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BGD/86/037

Noakhali North Drainage and Irrigation Project
Feasibility Study
Volume 6 - Annex G
Sociology and Public Participation

October, 1993

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NOAKHALI NORTH DRAINAGE AND IRRIGATION PROJECT
FEASIBILITY STUDY
ANNEX G - SOCIOLOGY AND PUBLIC PARTICIPATION

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CHAPTER G.1

INTRODUCTION

Based on the Terms of Reference for South Eastern Regional Water Regional Development Programme which stipulates "analysis of the social setting" to respond to the local needs and provide opportunities for various socio-economic groups in the area, this Annex presents the key demographic and socio-economic parameters and the results of a bottom up approach to participatory planning.

The guidelines for local participation attached to the TOR emphasized a thorough study of the project area should be made , with special attention to the roles of women, in order to identify the different socio-economic groups within the project area. To describe their livelihood and to obtain their views and opinions on their problems, issues and possible solutions. Also, proposals aimed at defining practical methodologies to enhance people's participation in the project design, implementation and maintenance are outlined, based on an in-depth analysis of the social structure and organization.

Among the objectives laid out in the consultant TOR, it is also specified that " project design 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 needs of the concerned population were widely assessed, both during the public participation meetings and as part of the social impact assessment. Based on information collected During these field programmes specific recommendations with respect to project design are made and a targeted programme, involving NGO support is suggested.

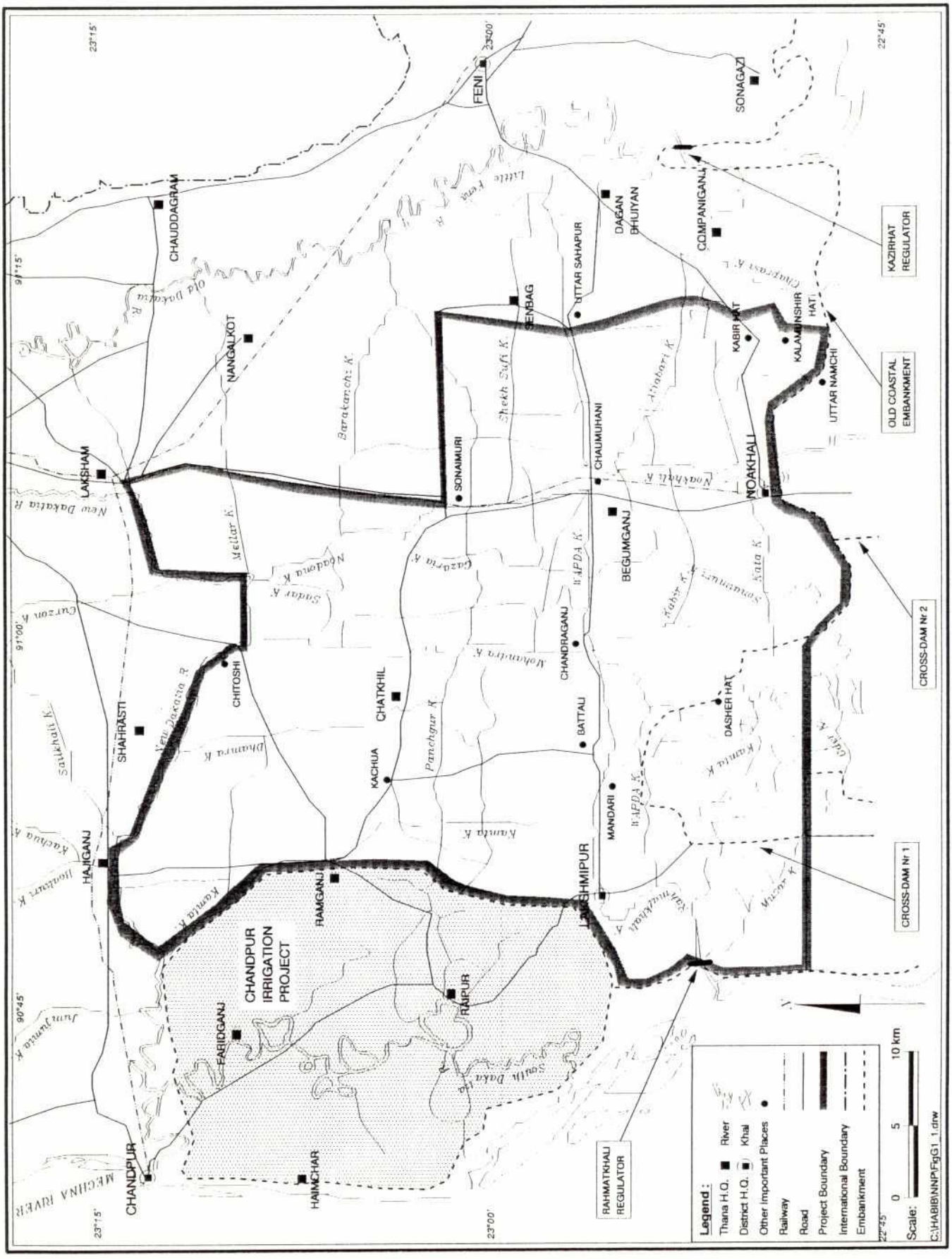
In preparing the report constant attention was focussed on the on going and completed FAP studies considering the best approach to bring up the opinions of directly concerned people. The evaluation report on people's participation conducted by Dr G. Hemmings, UNDP, Feb.93, contributed to the on-going participation process and its main recommendations have been covered to the fullest possible extent.

Following this brief introduction demographic and socio-economic profiles of the project area are made (section G2) based on available BBS data (1981 and 1991 for Noakhali district), and the agro-economic surveys carried out during the beginning of the study.

Section G3 goes through the public participation process which was carried out throughout the study and presents the main findings as well as a synthesis of the discussions which have taken place in each of the three rounds of meetings.

In section G4, the social impact assessment of the proposed interventions is presented. To perform this exercise, the main source of information was through group discussions which have been carried out throughout the project area. Opinions of various socio-economic groups are presented and specific issues associated with kahl re-excavation are highlighted and people's proposals to alleviate and solve such issues are indicated (section G.4.4). Also, in order to ensure that the need for people's participation during the detailed design phase is fully met, a methodological and practical framework is suggested (G.4.5). Finally, in order to target project interventions and benefits to the poor, as recommended in FAP guidelines for people's participation , a targeted programme to land poor and destitues, including women, is proposed by UPOMA, a NGO already working in the project area (section G.4.6).

Figure G.1.1
Project Location Map



CHAPTER G.2

EXISTING SOCIOECONOMIC AND DEMOGRAPHIC SITUATION

G.2.1 Demography Features

In order to fully assess the demography of the area, the results of the 1991 BBS census data relevant to Noakhali North Project (NNP) area are required. Unfortunately, this data has been made available only for Noakhali district. Information for Lakshmipur, Chandpur, Feni 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 bulk of the data presented in the following section are from 1981 BBS census though information from 1991 BBS census has been used for Noakhali and comparisons with 1981 data have been made. This allows some ideas of the trends followed by key socioeconomic variables during the last decade. Also, information from the Upazila Development Monitoring Project (UDMP) was collected to have some indications on household income and poverty levels. Also, quantitative information were extracted from the project agro-socio-economic surveys whenever deemed relevant.

General socioeconomic information regarding global patterns of poverty in rural Bangladesh as well as on processes of polarization which, to a large extent, explained the aggravation of poverty in rural areas, were largely extracted from a report to the Like-Minded Group published three years ago (ref. Rural Poverty in Bangladesh, coll. 1990).

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 mauzas included within the project boundaries. In the meantime, the area, population and household number of each mauza was noted and included in a database. By summing the figures obtained for each mauza on an union wise, then thana wise then zone wise basis for the total project area, population and household numbers were calculated. It should be noted that the figures shown for a given thana or union correspond to the portion which is inside the project area and do not refer to the entire thana or union.

The list of unions included in the project together with area, population and density figures are presented in Appendix G1 while the summarized results of this exercise are presented below in Table G.2.1. In this table, detailed population figures are given for 1981, 1991, 1993 and 2023. For projection purposes (1993 and 2023 figures), the consultant has assumed that the annual population growth is equal to the annual growth rate observed during the last decade (1981-1991) in Noakhali district which is 1.51%.

TABLE 2.1

Project Area, Population, HH No and Densities

Thanas/Zones	Unions	Mauza	Area	1981 BBS Census Data			1991 Data/Estimates			Annual	1993 (1.51% annual growth)			2023 (1.51% annual growth)		
	No	No	(Ha)	HH No	Pop. No	Density	HH No	Pop. No	Density	Growth	HH No	Pop. No	Density	HH No	Pop. No	Density
Noakhali Sadar	2	21	3 928	4 460	24 046	612	5 028	28 353	722	1.66%	5 181	29 216	744	8 122	45 802	1 166
Laksmipur Sadar	9	68	20 635	30 616	161 987	785	34 684	188 110	912	1.51%	35 739	193 834	939	56 029	303 874	1 473
Ramgati	1	1	3 078	2 738	15 320	498	3 102	17 791	578	1.51%	3 196	18 332	596	5 011	28 739	934
Laksmipur PSA	1	7	1 691	7 010	37 813	2 237	7 941	43 911	2 597	1.51%	8 183	45 247	2 676	12 829	70 934	4 196
TOTAL ZONE A	**13**	**97**	**29 332**	**44 824**	**239 166**	**815**	**50 755**	**278 164**	**948**	**1.52%**	**52 300**	**286 628**	**977**	**81 990**	**449 349**	**1 532**
Noakhali Sadar	14	155	16 203	40 334	220 874	1 363	43 858	246 130	1 519	1.09%	45 193	253 619	1 565	70 849	397 601	2 454
Senbagh	2	8	1 519	2 887	14 090	928	2 844	16 265	1 071	1.45%	2 931	16 760	1 103	4 594	26 275	1 730
Begumganj	13	86	13 583	36 462	202 598	1 492	40 538	229 448	1 689	1.25%	41 771	236 430	1 741	65 485	370 652	2 729
Sudharam PSA	1	35	1 261	7 476	43 439	3 445	11 530	66 053	5 238	4.28%	11 881	68 063	5 398	18 626	106 703	8 462
Chaumohani PSA	1	9	2 987	12 161	69 623	2 331	15 613	88 563	2 965	2.44%	16 088	91 258	3 055	25 221	143 065	4 790
TOTAL ZONE B	**31**	**293**	**35 553**	**99 320**	**550 624**	**1 549**	**114 383**	**646 459**	**1 818**	**1.62%**	**117 863**	**666 129**	**1 874**	**184 775**	**1 044 296**	**2 937**
Senbagh	6	36	4 561	10 689	57 886	1 269	12 642	71 409	1 566	2.12%	13 027	73 582	1 613	20 422	115 355	2 529
Begumganj	18	169	17 803	40 742	224 424	1 261	45 331	258 563	1 452	1.43%	46 710	266 431	1 497	73 228	417 685	2 346
Chatkhil	4	21	2 864	8 099	43 304	1 512	8 260	46 180	1 612	0.65%	8 511	47 585	1 661	13 343	74 600	2 605
Lakhsmipur	7	91	7 541	18 739	105 574	1 400	21 229	122 599	1 626	1.51%	21 875	126 330	1 675	34 293	198 048	2 626
TOTAL ZONE C	**35**	**317**	**32 769**	**78 269**	**431 188**	**1 316**	**87 462**	**498 751**	**1 522**	**1.47%**	**90 123**	**513 927**	**1 568**	**141 287**	**805 687**	**2 459**
Begumganj	6	60	5 235	13 378	74 866	1 430	15 002	88 976	1 700	1.74%	15 458	91 683	1 751	24 234	143 733	2 746
Chatkhil	8	95	10 206	24 763	137 738	1 350	27 572	152 418	1 493	1.02%	28 411	157 056	1 539	44 540	246 217	2 412
Lakhsmipur	7	51	6 930	15 611	87 997	1 270	17 685	102 188	1 475	1.51%	18 223	105 297	1 519	28 569	165 075	2 382
Ramganj	9	99	11 789	26 536	141 508	1 200	30 062	164 328	1 394	1.51%	30 977	169 328	1 436	48 562	265 457	2 252
Laksam	10	129	14 375	21 640	121 333	844	24 515	140 900	980	1.51%	25 261	145 187	1 010	39 602	227 611	1 583
Hajiganj	4	45	5 919	12 110	64 030	1 082	13 719	74 356	1 256	1.51%	14 137	76 618	1 294	22 162	120 115	2 029
Faridganj	2	17	2 219	4 060	22 717	1 024	4 599	26 380	1 189	1.51%	4 739	27 183	1 225	7 430	42 615	1 920
Sharasti	4	68	6 487	11 198	61 094	942	12 686	70 946	1 094	1.51%	13 072	73 105	1 127	20 493	114 607	1 767
TOTAL ZONE D	**50**	**564**	**63 160**	**129 296**	**711 283**	**1 126**	**145 841**	**820 493**	**1 299**	**1.44%**	**150 279**	**845 458**	**1 339**	**235 593**	**1 325 431**	**2 099**
ALL PROJECT	**129**	**1 271**	**160 814**	**351 709**	**1 932 261**	**1 202**	**398 441**	**2 243 867**	**1 395**	**1.51%**	**410 565**	**2 312 144**	**1 438**	**643 645**	**3 624 763**	**2 254**

Note : figures in italic for 1991 indicate data obtained from BBS Census. Others are estimates.

G.2.1.1 Population and Household Number

In 1981, nearly 2 million people were living in the project area corresponding to around 350,000 households. For areas falling under Noakhali district (Begumganj, Chatkhil, Senbagh and Noakhali Sadar Thanas) population figures for 1991 were released by BBS and have been used to estimate the population growth rate over the period in the entire project area. On average, the population has grown by 1.51% every year, Senbagh Thana being the most dynamic area (+1.99%) while in Chatkhil the growth was well below the average (+0.93%).

Assuming that the average figure of 1.51% is valid for the entire project area, population estimates have been made and the results show that more than 2.3 million people and 410,000 households are currently living in the project area. However, it should be noted that the validity of this assumption is dependent upon the migratory patterns over the 1981 - 1991 period. It might well be that an increasing number of households has decided to leave the area (especially among the landless and destitute households) in search of livelihood opportunities in urban areas. As shown in Table G.2.2, data obtained on Noakhali district show substantial variations among the average population growth rates of unions, indicating significant migratory flows.

TABLE G.2.2

Population Annual Growth Rates 1981-1991

Growth Rate	Unions No	%
< 0.0%	1	1.8%
0.0%-0.5%	5	8.9%
0.5%-1.0%	5	8.9%
1.0%-1.5%	12	21.4%
1.5%-2.0%	21	37.5%
2.0%-2.5%	8	14.3%
2.5%-3.0%	2	3.6%
3.0%-3.5%	1	1.8%
> 3.5%	1	1.8%
Total	56	100.0%

To identify these flows it is necessary to dissociate the natural effects from the migratory effects. This could be done by assuming that the "natural" population growth rates are quite similar among unions (not very far from reality), and that the differences observed in union growth rates are likely to be the results of migration. Assuming that the natural growth rate is somewhere in between 1.00% and 2.00%, unions with a population growth rate inferior to 1.00% per annum were places with a dominant out-migration flow while unions with a population growth rate superior to 2.00% have a dominant in-migration flow. These unions are listed in Appendix G1. This preliminary analysis of the migratory patterns could have been further detailed if 1991 BBS census data had been made available for thanas falling outside Noakhali district.

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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 1.51% annual growth rate in the project area for the next 30 years would mean that the population would be close to 3.6 millions in 2023 and that the density would be over 2,250 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 helpful. 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.

G.2.1.2 Population Density

The project area has one of the highest population densities in rural Bangladesh. Returns from the 1981 census (obtained mauza wise) show that the four zones of the project have an average of over 1,200 per square kilometre, the highest density being found in Zones B and C (more than 1,300 and 1500 respectively) and the lowest in Zone A (815). Assuming an average annual population growth rate of 1.51% the present average density in the project area would be close to 1450 persons per square km. As shown in Table G.2.3., Begumganj and Chatkhil thanas are the most densely populated while Ramgati has much the lowest population density in the project area.

TABLE G.2.3

Population Density (no/sq.km) in the Project Area (Thana wise)

Thanas	Area	1981 BBS Data		1991 BBS Data/Estimates			1993 Projection	
	sq.km	Pop. No	Dty	Pop. No	Dty	Growth	Pop. No	Dty
Begumganj	377.7	571,511	15.13	665,550	17.62	1.53%	686,139	18.16
Chatkhil	130.9	181,042	13.83	198,598	16.17	0.93%	202,308	15.45
Senbagh	66.3	71,976	10.88	87,674	13.22	1.99%	91,203	13.75
Noakhali	227.3	288,359	126.8	340,536	14.98	1.68%	352,054	144.9
Lakhsmipur	387.5	393,371	10.15	456,808	11.79	1.51%	470,674	12.14
Ramganj	119.0	141,508	117.9	164,328	13.81	1.51%	169,316	14.23
Ramgati	21.1	15,320	72.6	17,791		1.51%	18,331	
Laksam	134.4	121,333	9.02	140,900	10.48	1.51%	145,177	100.0
Hajiganj	60.3	64,030	106.2	74,356	12.33	1.51%	76,613	12.70
Faridganj	19.9	22,717	114.1	26,380	13.25	1.51%	27,181	13.66
Sharasti	63.7	61,094	9.59	70,946	111.4	1.51%	73,100	1147
Total Project	1608.1	1,932,261	120.2	2,243,867	13.97	1.51%	2,311,977	1,438

In 1981, the mode, the median and the average of the distribution are within the 1,000 - 1,250 group while in 1991, these three statistical indicators are in the 1250-1500 group. The "normality" of the 1991 distribution indicates that the pattern of increase in the population density was general and not concentrated in few unions. If this would have been the case, the distribution would be more skewed and probably bi-modal.

Table G.2.4 gives a picture of the population density distribution in the project area for both 1981 and 1991.

TABLE G.2.4

Distribution of Population Densities by Unions

Density (no/sq.km)	1981		1991	
	No Unions	%	No Unions	%
< 500	4	3.9%	0	0.0%
500-750	4	3.9%	4	7.1%
750-1000	17	16.5%	2	3.6%
1000-1250	36	35.0%	4	7.1%
1250-1500	25	24.3%	23	41.1%
1500-1750	11	10.7%	10	17.9%
1750-2000	3	2.9%	10	17.9%
> 2000	3	2.9%	3	5.4%
Total Project	103	100.0%	56	100.0 %

G.2.1.3 Household Size

As shown in Table G.2.5, the average household size in the project area has slightly increased over the last decade, from 5.5 in 1981 to 5.7 in 1991. When comparing the evolution of the distribution of household size by unions, it is clear that there is a sustained shift upward. For instance, in 1981, the average household size was above 5.5 in around 50% of the unions while now this is true for more than 80% of the unions of the project area.

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TABLE G.2.5

Distribution of Household Size by Unions

Household Size	1981		1991	
	No Unions	%	No Unions	%
< 5.00	1	1.0%	0	0.0%
5.00 - 5.25	10	9.7%	0	0.0%
5.25 - 5.50	38	36.9%	8	14.3%
5.50 - 5.75	40	38.8%	30	53.6%
5.75 - 6.00	12	11.7%	15	26.8%
> 6.00	2	1.9%	3	5.4%
Total Unions	103	100.0%	56	100.0 %
Project Average	5.51		5.70	

G.2.2 Socio-Economic Characteristics and Poverty Trends

Some of the main socioeconomic features of each mauza (literacy, landlessness, type of house, economic activities, sanitation) were obtained from the communities series of 1981 and 1991 BBS census and have been used to prepare union wise distribution tables, figures and maps. The crude union wise data are presented in Appendix G1. These aspects are discussed further in the Environmental Impact Asessment, Annex H.

G.2.2.1 Literacy and Education

Literacy rates and education are important indicators of the "level of development" of a given area because they indicate to what extent formal institutional services are available. Areas characterized by low literacy rates are usually more remote and not well linked to more developed areas such as urban centres. Moreover, because education is quite often seen as a perquisite to economic and social development, it is worth indicating the general pattern of the project area and the range of variations.

