching some fish from the river from time to time.

Asia feels that she would not engage herself in earth cutting work in a project outside the surroundings of her kin's houses (bari). The main reason is that she would be afraid to loose her status and reduce the chances of a "good" marriage for her daughter. Moreover, her husband' kin would probably not tolerate it since they will loose their status too.

In fact, Asia's main concern is the marriage of her only daughter and the approximately 15,000 Taka required to settle it. However, she expects her in-laws to help her to bear this amount.

- **Major Problems and Issues**

The case of Asia is neither an isolated one or an original one. Many landless widows are bearing the same kind of sufferings, depending solely upon the "good will" of their relatives and of the U.P. chairman (for the obtention of the VGD card for instance) to sustain their livelihood. This dependance could be in some cases very difficult to bear and there is nothing surprising that the majority of these women indicate that the irregularity of their income and the lack of employment opportunities are their main problems.

Due to lack of remunerative work opportunities, most of these women are not able to earn a regular income by themselves and they are very much aware that are not in a position to take their destiny in their own hands, e.g. to loosen up the ties of their dependence upon others.

Among the all lot of other problems raised by the women during the discussion a large proportion is water related. For instance, the lack of water during the dry season, the damages caused by flash flood and the difficulty to get drinking water due to the scarcity of tube wells have been quite often quoted and emphasized by the participants. Other matters of concern are the poor conditions of

roads and the lack of appropriate health care facilities. However, it should be mentioned that all these problems fall far behind the strong demand for regular income and employment.

- **Analysis of Project Impact**

For the participants, the proposed project (embankment and re-excavation of Gungur river) seems to be well accepted. Though they perceive that the main beneficiaries will be farmers, they also reckon that both labor, fishermen and themselves as women will obtain some benefits out of it:

- farmers will grow more crops (cropping intensity will increase) and will have better yields (protection from flash flood and better drainage);
- daily labor will have additional employment opportunities in the short-term (construction of the embankment) and perhaps later too (maintenance and agriculture);
- fishermen are expected to catch more fish since there will be more water in the river;
- women participants expect that, to meet the extra demand of labor linked with the increase in the cropping intensity, their kin will offer them more agricultural work. Thus, eventually, their income will increase. However, few expect to participate in earth cutting work since, by doing so, their status and their kin's status as well will be depreciated.

- **How to improve the Project ?**

As a whole, the participants support the project on the ground that additional crops will bring additional work for all. However, they did mention that it would be better to re-excavate the river and the canals first before starting the construction of the embankment. This could mean that the perception of the need of an embankment is not very precise while the needs for more water in the dry season (both for irrigation and fisheries) and better drainage are very acute, quite well perceived and clearly formulated with the demand to re-excavate khals in priority.

In addition, the participants expressed the idea that the project would be more sustainable if a local committee for water management was set up and if the help of a NGO was provided.

Moreover, most of these women are demanding more employment opportunities in order to have a regular income throughout the year. More precisely, there is a strong demand for income generating program (poultry, handicraft...) and for the support of NGOs. Some of the women, who are already engaged in earth cutting program through CARE, might be ready to participate in the construction of embankment and in the khals re-excavation program. However, for the issue of "status" already developed, the majority of the women would not engage themselves in this type of work.

As far as these categories of women (household heads) are concerned, alleviating poverty and raising self-reliance should become one objective of the project. To this end, it seems that the support of specialized NGOs should be envisaged and put forward.

A.1.2 Brahmanpara (No2)

- **Location**

Thana :	Brahmanpara	**Zone :**	A / inside
Union :	Naighar	**Village :**	Naighar Purbapara

Located within the proposed polder, this village is situated along the western side of river Gungur.

- **Participants**

  - 6 women who belong to marginal and small landowning households. None of them is the head of the household.

- **Description of livelihood : the case of Delwara Begum**

To earn a living these women depend on their husband's income. Their husbands have rather regular income since they are self-employed (petty business, farming) during most part of the year. However, some may occasionally work for others (agriculture or non-agriculture labor) to earn extra income.

Delwara Begum (36) does not need to work in others' houses to earn a living. Her husband, who is a "mistri" (carpenter), gets work for about 6 months in a year and earns about 60 taka per day during that time. The rest of the year, he sells his labor force mainly as agriculture labor for around 30 taka per day (without food) and 25 taka with food.

Delwara, as other participants, clearly states that she will not work outside her "bari", in any project involving earth cutting since she felt that this kind of work will depreciate the social status of her whole family. However, to supplement the earnings of her husband, she is prepared to get involved in NGOs supported income generating program.

- **Major Problems and Issues**

Because these women are not depending upon the "good will" of their relatives and of the U.P. chairman to sustain their livelihood, the major problems they faced are not linked with irregular income or lack of employment but are first water related.

For instance, flash flood, drainage congestion and the lack of water during the dry season have been quite often quoted and emphasized by the participants. Other matters of concern are the poor conditions of roads and, at last, the irregularity of income.

From the discussion, it seems that, the participants do not have clear perceptions of specific women related issues, but have a precise idea of the main problems faced by the households and on how they could be solved. This would explain while they identify water related issues as the most important ones. Their logic is that if these problems are solved, agriculture production will increase and so will the overall household income and the general conditions of the women and children.

However, to supplement the husband' income, some of these women are prepared to participate in any kind of income generating activities supported by NGOs, provided that the work involved will not low down their status.

- **Analysis of Project Impact**

For the participants, the proposed project (embankment and re-excavation of Gungur river) seems to be well accepted. Though they perceive that the main beneficiaries will be farmers, they also reckon that both daily labor and women will obtain some benefits out of it. However, they did perceive a negative impact for the fishermen communities.

- farmers will grow more crops (cropping intensity will increase) and will have better yields (protection from flash flood and better drainage);
- daily labor will have additional employment opportunities in the short-term (construction of the embankment) and perhaps later too (maintenance and agriculture);
- fishermen are expected to catch less fish since there will be no more flood water;
- women participants expect that, the overall increase in agriculture production in the area will lead to additional income for their husbands. As a result, the economic position of their households will increase and, with it, her personal condition will improve as well. So will be the case for children since more income will mean better health care and nutrition.

- **How to improve the Project ?**

As a whole, the participants support the project on the ground that additional crops will bring additional well-being for the majority of the population, including themselves, though they expect fishermen families to suffer from the construction of the embankment. However, they did mention that it would be better to re-excavate the river and the canals first before starting the construction of the embankment. This could mean that the perception of the need of an embankment is not very

precise while the needs for more water in the dry season (both for irrigation and fisheries) and better drainage are very acute, quite well perceived and clearly formulated with the demand to re-excavate khals in priority.

In addition, the participants expressed the idea that the project would be more sustainable if a local committee for water management was set up and if the help of a NGO was provided.

Though most of these women are not demanding employment opportunities, they have expressed an interest for income generation program (poultry, handicraft...) and for the support of NGOs. Some of the women, who are already engaged in earth cutting program through CARE, might be ready to participate in the construction of embankment and in the khals re-excavation program. However, due to the issue of "status" already developed, the majority of the women would not engage themselves in this type of work.

Women involvement in an embankment afforestation program would be welcome by the participants though they complain that local people usually preferred to use men to look after the trees rather than women.

Regarding the issue of land acquisition, the women mentioned that local people might be ready to give land if local authorities (U.P. chairmen and members) ask to do so. To support this assertion, they mentioned about a road constructed by CARE for which people have donated land though most of them were initially reluctant.

These women would welcome and are prepared to participate in income generating program, including tree plantation along the embankment. Here again, they advocate the role and support of specialized NGO services such as Comilla-Proshika which has recently started up a roadside afforestation programmme nearby the village.

A.1.3. Debidwar

- **Location**

Thana :	Debidwar	**Zone :**	A / inside
Union :	Bara Salghar	**Village :**	Bara Salghar

Located on the western side of Zone A, very close to Zone C, this village is situated along the eastern side of Buri river.

- Participants
  - 7 "destitute" women (6 widows and 1 with an invalid husband) involved in CARE activities (Rural Maintenance Programme). They do not have any other assets than a tiny hut and can be considered as the lowest and most vulnerable socioeconomic categories of the rural society.

- **Description of livelihood : the case of Zaheda Begum**

As other participants to the discussion, Zaheda is working since 1984 in the "Rural Maintenance Programme" of CARE (RMP) to earn a living and feed two sons who are still staying with her. They are still young and regularly attend the primary school while her daughter.

From the work she does for CARE she receives 560 Tk. per month out of which 120 Tk. have to be saved. However, this source of income has become uncertain and recently she was left 4 months without any payment from CARE.

To survive during this period, she borrowed some money from a shopkeeper (1 400 Tk.), 40 kg of rice from a neighbour and 2 000 Tk. from the social welfare office. Later, CARE settled the 4 months of due wages but Zaheda was told that her participation in RMP will be terminated next June. So will be the fate of the six other participants.

The family of Zaheda usually eats two meals a day, one in the evening and one in the morning, except during crisis time where the morning meal is just left over from the previous evening. The normal meal would consist of rice or wheat with vegetables and some dried fish.

Now that her daughters are married, she is alone to do all household works, including fuel wood collection, vegetable gardening and cooking. In addition her son sometimes go fishing in the beels nearby the Buri river to improve the daily diet of the family. Though her two sons are still attending school, the eldest one (class IV) is occasionally going to fish or collect fuel wood with her.

- **Major Problems and Issues**

Zaheda and all the other participants are very much worried about their future. What will happen to them after June, once the regular income provided by the RMP during more than 9 years will abruptly come to an end ? Considering that they have no other assets but a hut, they will have to find other employment opportunities to survive. Not an easy matter especially when you have been habituated to get a fixed and regular income during so many years.

Another subject of worry is the permanent need to borrow money to survive and to meet contingencies expenditures, such as those related to health or those linked with social obligations and customs. For instance, for the marriage of her last daughters she has to pay 3 000 Tk. as dowry. a few months ago.

At a time where they are about to loose a job which they had for such a long time, Zaheda and other women perceive the "very soon" drop of a regular income as their major problems. It is interesting to note that the anxiety of these women on losing their job was so high that it overshadowed everything else. Spontaneously, they could not foresee any other problems.

- **Analysis of Project Impact**

Though these women have no agriculture land, they feel that the whole area will benefit from the re-excavation of the Buri river including themselves and fishermen.

- farmers will grow more crops and will have better yields due to a better drainage of monsoon water
- daily labor will have additional employment opportunities in the short-term (re-excavation) embankment) and in the long-term (additional demand of labor for agriculture).
- women participants expect to get employment for the re-excavation work and for its maintenance

- **How to improve the Project ?**

All the women present at the discussion are ready to participate in the earth cutting work required for the re-excavation of the river. They mention that women groups could be organized by NGOs and contracted to do the excavating work and later the maintenance.

Moreover, before the uncertainty of their actual participation in CARE/RMP work, most of these women are demanding alternative employment opportunities in order to have a regular income throughout the year. More precisely, these women are demanding the support of NGOs to help them with income generating programme (poultry, handicraft...) and social welfare programme (sanitation, health, education). As far as these destitute women are concerned, alleviating poverty should become one objective of the project. To this end, it seems that the support of specialized NGOs should be envisaged and put forward.

A.2. Discussion with Men

A.2.1. Brahmanpara

- **Location**

Thana :	Brahmanpara	**Zone :**	A / inside
Union :	Chandhala	**Village :**	Bordeshia

Located on high land at approximately 2 miles north of Brahmanpara on the Comilla-Burichang-Brahmanpara road.

- **Participants**

  - 5 landless labourers and 2 marginal landowners (below 0.5 acres)

- **Description of livelihood : the case of Abdul Miah**

Abdul Miah is a marginal farmer owning around half a bigha of agricultural land. Head of a household comprising eight members, the paddy (boro) produced from his tiny piece of land is just sufficient to feed his family for only 2 months. To survive during the rest of the year, he does several kind of jobs depending upon the season.

During the monsoon, he rents a boat and becomes a boatman. After the monsoon, and once the planting season of boro ends (December) he usually get employed in earth cutting works, either in the surroundings villages or in other districts, depending where employment opportunities are available.

Abdul Miah tells that boating is the major source of the household income though one of his son is earning some money as rickshaw puller. However, he mentions that their income is not sufficient to meet the food requirements of the family which are close to 5 kg of rice per day. Now-a-days he can hardly afford to provide them 2.5 kg of rice per day and fish one or twice a week.

- **Major Problems and Issues**

The participants to the discussion identified the lack of employment opportunities and their low levels of income as their main problems. The reason they give is that only one crop is grown in the area so there is not much scope for on farm employment.

They perceive that flash flood and resulting drainage congestion is an obstacle to agriculture development and one of the main reason explaining the limiting employment opportunities offered in the agriculture sector.

They also regret that the access to credit to finance the capital required to start up self-employment activities (buying a boat, a hand loom, water pumps...) is not easy because they have no collateral to offer to get access to credit. Moreover, they complain about the prohibitive hidden cost of taking loan from the institutional banking system either by themselves or through BRDB supported programmes.

- **Analysis of Project Impact**

As a whole, the participants support the project on the ground that additional crops will bring additional well-being for the majority of the population though they expect boatmen to endure some sufferings from the construction of the embankment.

For the participants, the main beneficiaries of the project (embankment and khals re-excavation) will be those who have land (farmers) and, indirectly those whose main sources of income is on-farm wage employment.

The project seems to be well accepted by the persons met, though Abdul Miah, as a boatman, raised some concerns. Though he acknowledges that the majority of people are likely to benefit from the project, he expects to loose his boat pulling job which provides his main source of income. Needless to say that he wonders what he would be able to do to compensate this loss. He mentioned that he expects to find alternative sources of income in agriculture sector and through earth cutting works.

According to the participants, the dependence of poor people on floodplain fisheries for their livelihood is very minimal and they do not perceive that the embankment will seriously alter their living conditions.

However, they do not reject the possibility of emergence of localized conflicts linked with the land acquisition process especially if the motivation and the compensation of the likely "losers" are not properly dealt with.

- **How to improve the Project ?**

With respect to the implementation of the construction work, the participants put forward the idea that it could be best achieved through local organized committee, down at the village level which would received wheat/money through a NGO like CARE to perform the work.