The average literacy rates (no of literate persons divided by the population over 5 years) in the project area increased from 29.3% in 1981 to 41.8% in 1991 (preliminary results from Noakhali district). As shown in Table G.2.6, the differences existing among zones in 1981 have been preserved, zone A being still in 1991 the area with the lowest proportion of literate persons (30.2%) while zone D has the highest percentage (49.3%). The gap between the two zones has increased three fold over the period indicating a much more slow progress of literacy in zone A which probably means that poverty is much more acute in this zone.

This 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 due to difficulties to bear educational expenses. Also, deepening poverty obliges parents to force their children into wage employment at an early age so that they can contribute to the family's struggle for survival.

TABLE G.2.6

Literacy Rates by Zones

Literacy rates	1981	1991	Increment
Zone A	25.5%	30.2%	4.7%
Zone B	27.0%	37.5%	10.5%
Zone C	29.9%	45.2%	15.2%
Zone D	31.9%	49.3%	17.4%
Total Project	29.3%	41.8%	12.5%

From table G.2.7, it can be observed that, in 1981, the majority of unions had literacy rates within 10% to 30% while in 1991, most of the unions are in the 30%-50% group. The pattern of increase in literacy was a general phenomenon throughout the area and in 1991, only 7.2% of unions are still below 30% as against more than 50% in 1981.

TABLE G.2.7

Distribution of Literacy Rates by Unions

Literacy Rate	1981		1991	
	No Unions	%	No Unions	%
< 10%	0	0.0%	0	0.0%
10%-20%	14	13.6%	2	3.6%
20%-30%	42	40.8%	2	3.6%
30%-40%	39	37.9%	17	30.4%
40%-50%	7	6.8%	25	44.6%
50%-60%	1	1.0%	10	17.9%
All project	103	100.0%	56	100.0%

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 inequity 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.

Over the 1981-1991 period, the proportion of households with the roof of their houses made of straw/bamboo has increased from 51.7% to 59.4% in zone A while it has decreased in every other zone (cf Table G.2.8). This seems to indicate that, though population density is relatively lower in zone A than in any other zones, living conditions are more difficult and household income is probably lower than elsewhere in the project area.

TABLE G.2.8

Proportion of Households With the Roof of their Dwelling Unit in Straw/Bamboo

% of Household	1981	1991	Increment
Zone A	51.7%	59.4%	7.7%
Zone B	47.7%	39.4%	-8.3%
Zone C	37.4%	22.0%	-15.5%
Zone D	34.5%	14.7%	-19.8%
Total Project	41.1%	30.2%	-10.9%

The proportion of households which do not have access to potable water (tubewell and tap water) was significantly reduced over the 1981-1991 period to reach the low level of 20.9%. However, as shown in Table G.2.9, the situation is still not homogeneous among zones in 1991, with variations in the range of 28% between zone D (11.4%) and zone A (39%).

TABLE G.2.9

Proportion of Households Without Potable Water (by Zone)

% of Household	1981	1991	Increment
Zone A	53.5%	39.1%	-14.4%
Zone B	52.5%	26.9%	-25.6%
Zone C	40.4%	15.2%	-25.3%
Zone D	33.5%	11.4%	-22.0%
Total Project	42.9%	20.9%	-22.1%

The distributions of the proportion of households without potable water by unions (cf Table G.2.10) are following a normal pattern, both in 1981 and 1991. However, they have different modal groups indicating that the decrease of the proportion of households without potable water was general throughout the project area.

TABLE G.2.10

Distribution of the Proportion of Households Without Potable Water (by Unions)

% of Household	1981		1991	
	No Unions	%	No Unions	%
< 10%	0	0.0%	11	19.6%
10%-20%	3	2.9%	23	41.1%
20%-30%	23	22.3%	12	21.4%
30%-40%	23	22.3%	4	7.1%
40%-50%	26	25.2%	3	5.4%
50%-60%	12	11.7%	1	1.8%
60%-70%	7	6.8%	2	3.6%
70%-80%	8	7.8%	0	0.0%
80%-90%	1	1.0%	0	0.0%
Total Project	103	100.0%	56	100.0%

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 two Thanas of the project, Chatkhil and Faridganj. Because significant differences have been noted in the project area in each socio-economic variable analyzed, the representativeness of these Thanas are not very likely as far as income distribution is concerned. Therefore, the following information is purely indicative and generalisation on this basis is not advisable.

As shown in Table G.2.11, the income distribution in Faridganj follows very closely the average pattern of the overall country with a majority of households earning less than 3,000 Tk per month. The situation is rather different in Chatkhil where the modal group is Tk 4000-5000 per month. In this thana, the majority of households earn between 2000 and 5000 Tk per month.

Despite these differences in the income distribution patterns of these two areas, the extend of poverty is quite similar. In both thanas, the proportion of households living below the absolute poverty line, as defined by a joint WHO/FAO expert group, is slightly below 30%, which is quite positive considering the national average (43%). 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.2.11

Distribution of Monthly Household Income

Income Group	Chatkhil % of HH	Faridganj % of HH	Bangladesh % of HH
< 1000	5.68%	10.23%	13.0%
1000-2000	10.23%	22.73%	22.9%
2000-3000	11.36%	23.30%	25.9%
3000-4000	22.73%	14.77%	16.1%
4000-5000	28.41%	7.95%	6.3%
5000-6000	5.11%	5.68%	4.0%
6000-7000	3.98%	4.55%	3.1%
7000-8000	3.41%	3.41%	2.6%
8000-9000	3.41%	2.84%	2.4%
> 9000	5.68%	4.55%	3.8%
Average	4,417	3,216	2,766

Source UDMP (1990)

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 among rural incomes. Land ownership is not only a key-determinant of the economic position of a household but also of its place within the patron-client relationship system which determines, to a certain extent, the access to government supplied resources.

In the study, the landownership distribution has been ascertained based on a sample of households drawn from the land tax list. This approach bears several limitations and the results should be used with great caution. However, using data from 1981 and 1991 BBS census it is possible to assess the extent of the landlessness phenomenon within the project area and its evolution over time. In this section, a household is classified as "landless" whenever the cumulative ownership of all household members do not exceed 0.05 acre of cultivable land.

In 1981, around 30% of the households living in the project area own less than 0.05 acre of agriculture land and are therefore considered as landless. As shown in Table G.2.12, this average figure hides significant variations among zones (25.2% in zone D, 33.1% in zone B) which have been further aggravated in 1991. The increase of landlessness over 1981-1991 period has been general in the project area but was much more acute in zone A (+10.4%) than elsewhere. As a result, zone A was in 1991 the place with the highest proportion of landless (41.1%).

TABLE G.2.12

Proportion of Landless Households (owning less than 0.05 acre of agriculture land)

% of Household	1981	1991	Increment
Zone A	30.6%	41.1%	10.4%
Zone B	33.1%	37.5%	4.4%
Zone C	28.1%	33.6%	5.5%
Zone D	25.2%	33.0%	7.8%
Total Project	28.8%	35.6%	6.8%

In both 1981 and 1991, most of the unions have between 20% and 40% of landless households but it should be noted that the modal group has increased from 20-30% to 30-40% over the period and that a significant number of unions are well over the 40% level, which was not the case in 1981. A precise idea of the landlessness pattern within the project area can be obtained from Table G.2.13.

TABLE G.2.13

Distribution of Landless Households (by Unions)

% of Household	1981		1991	
	No Unions	%	No Unions	%
10%-20%	12	11.7%	0	0.0%
20%-30%	57	55.3%	15	26.8%
30%-40%	25	24.3%	28	50.0%
40%-50%	6	5.8%	10	17.9%
50%-60%	2	1.9%	2	3.6%
60%-70%	1	1.0%	1	1.8%
Total Project	103	100.0%	56	100.0%

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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 forms and durations. However, accurate and recent employment statistics are difficult to find but 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 stood at 33.2% in 1981, slightly increasing to 35.2% in 1991. In 1981, the differences among zones were not very high (32-36% range) but this gap was widened in 1991 (32-40%) due to the substantial increase in the activity status of the population of zone A (cf Table G.2.14).

TABLE G.2.14

Refined Activity Rates (Pop > 10 Years)

% of Population	1981	1991	Increment
Zone A	35.9%	39.7%	3.8%
Zone B	34.3%	36.7%	2.4%
Zone C	32.0%	33.7%	1.7%
Zone D	32.2%	32.8%	0.6%
Total Project	33.2%	35.2%	2.0%

As shown in Table G.2.15, the population of the project area follows very different activity patterns depending upon location. If the difference between the average participation rates of each zone was not very high, the differences among unions are quite significant since activity rates are varying from 25% to 55% (1981). The majority of unions have participation rates between 25% and 40% in both 1981 and 1991. However, the participation is higher in 1991 than in 1981 as demonstrated by the increase of the modal group from 25%-30% to 30-35%. The higher participation in economic activities observed in zone A could mean that children of the zone are entering the active population earlier than in other areas due to the probable conjunction of three different phenomena, e.g.:

- employment opportunities are greater due to fisheries, so the incentive 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 incentive 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.

TABLE G.2.15

Distribution of Activity Rates (by Unions)

Activity Rates	1981		1991	
	No Unions	%	No Unions	%
25%-30%	40	38.8%	5	8.9%
30%-35%	36	35.0%	30	53.6%
35%-40%	20	19.4%	19	33.9%
40%-45%	5	4.9%	2	3.6%
45%-50%	1	1.0%	0	0.0%
50%-55%	1	1.0%	0	0.0%
Total Project	103	100.0%	56	100.0%

The last point can be supported by the data on housing status which was found much lower in zone A than elsewhere in the project area (cf section G.2.2.2). Also the percentage of landless households is significantly higher in this zone compared to other areas of the project (cf section G.2.2.5).

In the project area as a whole, crop cultivation provides employment to some 54% of the economically active population (1981) and is therefore the economic activity which absorbs the large majority of the active population. Though this is still true in 1991, the importance of agriculture as main activity is much lower than in 1981 (43.2% only). Moreover, significant variations among zones have to be noted, with zone A having the highest percentage of population engaged in crop cultivation and zone C the lowest in both 1981 and 1991 (cf Tables G.2.16).

TABLE G.2.16

Percentage of Active Population Engaged in Crop Cultivation (as main activity)

% of Population	1981	1991	Increment
Zone A	62.8%	52.9%	-9.8%
Zone B	50.5%	45.1%	-5.4%
Zone C	50.0%	39.5%	-10.5%
Zone D	56.5%	42.5%	-14.0%
Total Project	54.1%	43.2%	-11.0%

z2

The decline overtime of the importance of cultivation as the main source of employment opportunities in rural areas is uniform throughout the project area and is well illustrated in Table G.2.17 where the distribution of the proportion of the active population having agriculture as main occupation is given for 1981 and 1991.

As observed, the distribution follows a normal pattern in both years but the modal group has shifted downward. In 1981, in the great majority of the project unions (around 70%), agriculture is the main occupation of at least 50% of the active population. However, a decade later, this holds true in only 26% of the project unions underscoring the sharp decline of the weight of agriculture in the employment structure of the project area.

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 percent of the total population (BBS ibid). This took place against increased agricultural productivity and a population which was increasing by over two percent 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 Noakhali North 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.

TABLE G.2.17

Distribution of the Proportion of Active Population in Crop Cultivation (by Unions)

% of Household	1981		1991	
	No Unions	%	No Unions	%
< 10%	1	1.0%	1	1.8%
10%-20%	1	1.0%	1	1.8%
20%-30%	2	1.9%	5	8.9%
30%-40%	9	8.7%	7	12.5%
40%-50%	19	18.4%	27	48.2%
50%-60%	33	32.0%	11	19.6%
60%-70%	26	25.2%	3	5.4%
70%-80%	11	10.7%	1	1.8%
80%-90%	1	1.0%	0	0.0%
Total Project	103	100.0%	56	100.0%

More detailed information on the occupational structure and employment patterns (working status) are available from the Zila series of 1991 BBS census which allows us to complement this preliminary outlook of the labour market and employment patterns in the area.

As shown in Table G.2.19, the majority of the people having agriculture as main activity are self-employed (55.7%) with slight variations among the zones (zone A: 50.7%, zone C 58.0%). These self-employed persons are farmers which means that they hold a piece of land which they cultivate by themselves. However, the tenure patterns cannot be known form the working status and these farmers could be either owner-cultivator, tenant farmer or owner-cum-sharecropper.

From this table too, it is important to note that a great proportion of persons are working as family labour (18.3%), nearly as much as those working as wage labourers (22.0%).

TABLE G.2.19

Working Status of the Active Population Engaged in Crop Cultivation (1991)

% of Population	Employer	Employee	Self-Employed	Family Help	Labour
Zone A	2.5%	2.7%	50.7%	23.6%	20.5%
Zone B	2.1%	2.3%	53.9%	20.6%	21.1%
Zone C	1.7%	1.9%	58.0%	16.2%	22.2%
Zone D	1.6%	1.6%	57.7%	14.8%	24.2%
Total Project	1.9%	2.0%	55.7%	18.3%	22.0%

G.2.2.6 Conclusion

The picture drawn above shows that poverty is the dominant feature of life in the project area though Zone A and B seem to be in a more extreme position than others zones. This would become more evident when looking at Table G.2.20 which lists the unions considered to be the most disadvantaged ones, based from 1981 information. The criteria used to identify those unions where poverty is more widespread were the following:

- literacy rates inferior to project average (29.3%);
- % of households without potable water superior to project average (42.9%);
- % of landless households superior to project average (28.8%);
- refined activity rates superior to project average (33.2%); the participation in economic activities is higher because children have to work earlier to contribute to the survival of the households;

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TABLE G.2.20

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

Thana	Union Code	Union Names	Zone	Density
Noakhali	45	Dadpur	B	1,311
	50	Ewazbalia	B	858
	55	Ghoshbagh	B	760
	65	Kaladaraf	B	451
	75	Niazpur	B	1,146
	80	Noakhali	B	603
	95	Sundalpur	B	535
Lakhsmipur	15	Bhabaniganj	A	724
	85	Shakchar	A	498
Ramgati	79	Charlawrence	A	565

G.2.3 Social Organization and Dynamics

Because the knowledge of social organization is a prerequisite to design a proper people's participation "model", this section intends to discuss the general patterns of social organization of villages and some of the basic social units, such as the family and the caste group. On a broader arena, changes in the key institutions of the *shamaj* and the *shalish* are also taken up for consideration (section G.2.3.1). Later, the processes of polarization, which are leading to poverty for a majority of people and to accumulation of property and wealth by small rural elites are reviewed (section G.2.3.2).

G.2.3.1 Social Structure

- **Social Segmentation**

The major form of segmentation prevailing in the villages of Bangladesh has been between religious communities, e.g. between muslims and hindus. Most of the village studies done over the last twenty years noted that despite some individual cases of conversion, the social distance between religious communities remained intact. For instance, Mukherjee [1971] indicates that no loosening of the social bonds of religious identity had taken place despite growing inequalities and poverty levels.

Another source of "vertical" segmentation is between communities having different areas of origin. Several village studies have demonstrated that mutual prejudices and social tensions existed between immigrants and local villagers. In a Rangpur village, Goborgari, Van Schendel [1982] observed the existence of serious tensions between immigrants from Noakhali and local people. As a result, it took more than a decade before any intermarriage took place between the two groups, both of whom were muslims. This kind of segmentation might be less acute in Noakhali because immigration is rather limited.

■ Caste and Status Groups

Besides the "vertical" type of segmentation presented above, "internal" segmentation, e.g. hierarchical divisions, occurring within each community have to be discussed.

Within rural hindu communities, a large number of caste groups or *jatis* are still existing though, in most of the cases, not all *jatis* required for the functioning of a self-sufficient village economy are present. In fact, it seems that the *multi-caste-village unit* is disintegrating over time, with particular caste groups emigrating or becoming extinct.

Among muslims, caste-like inferior status was found to persist in the eighties in several places throughout the country. Such cases include oil-pressers in Rangpur (*khulus*), weavers (*jholas*), porters in Dhaka and butchers in Noakhali.

Over the years, the economic position of households underwent significant changes which had some impact on the rigidity of the caste-based social stratification. For instance, Hartmann & Boyce [1983] noted that money was considered more important than status in social behaviour towards lower caste groups. The traditional differentials in social rank had been gradually modified with changing economic circumstances, e.g. individuals acquiring land, wealth and power had also gained in social status. With the emigration of the upper caste hindu landowners after the partition of indian sub-continent, the major social force concerned to maintain the caste hierarchy had gradually disappeared. The rest of the upper caste hindus were not as rigid about maintaining their traditional attitudes towards lower castes and muslims as well resulting in the progressive weakening of the caste-based stratification.

Nowadays, the ranking order had become uncertain amongst some of the lower castes and mixed-caste groups. Also, some clear signs of disrespect for Brahmins are quite common among low castes, who, apart from religious ceremonies, have lost their social status in other aspects of life.

■ The Family and Kin Group

• The Household

The pattern of household composition is very much dependent upon income levels. For the poorest income group, the nuclear type of family is the dominant pattern. In contrast, the richest income group tends to have the highest proportion of joint families.

Today, it has become evident that with little land to bind the extended patrilineage together, the land poor has the greatest propensity to split up into atomistic nuclear unit. In time of extreme poverty and crisis, the poor household may be decomposed into its constituent individuals, each one attempting to survive on its own, whether adult, child or the elderly. However, when economic conditions improved, these forcibly separated households might merge back together. In other words, household composition fluctuated not only rapidly, but also reversibly, for the landless and the poor.

As indicated in Jansen [1987], deteriorating economic conditions over the preceding two decades, resulting in acute poverty, had induced a severe breakdown in social organizational forms, manifested in the disintegration of the family unit itself.

- **The Kin Group**

From the works of Arens & Van Beurden [1977], it was found that households belonging to the same lineage and even sometimes living within the same homestead (*bari*) were nonetheless divided into separate economic and consumption units and were no longer homogeneous in terms of land, wealth and power. Very often, members of the same kin-group stood on different sides in market transactions, e.g. as employer and employee, or as landowner and tenant.

Another factor explaining the decreasing influence of kinship ties on social and economic relationships is the fact that kinship proved to be dysfunctional for the efficiency of market transactions. For instance, kin members to whom land has been leased out, would often refuse to pay rent or claim occupancy rights. Similarly, in the hiring of wage workers, kinship preference would generally not lead to the choice of the most efficient labourers. As a result, kinship is no longer providing a ceratin source of security and assistance in times of distress. On the contrary, it is often a basis for conflict, particularly when separating of family property took place.

Due to this gradual attenuation of kinship ties, such familial loyalties have been superseded by market-based transactional relationships and wealthier kinsmen are no longer keen to bear the burden of maintaining poorer relatives. This point is further documented by evidences from Jansen [1987] who indicate that landless labourers needing credit found it easier to approach their employers rather than their kinsmen. In fact, primordial loyalties have gradually been supplanted by multiple ties of clientelism.

- **Shamaj Organization**

Despite localized variations in nomenclature (e.g., *mallot or reyai*) and certain operative rules, the core concept of the *shamaj* entailed a group of member households which had reciprocal obligations to each other. Households belonging to a given *shamaj* were required to help each other during times of life-cycle rituals and crisis such as birth, marriage and death.

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In addition, the *shamaj* was a traditional indigenous institution through which villagers enacted and enforced normative social and moral rules. Also, the *shamaj* used to be the premier arena for resolving conflicts between its members usually through the mechanism of *shalish*.

Over and above these functions the *shamaj* organization was also utilized by the elites of a village as a platform from which to launch broader political aspirations.

Despite the normative concept of the *shamaj* described above, the actual functioning of this social institution departed considerably from this somehow ideal presentation. In some cases, it was found that landless persons were not accepted into pre-existing *shamaj* groups until and unless they were able to acquire land and construct their own homestead. In effect, the system functioned to bar the poor and destitute from having the right of association in the *shamaj*.

Nowadays, the *shamaj* organization has gradually lost its importance and its legitimacy because of unscrupulous behaviour of most of *shamaj* leaders quite often involved in corruption, looting, and exploitative activities such as usury. Also, the position of traditional leaders (by inheritance) has become more and more challenged by educated and rich peasants so that it is sometimes very difficult to identify the real leaders.

In many cases, the role of the *shamaj* has shrunk to that of mediating in religious and ritual functions while in the past it had been much more important for politics, providing the basis of power and influence. In a study conducted by Arn [1986] in two villages of Noakhali, it was observed that the *shamaj* appeared to have even lost its ceremonial and ritual functions such as mediating in marriage arrangements. However, *shamaj* linkages were still used as an instrument for mobilizing support in local level politics, and, for this reason, should not be left out of any people's participation process.

- **The Shalish Mechanism**

In essence, the *shalish* represents a kind of village court in which local *shamaj* leaders are designated as *shalishkars* e.g. judges. In addition, other rich and influential men, as well as specialists in specific legal matters, may be co-opted as *shalishkhars* as well. As a result, the *shalish* provides an informal local level mechanism for resolving conflicts and redressing wrongs which enables villagers to avoid costly and troublesome litigation in the formal courts.

Because the responsibility for the resolution of local level conflicts has been gradually taken over by local government institutions such as the union parishads, the significance of the indigenous *shalish* mechanism has been reduced though it has not ceased to exist.

From the results of some village studies conducted in the last decade, it appears that due to the weakening of the *shamaj* organization, the leaders were no longer in a position to enforce *shalish* decisions by exerting the necessary social pressure.

However, in some other cases, the *shalish* backed by strong *shamaj* organization, was very much alive because it performed a variety of overt and covert functions which served to maintain the social control and legitimacy of the rural elites. In this sense, the class of rich peasants were found to have a stake in keeping alive the *shalish* mechanism as long as it remained under its control and its class interest vis a vis poorer classes.

G.2.3.2 Processes of Polarization

This section intends to describe some of the major polarization processes in rural areas which lead to poverty for most of the people and to wealth accumulation by a few privileged groups. The knowledge of these processes is of particular relevance in the context of this feasibility study since it will provide ideas on whether or not the project could be effective in promoting income transfer and in alleviating poverty.

The major processes of polarization concern the distribution of land ownership and of employment. Given their scarcity, the competition for these shapes the lives of rural dwellers of Bangladesh. Therefore, the mechanisms of land transfer, and the sharecropping system as well, have to be discussed to have an insight on the land ownership polarization. Then, certain aspects of the wage labour market including the factors which contribute to lowering the wage rates will be presented.

Finally, the reasons why the patron-client relationship, as a form of alliance between rich and poor, is more typical than alliances based on class interests will be briefly indicated.

- **Mechanisms of Land Transfer**

The amount of land owned by a household is, to a large degree, dependent on how much the household inherited. In Bangladesh, the inheritance rules among the muslims are based on Islamic law which decisively influences the land ownership pattern, the land fragmentation and the relationship between the household members who are due to inherit the land. According to this law, all sons inherit an equal amount of land while a daughter gets half the amount of a son. The inheritance rules stimulate a growing population to stay on land while the land is increasingly fragmented into ever smaller plots.

Although inherited land is the initial main determinant of the economic position of a household, there are other mechanisms of land transfer. Longitudinal studies have shown that ten to twenty years after they have been established, most households will own either less or more land than what they have inherited. Sale of land between two households is the other most important way land changes ownership. However, it is not simple and it is rather a long-term process which normally involves many steps before the final take over by the purchaser.

For the majority of households with greater expenditures than income, efforts are made to postpone the sale of their land as long as possible. The ways and the strategies followed by the poor, e.g. deficit households, to delay the sale of their landed property reveal much about their living conditions.

- First, these household will try to maximise their income by securing employment for as many members as possible, including children and women, thus abandoning the observance of *purdah*.

- Second, the expenses will be reduced as much as possible by cutting expenditures on health, education, clothing and by shifting to cheaper substitute of rice such as wheat and potatoes and by reducing the number of meals to a minimum. Starvation too is calculated and part of the overall strategy of deficit households to avoid sales of assets.

For households with a surplus, land is without any doubt the most attractive investment for at least two reasons:

- first, because of the inheritance rules, it is necessary to have much land for the division among children.

- second, because of the uncertainty of obtaining a satisfactory return on investment for increasing land productivity, many surplus households found it less risky to expand their holdings, which in a long-term perspective represents a better security than does a smaller holding with higher yield.

In rural areas, there is usually a strong demand for land and the potential sellers can, to a certain extent, choose between several willing buyers. This gives some advantages to the deficit indebted household going for a mortgage of its land. Often they are able to put some conditions to the sale of their land, such as the obtention of sharecropping rights on the mortgaged land, the guarantee to get employed by the purchasing household and supported/protected in village affairs

Transfer of land through sales takes place in a "many stranded" relationship, quite often involving also sharecropping, employment, credit and political support. This has clear implications for the social organization of rural Bangladesh because this relationship is usually of a "patron-client" type.

■ The Sharecropping System in Transition

Sharecropping is an important feature of the organization of agricultural production, involving a significant proportion of households, either as owner-cum-tenants or as pure tenants (probably between 20% and 30%). The competition to obtain land on a sharecropping basis is becoming increasingly harder and the terms of the sharecropping contracts have been affected at the expense of the tenant:

- the tenant usually hands over 50% of the crop but, in addition, he has to bear all input costs;

- by-products such as paddy straws are now also divided equally;

- the duration of the sharecropping contract has been considerably reduced over time.

When considering the changing sharecropping system, it is important to keep in mind that it is a relationship between two households only, having usually different bargaining power. For instance, it is obvious that if a rich peasant sharecrops in land from a poor household, he will probably get better terms than in the case of a poor tenant sharecropping land from an upper class household.

A factor which may contribute to diminishing the role of sharecropping and/or to changing its terms in the future is the change of technology in agriculture production. With the introduction of HYV crops, many landowners have found it more profitable to cultivate their plots with wage labourers than with tenants unless the terms of the sharecropping contracts are modified, with tenant handing over a higher share of the production.

- **The Wage Labour Market and the Level of Wages**

Because a majority of households in rural areas cannot subsist on the income derived from their agricultural land, a main supplementary source of livelihood will be found through agricultural wage employment.

The employer-employee relationship is in many cases of a patron-client nature, involving other types of rights and obligations. Often, employers do not consider only the efficiency of the workers but feel obliged to pick up employees with whom they have some other relationships such as sharecropping, credit and familial. Despite the fact that the dominant form of labour contacts is of a "casual" type, e.g., its duration is a few days at most, most of the wage labourers work for a limited number of employers. The labour market is thus far from an open market where all wage labourers compete to obtain work from any employer. Obviously this has clear implications for both the mode of payment and the level of wages which is quite often determined to the advantage of the employers who are creating and exploiting an imperfect market situation.

- **Polarization Processes and Social Organization**

With the polarization of landownership, land distribution is becoming increasingly concentrated in the upper landowning groups. As discussed above, this bears implications on the system of sharecropping and on the functioning of the labour "market" which are distorted in favour of landowners/employers. The nature of relationships in which people are involved as regards credit, mortgage, sharecropping, employment and political protection are to a large extent of a patron-client type.

This dominant type of "vertical" relationship, though contributing to provide a safety net for a majority of the poor, hinders the development of rural poor organization of a class-based type, which could be effective in representing and defending the interests of the poor before their patrons. This lack of horizontal linkages and organization between the poor rendered very difficult the task of involving them in a genuine participation process because either they lack sufficient awareness to make a difference between their interests and the interests of their patrons, or they fear the sanctions they may face (withdrawal of sharecropping contracts, loos of employment..) if they try to put their interests before those of their patrons.

In the near future, the social organization is likely to be still dominated by patron-client relationships though, due to land polarization, an increasing number of destitute households, having nothing left to offer as a client (no land, no house, no assets), might fall outside the patron-client network resulting in an increased poverty and distress.

This newly emerging group is composed of deprived individuals who have no more possessions and who have difficulty to get employment. These totally landless (without homestead too) and unemployed people, in many cases, are not able to achieve a client status in relation to a patron and are therefore rejected outside the precarious "safety net" which operates in rural areas, contributing to keep the poorest of the poor alive.

Because these landless and unemployed people will not be catered for by the traditional development programmes, it is doubtful if they will be able to survive in rural areas unless specific actions and resources are targeted and channelled directly to them. Unless this is done, emigration will be the common answer and many will leave the villages in search of a better existence in the slums of the rapidly growing cities of Bangladesh.

G.2.4 Women's Profile

G.2.4.1 Objectives and Methodology

- **Main objectives**

Women constitute about half the population of the project area, and, as such, should be included into the process of socio-economic development. However, this is not a simple task in the context of rural Bangladesh where the society is highly male dominated. Therefore, womens behaviour is very much influenced by the socio-economic and cultural condition of her family and of course, by the position of her husband within the community. It also depends on the domestic cycle she is in, i.e. whether she is a daughter of the house, the mother or the mother-in-law.

Keeping in mind all these points, enquiries have been made on the project area to fulfil the following main objectives:

- 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, issues and problems.

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- **Methodology**

To attain the objectives, both quantitative and qualitative data were needed from the project area. For quantitative data 98 women household's heads were interviewed with **structured questionnaires** by two trained female interviewers from October 1992 to January 1993. For qualitative data **focus group interview** and **in-depth case studies** were taken.

People's participation data from sixteen women's group meetings (four from each zone) also helped to get primary information regarding specific women's issues.

Data obtained during the first round of people's participation meetings were verified and clarified whenever necessary during the second round meetings. Thus the **reliability** of the data were ensured.

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

- **Women's survey**

It was decided that from each of the agro-ecological zone, 24 households would be selected on the spot for interview with structured questionnaires. Afterwards from Zone A and B, 48 households were selected. Another 50 households were interviewed from the other two zones, i.e. C and D. Zone-wise different categories of women interviewed are given in Table G.2.1.

TABLE G.2.21

Zone-wise Different Categories of women Interviewed

Group (In acres)	Zone A		Zone B		Zone C		Zone D		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Fisherman	1	4	-	-	2	8	2	8	5	5
Landless (0-0.05)	5	21	8	33	6	24	6	24	25	26
Marginal (0.05-0.50)	7	29	7	29	7	28	6	24	27	28
Small (0.50-2.50)	4	17	6	25	7	28	7	28	24	24
Medium & Large (over 2.50)	7	29	3	13	3	12	4	16	17	17
Total	24	100	24	100	25	100	25	100	98	100

Source : Women's survey (NNP'92)

- **Case studies and group interviews**

For qualitative data **focus group interviews** and **in-depth case studies** were taken inside the project area. A few were done outside the project area as well.

Case studies were taken in all the four zones of the study area. After a relationship was established between the woman sociologist and the respondents/participants the sociologist could talk to the women about their present way of life, their personal and general problems, issues and their perceived probable solutions. Cross-checking of facts were done on the spot with the women around.

Case studies and group interviews help to understand women's involvement in productive and reproductive roles. They also point out how the poor women manage their household in crisis period. It helps to identify the problems and issues faced by them and probable suggestions for solutions. These case studies and group interviews have been fully exposed in Appendix G.2, while their major findings were also used in **the Social Impact Assessment** section (section 4).

G.2.4.2 Women in the project area

With an average annual population growth rate of 1.51% the average density of population in the project area is 1333 per sq. km, whereas the sex ratio in Noakhali zila is 98.3 (M/F) for 1991 which should be compared to the national figure of 106. The sex-ratio of all the other three districts of the project area, which are available from 1981 BBS census data, i.e. Comilla (101.8), Chandpur (99.6), and Lakshmipur (100.7) are also below the national average. This is because many males of this region have migrated to the Middle East and other European countries to earn a living, leaving their families behind, at least temporarily.

It is generally held that a woman has to be protected by male members of her family at every stage of her life: during her childhood, she has to be looked after by her father, after marriage, by her husband and in her old age by her son. The family, which can protect and maintain its female members with honour, is still seen as an ideal family. Women are expected to live in seclusion and to observe **Purdah**. **Purdah** system is a kind of mechanism through which the honour of the woman and of her kin-group is observed. In Noakhali district women observe more of **Purdah**. While doing the field visits both men and women were found stressing on the point that it is honourable to be able to keep the women in seclusion. Even while passing through the main road one can see a portion of a pond is fenced for use by women only. Thus the perceived ideal behaviour of women is to stay at home, though the situation is gradually changing with the course of time.

Literacy rate is higher in all the four districts of the project area than the national average of 24.82 percent. The literacy rate of all these four districts are Comilla (25.28), Chandpur (29.02), Lakshmipur (25.54) and in Noakhali (28.00). From observations and discussions with the people of the project area it is understood that increase of female literacy rate is higher than the increase in the male literacy rate in Noakhali district. This can be testified from the table below.

TABLE G.2.22

Literacy by sex and locality 1981-91 (Noakhali)*

Locality	1981			1991		
	Total	Male	Female	Total	Male	Female
All area	27.16	34.38	20.22	33.7 (37.1)	38.7 (42.9)	28.2 (31.5)
Rural	25.95	32.77	19.52	32.1 (35.5)	37.0 (41.1)	27.5 (30.1)
Urban	34.55	43.42	24.79	46.6 (50.5)	52.3 (56.6)	40.2 (43.6)

Source: BBS 1991

* (The literacy figures in 1981 and 1991 for "5 years and over" are shown outside parenthesis and those for "7 year and over" are shown within parenthesis).

The above table shows that the increase in literacy is more rapid for females than males in Noakhali district. It is apparently difficult to make correlation between more migrant family, more **Purdah** or seclusion and increase specially in female literacy. Inquiring about the cause of the aforesaid facts, the following answers were received from villagers.

In the whole region young men want to go to foreign countries at any cost in search of their fortune. There is no job opportunity in the country. From rich to marginal farmer everybody trys to send their sons abroad. They sell property, borrow money for that purpose (Appendix G. 2, Case I, Mrs. Nahar). Thus boys when they grow up are more interested to try to go out of the country than to stay and study in school or colleges. But in case of girls, even among poor ones, dowry is a great problem. Some of the villagers think educated girls' marriage probability is better. Some villagers told that availability of more scholarships for girls and free schooling encourage the guardians to send their girls to school. Some say boys help their parents in the field, girls cannot go out in the field so they go to free schools. It may be due to the different N.G.O. projects in the area.

Arranging marriage is a great problem too. "Marriage is like a gateway through which women go to fulfil their life. No longer a burden to their parents... Parents also feel relaxed and happy that they have done their duty by arranging their children's marriage" (Nath, 1981:20). Villagers have to manage dowry even by selling cultivable land (Appendix G. 2; Case 4, Amena). The average age of marriage of male is 25 and that of female is 18 (1990 BDSVRS, B.B.S. Provisional). There is lot of difference between status of a married and unmarried woman and also between mother of a son and childless woman or a widow.

Woman's mobility is very much restricted, in her parental home, after her puberty till marriage and after marriage, in her affinal home as a new bride till she is the mother specially of son. Jean Ellickson remarked in her village study, "The only relative independent woman is the middle aged or elderly widow and divorced or abandoned women without adult male sons to support them" (Ellickson, 1975:82). Generally destitute women without kin-support are the only independent women in the village.

There exists a clear cut gender-specific division of labour in the project area as in Bangladesh. To be specific men work in the field and outside home compound while women work in the home compound which is not visible and remunerative and thus considered as normal house work. Whether rich or poor all women have to do the household chore. A woman of a rich household can afford to keep some one to help her in domestic work. Only the destitute women work in other's houses during post-harvest period and when they are asked by rich neighbours to do some job.

From UDMP Report (1990) it is evident that in Chatkhil Thana of Noakhali zila only 5.2 percent rural households have more than 2.5 acres of cultivable land per family which is far below the national average of 15.9 percent. It indicates that most of the farmers household own small holding not enough to maintain the family. Except the rich and middle households, women manage the post-harvest work by themselves.

In a **Purdah**-ridden society with comparatively high rates of female literacy the role the women of the project area perform will be analyzed and discussed in the next section.

G.2.4.3 Socio-economic roles

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.

TABLE G.2.23

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

				Economically Active			Not Economically Active
Zila	Thana	Population (age 10 +)		Total	Employed	Unemployed	
Noakhali	Chatkhil	Male	68.05	52.26	50.99	1.27	15.19
		Female	67.72	5.07	4.68	0.40	62.65
Bangladesh		Male	68.12	52.94	51.75	1.19	15.18
		Female	67.62	5.10	4.64	0.46	61.52

UDMP 1990 data on Chatkhil showed that 62.65 female 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.

Thus while analyzing women's roles and activities it is found that in all societies roles are to a great extent determined by gender. Four types of gender roles are identified by Moser and Levy at the London School of Economics Development Planning Unit. Here in this study we use the guideline and definition used by them. Following are the four types of gender roles:

- **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.

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.

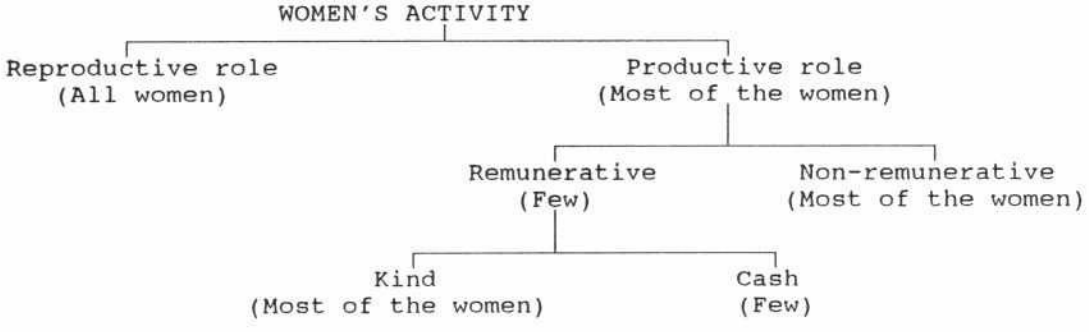
Here is the list of reproductive and productive roles generally performed by the women of Noakhali North Project Area.

TABLE G.2.24

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, final checking of the household before going to bed.	Bari-based post harvest work like threshing crops,(in some parts of the Noakhali North Paddy is being threshed by men), winnowing, parboiling, drying and storing crops. Making and repairing fishing nets, 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. **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 negligible few in remunerative work. Detailed information from the women's survey is given in Table G.2.25 and G.2.26 below:

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TABLE G.2.25

Non-Remunerative Productive Activities

Zone	A		B		C		D		Total	
	#	%	#	%	#	%	#	%	#	%
Work in field and garden	20	80.0	23	95.8	24	96.0	19	76.0	86	86.9
Handicrafts/weaving/sewing	12	48.0	4	16.7	14	56.0	9	36.0	39	38.4
Poultry/livestock/fishpond	24	96.0	19	79.2	20	80.0	21	84.0	84	84.8
Fishing for own use	0	0.0	1	4.2	1	4.0	0	0.0	2	2.0
Make nets/dry fish	0	0.0	2	8.3	3	12.0	2	8.0	7	7.1
Post-harvest work	16	64.0	17	70.8	17	68.0	17	68.0	67	67.7
Collect/make fuel	24	100.0	19	79.2	23	92.0	21	84.0	87	88.8
Other	2	8.0	0	0.0	1	4.0	1	4.0	4	4.0
Total	24	100.0	24	100.0	25	100.0	25	100.0	98	100.0

Source : Woman Survey 1992

TABLE G.2.6

Remunerative Productive Activities

Zone	A		B		C		D		Total	
	#	%	#	%	#	%	#	%	#	%
Handicrafts/weaving/sewing	4	66.7	5	83.3	2	100.0	1	14.3	12	57.1
Poultry/livestock/fishpond	1	16.7	5	83.3	0	0.0	0	0.0	6	28.6
Collect/make fuel for sale	0	0.7	3	50.0	0	0.0	0	0.0	3	14.3
Work outside the home	2	33.3	0	0.0	0	0.0	5	71.4	7	33.3
Other	0	0.0	0	0.0	0	0.0	1	14.3	1	4.8
Total	6	100.0	6	100.0	2	100.0	7	100.0	21	100.0

Source : Woman Survey 1992

All women are doing domestic/family work in the household, i.e. participate in the productive role. 89% collect and make fuel, 87% of women work in own kitchen garden (Table G.2.25). If nothing else, they will grow pumpkins, chilies, beans, etc. by the side of their house. 85% women participate in poultry or livestock raising and 68% in post-harvest work. It is also evident in both the above tables that a good number of women are engaged in more than one works.

In the women's survey, only 8 women reported working outside their homes for remuneration. Among them only one has a salaried job, while the remaining 7 are employed in domestic and post-harvest work. All these women are paid in kind depending on the nature of the work. There is no hard and fast rule as regards food. Generally they get food twice or thrice during post-harvest time and get about one maund to half a maund paddy after the job is done.