Though they did reckon that not all U.P, chairmen and members are bad and corrupted people, they have some doubt on their capabilities to ensure that the work will be done properly under their control. As a result, they clearly expressed a marked preference to a village-based-organization for the implementation of the work.

Beyond the indirect benefits which might occur to them through additional employment opportunities and income, the participants mention that the support of a NGOs to provide them credit for income generating activities could help them to uplift their living conditions and achieve self-reliance.

A.3. Discussion With NGOs

A.3.1 Comilla-Proshika - Brahmanpara

- **Name of person met** : A. Rashid
- **Position** : Area Coordinator
- **Project Impact**

Mr. Rashid extended his support to the project interventions as designed for zone A. According to him, Comilla-Proshika target groups (landless and marginal landowners), though they have no land, will indirectly benefit from the project:

- irrigation facilities and cropping intensity will increase and so will the demand for agriculture labor and sharecroppers. Therefore the job security of landless labourers-sharecroppers will improve and they will have a more regular income throughout the year
- paddy production will increase and so will the employment opportunities in rice processing during and after harvesting
- improvement of communication network (canals and roads) for the transportation of goods to market centers
- fish pond will be protected from flood and will not be submerged any more. Pond culture will become more profitable and the landless groups who lease these ponds will have better and more secure incomes.

However, he noted that since around 80% of the cultivable land of the thana is hold through unfair sharecropping or lease arrangements, the bulk of the project agricultural benefits is going to be captured by landowners. In the sharecropping system, the sharecropper bears all input cost and give away 50% of the harvest. What is left is merely sufficient to cover the cost of his own labor. As far as the lease system is concerned (pathan), the lessee has to pay to the owner a fixed amount annually before getting accessing to the land. In both cases, landowners are getting the majority of the farm profit while farmers income are not much higher than those of a labor.

- Suggestions and Ideas

  - fish pond re-excavation and culture fisheries should be further encouraged and developed through CP and relevant government agencies (DOF)

  - there is a big scope to extend the on-going CP afforestation programme on the newly constructed embankment and on existing roadside

  - development of electricity supply

A.3.2 Comilla-Proshika Burichang

- **Name of persons met** : Mir Kashem
- **Position** : Area Coordinator

- **Working Area and Main Activities**

CP is working in 18 villages of Burichang Thana spread over 5 unions. The staff comprises the area coordinator and 5 field staff. The main activities include:

  - institutional development e.g. group formation and group savings (landless and marginal landowners)

  - education, health and sanitation programmes

  - pond re-excavation (for fish culture) and afforestation programme (supported by Food For Work programme)

- **Analysis of Project Impact**

The re-excavation of canals is expected to bring benefits to the entire population, including landless. the main reasons are:

  - the improvement of navigation and road networks (due to embankment) which would increase the volume of traded goods to be transported. This means additional income for landless involved in the transportation sector.

  - the increase of the cropping intensity (better drainage and expansion of irrigation), of paddy production and of the related demand for agriculture labor

- the reduction of flood damages to crops. Therefore, the sharecroppers and lessees will have more secure earnings

- the increase of paddy production and of the employment opportunities in rice processing during and after harvesting

- the protection of fish ponds from flood. Therefore, pond culture will become more profitable and will expand. As a result, the landless groups who lease these ponds will have better and more secure incomes.

■ **Suggestions and Ideas**

- duck farming in borrow pits and re-excavated khals could be developed and supported by CP and relevant government agencies

- roadside and highway afforestation

- development of pond re-excavation for fish culture

- landless labourers could be organized in groups of LCS type to execute minor earth works, such excavation of small canals and construction of internal embankments

- monitoring and supervision of minor earth works (measurement of quantities, payment of labor, work quality) could be done by CP since they have equipment and engineering staff for such work.

Appendix 2B ZONE B

B.1. Group Discussion With Men

B.1.1. Kasba (No1)

- **Location**

Thana :	Kasba	**Zone :**	B / outside
Union :	Binauti	**Village :**	Brahmangram

Located outside the project intervention (embankment), this village is situated along the southern bank of river Sonai which is to be re-excavated.

- **Participants**

  - 5 small to medium farmers (1 acres to 4 acres).

- **Description of Livelihood**

They mainly depend on farming for their livelihood which provides them sufficient food reserves for approximately 5-6 months. From May to September, they feed their family on the paddy (boro) they have produced using surface water irrigation.

Later, some of them survive by producing aman paddy, vegetables (rabi crops) or by engaging themselves in petty business such as paddy and vegetables trading. Occasionally, to face some unexpected hardships such as crop damages due to flood, they will work as daily labor and/or will request loan/help from relatives.

Fisheries resources from Sonai river have drastically reduced due to overfishing in the indian side of the river. Whenever water levels are low, indian fishermen use poison (such as derris root) to kill and catch fish and only a few are able to cross the border alive. As a result, capture fisheries is no longer an important source of livelihood in this area and more and more farmers are engaged in pond culture to supplement their income.

Throughout the year, they usually eat three meals a day, two of rice and one of wheat, though from October to November they generally face some difficulties and it happened that they could afford only two meals a day, one of rice and one of wheat. time they eat only 1 meal with rice and 2 others with wheat.

- **Major Problems and Issues**

Now-a-days surface water from Sonai is the only source of irrigation for the cultivation of paddy boro and other rabi crops. However due to gradual siltation, the storage capacity of the river

decreases and dries up completely in February-March. Therefore, they rely on rain water for the end of the boro season (March-April) which is highly unpredictable.

In March-April too, depending upon years, they have to face flash floods which can cause serious damages to their boro crops. For instance, one farmer reports that after 3 hours of heavy rain, the water level in his field could raise by as much as 3 to 6 feet.

To develop groundwater irrigation, the farmers mentioned that they have no financial capabilities to purchase deep tubewells, and, since electricity is not available, the cost of irrigation will be high anyway. Moreover, obtaining credit from institutional banking system is very costly and troublesome and, as a result, nobody goes to the bank.

In addition, these farmers complain that neither government services (agriculture-fisheries-livestock extension services, BRDB, health) nor NGOs services are available in their village. For instance, education facilities are not available though a primary school building has been constructed. However no teacher has ever been appointed. As a result, children of the village have to walk about 6 km per day to attend school in a nearby village. Needless to say that many of them do not attend.

- **Analysis of Project Impact**

For the participants, the proposed project (re-excavation of Sonai river) seems to be well accepted. perceive that the main beneficiaries will be farmers, they also reckon that daily labor will obtain some benefits out of it.

- farmers will grow more crops (cropping intensity will increase) and will have better yields (protection from flash flood, better drainage, more water for irrigation);

- due to better drainage, fish ponds will not be submerged at the time of flood and benefits derived from culture fisheries will be more secure.

- daily labor will have additional employment opportunities in the agriculture sector to meet the surplus labor demand linked with the increase of cropping intensity. They will also have additional earth cutting work during the re-excavation of Sonai river. Eventually their income will increase and their dependance upon others (loan) to sustain their livelihood could be reduced.

- **How to improve the Project ?**

As a whole, the participants support the project on the ground that better drainage of the Sonai river will improve agriculture and will bring additional work and income for all.

However, they did mention that it would be better if the re-excavation work is implemented through village-based-committees rather than through the traditional Project Implementation Committee (PIC) headed by U.P. Chairmen and U.P. members. They had a previous experience of re-excavation through local PIC (two years ago) and they were not satisfied at all by the work which was done.

First, they found that re-excavation was not properly done and, second, labor complained of being paid low wages. This seems to be due to mis-management practices which are very common among PIC members.

According to the farmers interviewed, the village-based-committees will have the following advantages:

- the labors engaged in re-excavation works are likely to receive their due share
- the quality of the work is expected to be better
- corruption will be reduced

They recommend that project money for re-excavation be disbursed at the village level (to each village concerned) through a committee formed by village representatives. The village committee will be responsible of executing the work while supervision will be done by the project consultant.

B.1.2. Kasba (No2)

- **Location**

Thana :	Kasba	**Zone :**	B / inside
Union :	Uttar Badair	**Village :**	Badair

Located inside the project intervention (polder), this village is situated on the western side of the Comilla-Sylhet highway on the south of Oder Khal.

- **Participants**

  - 8 small to medium farmers (0.5 acres to 3 acres).

- **Description of Livelihood**

They mainly depend on farming for their livelihood which provides them sufficient food reserves throughout the year except during the critical months of March-April where they reduce their food intake from three meals of rice a day to two. HYV boro is the main crop (from December to May) followed by Aman (June to November). Also, some farmers are growing an Aus crop (April to July) and rabi crops (January to April).

They indicate that landless and marginal landowners are the dominant groups in the village comprising around 70% of the households. To survive, they are wage labourers or sharecroppers. The farmers reported that the landowners retained 50% of the total harvest but bear 50% of water cost to provide incentives to the sharecroppers to adopt new techniques and new varieties (HYV).

- **Major Problems and Issues**

During the discussion, the participants mentioned that the major problem they have to face is the lack of irrigation water during the dry season. Though there are already 4 DTW and 3 STW in the village, it is not sufficient to cover the agricultural water needs during the winter.

Also, they indicate that due to drainage congestion, agricultural land is subject to flood causing damages to standing crops. Another issues raised was the scarcity of job opportunities for landless villagers and the lack of power supply.

- **Analysis of Project Impact**

For the participants, the proposed project (polderisation and khals re-excavation) seems to be well accepted on the ground that more production it will benefit a majority of people. However, the participants perceive that the main beneficiaries will be farmers but they indicate that wage labourers will also obtain some benefits out of the project.

If the proposed interventions are done, the area under HYV Aus and Aman cultivation will increase leading to higher levels of paddy production and farm income. The increase in the cropping intensity will generate additional demand of agriculture labour and landless labourers will get more work and more income.

However, these farmers understood quite well that, if implemented, this project will have two major disbenefits, the loss of cultivable land and the reduction of capture fisheries resources. In this respect, they indicate that these two issues should be properly addressed so as to avoid the emergence of a conflicting situation with landowners trying to impede the construction of the embankment and/or fishermen trying to cut it to allow water inside the polder.

- **How to improve the Project ?**

As a whole, the participants support the project on the ground that polderisation and improved drainage will improve agriculture and will bring additional work and income for all. To support this argument they did mention that they would be prepared to give land for the project provided that they are fairly compensated.

Based on their experience of similar kind of work, they indicated that it would be better to implement the project work through village-based-committees and organized labour groups (LCS

type) rather than through the traditional Project Implementation Committee (PIC) headed by U.P. Chairmen and U.P. members.

They recommended that project money for re-excavation be disbursed at the village level (to each village concerned) through a committee formed by village representatives. The village committee will then contract labour groups to carry out and supervise the work better.

B.1.3. Akhaura

- **Location**

Thana :	Akhaura	**Zone :**	B / inside
Union :	Dorkhar	**Village :**	Gulkhar

Located inside the project intervention (embankment), this village is situated along the southern bank of river Titas.

- **Participants**

  - 10 landless persons. Some of them are affiliated group members of Dhaka-Proshika.

- **Description of livelihood**

To earn a living they depend solely on the sale of their labor force, either through wage employment or sharecropping arrangements. They are not self-sufficient and are dependent upon others (kin, relatives or friends) for their survival during crisis periods. Throughout the year, they generally eat only one meal of rice in the evening and some chapati in the morning and for lunch.

In this area, boro is the dominant crop though some farmers grow aman is during the monsoon period on high land. The participants mentioned that the cropping intensity is low compared to Burichang and Comilla Sadar areas so employment opportunities in agriculture are limited throughout the year except during the planting (December-January) and harvesting (April-May) seasons of boro crops. During these periods, most of them migrate to Comilla to get employed.

When the boro harvesting season ends the monsoon period (until september), some of these landless are engaged in fishing in the surroundings openwaters either occasionally or as member of professional societies. Also, some of them find employment in the water transportation sector as boat driver (engine boat) or as boat puller (non-engine boats).

From October to November, they find employment in the harvesting of aman crops either locally (very limited) or by migrating to other areas where the cultivation of aman is more significant than in Dorkhar. Also, some remains in the village living on occasional petty labor for landlords (aman) and on borrowing money from money lenders or relatives.

- Major Problems and Issues

The participants to the discussion identified the limited employment opportunities in the agriculture sector as their main problem. The reason they give is that only one important paddy crop is grown in the area (boro) during the dry season while limited cultivation of aman takes place during the monsoon. Moreover, the occurrence of flood frequently damages the standing crop reducing further the scope of employment.

Drainage congestion during the monsoon is also quoted as an issue since it is perceived as a limiting factor for the cultivation of an aman crop and for the generation of additional employment opportunities in the agriculture sector.

The participants who are engaged in fishing during the monsoon have specific problems linked with the management system of open waters. Access to fishing rights is controlled by middle men (jotedar) who take the biggest share of the production leaving to the fishermen the strict minimum for their survival.

For those who are holding some land through sharecropping, one of the problem is linked with the unfairness of the sharing arrangements. For instance, it was reported that the sharecropper has to pay 90% of the inputs costs while he get only 50% of the total production. This just enough to cover the renumeration of his own labor and there is hardly any profit which could be used for further investment. Moreover, due to frequent flood occurrence at the time of harvesting (due to drainage congestion), quite often crops are damaged and they have to bear heavy losses.

- **Analysis of Project Impact**

For the participants, the proposed project (khals re-excavation) seems to be well accepted though fishermen present raised some concerns on the likelihood of reduction of fish recruitment in the area due to embankment. Though the participants perceive that the main beneficiaries will be farmers, they also reckon that daily labor will obtain some benefits out of it. However, they did perceive a negative impact for the fishermen communities if the embankment is constructed.

As far as impact is concerned, the following points were emphasized:

- farmers will grow more crops (cropping intensity will increase) and will have better yields (protection from flush flood and better drainage);

- daily labor will have additional employment opportunities in the agriculture sector to meet the surplus labor demand linked with the increase of cropping intensity. They will also have additional earth cutting work during the re-excavation of khals and the construction of the embankment. Eventually their income will increase and their dependance upon others to sustain their livelihood could be reduced.

- fishermen are expected to catch less fish since embankment might impede fish recruitment in the area.

- **How to improve the Project ?**

As a whole, the participants support the project on the ground that additional crops will bring additional well-being for the majority of the population though they expect fishermen families to suffer from the construction of the embankment.

Moreover, they did mention that the construction of the embankment is not felt necessary. The people rather strongly insist that the re-excavation of khals to improve the drainage of this low land area is the most important thing to do.
This mean that the need of better drainage is very acute, quite well perceived and clearly formulated while the demand for an embankment was not precisely expressed.

For khals re-excavation work, the participants suggest that the traditional Project Implementation Committee (PIC) be superseded by an implementation system where Labor Contracting Societies (LCS) supported by NGOs for implementation of the work under the direct supervision of BWDB.

According to them this would ensure a better quality of the work, better wages and a reduction of mis-management and corruption practices which are very common under the traditional PIC system.

Among the participants, the members of Dhaka-Proshika-Comilla organized groups were very strongly expressing the needs for extending the support of NGOs in the area. They mention that, as far the needy and the poor are concerned, income generating and credit programme are very much necessary to uplift their living standards and, from their experience, they reckon that NGOs are very effective to provide them support and hope. When asked about BRDB activities for landless (BSS/MBSS), they were very much critical and skeptical on their effectiveness to alleviate poverty. Mis-management and corruption was often quoted as a very important problem within BRDB supported programmes probably because they usually are implemented through institutional banking system (Sonali Bank).

B.2. Discussion with NGOs

B.2.1. Comilla-Proshika - Kasba

- **Name of person met** : Mirza Iskendar
- **Position** : Area Coordinator
- **Project Impact**

Mr. Iskendar agreed with the proposed interventions in this area. According to him, the project will contribute to increase the agriculture production and farm incomes due to reduction of flood damages and increase of irrigation facilities.

Though he mentioned that the main beneficiaries will be the landowners, he did note that sharecroppers and lessees (landless farmers) will have a better production too and their investment will be less risky. As a result, their income will become more stable and secure.

However, he indicated that the dredging of Bijni river will require motivation of the landowners and settlers because all the land along the river banks is privately owned. Therefore, land acquisition will be necessary and some difficulties could occur if the compensation process is not properly handled and implemented.

- **Suggestions and Ideas**

  - roadside afforestation and plantation
  - organization and support to landless labourers (through credit) to purchase low lift pumps which they will use to sell water for irrigation
  - changing of the existing sharecropping system (50% to sharecropper - 50% to landowner) to reduce its current exploitative nature. Trough organization and awareness raising among landless farmers, the Tebaga system, also called the "three shares system" should be "pushed through". In this system, each production factor (land, labor, capital) is given an equal share of the harvest, e.g. 33%, which enables the sharecropper to capture a bigger portion of the farm profit. With this system, a sharecropper which bears all input costs and provides his labor, would receive 66% of the harvest as against 50% in the current system.
  - fish pond re-excavation and culture fisheries should be further encouraged and developed through CP and relevant government agencies (DOF)

B.2.2 Dhaka-Proshika-Akhaura

- **Name of person met** : Aktar Hossain
- **Position** : Area Coordinator
- **Project Impact**

Mr Aktar Hossain mentions that Dhaka-Proshika is working only in a small portion of the project area (Dharkhar union). He extends it full support to the khals re-excavation component of the project which he perceives as a priority work to solve the drainage congestion occurring in the area during both pre-monsoon and post-monsoon periods. However, he does not fully realize the necessity of the Dharkhar embankment.

With an improved drainage system in the area, the following benefits could be expected:

- the boro crop will be more secure because flash flood water inundating the area at the time of harvest will be drained out quicker causing minimum damages to agriculture production. Therefore farm incomes will be more stable and the livelihood of farmers (including sharecroppers) will improve.

- if boro crop is secured, landless labourers will have more secure job opportunities at the time of harvest and therefore a more stable income. Also, they will participate in earth works as well as in the maintenance of the project. This would contribute to improve their situation.

However, he has noted that the embankment will adversely affect openwater fisheries within the polder causing sufferings for fishing communities since fish catch is likely to diminish.

- **Suggestions and Ideas**

  - landless labourers could be organized in groups of LCS type to execute construction and maintenance works (earth work)

  - landless groups could also be involved in selling water for irrigation through credit support for purchase of low lift pumps or tubewells.

  - roadside and embankment afforestation programme

  - fish pond re-excavation and utilization of borrow pits and ditches for fish culture should be encouraged and developed

Appendix 2C: ZONE C

C.1. Women Case Studies

C.1.1. Muradnagar (No1)

- **Location**

Thana :	Muradnagar	**Zone :**	C
Union :	Akubpur	**Village :**	Gazipur

Located outside the project intervention (polder), this village is situated along the southern bank of ODER Khal and on the western side of Buri river.

- **Name :** Mrs Anwara **Age :** 25

- **Background**

Anwara's father was a landless labourer living in a nearby village. Twelve years ago, she got married with Raju Miah, a landless labourer of Gazipur. At the time of her marriage, Raju Mia had no agriculture land and no house either. He made a hut within a farmer's homestead and used to live there with his wife. Anwara reported that Raju was very rough to her and used to quite often beat her.

Nevertheless, she got rapidly a daughter who is now ten years old. When her daughter was about one year old her husband once came home with a woman and told Anwara that he wanted to marry her and that she would also live in the house. All the neighbours rebuked him telling him that since he could not even take care of one wife how could he expect to be able to take of a second one.

Despite the criticism of the neighbours, the woman "brought in" by Anwara's husband stayed for few days. But every time quarrels occurred between Raju and Anwara which invariably ended by Anwara being beaten up. Then the neighbours and the landlord, angry by the nasty attitude of Anwara's husband, warned him and finally forced him to leave the homestead with his second wife.

Today, 9 years have passed since that time and Raju never came back to see his daughter or first wife. Since then Anwara is living in Gazipur working in her landlord and neighbouring households. She never got married again.

- **Economic Livelihood**

Generally, household related work like cleaning, collecting of fuelwood and collecting of "Sak" (leafy vegetables) from land are done by her daughter. Also, she often works in neighbouring houses to help the women to do their household works. However, she does not get cash payment for this type of petty work but she gets some food out of it.

As far as Anwara is concerned, she had to get engaged in renumerative activities outside her households to be able to earn a living. In March-April, she gets work for about one month in activities related to harvesting and processing of rabi crops including drying and husking of wheat, mustard and pulses. If she works the whole day, she will get one and a half kg of wheat plus a breakfast with bread and one meal of rice in the afternoon. She has to eat on the working spot and is not allowed to carry food to her home. Sometimes, the farmer for whom she works allow her to bring back home some straws which she can use as fuelwood. However, she mentioned that, now-a-days, more and more farmers use straws for fuel so they do not give a lot.

After coming home in late afternoon, she does some housework, takes bath and then cook for her daughter. Throughout the whole year she cooks once in the evening. If she is very hungry she takes food with her daughter, otherwise she does not since she had food at her working place. Mostly she cooks local vegetable with dry fish.

In April-May she is busy for about a month for processing and drying of boro crops. This is the most busiest time for all the farmers and labourers as well. During this season paddy is boiled throughout the night, because if it rains they cannot dry the crop. In the day time if it rains or if it is cloudy, they have to collect the paddy from the yard and store it in places safe from the rain. After, once rain has stopped and clouds have disappeared, they again spread it for drying. Thus this season farmers' wives and all the members concerned have to be very alert and prepared to work at anytime to protect the paddy from rainwater. Also, Anwara is helping the farmer's wives to cook for the family members and for the labourers engaged in harvesting work.

During the boro season, Anwara gets, if she works in one house for a month which is generally the case, a "Sari", one maund of paddy (37.5 kg) and three meals a day.

In June-July, she is engaged in activities related to the processing of paddy Aus. In this season, she gets paid half a kg of rice (or one and a quarter kg of paddy) and food twice a day. There is not much work during this period because the amount of harvest is limited. Often, if a farmer harvest between 20 to 50 maund of paddy only, his wife will manage by herself. The scarcity of employment opportunities during this season explains why Anwara has no other alternative but to accept to work for such lower wage (½ kg rice per day).

In August-September, she usually gets work for about 1 week or two. For instance, if she takes out fibers from jute sticks from morning till evening she can get about 12 to 16 Taka per day. However, these are difficult monsoon months without much employment opportunities except traditional households works in surrounding houses.

During the months of October-November she works for the processing of Aman. For about two months she can work, and get food two times a day plus one kg of rice per day.
Also, she collects left over paddy from the field. In this way, she can get around 2 maunds of paddy within 15 days.

As a whole, Anwara mentioned that, as this is a three crops area, she somehow manages to survive. But the month of September-October are very much critical and every year she is afraid of starvation during this period.

- **Sanitation**

There are tubewells in the neighbouring houses so her daughter and herself have access to potable drinking water. But for domestic purposes and bathing they use pond water. Pond water normally dry up in the month of February-March. It becomes dirty. Children of the area gets skin diseases. Last year from November to December there was an outbreak of diarrhoea in the village. Even the elderly people got ill and some of them died. She knows about 20 people who died in the nearby areas. Not much health facilities are available and she strongly express the need to develop some basic facilities.

- **Opinion on the Project**

She is ready to do earth cutting or road maintenance work. She said that her brother's wife is currently working in CARE supported programme and that she would be ready to work too. If Oder khal is re-excavated many people will be able to use this water for agriculture purpose and she believe that the entire population will be better off. Currently, there is surface water scarcity in the area impeding the expansion of irrigation. Therefore, employment opportunities are limited and many people have to migrate to Sylhet and Chittagong to work in mills and as day labourers leaving their family behind for sometimes. She hopes that with the project less people will be forced to leave the village.

C.1.2. Muradnagar (No2)

- **Location**

Thana :	Muradnagar	**Zone :**	C
Union :	Akubpur	**Village :**	Gazipur

Located outside the project intervention (polder), this village is situated along the southern bank of ODER Khal and on the western side of Buri river.

- **Name :** Mrs Rabeya Khatun **Age :** 50

- **Background**

Rabeya Khatun comes from a rich family, of a fairly high social status, which lives in a nearby village. She is the wife of Taru Miah from whom she got four boys and two daughters. Two sons got married and live separately, one in Chittagong and the other in the village. The third son is not married and live with her while the youngest one went to Chittagong and is earning a living by selling vegetables. Her eldest daughter is married while the youngest one, who is in age of getting married, is still single and stays with her mother.

When she got married she was living with her husband in her in-laws family, as a joint family. Her husband was always short tempered and used to misbehave with everybody in the house. Her father-in-law was very annoyed with Taru Miah and gave him his share of property and asked him to live by himself with his family. At this time, her husband, got a house in the village, eight bighas of cultivable land and a house in Dhaka.

About ten years back Taru mia went to Dhaka to do small business and came back with a woman he had married in Dhaka. Nobody in the kin ship groups of Rabeya accepted the situation and Taru mia left with his second wife and went to settle in Mymensingh in his second wife's parental home.

Taru mia comes back from time to time to the village to sell property without showing any care for his family here in Gajipur. Rabeya is very worried because she wonders how she will manage her family (1 daughter and 1 son are still depending on her) if her husband is selling off all the land.

- **Opinions on the Project**

About the help she can get from the re-excavation of Oder khal she does not feel concerned at all and indicate that her familial situation is her only concern.

However, women from her kin group who were standing around, said that if the khal was re-excavated it will help all the people of the area, because they will get more water for cultivation during the dry season. Yet, these girls mention that they will not be able to participate in the maintenance or earth cutting works because their relatives will not allow them to work outside the "bari" for social status reasons.

In case of Anwara, her husband who did not have property and home lived in others house so the landlord could expel him from the house. At the same time Anwara does not live surrounded by status conscious kin group so it is easy for her to go for any work to survive.

On the other hand, Rabeya, who comes from a high status family and who is married in a good family surrounded by kin who are very sensitive to the social status issue, is not at all in a position to do "outside" work and to earn a living by herself.

While implementing the project, NGOs or GOs could be involved to organize women labour groups to participate in khal re-excavation works and women like Anwara could be involved. For women of higher social status, "Bari" based income generating activities could be supported. This could help them to become more self-reliant and less dependent on their kin groups.

C.2. Group Discussion with Men

C.2.1 Nabinagar

- **Location**

Thana :	Nabinagar	**Zone :**	C / inside polder
Union :	Zinotpur	**Village :**	Hurua

Located inside the proposed polder, the village is situated at approximately 4 km of the northern bank of Oder Khal and 3 km on the west of the eastern zone boundary.

- **Participants**

  - 10 farmers who hold between 0.5 to 1.5 acres. Some are sharecroppers other cultivate their own land.

- **Description of livelihood**

These people depend mainly on farming to sustain their livelihood. They grow 1 paddy crop from April to July (aus) which provides a sufficient quantity of rice to feed their family during 4 to 5 months per year (until october). During the monsoon they usually stay at home and are occasionally fishing, pulling boats or doing petty business or work for landlords.

In the beginning of the winter season (november-december) they have to get cash money to invest to purchase the inputs required to cultivate rabi crops (seeds, fertilizer, water, plough..). They quite often borrow money from village money lenders at a rate of 8% to 20% per month. Though they feel that this is very expensive, they find it more easy than going to the bank where they have to deal with unknown persons.

Throughout the winter season (december to may) they work on others's land for the planting and harvesting of boro crop (December and April-May))and look for employment, either locally or in other areas, in earth cutting schemes. They mentioned that they would like to cultivate boro but they have not enough capital to invest in irrigation facilities.

Food crisis occurred twice a year, before harvesting of their Aus crop (June-July) and when their reserves of Aus start to be exhausted (October-November) and job opportunities (for boro planting or earth cutting) are yet to be available. (November-December). During that time they eat one meal of rice a day in the evening and some chapati in the morning (wheat). The rest of the year they can afford two meals of rice per day.

- **Major Problems and Issues**

The participants to the discussion identified four major problems which are constraining their livelihood:

- damages to their aus crop due to flood occurrence in the latter growing stage of the cultivation season (just before harvesting).
- frequent scarcity of rain water during the sowing period (April)
- lack of employment opportunities due to over population living in the area.
- not enough institutional services from government (bank, agriculture extension, irrigation facilities...)