Among the poor and destitute, those who do not have family and kin-group support, go for work in other people's houses. Rich farmers' wives say there is scarcity of female labour. Poor women say remuneration is so little that it is not worthwhile to work for others. Only those who do not have husband or son to support the family, go for work (Appendix G. 2, Case 4. Amena).

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. The Table below gives a picture of seasonal work availability, duration, and remuneration pattern in Noakhali North Project area where more than one crop is grown.

TABLE G.2.27

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).	Half to one maund of paddy,and two three meals a day; depending on work.
Processing of aus.	One month (from middle of Asar to middle of Sraban.)	Food twice and paddy depending on work.
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 Poush).	Two Three meals and about a maund of paddy.

G.2.4.4 Role in Household Management

Like roles and activities of women, management of the household is also gender specific. Women will manage inside the household while men takes care of outside works. But often in absence of the main male earning member it is the woman who has to do everything. Here are some illustrations of few common problems faced by women of Noakhali area, showing how women try to face those problems.

- **Drinking Water**

Providing potable water to the family members is one of the prime reproductive role women have to perform. According to 1991 B.B.S. census data (cf Table G.2.9 above), it is seen that in Zone D 89 per cent, Zone C 85 per cent, Zone B 73 per cent and in Zone A 61 per cent proportion of households in the project area have provision for potable water. As a whole, 80 percent of households have access to potable water within the project area. The increase is 22 percent in Noakhali North Project area over the decade 1991/1981.

The causes of increase identified by villagers are stated below:

- Govt. and Non-govt. organisations encourage villagers to install tube well in easy terms and conditions.
- Migrants send money to install tube well. It provides potable water and also enhances family status.

The case of Razia (Appendix G. 2) illustrates how the women provide drinking water to family where there is no tube well. In Char Darbeshpur, there are only about 20/22 tube wells in the village with population of about 9000. They are used to drinking pond water. Only from Falgoon to Jaistha (four months) they use a special stone in the drinking water for purification otherwise take straight pond water for drinking.

Only when saline water from Little Feni river overflows the ponds, Razia and other women of the area go to other side of the embankment and bring drinking water from tube well. They go to others houses after sunset in a group, take bath and bring drinking water. Due to **purdah** they do not go to other's house in the day time.

- **Fuel Collection**

Generally straws of paddy, mustard and dried leaves are used as fuel. Dried up small branches of trees, dried leaves and bamboo sticks are used as fuel in Noakhali North Project area. Children and women can collect them by the side of homestead and gardens. They use 'Mutha' made of cow dung, coconut and betel nut leaves, dried shells of green coconuts, etc. as fuel. Many of them have to buy firewood from market.

Poor and marginal farmers' wives generally cook once in the afternoon and eat twice or thrice according to availability. Amena Begum (Appendix G. 2) told.

"We cook only once in the afternoon. In afternoon we take full meal, at night not always full and in the morning take **Panta** (left over rice soaked in water)".

Rich and middle farmers need more fuel as they cook generally thrice a day. They have their own post-harvest straws and garden and trees to provide fuel. Some have to buy fire wood as well.

Women are anxious to collect and store some fuel before monsoon sets in. During monsoon periods, fuel is costly and it is difficult to get hold of dry fuel. From the women surveyed it was found that 100 per cent of respondents in A and D and 96 per cent in Zone B and C collect and store fuel in preparation for the monsoon flood.

- **In times of crisis during short term migration of household head**

Women have to manage the household when the household head migrates to find work. Among 98 sample households, 28.0% of respondents in Zone A, 40.0% in Zone C and 16.0% in Zone D migrate to find work, spending an average of 77 days per year away from home. No migrants were found among the sample taken from Zone B. In Zone A average days per year for migrants away from home is 127 days. In Zone A living conditions are more difficult and household income is lower in comparison to other parts of the project area. How the migrant's family manages during these periods are stated below in Table G.2.28.

TABLE G.2.28

Management of Household Migrant Family.

Zone	A		C		D	
	#	%	#	%	#	%
With money sent by household head	7	71.4	8	88.9	3	100.0
Borrow from relative, neighbours, moneylender	2	28.6	1	11.1		
Total	9	100.0	9	100.0	3	100.0

Source: Women Survey 1992

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 and neighbours. Safina Begum (Appendix 2, Case 6) and Zohora Khatun (Appendix 2, Case 5) told they take help from their parents, and often stay with them when she has to face problems and shortage of money.

- **Preparation to face normal monsoon flood.**

From women survey and from talk with several people of the area it is evident that except the devastating flood of 1988, there were not such flood (Bonnya). Monsoon flood is quite normal for the villagers. They are used to it. Early rain or heavy rain cause problem. As the khals and rivers are silted up water can not pass away. Stagnant water during monsoon is a great problem. Women have to do their household chores to keep the family running. To face these situations women from all categories make the following preparations shown in table G.2.29

TABLE G.2.29

Women's Preparation for Normal Monsoon Flood

Zone	A		B		C		C	
	#	%	#	%	#	%	#	%
Collect fuel	24	100.0	23	95.8	24	96.0	25	100.0
Make khar			18	75.0				
Prepare food grains or spices	8	32.0	7	29.0	16	64.0	13	52.0
Make 'Iga chula'	20	80.0	17	70.8	18	72.0	24	96.0
Collect soil for mopping up	24	100.0	19	79.0	25	100.0	25	100.0
Other	2	8.0	2	8.0	2	8.0	1	4.0
Total	24	100.0	24	100.0	25	100.0	25	100.0

Source : Women Survey 1992

From the table G.2.29 it is evident that about 97 percent women in Noakhali North project area collect fuel to use in Monsoon period and 94 percent collect soil for mopping up the 'chula' and floors of the houses. Women need soil throughout the year to mend their 'chula' and the floors of the houses.

Most of the houses in these areas have their 'chula' (hearth or oven) outside their rooms. Whenever it rains, they cook inside the kitchen or living room. Poor people do not have 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 their house, to save it from collapse by the gusty winds and rain of the monsoon period.

G.2.4.5 Women's felt need, Issues and problems

Women's felt need issues and problems in the Noakhali North Project area have been identified through people's participation meetings, discussion with women, visit to different households, in-depth case studies and focused interview. Women's survey, reports and published materials on the North-East region also help to develop an insight in understanding the problems of the area. It helps to lead focused-interview among women as well.

Water logging as a result of drainage congestion and dry season paucity of water are considered as main problems in the project area. Both men and women are aware of the situation. Even heavy rain water can not pass away and create problems in the day to day life. Due to stagnant water during the monsoon, women cannot grow vegetables, papaya trees and jack fruit trees suffered as well. Also, it is very difficult to collect fuel. Cowdung cannot be accumulated and "mutha" cannot be made during this season. Landless, marginal and poor people cook only once in the afternoon in order to save fuel.

From December onwards paucity of water starts becoming a great problem. February and March are the two most difficult months for all the villagers. Women mentioned about the difficulties faced in getting water for bathing, washing and cooking as well as for livestock. Due to scarcity of water, more health and sanitation problems occur. Skin diseases are very common. Diarrhoea frequently breaks out at that time as well.

Thus July to Sept./Oct. stagnant water and from January to March paucity of water affect not only cultivation, it affects badly on women's reproductive role. Also, health status is also badly affected.

Except drainage congestion, water logging and paucity of water during dry season, salinity also causes serious problem to the people near to the coastal area. The case of Razia (Appendix G.2) depicts the picture how salinity of Little Feni river affects their way of life. She can not grow vegetables on the homestead. Plants become yellowish and gradually die. When the little Feni river overflows the ponds, fishes also die out. There is no tubewell nearby. The villagers take pond water for drinking but when salinity in the pond water is felt, women in a group go to other side of the embankment for carrying drinking water. They also take bath at that time in tubewell.

They go there in the evening and thus maintain purdah. In many places khal water, i,e, surface water is used for cooking because pulses and rice cooked in surface water taste better and the colour of the food also look good. Though there is every possibility of food contamination in this way.

Dowry is a great problem. In arranging marriage of girls many people have to borrow money and sell property (Appendix G.2 case Amena).

Women of the coastal area, in Musapur talked about cyclone as one of the problem. There are few cyclone shelter in Musapur. More cyclone shelters are needed to accommodate more of people.

The rate of education among women is much better in the project area in comparison to national level. But not much facilities for educated women to get income-earning job. They prefer teaching in schools, working in Banks or working in offices. But availability of such jobs is very few. Talking with some educated women it is found that women are eager to get honourable jobs. Only destitute and poor and low-caste hindu women work in CARE RMP programmes. As they have come out of their house once, they have showed their eagerness to do any kind of earth work or anything. They have contact with other destitute women who want to do such jobs. U. P. Chairman and local elites informed that if any project wants to engage women labour, it will not be difficult to find them. But general view is that there are plenty unemployed men to work, so why involve women?

Zohora, Tuni Begum and others those who have taken different training like making 'papadam', 'chanachurs', different kinds of pickle and making carpets, handicrafts etc. from Gandhi Ashram told that, marketing is a great problem. It there were some stable buyers who could buy their products regularly, it would have been a great help to them. Many women have got different training but not able to utilize their skill to the full extent.

There is a match factory in Joyag, and 15 women work there. If some small scale factories, like soap making, mosquito coil, insane stick and 'coir' factories are built, then many women in and around the area could work there and could be benefitted. (Appendix G.2 case 5 Zohora).

Rich and middle farmer's wives say it is difficult to get women to help during post-harvest period, poor women are working in different projects and also in CARE. But the poor women say the remuneration is so small that it is not worthwhile to work for others. Support of kin group and purdah do not allow many to go out and work for money, although they want to do some remunerative work.

A good number of women are educated and there are many poor women who want income earning activities. Through proper motivation to work they can be mobilized. B.R.D.B, N.G.O, R.S.S, Gandhi Ashram, are working in some parts of the project area. As they are working and able to raise the confidence of the people, their support can be asked to motivate and organise women in the following activities:

- Anti-poverty activities i,e, income generating activities through poultry, livestock raising, handicrafts, earth cutting, afforestation etc.

- 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 BAR D 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 Thana Central Cooperative Association (TCCA). Agriculture being the mainstay of the economy for rural people of the rural Bangladesh, most of these primaries were agricultural type and membership coverage mainly was 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 on nation wide 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 80s the co-operatives under the IRDP were reorganised into Bangladesh Rural Development Board (BRDB) and covered almost all 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 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 an harmonious uplift of the rural context. The democratic principles drawn from comilla model initially were characterised by weekly, monthly and annual general meeting and regular savings, training and input supply.

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

Though, 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 high number of rural development programmes for the landless male and female (BSS and MBSS) to accelerate development processes 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 instance in the project area the Noakhali Integrated Rural Project (NIRDP) supported financially by the Danish Aid covered a big area in Noakhali and Laksmipur District. The NIRDP stopped in 1991, only TBCCA in Senbagh and Begumganj in the project area have benefited from a capital deposit to continue the project up to 92. (cf.Apppendix G2)

Though the result which is found in the BRDB report shows a high number of cooperatives formed and a big amount of accumulated saving, it cannot go without the comments 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 " 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 officials in the Government agencies manning the delivery system (BADC & BRDB).
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 seems 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."

At Thana level trying to assess the activities of BRDB to organise farmers, landless and women (cf Appendix G2 for detail) it was reported and summarised as follows:

- To day the KSS are not functioning because the loan exemption of 5000 Tk is not solved for cooperators of BRDB and the maintenance of DTW by BADC is practically non-existant.

- The formation of BSS and MBSS was active during NIRDP but is likely to be limited if there are no further negotiations for external funding.

G.2.5.2 Non Governmental Organisations

Within the project area intensive coverage by NGO is yet to be achieved despite the big number of them with an office in Maidji Town (Noakhali).

South of the project area there is formation of new lands (char) and this attracts NGOs because though the life is much tougher there is scope for landless to get new land.

The summary of activities undertaken by NGOs alonside with their working areas are presented in Table G.2.30.

TABLE G.2.30

Activities of NGOs in Noakhali North Project Area

NGO Name	Number of Thana concerned	Number of Union	Number of field staff	Type of Activities	Number of organised group	Total of male group member	Total of female group member	Type of project which demand first priority	Critical period for day labours	Any land acquisition problem experience yes/no	Type of programme proposed to improve socioeconomic conditions of target population
BANDHAN	Sudharam (Noakhali)	5	23	Rural communication project (Family Planning MCH/EPI)	114 groups through Jiggasha	333	310	Population control	Rainy Season	Yes Slightly	Maximise utilization of human resources, non rural resources/handicrafts/other natural calamities, fisheries, setting up of small industries and education.
MCC	Sudharam Lakshmipur	11	60	- Agri. research extension vege, Rice Group formation saving/income generating. - Health/Social service.	30	250	350	Achievement of food self-sufficiency	June to October	No	- Improve food production - Improve the infrastructure facilities - Improve literacy - Improve health service - Employment opportunities - Establish social justice
BRAC	Sudharam (Noakhali)	ALL	06	EPI Facilitation Project (To Assist the Govt Health Department To implement Expanded programme on immunization	Not Applicable	N/A	N/A	Socio-economic development programme	-	-	- To organize landless - To create job for have not. - To assist local NGO to implement their development programme property. - Develop the Char Area/reclaimed land. - To utilize appropriate technology and social resource. - Non formal education/health nutrition/sanitation family planning.
NRDS Noakhali Rural Development Society	Lakshmipur Sudharam (Noakhali) Sadar	5	05	- Employment promotion through handicrafts production. - Pure drinking water supply/and sanitation - Income generating activities	20	20	15	-Income generating activities -Awareness building.	Off Harvesting Season	No	- Awareness building and group formation. - Ensure farm related employment of rural labour. - Development of irrigation system - Income generating activity. - employment.
GANDHI ASHRAM TRUST	Begumganj Chatkhil	3	38	Saving group formation Health/Water/Sanitation. Small cottage, Training, Literacy Environment, Agriculture.	60	25	20	Employment creation	February to April and July to October	No	- Organize poor people in groups - Provide credit facilities for IGP to the poor - Education for illiterate children.

TABLE G.2.30

Activities of NGOs in Noakhali North Project Area (continued)

NGO Name	Number of Thana concerned	Number of Union	Number of field staff	Type of Activities	Number of organised group	Total of male group member	Total of female group member	Type of project which demand first priority	Critical period for day labours	Any land acquisition problem experience yes/no	Type of programme proposed to improve SE condition
Association for Social Advancement (ASA)	2	No work in the project area	32	Non formal Education - Loan distribution Training social forestry	139	280	2500	Education & credit programme	March to June	No	The socio-Economic condition of the area to Establish some small and large scale industry.
UPOMA	2	13	15	Group organization raising of small saving Education Income activities Kitchen gardening Agri/Afforestation Skillness/Human development sanitation health. Drainage.	135	1000	1360	Creation of drainage and irrigation facilities will create scope for employment in agriculture. Expansion of farm activities will help people for self employment.	August to December	No	Development of in fra-structure in order to optional use of land. - Tos support the landless, wage labour and marginal farmers to start self employment through creation of small enterprise.

CHAPTER G.3

PUBLIC PARTICIPATION IN THE PLANNING PROCESS

G.3.1 Introduction

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

Peoples 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 preliminary need assessment. Under this component, with limited resources, effort to organize meeting at village level started in early October 1992. The active participation of people of all disciplines, for meetings at village level broadened the approach.

The guidelines given for public participation before the start of the study cover a comprehensive approach to assess the local need of the different sections of the population concerned by using methods which will allow the people to express their local need to overcome their problems and formulate ways on how to participate in the development process. The Draft Guidelines for Project Assessment (GPA) issued in May 1992 emphasized 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 needs assessment to elicit from the various interest groups their perceptions of the present water management regime, the main flood control and drainage problems and trends and their 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:

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

- Other groups may not be well organized; 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 groups need to be organized so that their views are represented. Community organizers contracted from local and national NGOs, established in the area, can help such marginal groups to make a self definition of their interests.

The context of the study focussed on regional water development planning options consequently intensive public participation was primarily required to minimize the tendency of top down planning.

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 their 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 behavior 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, jute and fish are the three key elements on the floodplain; they all depend on villagers having a high degree of control of water resources. The Noakhali Project is attempting to increase that degree of control and to augment the benefits villagers reap from the floodplain. And the project staff realize that failure to consult these same people living on the Noakhali area of the floodplain will be an enormous caveat in the resource base needed to make the project a success.

This same need to gather local knowledge can also be stimulated by local officials and peoples' representatives. Union and thana officials live very close to the villagers they serve and daily come into contact with the problems of these same villagers. They too are, therefore, an indispensable element in any public participation programme. 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 behavior will come from the people who farm and fish the floodplain.

Another element in the rationale for public participation is that many of the Flood Action Plan studies have found 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 only know about them when the contractors move in to start. In the northwest 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 necessity in any democratic society to associate the majority of concerned people when major decisions are to be taken. This should be an essential prerequisite of any planning process. Accountability to villagers whose lives will be affected by planning options must be a major condition of the process by which these options are arrived at.

G.3.2 The Methodology

Public Participation, as proposed for the FAP, 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:

- Select a manageable number of sample villages in which to carry out the participation meetings;
- In a **first round of pre-arranged meetings**, ask communities 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;
- Take the findings of these meetings back to the office for consideration and analysis with the findings of the hydraulic model and engineering concepts;
- In a **second round of meetings** to be conducted in the same selected villages, present project options to local officials and villagers for discussion and comment. Also, ask additional questions and attempt to resolve seemingly conflicting information;
- Analyse the findings once more and draw up firm options based on both sets of findings i.e. from both specialists and villagers;
- In a **third round of meetings,** 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.

For the Noakhali North Project the villages (mouza) randomly selected are shown in Table G.3.1 and their location are illustrated in Figure G.3.1.

The teams conducting the first and second round meetings were multi-disciplinary but included skilled Bangladeshi animators 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/Animator (m) (Local)
- Sociologist/Animator (f) (Local)
- Engineer/Hydrologist/Planner
- Agriculturist or Fisheries Specialist
- Economist/Sociologist

Figure G.3.1

Location of Public Participation Villages

TABLE G.3.1

List of Public Participation Mouzas

Zone	Thana	Union	Mouza
A	Lakshmipur	Bhabaniganj	Bhabaniganj (Char Mansha)
A	Lakshmipur	Bhabaniganj	Binod Dharmapur
A	Lakshmipur	Dighali	Dighali
A	Lakshmipur	Shakchar	Old Shakchar(Khash Mahal)
B	Noakhali Sadar	Noakhali (Paurashava)	Hari Narayanpur
B	Noakhali Sadar	Noannai	Ratanpur
B	Senbagh	Nabipur	Bishnupur
B	Begumganj	Rasulpur	Latifpur
C	Senbagh	Kabilpur	Khanpur - Purba Lalpur
C	Chatkhil	Nayakhola	Nayakhola
C	Lakshmipur	Charsai	Rampur
C	Lakshmipur	Hajirpara	Hasanpur
D	Begumganj	Nadana	Hatgaon
D	Ramganj	Darbeshpur	Darbeshpur
D	Laksam	Purba Baisgaon	Pearatali
D	Shahrasti	Uttar Suchipara	Chandpur

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 9 thanas with representatives listed above.

G.3.4 Implementation of Participation Meetings

G.3.4.1 First Round of Meetings

The first round of public participation was carried out between 8 November and 2 December. Attendances were considered to be satisfactory for a balanced set of views. The meeting in the village of Char Mansha in Zone A 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 several unions were present. Female attendance was much lower than male attendance, which is not surprising in a society where purdah is enforced in some instances. The approximate attendances in both 1st and 2nd round are given in Table G.3.2 below.

Through the first round, the general situation was ascertained collecting information from all sectors of life and special emphasis was given on water related issues. In the same meeting, discussing the situation, problems were raised and through participatory approach local people were asked to suggest solutions.

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.

G.3.4.2 Second Round of Meetings

The second round of public participation was carried out between 12 January and 4 February 1993.

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.