For instance, they deplore that the access to credit to finance the capital required to purchase irrigation facilities (tubewells) is not easy because the have not enough collateral to offer to banks and that rates of interests charged by moneylenders are too expensive. Moreover, they complain about the prohibitive hidden cost of taking loan from the institutional banking system is highly prohibitive.

- **Analysis of Project Impact**

As a whole, the participants support the project (polderisation and pumping in the canals) on it will bring additional well-being for the majority of the population including farmers and those whose main sources of income are on-farm employment.

- farmers will increase the cropping intensity (additional boro crop due to surface water irrigation) and will shift to more productive crops (T.aman instead of B.aman). Being protected from flood and drought, the crops will be more secured and the risks of damages will be reduced. As a result, farm income will improve.
- more work for agriculture labor will be available and the wages are likely to increase due to higher demand of labor, especially during paddy harvesting periods. Therefore, wage labourers are likely to have a better and more regular income and their propensity to migrate to find employment will reduce. Their livelihood will be more secure and stable.
- during the monsoon, the area will not be submerged any more and the easy access to individual homesteads by boat will be no more possible. Therefore the dacoits which use to come by boat to steal livestock and other movable assets during that period will be stopped.

However, they do not reject the possibility of emergence of localized conflicts linked with the land acquisition process (for the embankment construction) if the compensation of the "losers" is not properly done. For khals re-excavation, the participants mentioned that the earth to be piled on the river bank is likely to be taken away by nearby households which will use it to raise their homestead. Therefore, the possible damages on cultivable land located along the canals are likely to be minimized

As farmers, they do not depend much on flood plain fisheries though they occasionally fish during the monsoon for home consumption. They perceive that with the embankment floodplain fisheries will be adversely affected and that less fish will be available. However, they have already faced such a situation in 1992 where the floodplain remains more or less dry during the monsoon and they mention that though it creates some difficulties, they were not major ones.

Yet, they reckon that the people who depend more on capture fisheries will face some trouble which, according to them, could be minimized since more employment opportunities in the farming sector are available. Moreover, they feel that culture fisheries (in pond, ditches, borrow pits...) has a good scope of development and could provide alternative sources of income for the fishermen and landless people. If culture fisheries takes up, more fish will be available on the market and the participants noted that they will be able to buy some, especially if their farm income has increased as a result of the project implementation.

- **How to improve the Project ?**

With respect to the implementation of the construction work, the participants mentioned that any kind of system is good to them as long as the rules and regulations are clearly defined, well enforced and carefully respected by everybody, including powerful people.

To illustrate this point of view, one participant reports the bad experience of some women who are working in the CARE supported Rural Road Maintenance Programme (RMP). He mentions that the rules were not followed and that some influential people of the Union Parishads were using their position to blackmail the CARE workers forcing them to pay some money to get keep their job in the programme.

They are afraid that this kind of mis-practices become more important if a big project is to be implemented and they hope that efforts will be made to make sure that corruption and funds extortion by local elite will be stopped.

As far as fishermen are concerned, the participants proposed that the re-excavated khals be divided into lots and leased out to fishermen samities. Also, ponds and-or ditches could be leased out for culture purpose. The participants indicate that there are already some successful cases where fishermen have leased out ponds to culture fish. This practice could be more developed to mitigate the loss incurred from floodplain fisheries.

C.2.2 Muradnagar

- **Location**

Thana :	Muradnagar	**Zone :**	C / outside polder
Union :	Kamla	**Village :**	Kamla

Located at equal distance of Muradnagar and Ramshandrapur, this village is situated at 3 km of the northern bank of Arsi river and at 2.5 km on the eastern side of Bagrabad gas station.

- **Participants**

  - 8 farmers who hold between 0.3 to 1.5 acres. Some are landless (sharecroppers) other cultivate their own land.

- **Description of livelihood**

These people depend mainly on farming to sustain their livelihood. They grow 1 paddy crop from May to October (B. aman) which provides a sufficient quantity of rice to feed their family during 2 to 3 months per year (November to January). In the winter season, on a small portion of their land, they grow some rabi crops such as wheat, sweet potatoes, mustard, pulses and chilies.

However, they mention that for the last five years, they could get only one aman crop in 1992. The other years (1988-1991), either flood waters or the breach of Gumti embankment have caused serious damaged to their crop, sometimes completely.

Throughout the winter season (from december to may) most of them migrate to other districts to work on others's land for the planting and harvesting of boro crop (december and April-May)) and to get engaged in earth cutting schemes. They mentioned that they would like to cultivate boro but there is gas in the ground so no shallow and deep tubewells cannot be used to extract ground water.

During the monsoon they are occasionally fishing in surroundings floodplain and khals, they work as boat paddlers or they do petty trading business.

In a "normal" year (without crop damages) food crisis occurred during the monsoon, just before harvesting of their Aman crop (october-november) when the cash earned in the winter season as labor starts to be exhausted. During that time they eat about one meal of rice for 1 or 2 days and regularly some chapati in the morning (wheat). The rest of the year they can afford two meals of rice per day.

- **Major Problems and Issues**

The participants to the discussion identified six major problems which are constraining their livelihood:

- damages to their aman crop due to breach of Gumti embankment (like in 1991) and monsoon flooding.
- irrigation from groundwater is not possible (gas) and surface water irrigation cannot be done due to insufficient water in Arsi river. Therefore they cannot cultivate a boro crop.
- lack of employment opportunities due to non availability of rural cottage industries in the area.
- scarcity of fuelwood in the surroundings areas which force them to buy firewood in the market. This problem is very acute since Bagrabad gas station is only 2.5 km away and their village is not connected. They feel some resentment.
- heavy transportation costs due to poor communication network (roads) in the dry season.
- houses and amenities are deteriorating since they do not have sufficient income to maintain them
- sharecropping system is unfair, 50% of the harvest goes to the landlord while all input costs are born by the sharecropper
- not enough institutional services from GOs (bank, agriculture extension, BRDB) and NGOs as well.
- ploughing costs are increasing because there are less and less farmers who are financially able to maintain draught animals. Therefore the number of ploughing animals is decreasing.

The participants mentioned that for all these reasons, more and more people are looking for jobs in nearby urban centers and try to sharecrop their land out. Quite often they do not intend to come back to live here so they do not re-invest their earnings in the village. Therefore, less and less capital is available for the self-development of the village.

- **Analysis of Project Impact**

As a whole, the participants support the project (re-excavation of Arsi river) on the ground that it will bring additional well-being for the majority of the population including farmers and those whose main sources of income are on-farm employment.

- farmers will be able to produce a boro crop if irrigation from Arsi river is possible on a large scale. Therefore, the cropping intensity will increase and, as a result, farm income will improve. However, no changes are expected for their aman crop which will still be subject to damages from monsoon flooding.

- more work for agriculture labor will be available to meet the demand of boro crop. Therefore, wage labourers are likely to have a better and more regular income and their propensity to migrate to find employment will reduce. Their livelihood will be more secure and stable.

- With the re-excavation, the period during which navigation is possible will increase. The income from boatman will improve and the transportation costs will be reduced.

However, some problems may arise with the earth cut during re-excavation of the Arsi river. Some farmers fear that cultivable land may be damaged and that some localized conflicts emerged. Though, one participant mentions that if it was possible to solve these problems for the construction of the Gumti embankment, there is no reason why for such a smaller work no solutions could be found.

- **How to improve the Project ?**

The participants indicate that village-based-committees should be formed in each village along the Arsi river to supervise the work of those in charge of the maintenance and to handle water sharing arrangements for irrigation purposes (canal links to Arsi river).

They also underlined that culture fisheries development should be focussed on and supported by GOs and NGOs. More particularly, support could be given to re-excavate old ponds and to facilitate fingerlings supply.

Also, to solve their fuelwood problem, they would like to be connected to the gas station or that a Roadside Afforestation Programme be started around the village.

They would welcome the development of rural cottage industries to solve the unemployment problems and expect government support on this aspect.

Appendix 2D: ZONE D

D.1. Discussion With Women

- **Location**

Thana :	Daudkandi	**Zone** :	D
Union :	Dakhin Balarampur	**Village :**	Bandharampur

This village is located on the eastern side of Gauripur-Homna road, on the northeast of the river Titas. It is not very far from the proposed polder (southern submersible embakment scheme).

- **Background**

Immediately after the arrival of the team in the village, few persons came to inquire about the reasons which made us coming there. Before we could explain our objective, they told us that if it is for the construction of an embankment, they are against it. They do not want any embankment along the Titas river and clearly mentioned that they will do whatever it takes to impede the construction work.

They indicate that they want regular normal water flow from river Titas. After telling them that we do not want an embankment to be build in this place but that we just came to discuss about women issues, their way of life, their problems and to hear their ideas with respect to the overall development of the area, they become less aggressive and more friendly. One of them accompanied us to a group of clustered households where we could meet a few women and discuss with them and find out if they have any idea or suggestion how to improve their overall living condition.

- **Participants**

  - Saheda (38 years old) wife of a local doctor. She has four children of whom the eldest one is studying in college while the others are still in primary or high schools.
  - Kariman (40 years) wife of marginal farmer. She has five children.
  - Amena (23 years). She has three small children below six years old. Amenas' husband has only .15 acre of land and to earn a living he is engaged in petty trading.
  - Rahima (22 years). wife of marginal farmer, who has recently sold his land to refund a long overdue loan contracted 3 years ago.

- **Intervention of " Mastans"**

While we were talking, two men of the village came over and inquire about what we were talking about and about what we want to know from these women. These men, who look like "mastan" told

the women present to stop talking to us and to go back inside their homes.

Dr. Nath mentioned that she never faced such a situation in any other places she went to within the project area. However, she managed to accompany these women inside their houses and was able to carry on the discussion.

- **Economic Livelihood**

Irri Boro is the main crop in the area though on higher land, chilies, sweet potatoes, mustard, wheat, cauliflower, cabbage and different kinds of vegetables are cultivated. Also, aman and jute are grown in the area.

Plenty of chilies are grown, some being sold green while the remaining, once ripe, is dried and stored to be used throughout the whole year. Women told that if the Government could do something so that there will be water throughout the year in Titas it will be good for the whole area. They indicate that surface water is preferred for irrigation because it is cheap and better for crop cultivation.

Primary education is free. But all cannot always send their children to school. Poor children, alongside their parents, participate in the day-to-day struggle of survival and have to work whenever necessary. At this point of the discussion, Saheda showed me two girls of about 10-11 years carrying green weeds and grasses from the field to feed cattle.

Also, during at least a month women and children from poor families are busy plucking red chilies from field for about Taka 20 per maund. There are plenty of people ready to work for plucking, but there is not everybody gets a chance. It depends upon the goodwill of the concerned landowners who generally choose the people he needs from a limited number of poor families.

During jute processing time, women get work for 6/7 days and can earn about taka 10 per day. After boro harvest few women get work and wages are within 1 kg to 1¼kg rice per day plus two meals a day. Men get 35 to 40 taka per day with two meal for agricultural field work. During dry season poor men go for earth cutting as well. There are good number people living on peddling different necessities of life specially utensils to different villages. If the male member stays outside the house for 10-15 days, he managed to send money back home or to obtain a credit from a shop so that his family can get rice and other necessities. The women mentioned that purchasing rice at credit is very expensive since shopkeepers charge between 3% to 5% interest per week.

Most of the people are poor and women do not have much scope for work. Only Rich farmers employ some women for household works but most of them are poor women from their kin group living in the same homestead area.

- **Sanitation**

When there is water in Titas all the villagers including the women take bath in the river. When water dries up in April they take bath in some private ponds where water remains, but all the villagers have access to tubewell water for drinking purposes.

- **Family Planning**

Family Planning worker regularly visits and works in the village. It seems that all the women present in the discussion are concerned about the necessity of family planning. Amena told that she took contraceptive pills for two days but she felt sick and had to stop. One lady noted that if somebody take these pills she has to take proper full meal otherwise she would be sick. However, another women said that she takes one pill a day and that she suffers no problem at all. Though these women are illiterate, it seems from their discussion that they are receptive to family planning programme. However, because no proper communication between the worker and the target group beneficiaries is established, the effectiveness of the programme is all but questionable.

Due to poverty and illiteracy they are not able to avail the welfare programme of the Govt. Family planning workers also have to be motivated and trained properly so that they can communicate and follow up the programme properly.

- **Nutrition**

Rich and poor everybody prefers cooking outside in a corner of the courtyard. Often, they have an oven outside the house and one inside the room to be used during rainy and windy days. Children and women collect fuelwood, water hyacinth from the river and dry and stack them in one side of the courtyard. Poor women use dried water-hyacinth with jute stick and dried leaves for cooking.

From July to October people of this area catch fish in the river and also in the adjacent beels. During that time, poor families are able to get fresh fish for their daily consumption which is good for the health of children.

Both Amena and Rahima said that when their husbands are at home and are earning some money, they cook twice a day otherwise they cook only once in the afternoon. Amena told that, nine days ago, she bought six taka of dried fish from market. Since that time, she has managed to cook with that plus additional vegetables collected from field (sak). Needless to say that all the women and children look sickly.

- **Re-excavation of Titas River**

In February, villagers of the river side give an earthen dam on the south east side of Titas to have water for irrigation for another additional fifteen to thirty days. At this time too, children and villagers

catch fish from the river. The participants indicate that when the river dries up, chairman brings wheat to excavate the river. However, they mention that the re-excavation work was never done properly due to unexplained delay in doing the work and the slow pace of the earth cutting. When water comes back to the river, earthen dam breaks away and it is no longer possible to complete the re-excavation. Thus chairman gets money but not much work is done for the public.

- **Major Needs**

Already, there are two Grameen Bank women groups in the village. Women want any kind of remunerating job including, earth cutting and bari-based income generating activities. They would like more support for GOs and NGOs so as to raise their living conditions and give a better life for their children.

D.2. Group Discussion With Men

D.2.1 Bancharampur (No1)

- **Location**

Thana :	Bancharampur	**Zone :**	D
Union :	Sonarampur	**Village :**	Kadamtali

Located at 6 km north of Bancharampur, this village is situated nearby Chandan beel. Here, it has to be mentioned that no submersible embankment was found around the beel though a sluice gate at the southern end, blocking the inflow from Titas River.