The objectives of the second round of public participation meetings were to:

- give the consultants' considered reply to the issues raised in the first round of meetings,
- introduce the project proposals, and explain how they deal with at least some of those issues,
- indicate any trade-offs involved; eg higher irrigation lifts for some, to set against better drainage,
- indicate changes in farming practice necessary for getting the full benefit from the scheme,
- get a response to the above, for adjustment of the proposals if appropriate, and
- gather more details of local problems/proposals (without becoming too small-scale)

TABLE G.3.2

Attendance of the First Round of Meetings

Zone	Mauza Name	1st Round of Meetings			2nd Round
		Male	Female	Total	Total
A	Bhabaniganj (Char Mansha)	400	25	425	35
A	Binod Dharmapur	200	15	215	45
A	Dighali	150	30	180	30
A	Old Shakchar(Khash Mahal)	100	20	120	60
B	Hari Narayanpur	40	15	55	18
B	Ratanpur	70	25	95	20
B	Bishnupur	60	35	95	24
B	Latifpur	45	22	67	15
C	Khanpur - Purba Lalpur	50	35	85	20
C	Nayakhola	100	30	130	30
C	Rampur	80	15	95	15
C	Hasanpur	70	20	90	15
D	Hatgaon	200	35	235	50
D	Darbeshpur	na	na	na	30
D	Pearatali	na	na	na	35
D	Chandpur	na	na	na	25

During the second round the solutions suggested earlier were reformulated after having confronted them with the technical available data from different sources. The meeting also gave opportunity to cross-check some information collected during the first meeting. In addition some of the proposed intervention sites were physically visited in walking into and out of the village after the meeting with the participants.

G.3.4.3 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 Hari Narayanpur, where the participants' proposals concerned improvement of railway cross-drainage which is of purely local significance. Whilst the proposals may have been sound as small scale water resource schemes, they were too localized for consideration within a Feasibility Study for an area of approximately 160 000 Ha.

The second problem is that a proposed scheme, 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 third round of public participation meetings started on 6 March and were completed on 16 March 1993. This round of meetings was found very fruitful to assess from a broader perspective the proposal originated from the villages.

Table G.3.3 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 and attended these meetings comprised:

- Mr. M J Politzer, Team Leader/Mr. R. Dyer, Senior Irrigation Engineer
- Mr. Nurul Islam, Planning Engineer.
- Mr. Haron-or-Rashid Patwary, Public Participation Expert.

The pattern of all nine 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 proposed interventions in or near the thana in which the meeting was being held.

TABLE G.3.3

Attendance of Third Round Public Participation

Thana	Thana officers	Party leader	UP Chairman	NGOs	Others	Total
Senbagh	10	2	6		1	19
Begumganj	12		13	2		27
Noakhali (Sadar)	6		13	2		21
Ramganj	14			1		15
Chatkhil	12		8			20
Lakshmipur	10		9		7	26
Sharasti	6		4		2	12
Hajiganj	11		4	1		16
Laksham	22		9			31
Total	103	2	66	6	9	187

G.3.4.4 Meeting with Members of Parliament

In addition to the series of meetings at Village level, and Thana level a seminar was convened at BARD, Kotbari, Comilla to invite the Members of Parliament of the region and discuss with the consultants and the Water Board representatives on the proposed development options. This seminar was part of the process of consultation and participation with representatives who are accountable to the people they serve in the Parliament. This is also a step which precedes the planning and implementation phase of a project.

G.3.5 From People's Needs to Project Proposals : Analysis of the 1st and 2nd Round of Meetings

A presentation of information obtained and points raised during all these two rounds of meetings is shown below on a zone wise basis. Also, a summary of the main water related problems given in the first and second round of public participation meetings is given in Table G.3.4.

TABLE G.3.4

Noakhali North Project
Summary of Round 1 of the Public Participation Meeting

Issues/ Problems	Zone A				Zone B				Zone C				Zone D			
	Char mansa	Dighali	Binod Dharmapa	Sakchar	Harinarayanpur Pourashava	Latifpur	Ratanpur	Bishnupur	Hasanpur	Purba lalpur	Nayakhola	Rampur	Hatgaon	Dharbespur	Pearatali	Chandpur
Peak flood depth	2 feet	2 feet	2 feet	2 feet	3 feet	7 feet	3 feet	5 feet	4 feet	3–4 feet	2–4 feet	5–7 feet	5–6 feet	6–8 feet	3–5 feet	4–5 feet
Early flood damage	No	No	No	No	Because of earlier flood do not get time grow Aus/Aman	Early moonsoon prevent cultivation of Aman or Aus	No Problem	Part of it is problem	No	No	No	No	Early flood damage boro April–May	Early flood last accured in 1990	B Aman crop damage due to early flood	Pre–monsoon crop flooding during damage in April
Early floods	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes
Drainage Congestion	No water Congestion	No drainageand Flood problem	No Problem	Khal are hewily silted.	Water logging poor drainage	Rain (July) water can not drain	Water lodging poor drainage	Siltarion of Khals have caused drainage problem	Drainage congestion of water during monsoon 4 month (July–Oct.)	No problem	Drainage congestion non–completion of Katcha (CARE) road	Water congrestion during monsoon for 3 months (July–Sep.)	Drainage congestion from pre–monsoon rainfall some time	Water logging July–September	Not serious problem	Not serious problem
Irrigation facilities LLP/DTW STW other damage	600 feet below sweet water and excutive iron contect	LLP = 6; It has access to WAPDA khal	No irrigation equipment used	No irrigation equipment used	No irrigation facilities	100% with surface water. No STW or DTW	10% Land get surface water no STW & DTW	One in operative DTW reported in Bishnupur	DTW1 (508' deep)	No DTW STW	No dry season irrigation	No DTW STW	21 LLPs are in operation	LLP – 40 other, Donga	LLP – 6 Other – 5	LLP – 4
Ground water salinity DTW STW	No information	No information	Salinity problem to char area	Salinity in not in existence	No information	No information	Salinity found in ground water of Sayedpur	No information	No information	No information	No information	No information	Salinity down to about 650 feet	No information	Saline water at a depth of 80 feet	No information
Gas Problem DTW STW	No gas problem	No	No	No	No information	No information	No information	No information	No information	No information	No information	No information	Gas problem for DTW STW	No information	No information	No information
Seasonal fauing of water tables	Dry season water for irrigation is needed	Dry season problem is there	Feb to March no water	Dry season water shortage	No information	No information	No information	No information	Shortage of water (Jan.–March)	Scarcity of water in the branches and main Khal (Nov.–March)	Scarcity of water (Dec.–Feb.)	Scarcity of water (Dec.–March)	Water shortage for boro season	Non–availability of water at Khal	Non availability of surface water (Feb.–March)	Non availability of water (June–Feb.)

TABLE G.3.4 (Contd.)

Issues/ Problems	Zone A				Zone B				Zone C				Zone D			
	Char mansa	Dighali	Binod Dharmapu	Sakchar	Harinarayanpur Pourashava	Latifpur	Ratanpur	Bishnupur	Hasanpur	Purba Jalpur	Nayakhola	Rampur	Hatgaon	Dharbespur	Pearatali	Chandpur
Road communication	Culvert to be built in all the local roads	Bridge needed	Communication problem road needed	Road communication insufficient.	No problem	No problem	No problem	No problem	Not a major problem	Not a major proble	Road construction is not complete	Poor road access	Communication a problem	Has to be improved	Bridges Culverts on road needed	Good road communication exists
Navigation	Wanted navigation facilities	Wanted navigation facilities	Wanted navigation facilities	Obstruction of Navigation by the existing Rahmatkhali Regulaton	Less important	Less important	Less important	Less important	Less important	Less important	Less important	Less important	No information	No information	No information	No information
Electricity	Electricity required.	Electricity required. for LLP irrigation	Electricity needed.	Problem electricity	Electricity exists	No electricity	Electricity needed	Need electricity	No information	No information	No information	No information	No information	No information	Lack of electricity	No information
Drinking Water	Not sufficient and excessive ironcontent	Dry season drinking water problem	Not sufficient	Not sufficient	Noproblem	Not so much problem	Vanted more HTW	HTW not fufficient	No information	No information	Shortage of water during dry season	No information	Among 40 HTW two unsatisfactory	More tubewell necessary	More tubewell for dringking water	Drinking water no problem
Fishing	Need for fisheries Extension hateheries	Need for fisheries extension hatcheries	Need for fisheries extension hatcheries	Need for fisheries extension hatcheries	No information	No information	No information	No information	Fish disease no advice from fishery department	Water shortage	Water shortage	Lack of advice from Dept. of Fisheries	Water shortage in pond and Khals	No extension work Ulcerative disease	Shortage of water in Dakatia Khals and pond	No extension service multiownership of pond is a problem
Education	More primary High school College Needed	High school Primary and Madrasa exist	One High and Primary exist	High school Madrasa needed. Prymary school needs extension.	Good facilities are there	Primary school exists	No information	No information	High school. Primary school and Madrasa exist	No educational institution in the village itself	No primary Madrasha. One high school	One high school. 2 Primary school and Madrasha exist	One madrasha and two primary school exist no high school	High school Primary and madrasha exists	Only one madrasha exist	No facilities 2 madrasha there
Hhealth	Lakshmipur health centre	Lakshmipur Health Centre	Health centre at Lakshmipur	Health centre at Lakshmipur	Health Complex e	No information	No information	No information	No information	No information	No information	No information	No health complex nearby	Difficult to available medical facilities	Difficult medical facilities	Medical facilities are in Shahrasti
Lack of wage payes oppartunity.	Women remunerative work wanted	Deereasing work Opportunity. Want remunarative work.	Work is needed for women	Poor women want remunerative work.	All poor women want remunarative work	Poor women want remunarative work	Poor women want remunarative work	Need remunaration work	Poor women want remunarative work	Women interested to remunarative work	Want work	Want remunaration work	Want work	Want remunarative work	Want job opportunities	Want remunerative work (educated non-educated)

G.3.5.1 Zone A

- **General**

This zone, in the south west of the project area largely outside the old coastal embankment, is substantially flood-free, despite its fairly low elevation, presumably because the existing Rahmatkhali Regulator is effective in the area immediately upstream. Present cropping is therefore largely determined by the availability of water for irrigation as shown in Table G.3.5.

Of the four selected villages, only Dighali has significant irrigation (35% HYV boro, and 40% rabi), because it has access to WAPDA Khal. Elsewhere, dry season cropping is limited to between 2% and 20%, of which hardly any is boro. Fresh groundwater is believed to be available at 500 feet and 800 feet at Char Mansha and Dighali respectively.

LT Aman is therefore generally the major crop, and to a lesser extent local B Aus.

TABLE G.3.5

Zone A : Existing Cropping Pattern

	Char Mansha	Dighali	Binod Dharmapur	Sak Char
Winter Season				
- Local Boro	0%	25%	0%	0%
- HYV Boro	0%	35%	2%	0%
- Rabi	2%	40%	10%	20%
Kharif I				
- B Aus (local)	2%	25%	30%	25%
Kharif II				
- LT Aman	100%	80%	90%	90%
- HYV Aman	0%	12%	10%	10%
Total Cropping Intensity	104%	217%	142%	145%

- **Main problems and Solutions Suggested by Local People**

Lack of water for irrigation is the main problem quoted at all locations, including Dighali. In Char Mansha, Binod Dharmapur and Sak Char suggested solutions include re-adjustment of Rahmatkhali Regulator to admit fresh water from the Lower Meghna. Everywhere khal excavation was suggested although most of the khals mentioned by villagers are minor ones except WAPDA khal. In Dighali, 6 deep tubewells were "demanded".

Other matters raised included:

- road from Rahmatkhali Regulator to Bhabaniganj Bazaar (Char Mansha)
- culverts needed on all local roads (Char Mansha)
- need for fisheries extension and hatcheries (Char Mansha, Dighali, Binod Dharmapur and Sak Char)
- cross regulator on WAPDA khal at Piarapur bridge - presumably to retain water in channel (Dighali)
- regulator at Kaptan bridge at the mouth of Bhulua khal
- pump houses at Rahmatkhali regulator and at outfall of Garur khal
- the obstruction of navigation by the existing Rahmatkhali Regulator (Sak Char)

- **Project Proposals and People's Responses**

It is proposed to modify and expand Rahmatkhali Regulator to admit irrigation water and to deepen selected khals for its distribution (as well as to improve drainage) substantially along the lines requested at most of the villages. This is however a different approach from the retention of water within individual channels as suggested at Dighali and Binod Dharmapur, and at least in the case of the major channels (eg WAPDA khal) is incompatible. Channel storage will in any case only be able to serve a very limited area. The project will not be able to deliver water to every village, and the excavation of minor channels of very localized significance would be left to local initiative, as would the installation of LLPs and the development of tertiary channels. Some help may however be available from the forthcoming National Minor Irrigation Development Project.

The potential for groundwater in the area will be examined but at this stage it is thought unlikely that major development will be possible. Although deep fresh groundwater is known to exist in places, it would be expensive to exploit, and the recharge may be rather limited.

The project proposals will involve the excavation of huge quantities of soil which could be disposed of by several means, e.g:

- construction of intermittent embankments, perhaps requiring more land acquisition,

- raising of low level lands by spreading spoil over substantial areas, perhaps "renting" the land for a year or two to compensate for crop loss,
- filling existing derelict borrow pits to create new agricultural land, or
- using spoil to raise homesteads and hats or markets.

The acquisition of land for spoil disposal is wasteful both of project funds and of agricultural production capacity, and it is much more profitable to regard the material as a resource which may be used for the benefit of individuals and the community. It is of particular interest how the spoil from the original construction of WAPDA Khal in the 1970s was disposed of. Embankments commensurate with the amount of material which must have been excavated are not now visible - where has it gone? Were there any problems with salinity of the spoil material, if it was spread on agricultural land? How long did it take to leach out?

Information on these issues was obtained during the second round of public participation meetings. Participants mentioned that Government acquired a 250 feet strip of land along WAPDA khal which was used to disposed of the spoil resulting from the construction of the khal. With respect to the use of future spoil which would come from the proposed re-excavation works, people mentioned that it could be used for a new embankment and/or to repair an old one, it could be spread on existing acquired land and it could be used for homestead construction. However, though some participants mentioned that further land acquisition would not be a problem, the majority suggests that deepening of the khal, rather than widening, should be preferred. To them, this would make things easier since no land acquisition would be required.

With respect to the development of irrigation people of mentioned that groundwater irrigation was not an economically viable option (Char Mansha) because the level of the freshwater table is below 600 feet. Also high iron contents was reported. With respect to surface water irrigation with LLPs, the need of electricity supply was emphasized as a key issue. The issue of whether the re-excavation should be done manually or with dredger was not unanimously thought of. Both methods had their supporters and it seems wise to propose an approach which would combine both techniques. Other issues of major significance include the following:

- need for a better access to credit for small farmers
- fishing rights to be directly given to fishermen and not through middle men
- forced migration of landless during dry season since scope for employment is very limited during this period
- water from Meghna should be allowed to flow into WAPDA khal to allow for the "entry" of fish spawn (March-June)

G.3.5.2 Zone B

- **General**

This zone, in the south-east of the project area, suffers severely from poor drainage. Floods rise early, preventing any aus or aman cultivation in all four villages apart from Ratanpur and part of Bishnupur. The depth and duration of flooding are not directly related; in Hari Narayanpur the normal depth is only up to about 3 feet but standing water remains almost all year round, whilst Latifpur, split evenly between flood depths of up to 5 feet and up to 7 feet, does not suffer quite such dry season waterlogging. Ratanpur floods up to 3 feet normally, whilst Bishnupur is divided between 2 feet (30%) and 4 to 5 feet (70%). All four villages report that the drainage situation is much worse than previously, when double-cropping with aus and aman was widespread, and the root cause appears to be the siltation of Noakhali Khal, although problems are also reported from inadequate cross drainage beneath road embankments etc. Most of the area therefore relies upon dry season cropping. Varying degrees of irrigation water shortage are reported throughout (except in Hari Narayanpur, a mainly urban settlement, where waterlogging is so bad that the boro crop has to be planted in standing water), and it is therefore not possible to achieve 100% boro everywhere. No groundwater appears to be used for irrigation, although one inoperative DTW is reported at Bishnupur. It is also reported that the Agriculture Department found groundwater salinity near Ratanpur. The present cropping is indicated in Table G.3.6.

TABLE G.3.6

Zone B : Existing Cropping Pattern

	Hari Narayanpur	Latifpur	Ratanpur	Bishnupur
Winter Season				
- Boro	100%	100%	10%	85%
- Rabi	0%	0%	90%	0%
Kharif I				
- B Aus (local)	0%	0%	0%	30%
- Mixed B Aus/B Aman	0%	0%	100%	
Kharif II				
- LT Aman	0%	0%	0%	30%
- HYV Aman	0%	0%	0%	0%
Total Cropping Intensity	100%	100%	200%	145%

- **Main Problems and Solutions Suggested by Local People**

The main problem quoted at all locations is poor drainage. At all locations the suggested solutions include improving drainage in a southward direction, by re-excavating Noakhali Khal (Hari Narayanpur), by improving drainage outlets into Noakhali Khal (Latifpur and Bishnupur) or by providing/reinstating sluice gates in the old coastal embankment (Ratanpur). However, at Ratanpur one solution also envisaged excavating khals in a westerly direction to the Meghna. The khals suggested for excavation for drainage improvement are, for most of them, of minor importance except in the cases of Noakhali and Karambox khal.

Out of the wide array of proposals made by the villagers, only those bearing a global significance for the zone are presented here. They include:

Latifpur

- provision of sluice gate at junction of Karambox Khal with Noakhali Khal.

- provision of sluice gates

  - near the Popular Biscuit Factory at Senbag, by the C&B Road,
  - at the first bridge on the Karambox road,
  - at Chandraganj bazaar.

- provision of about 3 DTW for irrigation

Bishnupur

- provision of sluice gate on Kabirhat-Chaumuhani Khal at Noakhali Sadar

- renovation of the existing embankments at Gobindapur and Bishnupur

- exploration of STW/DTW potential for irrigation.

- **Project Proposals and People's Responses**

The project proposals are similar to those outlined for Zone A. The main benefit within Zone B will be improved drainage, due to the deepening of WAPDA Khal from Chaumuhani to Rahmatkhali Regulator, along with selected major tributary khals. Drainage water will thus mainly be carried to the west, rather than to the south as envisaged in most of the solutions referred to above. This is because it is not considered that Noakhali Khal and the other channels to the south can economically be kept clear of silt. The irrigation benefit, through the admission and retention of tidal water, is expected to reach the Laksham-Maijdi Court road, but will probably not extend east of this.

The western portion of Zone B may therefore expect to continue to be able to grow an irrigated boro crop, and in addition improved drainage would restore the option of growing an aus and/or an aman crop. Because water levels, at least at the start of the dry season, will be lower than at present, pumping will be necessary.

In the eastern portion only the drainage benefit may be felt, permitting the cultivation of aus and aman. Because there will be less water held up in the area at the end of the monsoon, the availability of surface water for irrigation may actually decline. However in this area the construction of cross-dams could continue. Although the project has studied the potential for increased groundwater irrigation, it is unlikely to make a major contribution because of the salinity of the shallow aquifer and uncertainty as to the potential yield of the deep aquifer.

Other specific issues which have been further investigated include:

- What to do with Noakhali Khal? The options available were to leave it alone; to close it off completely along the line of the old coastal embankment; or to provide a flap gate regulator at the same location, which would maintain the present limited drainage function but exclude seawater.

- Spoil disposal, as discussed for Zone A

The villagers met insisted that re-excavation of Noakhali khal upto Meghna outfall would provide a significant contribution on the overall drainage pattern of the area. In order to avoid siltation at the outfall of the khal some persons suggested that flow be diverted through Sallakhal and Bahirkhal by improving the channels.

With respect to soil disposal, people suggested to spread the spoil over the fields and also to make small levees along the canal banks which could then be used as rural roads.

G.3.5.3 Zone C

- **General**

This zone occupies the central and eastern part of the project area. Peak flood depths typically range from under 4 feet to 7 feet. The major problems quoted are drainage congestion and shortage of irrigation water, the relative priority being largely determined by the cropping patterns which have been adopted in the particular locations, as indicated in Table G.3.7.

Hasanpur is a boro/aus/aman area, with 60% triple cropped (HYV boro/HYV aus/LT aman). A deep tubewell (508 feet deep) has recently been installed by BADC, serving 65 acres in the previous (first) season, with 120 acres planned in the next. Although the village is only about 1 km from Rahmatkhali Khal, no irrigation water is drawn from this source, although the adjacent village of Hajirpara (also about 1 km from the khal) is said to do so.

This area benefitted from the original Comprehensive Drainage Scheme - previously only a B aman/B aus mix could be planted in the monsoon, whereas now a substantial proportion of LT aman is grown. The peak flood depth of 4 feet is only of very short duration, and is not generally damaging. It was reported that farmers took advantage of the dryer than normal monsoon season this year to plant LT aman throughout, although it is not clear what happened to the aus/aman mix which would already have been planted long before it was apparent that the flood would be low. The change may have had more to do with the introduction of irrigated boro for the first time - this should be clarified. An interest was also expressed in growing coconuts and betelnuts on a commercial basis, so presumably at least some of the land is flood free.

Purba Lalpur (including Khanpur) is an aus/aman area, although much of the area manages only the aman crop. The peak flood depth of 4 feet or more is again of short duration, permitting LT aman and even HYV aman cultivation. However, there is no surface water available for irrigation, and hence no boro. Shallow tubewells have been tested (150 to 200 feet deep), but they were found to run dry very early in the season, although apparently not saline. There is no report of any DTW.

Nayakhola is a boro/aus area. The peak flood depth appears to be rather less than in Hasanpur and Purba Lalpur, and yet farmers have abandoned growing aman entirely. The reported reason is because of rat damage, but it is unlikely that this is more severe than elsewhere, and it is more likely to be because of the timing or duration of flooding; for instance the flood may rise too early for T aman to get established.

Farmers are very concerned to retain as much water as possible on the land and in the khals at the end of the monsoon to permit boro cultivation, since they have no perennial surface water source as such. To use the available water to the fullest possible extent, the boro is planted very early - transplanting was under way at the time of the first public participation meeting (23 November). Low capacity LLP are rented for raising the water when necessary. There are no DTW in Nayakhola, although there are three new units in nearby villages. STW have apparently not been tried.

TABLE G.3.7

Zone C : Existing Flood Depths and Cropping Pattern

	Hasanpur	Purba Lalpur (Khanpur)	Nayakhola	Rampur
Normal Peak Flood Depth	4 feet	>4 feet = 40 % 2-4 feet - 35 % 1-2 feet - 25 %	2-4 feet	5-7 feet - 60 % 3-5 feet - 25 % 1-3 feet - 15 %
Winter Season Crops				
- HYV Boro	60 %	0 %	90 %	10 %
- Rabi	20 %	2 %	10 %	2 %
Kharif I Crops				
- HYV Aus (B or T)	60 %	5 %	90 %	0 %
- Local Aus (B or T)	0 %	25 %	0 %	40 %
- Mixed B Aus/B Aman	40 %	5 %	0 %	60 %
Kharif Crops				
- LT Aman	60 %	60 %	10 %	40 %
- HYV Aman	0 %	35 %	0 %	0 %
Total Cropping Intensity	240 %	132 %	200 %	152 %

Rampur is dependent largely upon aus and aman, although the peak flood is clearly deeper than in Nayakhola. Being fairly close to a major drainage channel (WAPDA Khal), the flood is presumably of relatively short duration permitting some LT Aman, as in Hasanpur, although congestion is complained of. Also similarly to Hasanpur, Rampur is fairly close (about 1½ km) to a surface water supply (WAPDA Khal) and yet there is no surface water irrigation, apparently because of the silting up of Mahendra Khal. Again we should ask whether local people would be prepared to excavate/maintain tertiary channels if there was a guaranteed surface water source within a kilometer or so. The small area which is irrigated is reported to draw from water admitted/retained by Rahmatkhali Regulator, via rented LLP. There are no DTW or STW, but a 900 foot deep well had been sunk, tested and found good. Only a hand pump has been fitted, and no funds are at present available for a DTW. The lack of interest in pumped irrigation may thus be due to a lack of capital - landless people are said to make up about 50% of households, LLP and power tillers are rented rather than owned, and one of the main problems was said to be the inability to afford agricultural inputs.

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- **Main Problems and Solutions Suggested by Local People**

As already mentioned, the main problems quoted by local people are drainage congestion during the monsoon and lack of irrigation water during the boro season. Re-excavation of local khals both for irrigation and drainage was suggested at all locations.

At Hasanpur, all the local khals linking to Rahmatkhali Khal were suggested for excavation.

At Purba Lalpur (Khanpur) farmers would like to store water in Sheikh Sufi Khal by admitting it from the Little Feni River in the monsoon, and retaining it using the existing regulator at Selonia on the Feni-Noakhali road and at the western end by a new regulator at Kazirhat village west of Khanpur (both regulator positions need pin-pointing). Sheikh Sufi Khal itself would also be excavated by an extra 10 feet.

At Nayakhola farmers would like existing khals to be deepened by an extra 5 feet (primarily for water storage), and regulators provided to retain water within the area at Kachua bridge in the west and at the outfall of Ramchandra Khal to the Dakatia River near Chitoshi in the north. Both locations need to be pin-pointed. Ideally they would like a pump station on the Dakatia River.

At Rampur, in addition to general khal excavation, a regulator was suggested at Dighali bridge on WAPDA Khal. Interestingly, at the Zone A meeting at Dighali a regulator was suggested further downstream on WAPDA Khal at Piarapur bridge.

Other matters raised include:

- lack of agricultural extension services (Hasanpur, Rampur)
- lack of agricultural credit facilities/funds for inputs (Nayakhola, Rampur)
- pollution of ponds during the dry season (Hasanpur),fish diseases (Hasanpur)
- lack of advice from Department of Fisheries (Hasanpur, Rampur)
- drying up of fish ponds during the dry season (Purba Lalpur/Khanpur)
- lack of funds for fish culture (Purba Lalpur/Khanpur)
- lack of hatchery for fish fry (Nayakhola)
- shortage of drinking water during the dry season (Nayakhola)
- lack of cross-drainage/non-completion of katcha/CARE roads (Hasanpur, Nayakhola)
- poor road access and instability of khal banks (Rampur)

- **Project Proposals and People's Responses**

The Consultants propose the southward drainage of the area to Rahmatkhali Regulator, whilst some local people (Nayakhola) prefer the northwards drainage as some local khals drain the area to Dakatia River irrespective of long drainage route. Also they suggest the main khals to be re-excavated and two regulators (one at Kachua bridge over Kamta Branch Khal and other at outfall of Ramchandrapur khal/Mahendrakhal at Chitoshi) to be constructed for retention of monsoon rain water for early boro cultivation and further shortfall of water can be managed by pumping at Chitoshi if required.

However, local people have no objection if consultants' plan for southwards drainage to Rahmatkhali Regulator and Meghna tidal inflow during dry season to the area via Jakshin-Darbeshpur khal is economically and technically feasible.

Local people warmly accept the consultants' proposals regarding Improvement of WAPDA Khal/Rahmatkhali Khal system including expansion of regulator vent size and installation of automatic gate system for both drainage and Meghna inflow.

The project proposals would have different effects upon different parts of the Zone. Villages such as Hasanpur and Rampur which are fairly close to the WAPDA and Rahmatkhali Khal system will receive both drainage and irrigation benefits similar to those for Zone A as described above. The irrigation benefit would arise from introducing Meghna water throughout the dry season rather than retaining monsoon water in the khals as proposed for instance by people in Rampur. Being further away from Rahmatkhali Regulator than Zone A, a significant decrease rather than an increase in peak monsoon water levels is anticipated.

The impacts at Purba Lalpur (Khanpur) and Nayakhola would be similar to those in the eastern part of Zone B as described above, with significant drainage improvements but probably no guaranteed access to surface water for irrigation. In Purba Lalpur (Khanpur), where there is no irrigation at present, the benefit would be restricted to increasing the proportion of HYV aman compared with LT aman and B aman/aus mix and perhaps increasing the aus area. The principal demand for irrigation water would therefore not be met. The problems with storing water in Sheikh Sufi Khal by means of regulators, as proposed by the local people, are:

- the area irrigable from the stored water would probably not justify the cost,
- conflicts may arise in the operation of the structures, since they may inundate lower land during the early boro season, and
- operation of many small structures within a large drainage scheme can become impossibly complex, and perhaps defeat the wider objective of the scheme.

In this regard, the consultants explain that the SFMTW by local initiative would be best solution for dry season irrigation, rather than storage irrigation in Sheekh Sufi khal.

In Nayakhola, there could be a very major change in the present water regime and hence the appropriate cropping system. By draining the area southwards to Rahmatkhali Regulator, rather than northwards as at present, it should become possible to grow an LT aman or even an HYV aman crop.

As in other zones, the potential for groundwater irrigation has to be examined, but at this stage it is though unlikely that major development will be possible. Although deep fresh groundwater is known to exist in places, it would be expensive to exploit. Shallow groundwater is largely saline although might be worth trying in the north.

G.3.5.4 Zone D

- **General**

This zone occupies the northern part of the project area, much of the zone has a natural drainage direction northwards at present to the Dakatia River rather than southwards towards WAPDA Khal. The catchments are not however independent. Peak flood depths typically range from 4 feet to 6 feet, and are generally the deepest in the project area. The existing flood depths and cropping patterns extracted from the notes of the first round meetings are given in Table G.3.8

In all locations, even Piaratali and Chandpur on the Dakatia River, irrigation water is deficient towards the end of the boro season. In Hatgaon (and probably elsewhere) water is retained on the land and in the khals by temporary bunds. LLP are used in all locations. No groundwater irrigation was reported, and was mentioned as desirable only in Darbeshpur. Tubewells are however used for drinking water at least in Piaratali and Chandpur, and there was no reference to salinity or other problems.

TABLE G.3.8

Zone D Existing Flood Depths and Cropping

	Hatgaon	Darbeshpur	Piaratali	Chandpur
Normal Peak Flood Depth	7-8 feet (for 5 months)	6-8 feet-50% 3-6 feet-50%	5-7 feet-80% 3-5 feet-20%	4-5 feet, 3-4 months-80% 2-3 feet, 1-2 months-20%
Winter Season Crops				
- HYV Boro	85%	80%	95%	85%
- Rabi	15%	20%	5%	15%
Kharif I Crops				
- HYV Aus (B or T)	0%	0%	0%	0%
- Local Aus (B or T)	0%	0%	0%	0%
- Jute	0%	2%	5%	0%
Kharif II Crops				
- LT Aman	0%	0%	0%	0%
- HYV Aman	0%	0%	0%	0%
- B Aman	0%	* 0%	95%	60%
Total Cropping Intensity	100%	*102%	200%	160%

- **Main Problems and Solutions Suggested by Local People**

Despite the severity of normal flooding, this was quoted as the first priority problem only in Darbeshpur and Chandpur. It took second place to shortage of irrigation water in Hatgaon (the very deepest flooded area), and was not listed at all (except by the women) in Piaratali. The latter is surprising since of the four villages visited, Piaratali grows the highest proportion of aman, and this is said to be at risk in severe years.

The main problems quoted are lack of irrigation water during the boro season, and excessive flood depths during the monsoon season, limiting or preventing aman production. Post-monsoon drainage does not appear to be a problem anywhere, and the reference to pre-monsoon drainage congestion at Hatgaon is confirmed by the model results. In all locations excavation or re-excavation of local khals was suggested, generally in conjunction with the construction of regulators to retain water, to improve both irrigation and drainage.

Other significant measures proposed are presented below.

Darbeshpur

- pumps along the Dakatia River into khals feeding south
- deep tubewells

Piaratali

- bridges/culverts at Piaratali and Chilna and existing road rehabilitation
- electricity
- more tubewells for domestic water supply

Project Proposals

The main project proposals for the upgrading of WAPDA and Rahmatkhali Khals and Rahmatkhali Regulator should improve drainage conditions within much of Zone D, by reducing the early moonsoon flood levels and peak flood depths, although the changes immediately adjacent to the Dakatia River may not be significant. The situation, at least away from the Dakatia River, is very similar to that applying in Nayakhola (Zone C). There could be a major change in the present water regime and hence the appropriate cropping system. It should become possible to grow an LT aman or even an HYV aman crop in places. The improvement in drainage should not make it more difficult to retain monsoon water within the area for irrigation since present practices can be continued.

G.3.6 Final Development Proposals : Analysis of the 3rd Round of Meetings

G.3.6.1 Project Proposals (Proposed Scheme).

The proposed interventions, which have been divided in two stages, are shown in Figure G.3.2. and are briefly described below.

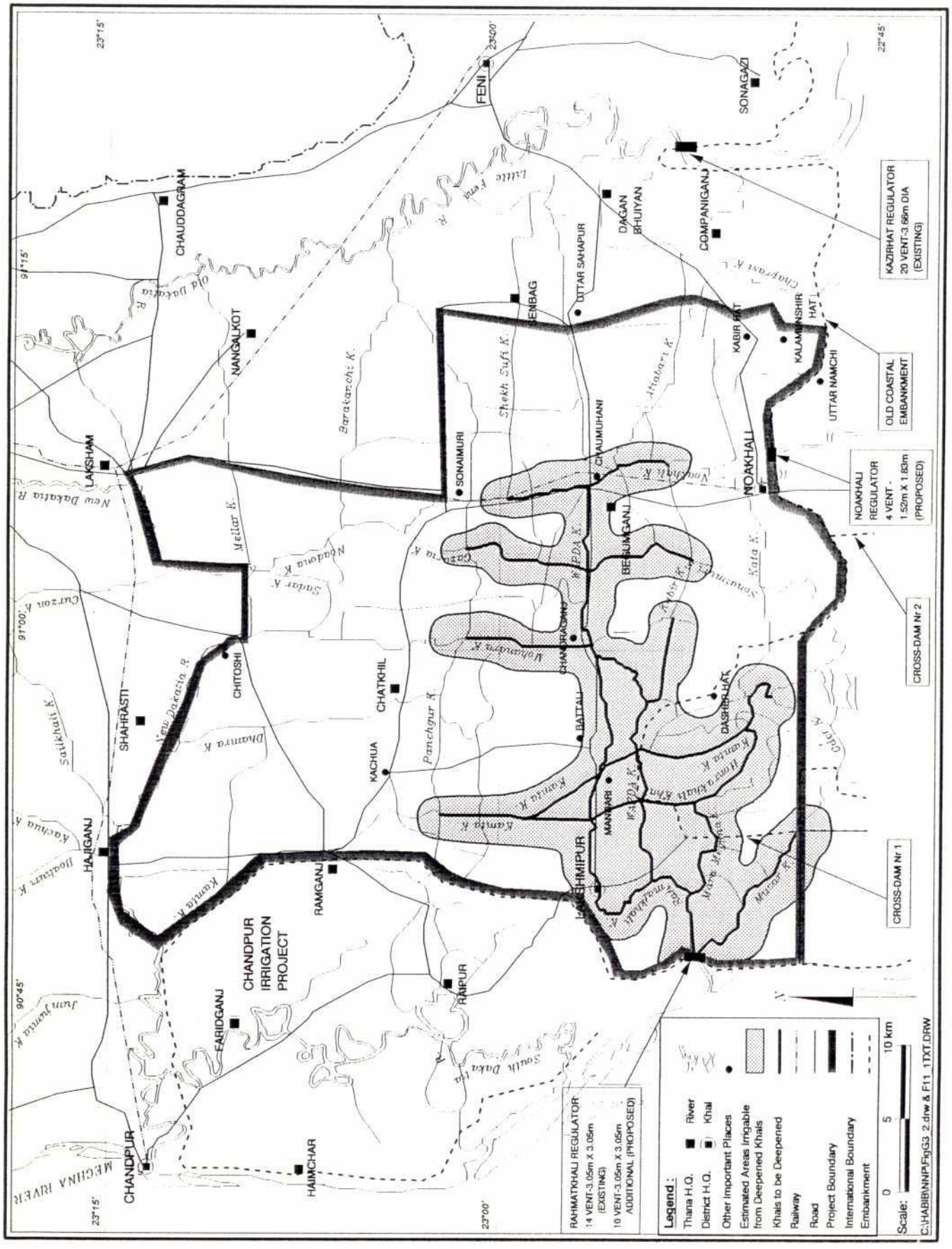
- **Primary Stage (Proposed Scheme)**

For drainage improvement in Noakhali North and its surrounding area the proposals are:

- Re-excavation of WAPDA/Rahmatkhali Khals including their main outfalls khals to wider and deeper section and also improvement and expansion of the existing regulator. Also it includes regulator on Noakhali Khal

Figure G.3.2

Proposed Intervention



For dry season irrigation development, the proposals are:

- Tidal inflow from Meghna via Rahmat Khali regulator in WAPDA/Rahmat Khali Khal and tributary Khal net works of South West area of the project for LLP support.

- Some Ground Water irrigation development by forced mode STW at eastern area of the project.

- **Secondary Stage (Considered as Part of Regional Plan)**

- Dakatia regulator and Pump Station at Chabagadi to exclude extreme Meghna floods and to.

- Pump inflow to Khals from Dakatia river for further expansion of dry season irrigation in Northern part.

- To prevent Dakatia over spillage, two options for Dakatia south embankment were to be considered:

    - Full embankment from Mellar Khal outfall to Ramganj via Chitoshi upgrading Chitoshi Ramganj existing road and nearby village road providing cross drainage structures.
    - Submersible embankment (to protect B. Aman at early stage) from Mellar Khal outfall to Chandpur Project embankment upgrading existing nearby village road and providing regulators at khal crossings.

G.3.6.2 Comments of the Participants at the 3rd Round of Meetings

- **Senbagh**

- Submersible embankment along Northern boundary of project are for Aus/Aman damage proposed by thana Engineer is not acceptable due to submergence of out side project area.

- The transfer of surface irrigation water during dry season from little Feni at Selonia to Sheikh Sufi Khal would not be possible due to conflict over water shortage there.

- Meghna Muhuri transfer raised by some U.P chairmen is an option for future implementation (See above).

- **Begumganj**

- Dewatering system in deep flooded area (30 to 90ha) by constructing low height submersible embankment and by pumping the inside water to nearby khal for T. Aman cultivation as explained by Agriculture officer, may not be required, if drainage improved. Instead farmers can cultivate long stemmed T. Aman or practice late Aman crops.

- **Noakhali (Sadar)**

- The Polder drainage though Noakhali Khal and Bagerdona/Jarirdona khals suggested by some union chairmen outside the project area would be impeded due to continuous land accretion to south, but the possibility of Jarirdona south of Rahmatkhali regulator would need further study and is included in the regional plan.

- **Ramganj**

- Scope of culture fish rather than capture fish reported by fishery officer.

- Scope for the development of both groundwater and surface water irrigation

- **Chatkhil**

- Dewatering system (as explained in Begumganj thana) at a few places being executed by local initiatives for 3-4 ft depth submergence confirmed during site visit. However the cost for dewatering system would be reduced if project implemented.

- Two water retention structures - one at Kachua Bridge site and other at Chatkhil Sonaimuri road and Thanarhat Kachihat khal crossing point to retain water in the dry season.

- **Lakshmipur**

- The side slope collapse (due to coarse silty soil) of Parbatikhal, Jakshin Darbeshpur khal and Ramgobindapur khal under 6 Nos parbati Nagar union reported by the union chairman if the khals are deepened. Site visit with the union chairman concerned revealed that a deep sided road embankment beside the khal was being raised in height with no additional base width. The opposite bank of the khal was stable.

- The stoppage of post monsoon over drainage (sept/oct) from T. Aman paddy land to khal by constructing a small height embankment (say 1 ft) along the canal banks suggested by Agriculture officer. Pointed out this was best done by the farmer, who can then control the drainage requirements.

- Wide scope of culture fish in WAPDA/Rahmat Khali Khal system and hence netting system at up stream of Rahmatkhali regulator proposed by fishery officer. Also Meghna tidal inflow/regulator gate opening during July/August for capture fish is proposed by fishery officer. There would be minimal negative fishery effects from closing Noakhali khal (according to fishery officer), and possible benefits in confining fish stocks.

- The addition of Navigation lock to new Rahmat Khali regulator suggested by particularly Sakchar union chairman.

- The spreading (thickness 1 ft) of canal excavated materials on adjacent public land as proposed by consultant is acceptable to the participants in the meeting, provided it is not sandy.

- **Shahrasti**

- The re-excavation of Khals i.e. Ragai beel khal, Naringpur khals, Chandpur Khal and Chitoshi Sonapur and Mohandra khals suggested by the UP chairman for dry season irrigation from Dakatia river as first priority. Preferred second stage then Dakatia PS and regulator. Spoil disposal in embankments is preferred to land raising.

- Full South Dakatia embankment improving Ramganj-Chitoshi road and the village road from Chitoshi to Mellar khal outfall including cross regulators is acceptable to some UP chairmen, but openion was much divided. Reduction of capture fish with scope of culture fish in project flood plain reported by fishery officer. He said that migratory fish required access from the Meghna throughout the monsoon-June to September. Young fish can enter a structure (he said) against a 6-10 ft/sec flow, but in reduced numbers.