- **Participants**

  - 10 hindu fishermen who are landless or functionally landless (.5 acres). They belong to the most deprived categories of the rural society, depending solely on fishing for their survival.

- **Description of livelihood**

These people depend mainly on beel fisheries to sustain their livelihood. They fish throughout the year though the most productive period is from october to december, at the time and water recedes to the river Titas. They have organized a "society" comprising around 400 members which has obtained the fishing rights for Chandan beel (160 acres) through lease arrangements with the revenue department of Brahmanbaria district (ADC revenue).

The duration of the lease is three years and the official lease amount was 18 600 Tk. but adding "hidden" cost, the total amount finally paid was 30 000 Tk. for the entire three years period. To raise such an amount, the society collected individual subscriptions from each member. Some fishermen have been organized into groups by Comilla-Proshika and could obtained small loans to pay their

contributions.

They mentioned that the most critical period was before the monsoon (March to May), at a time when less fish is available in the beel. During this time, they cannot afford more than one meal of rice per day since their cash income is reduced to an average of 10 to 15 taka per day as compared to 30-40 taka per day when the season is good (post-monsoon). Fish catch is sold either on local markets (small fish) or to Narshindi (for urban markets) for bigger fish.

- **Major Problems and Issues**

The participants to the discussion identified four major problems which are constraining their livelihood:

- reduction of fish availability in the beel due to the construction of a sluice gate on the southern canal linking the beel with Titas river. This gate was built in 1991 by an ex MP to respond to the demand of landowners of the area without asking them their opinion.

- due to gradual siltation of the beel, the water area during dry season is reducing and farming on the periphery is expanding which increases the siltation process.

- being a minority group, they cannot raise their voices and protect their interest before the surrounding muslim majority. For instance, though they have exclusive access to the beel, some non-society members (muslims) quite often come to fish there. Also, they could not stop the construction of the gate.

- lack of capital to invest in fish drying and processing activities which could significantly raise their income and generate employment.

- **Analysis of Project Impact**

The participants mentioned that no changes will be induced by the project. As fishermen, they have nothing to gain from the proposed interventions except if the sluice gate is removed and re-designed to allowed fish to pass through.

- **How to improve the Project ?**

To improve their situation, the participants indicate the following points:

- longer lease term for the lease of the beel (10 years). This will secure their livelihood for a longer period and will allow them to invest in fishing gears.

- deepening of the southern canal linking the beel with the river Titas and removal or upgrading of the sluice gate to facilitate fish movement from/to the river Titas.

- access to credit facilities in order to raise funds to develop their artisanal fish drying activities.

D.2.2. Bancharampur (No2)

- **Location**

Thana :	Bancharampur	**Zone**	:	D
Union :	Sonarampur	**Village**	:	Sonarampur

Located at 6 km north of Bancharampur, this village is situated along the road from Bancharampur to Marichar ghat.

- **Participants**

  - a group of about 10 weavers

- **Description of Livelihood**

In Sonarampur village, a total of 120 households are involved in weaving activities and there are around 200 weaver labourers (threaders). They purchase raw materials from Narshingdi or Narayangonj from local market and sale their products in the same places to wholesalers.

This activity provides them work for about 8-9 months per year. During the monsoon, the work is severely hampered because thread processing cannot be done. As a result, during this slack period, some weavers migrate outside the area for work as wage labour (Narshingdi - Dhaka - Narayanganj).

The usual pattern of work is that all family members, including children of more than eight years old, are involved. All the women, besides the imparted time for cooking, participate too. They helped in preparing thread materials. However, only the adults of the family are sitting on the weaving machine.

Previously the price of thread was cheaper in comparision to the price today while the price of cloth has not changed much. The margin was good while now the profit made out of this work is gradually shrinking. Another reason is that in the past, the weavers used to form a co-operative society through which they could get loan from bank and purchase thread at a controlled price. At present, this cooperative is defunct due to outstanding overdue loan and the weavers loose their capabilities to control the price of thread.

Due to difficulties like lack of fund, non-availability of thread at right time at right price and no credit facilities, some weavers left the profession and some work on others' weaving machine on daily basis. The wage is around 40 to 45 taka per day without food for a 12 hours long day of work.

- Main Problems and Issues

  - No access to bank loan
  - Raw materials shortage and high price which reduce profit and earnings
  - Poor communication network which lead to high transportation cost

- Proposals

  - Arrangement of credit facilities at easier terms through NGOs services
  - Supply of thread at cheaper price at local market.
  - Improvement of road and waterways.

D.2.3 Homna

- **Location**

Thana :	Homna	**Zone :**	D
Union :	Dakhin Homna	**Village :**	Saifullah Kandi

Located on the eastern side of Gauripur-Homna road, this village is situated on the western side of Katalia river and north of Modhukupi khal.

- **Participants**

  - 8 small to medium farmers (0.5 acres to 2.5 acres).

- **Description of Livelihood**

They mainly depend on farming for their livelihood which provides them sufficient food reserves throughout the year except during the critical months of September-October, just before the harvesting of aman crop. During that time, they reduce their food intake from three meals of rice a day to two. B. Aman is the main crop (May to November) followed by Aus (April to July). Very few areas are under boro cultivation due to lack of water for irrigation. Therefore, farmers prefer to grow traditional rabi crops such as chilies, potatoes and wheat.

They indicate that farmers are still the dominant groups in the village comprising around 60% of the households though landless labourers are close to 35%. To survive, some are wage labourers, sharecroppers or fishermen.

Sharecroppers have reported that the landowners retained 50% of the total harvest but bear 50% of fertilizer and water cost to provide incentives to the sharecroppers to adopt new techniques and new varieties (HYV). Also, in very few cases, the "Tebaga" system was applied (sharecropper retains 66% of the harvest and bear all production cost).

- **Major Problems and Issues**

During the discussion, the participants mentioned that the major problem they have to face is the lack of irrigation water during the dry season. There is no DTW and only 3 STW are available to cover to cover the agricultural water needs during the winter. Needless to say that it is insufficient and this explained why boro is only a minor crop in this area.

Also, they indicate that fertilizer price is too high which impedes the financial returns made out of their farming activities. Also, they mentioned that credit support is lacking though it is very much necessary to allow to invest in their farms.

- **Analysis of Project Impact**

For the participants, the proposed project (khals re-excavation) seems to be well accepted on the ground that it will benefit a majority of people. However, the participants perceive that the main beneficiaries will be farmers but they indicate that wage labourers, fishermen and businessmen will also obtain some benefits out of the project.

If the proposed interventions are done, the area under Boro and Aman cultivation will increase leading to higher levels of paddy production and farm income. The increase in the cropping intensity will generate additional demand of agriculture labour and landless labourers will get more work and more income. Also, with more water in the khals, the fisheries resources will increase and so will fishermen income.

However, these farmers understood quite well that, if implemented, this project could have one major disbenefit linked with the loss of cultivable land due to the earth cutting required for the re-excavation of the canals. In this respect, they indicate that it should be properly addressed so as to avoid the emergence of a conflicting situation with landowners whose land is going to be lost.

- **How to improve the Project ?**

As a whole, the participants support the project on the ground that khal re-excavation will contribute to improve agriculture production and will bring additional work and income for all. To support this argument they did mention that they would be prepared to give land for the project provided that they are fairly compensated.

Based on their experience of similar kind of work, they indicated that it would be better to implement the project work through village-based-committees and organized labour groups (LCS type) rather than through the traditional Project Implementation Committee (PIC) headed by U.P. Chairmen and U.P. members.

They also indicated that the support of NGOs could be necessary to improve the overall socio-economic development in the area and to help the poor. Also, NGOs could be involved in the organization of labour groups which could then be contracted to perform the re-excavation work.

D.2.4 Daudkhandi

- **Location**

Thana :	Daudkhandi	**Zone**	:	D / southern polder
Union :	Majidpur	**Village :**		Sibpur

Located on the eastern side of Gauripur-Homna road, this village is situated within the proposed southern polder.

- **Participants**

  - 11 landless labourers / sharecroppers

- **Description of Livelihood**

They mainly depend on their labor for their survival though some of them are also sharecropping some land in to earn a living. Their main sources of income is labor, followed by farming then fishing. Though fishing is not very essential to their income it contributes significantly to their diet during the monsoon months.

For the participants, the most critical period of the year is March-April just before the starting of the boro harvesting season. During that time they cannot afford more than 1 meal of rice per day though during the rest of the year they usually have food twice a day.

Boro is the main crop followed by all sort of rabi crops. Due to recurrent flooding during the monsoon, B. Aman is not a very significant crop in this village.

They indicate that farmers are not the dominant group in the village (only 30%) while the group formed by wage labourers, sharecroppers and fishermen are close to 65%. Out of these 65%, the majority is either landless (below 0.05 acres) or functionally landless (below 0.5 acres). labourers are close to 35%. To survive, some are wage labourers, sharecroppers or fishermen.

- **Major Problems and Issues**

During the discussion, the participants mentioned that the major problem they have to face is the regular damages of their boro crop (4 times during the last 10 years) caused by flood from Gumti and Titas river.

Also, they indicate that road communication was not very good (no bridge) and that no government primary school is available in the village. To cope with this situation the villagers are running a school from their own initiative which cost them some money.

- **Analysis of Project Impact**

For the participants, the proposed project (polderisation) seems to be well accepted because it will help the majority of people though increase in agriculture production and related activities.

If the proposed interventions are done, the area under Aman cultivation will increase and the boro crop will be protected from early flooding. Eventually, this will lead to higher levels of paddy production and farm income. The increase in the cropping intensity will generate additional demand of agriculture labour and landless labourers will get more work and more income.

However, these participants underlined that, if implemented, this project could have three major disbenefits linked with the loss of cultivable land, the reduction of fisheries resources and the disruption of communication waterways. In this respect they did note that the occurrence of conflicts linked with land acquisition and with the loss of livelihood for fishermen.

- **How to improve the Project ?**

As a whole, the participants support the project on the ground that polderisation will contribute to improve agriculture production and will bring additional work and income for all except for fishermen and those involve in navigation.

For the people who are likely to be worse off as a result of the project, some targeted interventions should be designed to provide them with alternative sources of livelihood. For instance, through skills training and development of income-generating activities with the support of NGOs, these people could be made better off, reducing the risk of conflicts and increasing their acceptance of the project.

Based on their experience of similar kind of work, they indicated that it would be better to implement the project work through village-based-committees and organized labour groups (LCS type) rather than through the traditional Project Implementation Committee (PIC) headed by U.P. Chairmen and U.P. members.

D.3. Comilla-Proshika - Sonarpur (Bancharampur)

- **Name of person met** : Hummayan Kabir
- **Position** : **Area Coordinator**

SIA - ZONE D

- **Project Impact**

The area coordinator fully supports the re-excavation of canals proposed under the project which, according to him, will contribute to raise agriculture production and related employment for landless labourers. Also, more scope for selling water for irrigation will be available to landless groups supported by CP.

As a whole, he indicated that rural incomes will increase and that communication through waterways will be facilitated. This would contribute to reduce transportation costs for trading goods and will have a positive impact on the overall development of the area.

Although, khals re-excavation will increase water flows and the development of water hyacinths, which are creating problems for navigation and fisheries, will be minimized.

However, he regrets that the problem of beel fisheries did not seem to have be fully investigated, especially in the nearby Chandan beel where local hindu fishermen felt that a recently built sluice gate in the southern end of the beel is hampering fish recruitment from the river Titas. He mentions that a more "fish friendly" type of sluice gate could be constructed to replace the controversial one.

- **Suggestions and Ideas**

  - landless labourers could be organized in groups of LCS type to execute re-excavation works
  - landless groups could also be involved in selling water for irrigation through credit support for purchase of low lift pumps or tubewells.
  - roadside and embankment afforestation programme could be expanded and included in the proposed project interventions
  - the fate of hindu fishermen minorities (like those living near Chandan beel) should be considered and specific poverty alleviation schemes could be targeted to improve and secure their livelihood. For instance, NGOs interventions could be required to provide them credit support and other informal health and education services.

APPENDIX G.3

PROPOSAL FOR NGO SUPPORT, COMILLA PROSHIKA

কুমিল্লা প্রশিকা উন্নয়ন কেন্দ্র COMILLA PROSHIKA CENTERE FOR DEVELOPMENT

15.4.93

SIR M. Mac Donald & Portners Limited
122, Gulshan Avenue, Dhaka.

Attn: Mr. Harun-or-Rashid Patwary

Subject : Comilla Proshika's Profile & Proposed area of participation in Gumti Phase-II project.

Dear Mr. Patwary,

Following our discussions held on 12 April 1993 at Brahmanbaria, I am pleased to forward to you Comilla Proshika Centre For Development's Profile and the intent for participation of CPCD in the development activities under Gumti Phase-II Project. Should you need more information, please, contact me at your convenience.

With best regards, I am,

Yours very sincerely,

15-4-93

Mizanur Rahman Charu
Director, Field Operation.

INFROMATION/ACTIVITIES
&
PROPOSED ACTIVITIES

OF
COMILLA PROSHIKA CENTRE FOR DEVELOPMENT
(Prepared For Gumti Phase II Project)

APRIL 1993

COMILLA PROSHIKA CENTRE FOR DEVELOPMENT

House-12, Road-12
Dhamnondi R/A,
Dhaka-1209
Bangladesh.

(1) Year of Establishment : 1976

(2) Registration with date : With DSS = No DSW/ER/FD-147/677 dated 04-09-1983 (Photocopy enclosed)

With NGO Bureau No.152, dt.04-09-83 = Renewed on 19-09-92. (Photocopy enclosed)

(3) RATIONALE, GOAL AND PURPOSE OF COMILLA PROSHIKA

Rationale and strategy

Most people in Bangladesh are poor because their level of productivity is very low. It is low simply because the level of human and physical capital they individually and collectively possess is very low. With respect to human capital (i.e. level of educational and technological attainment of the people). Bangladesh has one of the lowest literacy rates in the world (23% as per 1981 census). One can perhaps understand the low level of physical capital (i.e. both land and capital assets available to a person in Bangladesh), by considering the fact that the density of population in Bangladesh is what would exist if all the people in the world lived in the USA. However, population density is not the only factor. The people of Bangladesh simply do not have adequate capital assets. Again, one can find numerous other explanations to this reality, including the fact that Bangladesh has long remained a peripheral state, and is susceptible to natural disasters.

The primary objective or the rationale of Comilla Proshika has always been, and remains, to develop and implement concrete programs to overcome poverty among the landless and poor farmers in Bangladesh. The strategy that Comilla Proshika has adopted to achieve this end is to: (1) support the building of village-level, separate male and female organizations to provide an institutional framework for carrying out awareness-building and concrete programs to facilitate human and physical capital accumulation; (2) provide loans from Revolving Loan Fund (RLF) to facilitate physical capital accumulation and to support income and employment generation activities among members of Comilla Proshika groups; and (3) support training for skill development to facilitate accumulation of human capital and promote and support viable employment and income-generating activities.

The Goal:

The goal of Comilla Proshika is to help the poor alleviate poverty and achieve their potential through promoting participatory, self-reliant, environmentally sustainable development.

The purpose:

The purpose of Comilla Proshika is :

A. Institutional Development

Support village-level male and female groups, and thana level central associations (CA), to plan and implement programs aimed at achieving the goal and purpose of Comilla Proshika (CP) and developing Comilla Proshika's own capacity to achieve these objectives.

B. Human Resource Development

Plan and implement human resource development activities to:

(a) promote community and human development through conscientization and social action:

(b) support income and employment-generation activities of members and groups through skills development :

(c) Develop and administer Comilla Proshika, Comilla Proshika groups, programs, projects and activities through development of management capabilities;

(d) increase awareness of gender issues and the need for opportunities for both women and men to achieve their potential and facilitate their participation in sustainable human, social and economic development.

C. Capital Resource Development

Operate a Revolving Loan Fund (RLF) in order to:

(a) promote savings and provide credit for income and employment-generation activities, projects and programs undertaken by members of Comilla Proshika groups;

(b) make Comilla Proshika and Comilla Proshika groups increasingly financially self-reliant.

D) Environmental Development

a) support village organizations to initiate and implement intensive social forestry program.

b) support action program to contribute to the restoration of ecological balance and conservation of biodiversity in Bangladesh through afforestation and reforestation on Government khas land, in an attempt to rehabilitate tropical rainforests which are under constant stress.

(4) PRESENT ORGANIZATIONAL STRUCTURE

At the top of the organization is the General Assembly. The General Assembly appoints the Board of Directors (Governing Body) of the organization. The Governing Body in turn, appoints an Executive Director who is the Chief Executive Officer of Comilla Proshika. In addition, a Management Committee consisting of the Executive Director and Directors of respective directorates of Comilla Proshika assists the Executive Director to effectively carry out his responsibilities.

Following are general outlines of the duties and responsibilities of the various management entities of Comilla Proshika.

General Body: The General Assembly is responsible for approving annual management plan, audit reports and appointing auditors. The General Assembly will appoint a Governing Body or a Board of Directors to direct the affairs of Comilla Proshika.

Governing Body: The Governing Body or the Board of Directors is the principal executive body of the organization. The Board is elected by the General assembly. The Board is responsible for the appointment of the Executive Director and taking decision on major policies.

Executive Director: The Executive Director is the Chief Executive Officer of Comilla proshika. Subject to the direction and guidance provided by the Board, the Executive Director will have the power and authority to act on behalf of Comilla Proshika and to enter into any contractual obligations in furtherance of its goal and purpose. The Executive Director as the chairperson of the management committee. The Management Committee under the chairmanship of the Executive Director meets once a month to review ongoing activities of Comilla Proshika.

Management Committee: Chaired by the Executive Director its primary function is to assist and support the Executive Director in fulfilling his duties and responsibilities.

Regional Service Centre: Regional Service Centres are the extension of the different Directorates from where services are delivered to the Area Development Centres.

The ADCs and In-charge: The ADC's In-charge in ADCs are the managers of all Comilla Proshika programmes in their respective Thanas. They are functionally responsible to the respective Directors of Comilla Proshika for the implementation of the respective programs in their areas. In addition to being under the administrative control of the Director of Field Operations, they are also answerable to the Central Association in their respective areas.

Personnel: At the end of March '92, the total number of staff stood at 323, of which 241 are male and 82 are female.

(5) ACTIVITIES /EXPERIENCE

Comilla Proshika has so far completed 3 phases of its program and is in the process of implementing the 4th phase.

While the Goal and Purposes of Comilla Proshika remained unchanged, the focus during the different phases went through gradual change to meet the requirements of the programs set forth to bring about the desired results. In phase I the focus was on testing the viabilities of forming small groups of rural landless and marginal farmers. During phase II while the expansion of the Proshika experiment was in progress, the organization which started as 'Proshika' in 1976 was bifurcated, thus ''Proshika Manobik Unnayan Kendra" and ''Comilla Proshika Centre For Development" were created in 1981.

During the phase II and III the expansion of the village groups took place and the effectiveness of the program was increased through training of the Comilla Proshika workers and group members.

Area Development Centre (ADC) is the core of Comilla Proshika project which included village organizations (V.Os) made up of members from families of landless, marginal and small farmers. Comilla Proshika encourages them to create and operate savings fund, provide them with certain training and operates a revolving loan fund to provide credit to the members of these organizations for financing small scale projects in the field of agriculture, irrigation, fish cultivation, poultry and livestock, rural industry, social forestry, marketing etc.

During the devastating floods of 1988 relief and rehabilitation activities in the flood affected area within the Comilla Proshika area of operation became the prime need of the flood victims which Comilla Proshika provided effectively.

(c) Economic activities :(including credit operations):

Comilla Proshika's saving programmes are geared to encourage people to save and to use their savings for investment for increasing their own productivity. It will help members accumulate capital and to develop their capacity to borrow, invest, increase their income and their ability to repay their loan and take further loan for income generating activities. More consciousness of the need to save and invest is expected to be created among the members. Our saving projection on completion of this phase period is Tk.62516531.00.

Scarcity of capital resource is a hindrance to the development endeavor of the poor. Savings of the poor matched with credit from the program within the manageable areas will enable the poor to accumulate capital resources to increase production, distribution to achieve equitable income. The ultimate objective is to attain a better standard of living by rural people. By the year 1994-95, RLF (Revolving Loan Fund) is expected to stand at Tk.46,178,020.00 to be used for income generating activities related to poultry, livestock, food processing, rice, vegetable production, fish cultivation, small trading, groups storages and marketing, cattle fattening, cottage industry, irrigation pump etc.
Attached present RLF program in appendix-III and the activities during 1991-92 in Brahmanpara, Burichong, Kasba, Nabinagar, Bancharampur and Devidwar ADCs in pages 4,5,6,7,8 and 9 respectively.

(d) Health:

The main purpose of health program aims at motivating the members of the village organizations to take preventive steps for better personnel hygiene, set up water sealed sanitary latrines, tubewells and to use them for sanitation and safe drinking water.

They are also made aware about child and mother health care needs including family planning and immunization. Comilla Proshika imparts in house training to its animators who in turn disseminate information on all these aspects of health care.

The present health care program is mentioned in appendix-IV.

(e) Education:

The importance of education in development is undeniable and cannot but be emphasized. Participation is a key word in peoples organization. Mass education plays a key role in enhancing participations. Universal primary education is a sine qua non for the development of a nation. Although the target for primary education stands quite large, because of actual dropout of the children of the poor the propagation of education seriously erodes. Proshika to improve the situation has taken up programs which are mentioned in appendix-V.

(f) Afforestation of social forestry:

The massive cutting down of trees in our country without much thought of its disastrous consequences on the environment and ecology has prompted Comilla Proshika to attach adequate importance to afforestation and has taken up programs to motivate and encourage people to plant more trees.
The present program of afforestation, and social forestry are enclosed in appendix-VI.

(g) Agriculture and Irrigation program:

Comilla Proshika attaches great importance to the agricultural development of the country since its inception. Inspite of its limited resources, it has been working alongside the government in the implementation of projects and programs aimed at agricultural development of its organized target population. Comilla Proshika provides assistance for acquiring powertiller, irrigation assets, fertilizers, pestisides and other inputs for development of agriculture.
The programs in agriculture and irrigation are mentioned in appendix-VII.

(h) Other programs including women development:

The social benefit derived by the members are the learning of management process for collective work and growth of confidence in their own abilities. The other benefits are the women's struggle against exploitation, realizing social justice, exercising peoples power, and influencing control over resources.
Under a fund provided by Oxfam-USA, a dairy development program for the women members has been implemented and is being considered for expansion.
The present programs on vaccination, dairy development for women members are mentioned in appendix-VIII.

(i) Rural housing:

Housing is only one of many rural needs of Bangladesh. For the rural people, a house represents for the family more than simple protection from environment; it provides, economic security by strengthening bondage, and a sense of belonging to a culture.
With the financial assistance from UNDP and technical support of UNCHS Comilla Proshika has so far constructed 474 rural houses in Kasba (94), Nabinagar (142) and Kachua(238); of which 44, 46,114 houses were loaned to female beneficiaries.
The housing program under implementation is enclosed in appendix-IX.

(6) Geographic Area Covered within the project thanas (according to each program and No. of villages/unions covered).

District	Thana	No. of Union	No. of Village
Comilla	Burichang	5	20
	Barura	6	47
	Debidwar	6	37
	Chouddagram	7	50
	Brahmanpara	6	21
	Kachua	8	79
	Chandina	8	57
Brahmanbaria	Bancharampur	5	25
	Nasirnagar	8	52
	Kasba	5	26
	Nabinagar	8	25
	Sarail	9	64
	Brahmanbaria	10	56
Moulavibazar	Sreemongal	5	25
Narail	Narail	9	32
	Kalia	4	29
	Lohagora	7	43
Chapai Noabgonj	Shibgonj	7	46
Kishorgonj	Kuliarchar	25	65
Gazipur	Gazipur	17	29
8	21	153	886

All programs of Comilla Proshika are being undertaken within this covered area.

(7) Continuation of Programme:

Based on the past experience in Rural Development and Poverty Alleviation for more than a decade and encouraged by the good results, Comilla Proshika is planned to continue and expand its programme in the fields of RLF, Health & Sanitation, EPI, Afforestation, Housing, Education, Agriculture & Irrigation, Dairy and Livestock, Pisciculture and Skill Development.

Comilla Proshika's lessons are clear. Advancing the welfare of Bangladesh's rural majority depends on self-reliant development action, controlled and managed by the people themselves within a frame work of co-operation and mutual trust and respect. Those who would assist must serve in the role of enablers, supporting the poor in their efforts to mobilize their own will, knowledge, creativity and physical energy in the service of their own development.

Increased cooperation with government and other agencies has always been a corner-stone of Comilla Proshika operations. Comilla Proshika would therefore like to engage itself in full vigour in programmes outlined above for greater good of the rural communities.

(8) Proposed activities:

In Gumti phase-II project which covers 11 (eleven) thanas of Comilla and Brahmanbaria district, Comilla Proshika is involved in 6 (six) thanas, namely Burichong, Brahmanpara, Devidwar, Bancharampur, Nabinagar and Kasba. Comilla Proshika therefore with its ideology on self-reliance, empowerment of the rural poor, social justice, transformation and preserving development work would like to be partners of other agencies to remain effective and viable with its value, skill and vision commitment for development of the people and the area.

Comilla Proshika could involve itself with Gumti phase II project mostly in the social and environment sector as mentioned below, and may also serve in the implementation phase in two fields of a) khas excavation for irrigation and drainage b) embankment construction; with members of its groups and their active participation.

The other items where Comilla Proshika could be partners are the social and environmental sectors in the field mentioned below.
a) Developing understanding of the farmers and laborers about the project through conscientization and group formations.

b) Planned water management for optimizing the use of water through irrigation system and forming water use societies.

c) Pump use, and its operations and maintenance.

d) Operations and maintenance of small gates, gauge, and maintaining records at intake and feeder canals.

e) Maintenance of embankments, re-excavation of canals including internal embankments.

f) Land cultivation of khas lands by group members including maintenance of crop calendar and yields.

g) Open and closed fishery farming/cultivations including formation of fisheries societies.

h) Management and technical support to groups and members.

i) Afforestation and social forestry programmes in the area including activities to balance ecology .

j) Supporting pollution free water supply and sanitation programme.

k) Increase of livestock, specially for draft power and milk production including fodder cultivation.

l) Supporting human health and nutrition programme.

m) Supporting human development and skill training programme.

n) Supporting economic activities and income generating activities programme.

o) Supporting mass literacy and children education programme.

p) Supporting rural housing programme.

q) Disaster preparedness programme including multipurpose use of embankments and storage of emergency seed grains.

Comilla Proshika has the necessary experience in many of the fields stated above and have the required management and expertise capabilities for all of them. As for the area coverage, it would be able not only to cover the total project area in a short time where it is already working but can also expand quickly to other areas namely, Muradnagar, Homna and Daudkandi thana, if provided with necessary financial support.

REGISTRATION NO.DSW/FDO/R-152.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
DEPARTMENT OF SOCIAL WELFARE,
74, Bejoy Nagar, Dacca-2.

*Memo No. DSW/ER/FD-147/*677*, dated* 04-9-1983.

To:

The Executive Director,

Comilla Proshika Centre For Development,

Post Box No. 57, Comilla.

This is to certify that the Organisation COMILLA PROSHIKA CENTRE FOR DEVELOPMENT, THAKURPARA, BAGANBARI, COMILLA has been registered with the Department of Social Welfare, Government of the People's Republic of Bangladesh, to receive or operate with foreign donation for the purpose of undertaking or carrying on voluntary activities under the Foreign Donation (Voluntary Activities) Regulation Ordinance/Rules, 1978 as amended subject to the observance of the following conditions:—

(1) The Organisation shall abide by the provisions of the Foreign Donation (Voluntary Activities) Regulation Ordinance, 1978 and of the rules framed thereunder.

(2) The areas of operation mentioned in Form FD-1 should be followed strictly. Prior approval of the Registration authority will be needed should the organisation intend any change in the existing areas of operation/programme.

(3) Prior approval be obtained from the concerned Ministry through the Registration Authority in case the agency wants to undertake a new programme.

(4) Observance of any other condition(s) that the authority may from time to time deem necessary to impose.

4.9.83

Director,
Department of Social Welfare
and
Registration Authority.