- Alternately submersible embankment along the south Dakatia bank to protect early B. Aman/Boro damage and to make fish passage from Meghna also acceptable to UP chairman, but difficulty with yearly public repairs & maintenance-special erosion problems foreseen.

- **Hajiganj**

- The re-excavation of Khals i.e. Kamta, Hajiganj - Ramganj, Kerola khals for dry season irrigation from Dakatia river suggested by UP chairmen.

- Full South Dakatia flood protective embankment improving either existing nearby village road from Shahrasti to Hajiganj and Hajiganj to Ramganj C&B road or existing nearby village road from Shahrasti to east Chandpur project embankment at Kamata outfall with all cross structures, including outside project area (North) by full North Dakatia embankment suggested by thana agriculture officer, whereas fishery officer reported reduction of capture fish and scope of culture fish in flood plain.

- Alternately submersible embankment along Dakatia south bank to protect B. Aman/Boro damage and to make fish passage from Meghna river acceptable to all, but no guarantee water of yearly repair & maintenance.

- **Laksham**

- The re-excavation of Kerola (Laksham) khal and Mellar (Ghagaria) khals to drain out Indian flash flood (Pre monsoon) water to Dakatia river suggested by UP chairmen. For dry season Irrigation, Pump station at outfall (Monoharganj) of Mellar khal as Meghna Muhuri water transfer scheme also raised by UP chairmen.

- The re-excavation of minor khals i.e. Tarapuria - Bellal khal, Mella -Pather patua khal, Taherpur Ghagaria Shingee Khal, Munshirhat - Baranikanda Khal, Dakatia Ghagir khal, Nannua Khal for dry season irrigation from Dakatia supply also suggested by UP chairmen.

- The re-excavation of Dakatia river to get dry season irrigation water (normally dry during dry season) also suggested by one UP chairman (It may be mentioned here that Dakatia once was excavated a long time ago (say 50 yrs).

CHAPTER 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 Noakhali North Project (NNP), this means that the bottom line is 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, homesteadless 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-socioeconomic surveys, local participation in the planning process, and people's participation in the social impact assessment exercise.

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.

Also a strong emphasis has been focussed on obtaining the opinions of various strata of the population, including NGOs representatives, on the proposed interventions; on how to improve project design, implementation and maintenance; on how to promote peoples participation, particularly of the poor, at design and implementation stages. Through intensive field investigations carried out throughout the project area, a wide range of interviews, case studies and group discussions were made. Figure 4.1 indicates the villages visited during these investigations.

The results of these investigations are presented in Appendix G.2 while in this section only the most salient features are developed. Also, a methodology to ensure a genuine participation of people, including the poor, the destitute and the minorities, and to address equity and poverty issues as well is proposed. In this regard, a proposal to involve NGOs is put forward and presented in Appendix G.3.

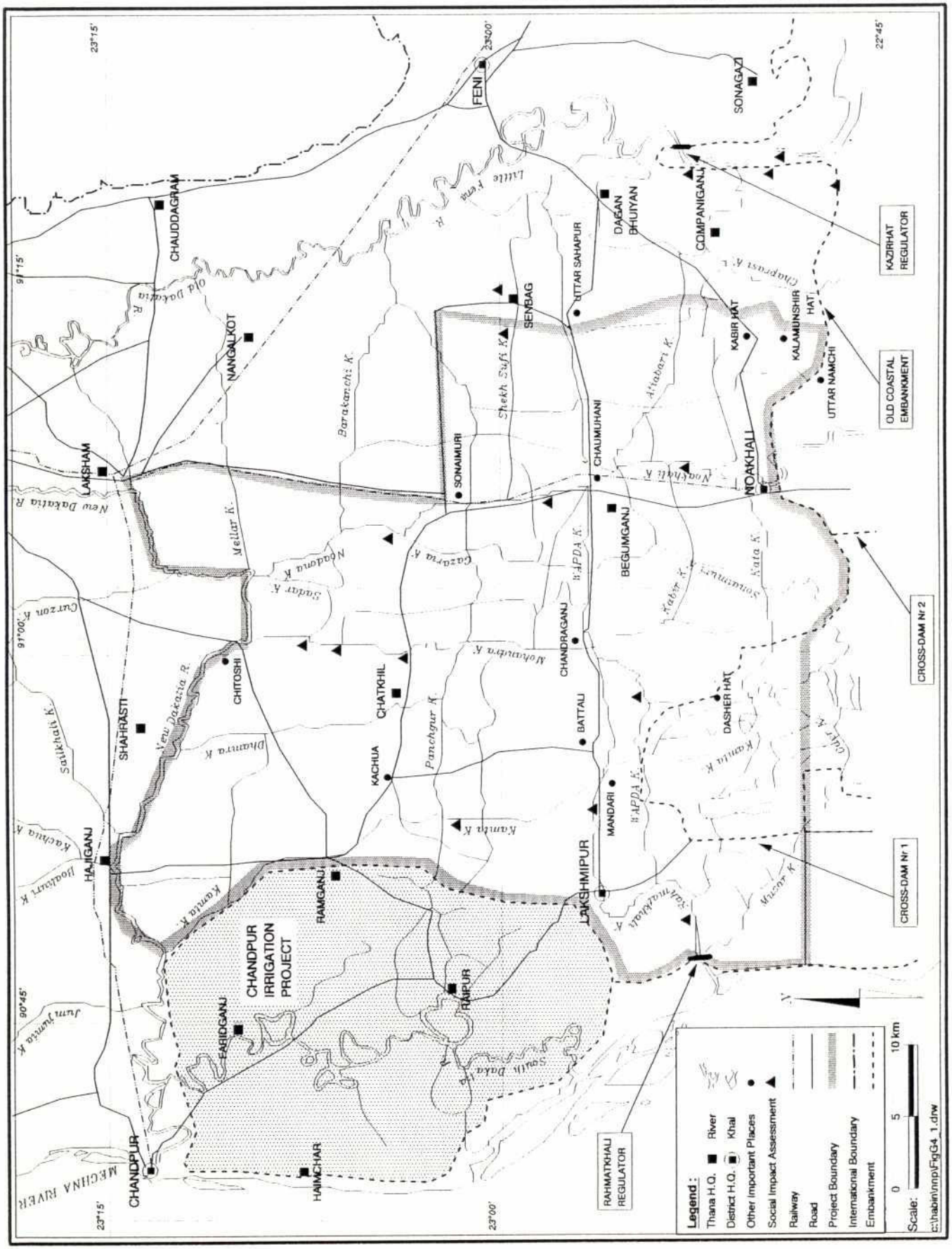
G.4.3 Perception of Proposed Interventions Benefits and Disbenefits

A very common argument in favor 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 damages caused to boro and aus crops early monsoon water. In addition, the better and quicker drainage of monsoon flood 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 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 damages 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.

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.

Figure G.4.1
Location of Group Discussion for SIA



Another benefit linked with the project interventions is the overall improvement of navigation 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.

As a whole, people expect rural incomes, household consumption, savings and investment to rise as a result of project interventions. This will have a positive impact on the overall economic development of the area 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 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.

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

Though the potential agricultural benefits of the project are well perceived by every stratum of the rural society, some localized issues/conflicts linked with the possible loss of cultivable land for people having plots along the banks of the khal are likely to occur unless properly taken care of.

Re-excavation of canals is not expected to have significant disbenefits except in areas where the land along the channels is privately owned and where land acquisition might be required, either to widen the khal and/or to straighten it.

With respect to the disposal of the excavated soil, it seems that most of the people accept the idea of spreading it on cultivable land provided that some sort of compensation is given for the loss of standing crops during the time of the implementation of the scheme.

G.4.4 Specific Issues Associated with Khal Re-excavation

G.4.4.1 Mohendra Khal

- **Main Problems**

The main problem faced by the people living around Mohendra khal is the irregular availability of water during the last phase of the cultivation of IRRI boro. The Mohendra khal does not retain enough water for the whole irrigation period. Therefore, for the maturation of the paddy farmers have to pump water out from adjacent ponds or desperately wait for rain.

To address this issue and to ensure a regular supply of irrigation water, local people of a village along the khal have very recently installed a DTW at a depth of 520 feet. However, the iron content of the water is pretty high and this water is not suitable for paddy cultivation.

- **Expected Benefits of the Re-excavation**

Owners of cultivable land on both sides where the earth will be kept would be benefitted in the following way:

- After khal re-excavation, the irrigation of their plots will be easy and IRRI cultivation during the dry season will be more secure
- During monsoon, the cultivation of Aman will be more feasible because the farmers will have to embank only three sides of his plots during this season. It will reduce the cost.
- Water hyacinth will not be able to enter their plot.
- Soil spill on land will increase fertility.
- Plantation on both sides of khals can be made.
- Earth spill on both sides can be used as roads

Though more crops mean more work for the people, farmers will get relatively more benefits out of the scheme.

- **Issues to be Addressed**

As far as re-excavation of Mohendra khal is concerned, the participants recalled from their experience that re-excavation work is never properly done, e.g.the khal is never excavated at the specified depth.

Another issue is that, in both sides of the khal, there is no government land and they are concerned about the scale of the land acquisition which might be needed to dispose of the re-excavated soil. In the same line they foresee losses of land and crop which may create serious conflicts and disturbances during project implementation.

- **People's Acceptance of the Scheme**

According to the discussion held it seems that no major social difficulties are expected provided that the above mentioned issues are properly dealt with.

As a result, no problems are foreseen if the soil is spread over the cultivable land. It seems that farmers will welcome the additional layer of new soil if its height remain below one foot.

Also, no conflicts are likely to occur if there is a proper mechanism to compensate the farmers for the loss of homestead/cultivable land and of standing crops. In case of sharecropping, 50% of the compensation should go to landowner and 50% to the sharecropper. In case of land without standing crops at the time of re-excavation, the landowner should be compensated for the possible decrease in land fertility due to spread of spoil. However, the compensation given should be lower than in the case of farmers losing standing crops.

- **Suggestions on How to Implement the Scheme**

  - **Management/Implementation/Supervision**

For implementation of the scheme, they do not want U.P. chairman and U.P. members involved. The main reason is that, by experience, they know that through them the work will not be done as per design and the labourers will not get fair wages.

Instead, they propose that the work be done by involving directly the labourers (LCS) who will then be supervised and controlled by an honest person living along the khal, or by an honest organization such as NGO.

For supervision they advised to have the same people as those who have designed the scheme. These people should also be responsible to certify that the job is completed as per specifications. This is similar to methods currently being implemented on the Systems Rehabilitation Project.

  - **Implementation Procedures**

- Work has to be finished before the monsoon.
- Measurement of earth cutting has to be done immediately after the work.
- Remuneration of labour should not be pending for several days or weeks.
- Remuneration of labour should be in cash.
- Proper assessment of the amount of labour remuneration has to be made prior to starting of the work
- Local people do not want the work to be monitored or supervised by WAPDA.
- Donor agency supervision is preferred.

- **Women's involvement**

- Men do not like that women get involved in earth cutting works because there are plenty of men available for this type of job

- However, they mentioned that if destitute women want to do earth cutting, they should be organized by women, so that they will not be cheated by men.

G.4.4.2 Nadana Khal

■ **Present Problem**

IRRI boro is the main crop in this area but the khal is gradually silting up. As a result, just before harvesting time, the occurrence of early monsoon water cannot be drained properly posing a serious threat to the crop.

In order to retain water for dry season irrigation, villagers, with U.P. chairman and members, build a cross-dam on the khal in the month of November. Despite the cross-dam, the khal usually dries up by the end of January and there is a great paucity of water in the months of February and March. During this time, farmers depend on rainfall and on the few ponds which still hold water to meet the water requirement of the crop. Needless to say that, in many case, the yields obtained are quite below average.

People met agreed that if the cross-dams are very much necessary for boro cultivation, they bear a major inconvenient. When all these cross-dams break away at the beginning of the rainy season, which is washed away significantly contributes to the siltation of khals.

■ **Previous Experience of Re-excavation**

According to people Nadana Khal was re-excavated in 1974 under Food-For-Work programme. U.P. Chairman, U.P. members and local elites were in charge of the scheme and formed a management committee for the implementation. The spoil earth was kept by the side of the khal and it seems that nobody raised any objections.

■ **Expected Benefits of Khal Re-excavation**

- Irrigation with the water of the khal through low lift pumps will be possible and easy. As a result, the crop will be more secure and higher yields could be expected.

- Spill of soil could be kept either in one side of the khal or in both sides. If is kept in one side, it could be used as road.

- Farmers having plots along the side of the khal will certainly allow the spoil to be kept along the canal because it will offer a good protection from early monsoon flooding limiting pre-harvesting damages to IRRI.

- They can plant trees on the embankment

- Water hyacinth will no more enter into their fields.

- Government can promote fish culture in khals. Also, if there is water in the khals during dry season then over fishing like now will not take place because there will be more fish available.

- Public will take the soil to elevate their homestead and land at their own cost.

■ **Land Acquisition and Payment**

According to the participants to the discussion, there is no need for further land acquisition because the khal is wide enough. However, it has to be made 5 to 6 feet more deep. But if land has to be acquired in some places the compensation has to be provided on time. The amount of compensation should be calculated based upon the current market value of the land, between Tk 2 and 4 lakhs per acre. Also, because the general practice of land owner is to register smaller surface of land than what is actually owned (so as to pay less tax), if the compensation is based only on the government records (without on the spot measurement), the people will be losers.

■ **Suggestions for implementation**

- Re-excavation of big khal like Nadana has to be made by private or government contractors.

- Contracting firm has to be liable to the government and donor agencies for their work.

- Proper re-excavation will be achieved only if it is supervised by people linked with the donor agencies.

- Small khals, for which less than 100 tons of wheat will be required, can be re-excavated under the supervision of U.P. chairman and local committee.

■ **Women's Participation**

Some poor women like them might work in earth cutting though plenty of men are available for work. Labourers from Charland might also come for earth cutting because they are already used to come in the area at the time of IRRI harvesting.

G.4.4.3 Rahmatkhali Khal

- **Present Problems**

  - Erosion of the bank of Rahmatkhali khal which destroys cultivable and homestead land and homestead of people. This situation is even more acute since there is no government land at all along the khal. As a results, all eroded land is privately owned and each year several farmers lost their only asset.

  - Lack of water in the khal in the month of February-March to meet irrigation needs. Almost every year they have to stage demonstration and blockade of the main road so as to bring to the notice of the Deputy Commissioner that the insufficient level of water in the khal is seriously harming their livelihood. They pretend that this is due to the negligence of the people responsible of the operation of the regulator at the mouth of Rahmatkhali khal. This year for instance, after some demonstrations, the regulator was opened during high tides and two or three days later water was again available in the khal.

- **Previous Experience of Re-excavation**

In 1978 some re-excavation work was done. U.P. Chairman, U.P. members and local elites were involved in the management committee. In 1984 too, the khal was re-excavated but not much work was done. Labourers received only about 20% of wheat while the remainder 80% went to government officials, political party members, and members of the local committee in charge of the implementation of the scheme.

As a result of this bitter former experience, though villagers feel the need of re-excavation, they are very much skeptical regarding the issue of proper implementation.

- **Expected Benefits of Re-excavation**

  - Irrigation with the water of the khal through low lift pumps will be possible and easy. As a result, the crop will be more secure and higher yields could be expected.

  - Spill of soil could be kept in both sides of the khal.

  - If it is kept by the side of the main road, then road will be stronger.

  - Afforestation on embankment could be possible.

  - Villagers can elevate their homestead with the soil.

- **Land acquisition**

Additional land acquisition may not be necessary. But those who are encroaching into government land will have to evacuate. This problem has to be settled with the help of U.P. chairman and local elites of the area. If government need any land for greater benefits of the community as a whole, then people have to give up that land.

- **Suggestions for implementation**

  - From Joksinhat to Battali Bazaar in Mandari Union, within about six km, about 100 landless families are presently living and will be displaced if the re-excavation work is done. Some of them have settled there for more than ten years and have no other places to go. Therefore, arrangements have to be made for their resettlement. Government should provide them another place to settle on or should give them money so as to allow them to purchase a homestead by themselves.

  - All the people present to the discussion agree that the implementation of the project will never be satisfactory, in terms of ensuring that re-excavation is done as per specifications and that payment of labourers is fair, through the current system of Project Implementation Committee (PIC) controlled by U.P. chairman and U.P. members.

  - Some people mentioned that whoever takes the contract has to be liable directly to the donor agencies. Villagers believe that it will minimize corruption practices during the implementation of the project.

  - An old man, who worked as labourer during the construction of the first coastal embankment in 1967-68 feels that the re-excavation of Rahmatkhali khal should be done in the same manner. During that time, people who designed the embankment appointed a group of labourer for a section of embankment. Every week, they inspect the work done and as per volume of work completed the labourers were paid on the spot. The labourers were organized by bona-fide labour leader (Sarder) who supervised the work. The labourers were so pleased with him, they individually give him something out of their own earnings.

  - Regarding the disposal of the re-excavated soil all participants appreciated the system of spreading it over the land.

  - A concern was raised about erosion of the bank of the khal and they feared about the way re-excavation was going to be done. They advised to follow an alignment which will in someway bring the flow of water to a straighter direction.

  - Because most of the people have ponds which are suitable for aquaculture they would welcome an organization which could help them in pond management and which would provide credit support at a fair rate of interest.

G.4.4.4 Noakhali Khal

- **Main Problems**

  - Insufficient drainage facilities into Noakhali khal during the rainy season.
  - Too few facilities to irrigate with ground water.

- **Proposals to Solve the Problems**

  - People admit that usually the water is drained out in the Noakhali khal to the north and that it is insufficient due to water congestion. Re-excavation may solve the problem.
  - Majority of the people met claimed that the water should be drained out to the south but it is not the case. The reason is that Noakhali khal was block in Sonapur town some ten years ago by some influential jute businessmen who wanted to preserve their "monopoly" situation in the bazaar.
  - a regulator in Pearpur to avoid water shortages like in the last winter (1993) which was due to insufficient high tide in the Meghna.

- **Expected Benefits of Re-excavation**

  - Improvement of drainage will allow farmers to grow an additional crop during the rainy season (Aus/Aman).
  - Irrigation from surface water will be ensured.
  - Employment opportunities will increase.

- **Problems and Issues for Khal Re-excavation**

  - Generally they reckoned that to provide benefits to the majority people, a minority of households (10-20%) will have to lose some land if the re-excavation scheme is to be done.
  - Though both side of the khal has been acquired, many people are still paying tax for pieces of land which are now under water. Therefore, in case of land acquisition people will claim to be compensated for those plots of land too and not only for the land which is not submerged.
  - For land compensation, people will claim the market price for all public land necessary, even the public land now under water.

- The disposal of the excavated soil is not perceived as a problem because most of the households need some soil.

- The participants recalled that when the khal was initially re-excavated in the 60's, the alignment was first designed straight but influential people managed to modify it so as to preserve their cultivable land from being acquired by the government.

- The biggest problem faced by farmers is land erosion and resulting loss of property. The re-excavation will not reduce this natural hazard.

- According to the participants, the idea of straightening the khal might still be an achievable objective but significant difficulties might be encountered because such an alignment will mean that the khal will go through some villages. Under the present land acquisition system, those who will loose their cultivable and/or homestead land may not get what they perceive as a proper compensation and conflicts might erupt impeding the implementation of the scheme.

- If the re-excavation is done properly by re-excavating the initial alignment, they will support it but they do not believe that local contractors will ever be able to do the work due to the likely opposition of some influential persons.

G.4.4.5 Joksin Khal

Due to insufficient water in the khal for surface irrigation, people met along the khal identified three kind of interventions:

- Installation of DTW to secure the availability or irrigation water during winter season.

- Pumping over Chandpur Irrigation Project (CIP) embankment to bring water in the area through Farida khal. Farmers reported that another area has already benefitted from this kind of advantage against the payment of some money.

- As an alternative to the two above proposals, farmers suggested that the re-excavation of Joksim khal could be made at such a depth so as water will be retained throughout the dry season.

- **Re-excavation Issues**

  - Majority of the people present claimed that the disposal of re-excavated soil will not be a problem because they should sacrifice a little to get more benefits. **However a landowner having agricultural land along the khal strongly objected and walked out.**

  - It seems that if the spoil is spread over land within a distance of fifty meters from the banks of the khal, people would be satisfy with that.