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার

এনজিও বিষয়ক ব্যুরো

প্রধান মন্ত্রীর কার্যালয়

১, পার্ক এভিনিউ, মৎস্য ভবন (১০ম তলা), রমনা, ঢাকা

স্বেচ্ছাসেবী সংস্থার নিবন্ধনের প্রত্যয়ন পত্র

অধ্যাদেশ নং ৪৬, ১৯৭৮

নিবন্ধন নম্বর ঃ ১৫২ তারিখ ঃ ৪.৯.৮৩ইং

প্রত্যয়ন করা যাইতেছে যে, ১৯৭৮ সালের দি ফরেন ডোনেশনস (ভলান্টারী এক্টিভিটিস) রেগুলেশন অর্ডিন্যান্স এর বিধান মতে, অপর পৃষ্ঠায় বর্ণিত শর্তসাপেক্ষে কুমিল্লা প্রশিকা উন্নয়ন কেন্দ্র (COMILLA PROSHIKA CENTRE FOR DEVELOPMENT)

কে

~~নিবন্ধীকরণ~~/এর নিবন্ধন নবায়ন করা হইল। ইহা ১৫.৫.৯০ইং থেকে কার্যকরী হবে।

আমার স্বাক্ষর ও সীল মোহরে ১৯.৯.৯২ইং তারিখে এই প্রত্যয়ন পত্র জারী করা হইল।

মহা পরিচালক

COMILLA PROSHIKA CENTRE FOR DEVELOPMENT
COST ESTIMATE

1) TOTAL POPULATION IN PROJECT AREA-1710619 Nos.

2) TOTAL HOUSEHOLDS IN PROJECT AREA-293263 Nos.

(Ref page-2-30, Table 2.15 of second progress report March 1993).

(A) INSTITUTIONAL DEVELOPMENT

ACTIVITIES	UNIT	AVERAGE COST	COST 5 YEARS
GROUP FORMATION & SUPPORT	Per beneficiary/		
a) Landless groups male/female		Tk.420/-	Tk.2,10,000,00/-
b) Fisheries group male/female			
c) Water user groups Male/Female.			

(Assuming 70% of total households are target population, and to cover 25% of these population , the number of target beneficiaries shall be 51321 say 50,000).

(Each field staff will cover 360 beneficiaries per year and it is assumed that 1st year 10,000 beneficiaries will be covered with 30 field staffs, 6 supervisory staff and 6 specialist's. On other years only additional 30 field staff will be required for each 10,000 beneficiaries).

B. HUMAN RESOURCE DEVELOPMENT

a) Human development training	per staff	Tk. 629-/	Tk.698280/-
i) Staff [Assuming all staffs to be trained for 15 days in the 1st year & 5 days in each subsequent year)			
ii) beneficiaries [Assuming 10% of beneficiaries to be trained for 7 days in the 1st year & 3 days in each subsequent year)	per beneficiary	Tk.349/-	Tk.38,39,000/-

C. CAPITAL RESOURCE DEVELOPMENT

	UNIT	AVERAGE COST	TOTAL COST
[Assuming 50% coverage of beneficiaries per year the required capital for 5 years at anaverage of Tk.4000/- per beneficiary)	per beneficiary	Tk.4000/-	Tk.10,000,0000/-

D. ENVIRONMENTAL

a) Social Forestry: [Assuming 1000,00 trees to be planted per year] at a cost of Tk.5/- per tree)	per tree	Tk.5/-	Tk.9,000,000/
b) Afforestation: [Assuming 150,000 trees to planted per year at a cost of Tk.12/- per tree including maintenance as per WFP rate)	per tree	Tk.12/-	Tk.9,000,000/-

E. SKILL TRAINING

a) Irrigation & water management
b) Fisheries
c) Poultry & Livestock
d) Agriculture & pump management

[Assuming an average 8% of beneficiariesshall be trained every year]	per beneficiary	Tk.990/-	Tk.39,60,000/-

F.CAPITAL COST

Jeep -1 Motorcycle-12 Cycle -150 & Furniture Fixtures	L.S.	Tk.29,75,000/-

G. PROGRAMME COST

Education (non-formal primary education)	per student for 3 years	Tk.990/-	Tk.133,65,000/-
			Tk.15,73,58,280/-
a) Add operational & maintenance cost L.S:-			Tk. 26,41,720/-
b) Add for base line servey and Management information system			Tk. 80,000,00/-
		Grand Total:	Tk.16,80,00,000/-

Taka one hundred Sixty eight million only.

2) Refresher's (beneficiary)	-x	1000x	1000x	1000x	1000x	
No. of days	-	3x	3x	3x	3x	
perdiem	-	70	70	70	70	
		210,000	210,000	210,000	210,000	
Travelling beneficiary	-	1000x	1000x	1000x	1000x	
Travelling	-	100	100	100	100	
	-	100,000	100,000	100,000	100,000	
Sub total	-	310,000	310,000	310,000	310,000	1,240,000
Total	450,000	760,000	760,000	760,000	760,000	3,490,000
10% contingency	45,000	76,000	76,000	76,000	76,000	349,000
GRAND TOTAL	495,000	836,000	836,000	836,000	836,000	3,839,000
Revolving Loan Fund for income generation						
No. of beneficiary	5,000	5,000	5,000	5,000	5,000	
Cost		(New)	(New)	(New)	(New)	
Capital per head	4000x	4000x	4000x	4000x	4000x	
No. of beneficiary	5,000	5,000	5,000	5,000	5,000	
	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000	100,000,000
ENVIRONMENT						
Social forestry						
No. of trees	100,000x	100,000x	100,000x	100,000x	100,000x	
cost per tree	5	5	5	5	5	
	500,000	500,000	500,000	500,000	500,000	2,500,000
Afforestration						
No. of trees	150,000x	150,000x	150,000x	150,000x	150,000x	
Cost per tree including maintenance	12	12	12	12	12	
	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	9,000,000
						137,058,280
SKILL TRAINING						
1) Irrigation, water management, poultry, fisheries, livestock, agriculture, pump maintenance, operations etc.						
COST						
No. of beneficiaries	800x	800x	800x	800x	800x	
No. of days (average)	10x	10x	10x	10x	10x	
cost per day	70	70	70	70	70	
	560,000	560,000	560,000	560,000	560,000	
No. of beneficiaries	800x	800x	800x	800x	800x	
travelling cost	200	200	200	200	200	
	160,000	160,000	160,000	160,000	160,000	
Total	720,000	720,000	720,000	720,000	720,000	3,600,00
10% contingency	72,000	72,000	72,000	72,000	72,000	
Total	792,000	792,000	792,000	792,000	792,000	3,960,00

COST ANALYSIS

ITEM	Year 1	Year 2	Year 3	Year 4	Year 5	Total Cost (Tk.)
Group Formation & Support						
Beneficiaries =	10000 nos	10.000 + 10.000 (new)	20.000 + 10.000 (new)	30.000 + 10.000 (new)	40.000 + 10.000 (new)	
Cost =						
1) Field Staff =	30x	60x	90x	120x	150x	
Salary =	2500x	2500x	2500x	2500x	2500x	
(Including Festival) month	14months	14	14	14	14	
	Tk.1.050.000	2.100.000	3.150.000	4.200.000	5.250.000	15.750.00
2) Supervisory Staff	6x	6x	6x	6x	6x	
Salary	4000x	4000x	4000x	4000x	4000x	
Month	14	14	14	14	14	
	Tk.336.000	336.000	336.000	336.000	336.000	1,680.00
3) Tech. Support Staff	6x	6x	6x	6x	6x	
Salary	4000x	4000x	4000x	4000x	4000x	
Month	14	14	14	14	14	
	Tk.336.000	336.000	336.000	336.000	336.000	1,680.00
Total	1.722.000	2.772.000	3.822.000	4.872.000	5.922.000	
10% contingency	172.200	277.200	382.200	487.200	592.200	1.911.0
Total	1.894.200	3.049.200	4.204.200	5.359.200	6.514.200	21.021.0
Human Development training						
Staff orientation	42x15 days	30x15days	30x15days	30x15days	30x15days	
Staff refresher's		42x5 days	42x5 days	42x5 days	42x5 days	
Cost						
1) Orientation cost	2200x	2200x	2200x	2200x	2200x	
Number of staff	42	30	30	30	30	
	92.400	66.000	66.000	66.000	66.000	356.4
2) Refresher's cost	x	800x	800x	800x	800x	
Number of staff	-	42	72	102	132	
	-	33.600	57.600	81.600	105.600	278.4
Total=	92.400	99.600	123.600	147.600	171.600	634.8
10% contingency	9.240	9.960	12.360	14.760	17.160	63.4
Total	101.640	109.560	135.960	162.360	188.760	698.2
beneficiaries orientation	1000x5 days	1000x5 days	1000x5 days	1000x5 days	1000x5 days	
beneficiaries refresher	-	1000x3 days	1000x3 days	1000x3 days	1000x3 days	
Cost						
1) Orientation (beneficiary)	1000x	1000x	1000x	1000x	1000x	
No. of days	5x	5x	5x	5x	5x	
perdiem	70	70	70	70	70	
	350.000	350.000	350.000	350.000	350.000	
Travelling beneficiary	1000x	1000x	1000x	1000x	1000x	
Travelling	100	100	100	100	100	
	100.000	100.000	100.000	100.000	100.000	
Sub total	450.000	450.000	450.000	450.000	450.000	2.250.

CAPITAL COST						
A) Jeep -1	1,300,000	-	-	-	-	1,300,000
b) Motorcycle- 12	75,000x12					
	900,000	-	-	-	-	900,000
c) Cycle = nos	30x	30x	30x	30x	30x	
cost	4,500	4,500	4,500	4,500	4,500	
Total	135,000	135,000	135,000	135,000	135,000	675,000
d) Furniture Fixture :						
L.S.	20,000	20,000	20,000	20,000	20,000	100,000
PROGRAMME COST						
Nonformal primary education						
No. of students	30x	30x	30x	30x	30x	
No. of centre	150x	300x	450x	300x	150x	
Cost per student	50	50	50	50	50	
	225,000	450,000	675,000	450,000	225,000	
No. of teacher	150x	300x	450x	300x	150x	
Cost per teacher	600x	600x	600x	600x	600x	
No. of months	14	14	14	14	14	
	1,260,000	2,520,000	3,780,000	2,520,000	1,260,000	
Total	1,485,000	2,970,000	4,455,000	2,970,000	1,485,000	13,365,000
Grand Total						157,358,280
a) Add operation & maintenance of vehicle					L.S.	2,641,720
b) Add for base line survey, Management information system					L.S.	80,000
Taka one hundred sixtyeight million only.					G.Total Tk.	168,000,000

Table App 3.1 : Activities/Scope of Local Participation and Poverty Alleviation Programme

Proposals Developed by Comilla-Proshika

Activities and Scope of Program	Unit	Year 1	Year 2	Year 3	Year 4	Year 5	Total
A- Institutional development							
New Beneficiaries	No	10000	10000	10000	10000	10000	50000
All Beneficiaries	No	10000	20000	30000	40000	50000	
B- Human Resources Development							
Staff Training	Man-Days	630	660	810	960	1110	4170
Training of Beneficiaries	Man-Days	5000	8000	8000	8000	8000	37000
C- Capital Resource Development							
No of Loanees	No	5000	5000	5000	5000	5000	25000
D- Environment							
Social Forestry	No Trees	100000	100000	100000	100000	100000	500000
Afforestation/Maitenance	No Trees	150000	150000	150000	150000	150000	750000
E- Skill Training	Man-Days	8000	8000	8000	8000	8000	40000
F- Equipment Cost							
Jeep	No	1					1
Motorcycles	No	12					12
Bicycles	No	30	30	30	30	30	150
Furniture	L.S.	1	1	1	1	1	5
G- Non-Formal Education Programme							
Students	No	4500	9000	13500	9000	4500	40500

Table App 3.2 : Unit Costs

(in Tk)

Unit Prices in Tk	Year 1	Year 2	Year 3	Year 4	Year 5	Total
A- Institutional development						
New Beneficiaries						
All Beneficiaries	189	152	140	134	130	140
B- Human Resources Development						
Staff Training	161	166	168	169	170	167
Training of Beneficiaries	99	105	105	105	105	104
C- Capital Resource Development						
No of Loanees	4000	4000	4000	4000	4000	4000
D- Environment						
Social Forestry	5	5	5	5	5	5
Afforestation/Maitenance	12	12	12	12	12	12
E- Skill Training	99	99	99	99	99	99
F- Equipment Cost						
Jeep	1300000					1300000
Motorcycles	75000					75000
Bicycles	4500	4500	4500	4500	4500	4500
Furniture	20000	20000	20000	20000	20000	20000
G- Non-Formal Education Programme						
Students	330	330	330	330	330	330

Table 4.4 : Proposed Budget for Local Participation and Poverty Alleviation Programmes

(Tk in '000')

Proposed Budget	Year 1	Year 2	Year 3	Year 4	Year 5	Total	%
A- Institutional development	**1,894**	**3,049**	**4,204**	**5,359**	**6,514**	**21,021**	**12.5%**
B- Human Resources Development	**597**	**946**	**972**	**998**	**1,025**	**4,537**	**2.7%**
Staff Training	*102*	*110*	*136*	*162*	*189*	*698*	*0.4%*
Training of Beneficiaries	*495*	*836*	*836*	*836*	*836*	*3,839*	*2.3%*
C- Capital Resource Development	**20,000**	**20,000**	**20,000**	**20,000**	**20,000**	**100,000**	**59.5%**
D- Environment (Afforestation)	**2,300**	**2,300**	**2,300**	**2,300**	**2,300**	**11,500**	**6.8%**
Social Forestry	*500*	*500*	*500*	*500*	*500*	*2,500*	*1.5%*
Afforestation/Maintenance	*1,800*	*1,800*	*1,800*	*1,800*	*1,800*	*9,000*	*5.4%*
E- Skill Training	**792**	**792**	**792**	**792**	**792**	**3,960**	**2.4%**
F- Equipment Cost	**2,355**	**155**	**155**	**155**	**155**	**2,975**	**1.8%**
Jeep	*1,300*	*0*	*0*	*0*	*0*	*1,300*	*0.8%*
Motorcycles	*900*	*0*	*0*	*0*	*0*	*900*	*0.5%*
Bicycles	*135*	*135*	*135*	*135*	*135*	*675*	*0.4%*
Furniture	*20*	*20*	*20*	*20*	*20*	*100*	*0.1%*
G- Education Programme	**1,485**	**2,970**	**4,455**	**2,970**	**1,485**	**13,365**	**8.0%**
H- O&M/Contingencies (10%)	**2,128**	**2,128**	**2,128**	**2,128**	**2,128**	**10,642**	**6.3%**
Grand Total	**31,551**	**32,340**	**35,007**	**34,703**	**34,399**	**168,000**	**100.0%**

APPENDIX G.4

LIST OF PERSONS MET FOR SOCIAL IMPACT ASSESSMENT

APPENDIX 4

Persons met for Social impact assessment

Dhaka Officials:

1.	Mr. Rahath Uddin Ahmed	ED Comilla Proshika
2.	Mr. Mizanur Rahmana (Chara)	Director Field Operation
3.	Mr. Rahama	Director Afforestation Proshika
4.	Mr. Faruk Chowdhury	Director RLF Proshika
5.	Mr. Siddiqur Rahman	Director Proshika
6.	Mr. Waziullah	Chief Co-ordinator EDM
7.	Mr. Jahangir Alam	Deputy Co-ordinator EDM

District Officials: (Brahmanbaria)

1.	Mr. Abul Mansur Fakir	Deputy Director BRDB
2.	Regional Co-ordinator	Comilla Proshika

District Officials: (Comilla)

1.	Md. Saleh Ahamed	Deputy Director BRDB Comilla
2.	Md. Ali Akbor	Fishery Director Comilla

NGOs (Comilla)

1.	Md. Lokman Hossain	Training Director Comilla Proshika
2.	Md. Khalilur Rahman	Sr. Co-Ordinator Comilla Proshika
3.	Md. Younus	Co-ordinator Comilla Proshika
4.	Md. Parvez	Engineer Comilla Proshika
5.	Md. Shajahan	Regional Manager BRAC
6.	Md. Rezaul Karim	ADAB

Zone - A

Thana Burichang

Officials:

1.	Fakrul Islam	TNO
2.	A.K.M. Zahirul Islam	Thana Agriculture Officer
3.	Ramiz Uddin Ahmed	Thana Rural Development Officer
4.	A.K.M. Abdul halim	Chairman Rajapur Union
5.	Md. Sazzad Hossain	Chairman Bakshimail Union

NGO

1.	Habibur Rahman	F.C. EDM
2.	Habibur Rahman	Project Director Palli Unnyan Shanga
3.	Mr. Khalilur Rahman	Coordinator (afforestation) Comilla Proshika

4.	Mr. Parvez	Engineer	"
5.	Mr. Mir Kashem	TDC Incharge	"
6.	Mr. Shahidullah	Field Worker	"
7.	Samsunnahar	Field Worker	"

Thana Brahmanpara

Officials:

1.	Shahab Uddin Khan	TNO
2.	Md. Moynol Hossain	Thana Rural Development Officer
3.	A.K.M. Mafizul Islam	Thana Asstt. Rural Developmet Officer
4.	Md. Rafiqul Islam	Chairman Duladpur Union
5.	Fazlul Haque Bhuiyan	Chairman Chandla Union
6.	Abul Kalam	Chairman TCCA
7.	Md. Ruhul Amin	Principal Sahebabad Degree College
8.	Md. Israfil	Principal Sidlai College.

NGO

1.	Abdur Rashid	Field Incharge Comilla Proshika
2.	Abdul Latif Bhuiyan	Rotary Club

Bardeshia village (inside)

1.	Mahij Uddin	Day labour	0.30 acre
2.	Kashem Ali	Day labour	0.15 acre
3.	Lalmiah	Farmer	1.30 acres
4.	Sonamiah	Farmer	1.00 acre
5.	Ajibar	Day labour	0.10 acre
6.	Giasuddin	Farmer	1.60 acres
7.	Babul	Farmer	0.80 acre
8.	Gedumiah	Day labour	0.20 acre
9.	Zulhas	Day labour	0.15 acre

Rajapur (Near Shashidal Railway station) (Outside)

1.	Kalam Miah	Farmer	1.50 acres
2.	Afiz Uddin	Farmer	1.40 acres
3.	Abdul Matin	Farmer	0.80 acre
4.	Hashem	Shop keeper	0.30 acre
5.	Sonamiah	Day labour	0.20 acre

Thana - Debidwar

Officials:

1.	Rita Sen Gaptu	TNO
2.	Din Mohammad Bhuiyan	Thana Rural Development Officer

3.	Monirul Alam Pathan	Chairman TCCA
4.	Md. Nuruzzaman	SMO (Agriculture)
5.	Md. Farid Uddin Bhuiyan	Chairman Fatahabad Union
6.	Abdul Awal	SSAE BADC

NGO

1.	Md. Khorshed Alam	Field Incharge Comilla Proshika

ZONE - B

Thana - Kasba

Officials:

1.	Golam Rabbani	TNO
2.	Md. Naziruddin	Tha Rural Development Officer
3.	Md. Shafiqul Islam	Thana Engineer
4.	Md. Nur Nabi	Thana Agriculture Officer
5.	Md. Mosarrik Hossain	Chairman Kasba Sadar Union
6.	Md. Haru ur Rashid Khan	Chairman Binauti Union
7.	Abdul Kader	Chairman Kuti Union

NGO

1.	Md. Iskandur Mirza	Field incharge Comilla Proshika

Badair village

1.	Md. Rajibullah	School Teacher	4.00 acres
2.	Abdus Sobhan	Farmer	1.60 acres
3.	Tajul Islam Chowdhury	Farmer	1.20 acres
4.	Abdur Razzak	Farmer	3.00 acres
5.	Nazir Ahmed	Farmer	2.00 acres
6.	Musa Miah	Farmer	0.60 acre
7.	Maji Rahman Chowdhury	Farmer	0.60 acre
8.	Malu Miah	Farmer	0.50 acre
9.	Rahis Miah	Farmer	3.00 acres

Thana - Akhaura

Officials:

1.	Md. Anawarul Karim	TNO
2.	Md. Sahid Ullah	Thana Agriculture Officer
3.	Kazi Ali Hossain	Thana Rural Development Officer
4.	Nayeb Ali Bhuyan	Secretary - BNP

NGO

1.	Md. Akhtaruzzaman	Field Co-ordinator Proshika Manabik Unayon
2.	Md. Mohshin Bhuyan	Field Worker

Gulkar village

1.	Abdul Hamid	Farmer	1.40 acres
2.	Khalek	Farmer	1.60 acres
3.	Kabir Uddin	Farmer	1.20 acres
4.	Hasmat Ali	Farmer	2.00 acres
5.	Rafiqul Islam	Farmer	0.80 acre
6.	Saheb Ali	Day labour	0.20 acre
7.	Siraj	Day labour	0.10 acre
8	Momin	Day labour	0.30 acre
9.	Badsha	Day labour	0.25 acre
10.	Nowab Ali	Day labour	0.32 acre
11.	Abdul Malek	Day labour	0.40 acre

ZONE - C

Thana - Nabinagar

Officials:

1.	Md. Mohiuddin Ahamed	TNO
2.	Md. Gulam Kibria	Fishery Officer
3.	Md. Shafiz Uddin Chawdhury	Thana Rural Development Officer
4.	Abul Hashem	Thana Agriculture Officer
5.	Md. Nurul Amin	Chairman Nabinagar Purti Union
6.	Md. Obaydul Haque	Chairman Saldmubad Union

NGO

1.	A.K.M. Habibur Rahman	Field Incharge Comilla Proshika

Jinodpur village

1.	Naresh Chandra Debnath	Fisherman Community
2.	Gopal Chandra Das	Fishermen Community
3.	Subas Chandra Debnath	Fishermen Community
4.	Nakul Chandra Debnath	Fishermen Community
5.	Ramesh Chandra Das	Fishermen Community

Hurua village

1.	Jamshed Miah	Farmer	0.90 acre
2.	Suruj Miah	Farmer	6.00 acres
3.	Abdul Latif Miah	Day labour	0.16 acre
4.	Shahin	Farmer	4.00 acres

5.	Subed Ali	Farmer	2.00 acres
6.	Amena Khatun	(Rural Maintenance Programme), CARE	
7.	Makbulennessa		
8.	Malaza Begum		
9.	Juti Rani		
10.	Chanchala		
11.	Sarna Bala		

Thana - Muradnagar

Officials:

1.	Thana Nirbahi Officer	
2.	Abdul Jabbar Sawdagar	Chairman TCCA
3.	Khalil Ahamed	Agriculture Officer
4.	Abdul Monaim	Fishery Officer

Kamalla village

1.	Abdul Latif	Marginal Farmer	0.60 acre
2.	Abdul Malek	Marginal Farmer	1.00 acre
3.	Jobbar Ali Haji	Marginal Farmer	0.40 acre
4.	Mohashin Siddique	Marginal Farmer	3.50 acres
5.	Abdul Mannan	Marginal Farmer	1.00 acre
6.	Abdus Sobhan	Ex-Govt. Employee	5.50 acres
7.	Abdus Sobhan	Farmer	0.60 acre

ZONE - D

Thana - Homna

Officials:

1.	Pankoj Chandra Das	TNO
2.	Siddiqur Rahman	RDO - BRDB
3.	Abdul Jalil	Chairman TCCA
4.	Harun or Rashid	ARDO - BRDB
5.	Samsuddin	Asstt. Agriculture Officer
6.	Gulam Mostafa	Fishery Officer
7.	Harun or Rashid	Chairman Homna sadar Union
8.	Gulam Mostafa	Chairmna Bhagatia Union

Saifullah Kandi village

1.	Monowar Hosssain	School Teacher	3.00 acres
2.	Abdul Khaleque	School Teacher	4.50 acres
3.	Badsha Miah	Farmer	3.00 acres
4.	Babul	Farmer	10.00 acre
5.	Zahirul Islam	Farmer	3.50 acres

6.	Raj Miah	Postman	2.00 acres
7.	Abdur Rahman	Day labour	0.20 acre
8.	Sultan Miah	Day labour	0.15 acre

Thana - Bancharampur

Officials:

1.	Md. Shahidul Islam	TNO
2.	Fazlul Haque	Fishery Officer
3.	Younus Ali	Agriculture Officer
4.	Sultan Ahmed	Chairman Dakatia Bancharampur Union

NGO

1.	Md. Humayun Kabir	Field Incharge Comilla Proshika

Weavers Group

Village - Sonarampur

Name	Number of Weaving machines\
Younus	1
Taher Miah	4
Jamal Miah	2
Abid Miah	2
Bassu Miah	4
Alek Miah	1
Karim	2
Rahim	1
Idris	1
Halim	2
Awal	2
Husen	2
Kanu Miah	4
Babu Miah	2
Ali Akkas	Day labour
Saral	Businessman
Sento	Businessman
A. Haque	Businessman

Thana - Daudkandi

Officials:

1.	Rafiqul Mohammed	TNO
2.	Kazi Belayet Hossain	Fishery Officer
3.	Abul Kalam	ARDO (BRDB)
4.	Mohammed Ali	Chairman Kalakandi Union
5.	Md. Sadeque Hossain	Chairman Karikandi

Sibpur village

1.	Fazlul Hoque	Fisherman	2.00 acres
2.	Mostaque	Fisherman	1.00 acre
3.	Kader Miah	Fisherman	0.50 acre
4.	Gias uddin	Fisherman	0.20 acre
5.	Meher Ali	Fisherman	0.40 acre
6.	Sultan	Farmer	1.00 acre
7.	Abdur Rob	Farmer	2.00 acres
8.	Adom Ali Mollah	Farmer	1.00 acre
9.	Abdul Aziz Mollah	Farmer	1.00 acre
10.	Ishaque Miah	Businessman	1.00 acre
11.	Gedu Miah	Businessman	0.30 acre

Persons met for SIA and Women Case Study

Comilla Proshika

1.	Dr. Zakir Hossain	Health Co-ordinator
2.	Neharun Nahar	Co-ordinator
3.	Belal Hossain	Co-ordinator

Social Service Office

1.	Saydul Hoque Mozumder, Dist. Social Service Officer (Registration)	
2.	A.G.M. badruzzaman	Assistant Director, District Social Service Officer Comilla
3.	Mrs. Rokeya Begum	Assistant Director, Social Service Officer
4.	Laila Akther	In charge of the Social Service Community Eentre Baraslghar
5.	Taifur Begum	Trainer (Sewing) SSE (Social Service Community Centre) Baraslghar.

Village	Union	Thana	Zone
Shashidal	Shashidal	B.Para	A

1.	Asia Khaton	Widow (household head) landess
2.	Amena	(Widow) living with her in law brothers marginal group
3.	Bilkis Akther	Wife of small businessman
4.	Delwara Begum	Wife of Petty businessman
5.	Zaheda Begum	Widow, Landless woma
6.	Kulsum Khaton	Wife of middle farmer

Barasalghar	Kasba	Kasba	B

1.	Fathema	Wife of landless labourer
2.	Razia	Wife of marginal farmer
3.	Nurjan Begum	Wife of small farmer
4.	Morium Khatun	Deserted women, landless group
5.	Farida Khatun	Wife of small group petty business.

Gazipur	Akubpur	Muradnagar	C

1.	Mrs. Anwara	Landless, Deserted women
2.	Mrs. Rabeya Khatun	Wife of marginal farmer
3.	Mrs. Sonamoni	Small farmer
4.	Mrs. Rohimon	Wife of rich farmer
5.	Mrs. Abada Sultana	Wife of middle farmer
6.	Mrs. Khadaja Begum	Wife of landless/day labourer

Village		Union	Thana	Zone
Bandharampur		Karaikandi	Daudkandi	C
1.	Saheda	Wife of local doctor		
2.	Kariman	Wife of marginal farmer		
3.	Amena	Wife of landless labourer		
4.	Rahima	Wife of marginal farmer		
5.	Feroza	Wife of Businessman		
6.	Mrs. Jarina Akther	Wife of landless farmer		

APPENDIX G.5

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APPENDIX 5

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