- They have no faith in chairman and members to implement properly the re-excavation scheme.

- To ensure a proper re-excavation of the khal they feel that a re-known organization should look after the implementation of the scheme, employing local labourers to perform the work.

- They suggested that three parties should be involved in the re-excavation work, viz.:

  - o project people to supervise and certify the work.
  - o an agency to disburse the money.
  - o an organized group of labour with Sarder (labour leader).

- With respect to the issue of maintenance of the khal after implementation, the participants reckoned that the beneficiaries should be made financially responsible in one way or another, though nobody feels responsible for the maintenance of Government property. The discussion went further and they proposed that an agreement with all beneficiaries, represented through committee, could be made before implementation. This agreement will state that once the khal is properly excavated, the beneficiaries will do necessary work to remove water hyacinth and will take actions to prevent people to use the bank since it increases siltation process.

G.4.4.6 WAPDA Khal

■ **Main Problems of the Area**

- In 90% of the area, only one crop of IRRI boro can be cultivated. Cultivation of aus and aman is almost impossible due to water logging resulting of poor drainage of early rain water and late monsoon water.

- No cottage industries or small-scale rural industry to absorb the labor force surplus during slack season resulting in lack of employment opportunities for a majority of labourers living in the area.

■ **Proposals**

- Re-excavation of WAPDA khal to allow for a better drainage of monsoon water and to retain more water for irrigation during the winter season.
- Use of BSS and MBSS members for re-excavation work.
- Implementation of afforestation programme on the embankment through BSS/MBSS groups.

■ **Questions Related to Khal Re-excavation**

Md. Ismail, chairman of Thana Bittahyn Central Cooperation Association wondered about whether or not the use of LLPs in WAPDA khal will still be possible in the future if the water levels go further down. In fact, he mentioned that he believes that sooner or later it will be no more possible to lift water for irrigation if the khal is not re-excavated.

Regarding the issue of how to dispose of the earth which will be re-excavated, he ensured that in Noakhali there will be no problem, because plenty of people need earth for their homestead and/or their fields. Moreover, if the soil is spread over a long distance people will be even more pleased provided that they do not have to pay for it.

To keep water during winter season he suggested to build a series of intermediary gates in the khal.

With respect to the issue of land valuation and compensation, he indicated that the market price for agriculture land ranges from Tk 200,000 to Tk 250,000 for one acre. However, he mentioned that a common practice is to officially record lower transaction price, usually not over Tk 150,000 per acre.

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 very hardly recognized any roles to local communities in project planning and design. This attitude is largely responsible of the numerous 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 infrastructures which do not follow the required technical specifications and thus are 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 and acceptable. To achieve that, it is essential that:

- the economic and social interests of various socioeconomic 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 lose 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, and considering the specific features (khal re-excavation) of the proposed Noakhali North project (NNP), 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 existing alignment be followed or is it better to straighten it up so as to reduce the erosion and siltation process?

  - 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) personnel 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 labor 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.

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From the experience of SRP, which 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 samity 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 samity 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 NNP assessed. A brief description of 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 hammer.

- **Maintenance of the Khals**

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

G.4.5.3 Proposed Methodology

Involving local people in the detailed planning of the project requires to work out a proper methodology so as to ensure that each and every stratum is consulted and taken into consideration. In rural Bangladesh, the social structure is highly dominated by local elites which are using local institutions, including the traditional "Shamaj", to reinforce and/or extend their power and resource bases. In such a context, where patron-client relationships are dominant, the poor, the destitute, especially the women, are barely in a position to express views and opinions which would be different from those of their "patrons".

The development of a participation process which will not be vested and biased in favor of upper classes and elites, requires to encourage institution building among the poor so as to raise their awareness and to give them a representation and a "voice" in the society. The development of rural poor institutions is not a new concept in Bangladesh and several development agencies have already developed a significant experience in this regard. For instance, BRDB supported RD programmes have tried to promote the development of rural poor institutions through the formation of landless groups known as BSS (male) and MBSS (female). NGOs have also developed a quite successful experience in developing rural poor institutions and the organized NGOs groups should be involved in the participation process.

Based on the above discussion it seems that, to ensure that each and every socioeconomic group is consulted throughout the project area, the participation process should not entirely rely on the dominant local institutions such as union parishad, shamaj, imams of mosque, farmers' societies (KSS) but should also be designed to reach the rural poor either though existing institutions, if any, such as NGOs groups, MBSS and BSS groups, fishermen groups, labour unions and organizations. **In areas where no such institutions are existing, they should be built and developed during the detailed design phase as part of the people's participation component.**

This underlines that people's participation is a process which requires time and efforts and cannot simply be understood as a series of punctual meetings at village level. Because most of people will not open their mind if they have no confidence, one of the critical aspect is to be able to develop relationships with local people to be able to establish a real and fruitful dialogue. Therefore, eliciting people's views is a "round-the-clock" job which requires a permanent presence in the villages. This is the prerequisite of the success of the participation component.

In the context of NNP, where khal re-excavation is the major component, ensuring a genuine participation/consultation of people in the project design requires to carry out the following actions:

- establishment of "people's participation centres in villages situated along khals to be re-excavated. The number of centres and their location has to be defined so as to make sure all the project area is covered. Because people are usually very reluctant to travel long distance, there should be enough centre to make sure that all the concerned people will be reached. As a first estimate, it seems that one centre should be setup for every ten km of khal;

- each centre will be staffed with one supervisor and two field workers in charge of the development of rural poor institutions through group formation;

- each centre will develop and maintain relationships with local institutions including, union parishads, "shamaj", farmers' groups (KSS), landless groups (BSS & MBSS), fishermen groups, NGOs groups and any other existing societies. In places where the poor and the destitute are under-represented, the staff from the centre will encourage institutional development through group formation.

- from each centre, information from project planners will be conveyed to local people through several media, including posters, newsletters, meetings, and feedback will be obtained. Then the results of the consultation will be forwarded back to project planners which will then adjust their approach. This process of communication between planners and people will be repeated until a satisfactory solution can be reached.

Given that around 200 km of khal are expected to be re-excavated, twenty people's participation centres should be setup in the project area and maintained throughout the detailed design phase and during the early stages of the project implementation. It seems that a duration of four years is a reasonable term for these centres. This includes one year during design and preparation and 3 years of the construction programme. The overall estimated cost of the people's participation process is around Tk 28 million for four years. The Breakdown of the cost is given below in table G.4.1.

As far as the implementation of this programme is concerned, the support of NGOs, with extensive field experience in the project area, could be required because NGOs expertise in reaching the poorest strata of the societies is well known and, to date, there is no other organization with such a positive record in this regard.

The following assumptions have been made to work out the programme cost estimates:

- Length of khals to be re-excavated is 200 km
- Length of khal to be covered by one centre is 10 km
- The number of centres required is 20
- One field coordinator will take care of 5 centers

TABLE G.4.1

Cost and Scope of People's Participation Programme

(Taka in '000')

Expenditures	No	Unit Cost per year	One Center		All Centers	
			1 Year	4 Years	1 Year	4 Years
Coordination						
- General Coordinator	1	120.0			120	**480**
- Field Cordinators	4	84.0			336	**1,344**
- Stationary/Media					600	**2,400**
- motorcycles	5	100.0			500	**500**
Centre						
Bicycles	3	5.0	15.0	15.0	300	**300**
Furniture	L.S	25.0	25.0	25.0	500	**500**
Office Rental	1	12.0	12.0	48.0	240	**960**
Stationary/Media	L.S	10.0	10.0	40.0	200	**800**
Group Formation/Metting	L.S	50.0	50.0	20.0	1,000	**4,000**
Staff	3	60.0	180.0	720.0	3,600	**14,400**
Contingencies	10%		34.2	104.8	860	**2,568.4**
Grand Total			**376.2**	**1,152.8**	**9,456**	**28,252.4**

G.4.6 Poverty Alleviation Issues or How to Target Project Interventions to the Poor ?

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 adversely affected (fishermen).

The project interventions, as currently designed, do not fully address the issues of poverty and equity. Given the severity of the poverty problems and some of the worsening trends the evolution of poverty in rural Bangladesh over time (cf section 2.2), it seems that 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 reduce 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 access 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 Noakhali North Project, to support the extension of NGOs activities in area on the ground that NGOs targeted programmes are the only ones to date with positive records in addressing poverty. Also, the project support to NGO's 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 benefits out of the proposed intervention. Within the government framework, BRDB has developed the Rural Poor Programme which also opens scope to support poverty alleviation efforts' though its effectiveness in reaching the poor has yet to be ascertained.

Though poverty alleviation is an issue which has to be dealt with at a global policy level, it should be underlined that it is possible to design specific targeted interventions as part of a water development project which could have positive effects in this respect. 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 favor and they get little benefits out of it.

As already underlined, 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, Noakhali North Project could envisage to support and sustain the expansion of the activities of some NGOs which are already working in the area.

To be comprehensive, the participation of the poor, e.g. the 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, openwater fisheries).

Because UPOMA is already present in the area implementing a programme having similar objectives, the project could support the efforts of this NGO to expand and intensify their activities within the project area. In addition, this NGO could be involved in the people's participation programme presented above, working simultaneously in project planning aspects and on poverty alleviation issues.

UPOMA started activities in 1990 in Noakhali and is extending in Ramganj Thana. The main activities are institutional and human development through group formation and saving. Also, activities pertaining to social forestry, health, sanitation and credit support to income generating activities are normal components of UPOMA's working strategies for the poor. Besides working in the project area they have also developed some working experience in the newly emerged chars in the southern end of Noakhali.

UPOMA fully support the proposals and commented positively on the expected project effects. Nevertheless they emphasize that to achieve sustainable development objectives, additional aspects will need to be considered and supported by the project. Among these important questions the following could be noted:

- Organization of the poor to enable their participation in the re-excavation works and in the maintenance of the khals. Here, the recent experience of SRP where maintenance is done through Canal Maintenance Groups and/or Labour Contracting Societies could be followed;
- Organization of the poor to involve them in the supply of agricultural inputs (fertilizer, seeds, pesticides..).
- Development of irrigation facilities and of a system to distribute water among farmers.
- Provision of capital to sharecroppers to enable them to intensify their farming activities
- Provision of capital to landless/women to support the development of income generating activities.
- Definition of mechanisms to improve the marketing of agricultural production.
- Establishment of a system for the maintenance of the re-excavated khal.
- Implementation of a scheme for the afforestation of BWDB land.
- Improvement of water management to take into consideration the interests of fishermen.

In appendix G3, the proposal prepared by UPOMA is presented alongside with a tentative budget to cover three unions. For an estimated number of beneficiaries close to 5,000 households, the budget required by UPOMA for a three years programme is close to Tk 15 million.. A summary of the proposed budget is given below in Table G.4.2.

TABLE G.4.2

Estimated Cost for Poverty Alleviation Programme

Expenditures	**1 year (Taka)**	**Total, 3 years (Taka)**
Administration	212,225	**636,675**
Organization building	1,427,000	**4,281,000**
Training	291,500	**874,500**
Education	444,000	**1,332,000**
Income generating activities	710,000	**2,130,000**
Water supply, sanitation and ecology	364,000	**1,092,000**
Fixed and Recurring expenditure	10,08,000	**3,024,000**
Price Escalation (10% per annum)		**1,381,581**
Grand Total	4,456,725	**14,751,758**

APPENDIX G1

DEMOGRAPHIC TABLES

APPENDIX G1 SOCIO-ECONOMIC & DEMOGRAPHIC DATA

Table App G.1.1 Information Union Wise from BBS 1981 Census

District	Thana	Union/Paura	Zone	Density no per sq.km	HH Size	Literacy Rates	% HH with no potable water	% of HH Landless	Refined Activity Rates	% active pop. in Farming	% active pop. in non-crop
Noakhali	Begumganj	Alyerapur	C	1 535	5.45	29.4%	28.4%	26.3%	29.8%	51.4%	0.41%
		Amanullapur	C	1 606	5.45	29.4%	31.9%	21.5%	26.4%	60.9%	1.48%
		Ambarnagar	C	1 530	5.55	27.7%	43.5%	33.1%	27.1%	45.5%	1.40%
		Amishapara	C	1 148	5.53	40.0%	32.8%	25.9%	26.1%	53.5%	0.87%
		Baragaon	C	1 143	5.21	27.7%	48.7%	36.4%	28.0%	46.1%	1.79%
		Chaumohani	B	2 331	5.73	35.0%	44.5%	55.6%	41.7%	14.1%	0.47%
		Bazra	C	1 569	5.44	26.6%	44.6%	39.1%	28.3%	39.6%	0.66%
		Begumganj	B	1 776	5.70	27.9%	41.2%	39.3%	26.2%	34.6%	0.25%
		Chhayani	B	1 218	5.33	25.8%	49.1%	22.0%	31.2%	62.6%	1.62%
		Deoti	D	1 211	5.67	37.9%	26.2%	22.5%	28.5%	59.8%	0.23%
		Durgapur	B	1 915	6.49	30.2%	40.3%	26.2%	37.2%	36.8%	0.33%
		Eklashpur	B	1 514	5.71	29.3%	49.9%	32.4%	31.5%	33.9%	1.02%
		Gopalpur	C	1 398	5.48	27.7%	30.6%	33.5%	28.4%	50.2%	2.28%
		Jirtali	C	1 174	5.62	30.1%	48.5%	23.7%	28.1%	53.1%	0.22%
		Jayag	D	1 079	5.63	35.6%	44.1%	25.1%	31.3%	59.6%	0.96%
		Kadirpur	B	1 274	5.64	27.5%	66.5%	32.8%	32.1%	50.4%	1.71%
		Kutubpur	B	1 541	5.57	30.7%	58.9%	26.3%	31.3%	42.8%	1.30%
		Mir Warishpur	C	1 635	5.55	18.0%	20.4%	35.4%	28.4%	36.9%	0.35%
		Nadana	D	1 093	5.64	26.3%	45.4%	28.1%	28.2%	48.8%	0.23%
		Nateshwar	C	1 294	5.47	24.1%	35.9%	27.4%	27.2%	53.7%	2.30%
		Rajganj	B	1 545	5.38	29.5%	45.4%	27.7%	31.9%	48.9%	1.36%
		Rasulpur	B	1 191	5.44	31.4%	73.3%	27.6%	33.8%	47.1%	2.97%
		Sharifpur	B	1 255	5.74	25.9%	60.9%	28.7%	30.3%	58.3%	2.70%
		Sonaimuri	D	1 448	5.43	27.4%	46.4%	35.5%	28.6%	37.7%	0.37%
		Sonapur	C	1 255	5.56	30.3%	20.0%	24.0%	27.6%	57.2%	0.67%

District	Thana	Union/Paura	Zone	Density no per sq.km	HH Size	Literacy Rates	% HH with no potable water	% of HH Landless	Refined Activity Rates	% active pop. in Farming	% active pop. in non-crop
	Chatkhil	Badalkot	D	1 173	5.98	40.3%	32.2%	29.2%	29.6%	41.8%	1.16%
		Chatkhil	D	1 365	5.05	40.4%	28.5%	34.8%	27.9%	46.8%	1.11%
		Khilpara	C	1 328	5.51	37.0%	42.5%	26.4%	32.4%	51.9%	0.83%
		Mohammadpur	D	1 228	5.74	33.6%	55.3%	23.7%	27.3%	60.7%	1.13%
		Nayakhola	D	1 523	5.44	45.7%	28.5%	30.7%	25.7%	53.2%	0.44%
		Panchgaon	D	1 625	5.41	42.8%	25.0%	42.3%	28.9%	43.1%	0.32%
		Parkote	D	1 282	5.33	39.5%	20.3%	23.9%	31.2%	56.1%	1.17%
		Ramnarayanpur	C	1 481	5.47	40.4%	38.7%	17.7%	26.7%	65.4%	0.03%
		Sahapur	D	1 363	5.43	41.3%	35.9%	25.2%	30.0%	57.8%	1.17%
	Senbagh	Arjuntala	C	1 026	5.22	27.8%	25.7%	28.3%	28.9%	49.6%	0.79%
		Bijoybagh	C	1 276	5.80	31.2%	20.1%	26.3%	35.7%	43.3%	0.05%
		Chhatarpaia	C	1 179	5.32	23.4%	26.9%	25.7%	32.0%	47.4%	0.18%
		Dumuria	C	849	5.64	20.4%	25.4%	17.4%	34.0%	67.4%	0.27%
		Kabinpur	C	1 298	5.30	27.9%	26.8%	30.7%	30.9%	41.9%	0.50%
		Kesharpar	C	1 168	5.79	19.3%	26.1%	26.9%	35.5%	51.3%	0.81%
		Nabipur	B	1 109	5.38	24.0%	34.4%	20.5%	31.7%	61.8%	1.65%
Noakhali	Noakhali	Ashwadia	B	912	5.55	24.3%	72.4%	42.4%	31.2%	48.7%	8.78%
	Sadar	Bataiya	B	1 106	5.37	27.0%	51.8%	31.3%	31.7%	57.2%	0.12%
		Binodpur	A	1 789	5.94	36.3%	37.9%	41.5%	28.8%	38.3%	1.05%
		Charmatua	A	451	5.56	14.1%	77.7%	27.0%	41.0%	78.2%	5.26%
		Dadpur	B	1 311	5.03	19.9%	52.0%	30.4%	34.2%	57.8%	1.77%
		Ewazbalia	B	858	5.38	14.6%	65.1%	34.0%	36.2%	73.9%	1.07%
		Ghoshbagh	B	760	5.51	23.3%	62.0%	30.7%	33.5%	56.2%	1.25%
		Kadirhanip	B	1 422	6.03	37.1%	24.6%	43.8%	33.0%	28.0%	0.81%
		Kaladaraf	B	451	5.36	11.8%	79.5%	30.4%	39.1%	77.2%	1.66%
		Narottampur	B	1 163	5.55	29.4%	56.1%	34.6%	32.8%	60.4%	0.87%
		Niazpur	B	1 146	5.27	26.5%	54.4%	29.8%	37.0%	55.6%	2.87%
		Noakhali Pour	B	3 374	5.82	52.2%	27.5%	66.4%	37.4%	8.0%	0.71%
		Noakhali	B	603	5.65	18.7%	74.7%	49.5%	40.5%	60.7%	1.03%
		Noannai	B	1 308	5.33	20.6%	34.3%	28.5%	32.9%	56.9%	1.71%
		Sundalpur	B	535	5.82	19.8%	69.3%	31.6%	38.1%	70.4%	1.45%

District	Thana	Union/Paura	Zone	Density no per sq.km	HH Size	Literacy Rates	% HH with no potable water	% of HH Landless	Refined Activity Rates	% active pop. in Farming	% active pop. in non-crop
Lakhmipur	Lakhmipur	Bangakhar	D	1 172	5.68	26.7%	36.2%	20.1%	35.6%	60.2%	1.71%
		Basikpur	D	1 378	5.58	39.5%	30.2%	23.6%	28.8%	57.0%	1.02%
		Bhabaniganj	A	724	5.02	17.8%	68.2%	34.1%	40.9%	75.1%	1.77%
		Chandraganj	C	1 431	5.44	33.3%	39.6%	29.3%	29.9%	45.2%	1.27%
		Charsai	C	1 187	5.50	28.0%	38.4%	15.8%	31.9%	67.3%	0.96%
		Dattapara	D	1 312	5.91	20.0%	23.0%	14.4%	53.0%	36.3%	1.11%
		Dighali	A	1 047	5.75	29.5%	32.3%	14.4%	32.7%	68.9%	1.35%
		Hajirpara	A	1 501	5.80	34.5%	24.9%	16.8%	29.8%	51.9%	1.16%
		Kushakhali	A	485	5.35	15.3%	89.9%	17.2%	39.3%	88.8%	0.18%
		Lakshmipur Po	A	2 238	5.39	32.1%	55.5%	55.8%	37.0%	27.3%	1.23%
		Laharkandi	A	1 415	5.41	23.6%	28.8%	24.1%	35.4%	68.8%	0.78%
		Mandari	A	1 204	5.37	21.8%	41.1%	23.0%	35.0%	63.5%	1.03%
		Uttar Hanchadi	D	1 097	5.66	31.6%	45.0%	19.4%	33.0%	58.9%	0.37%
		Parbatinagar	D	1 168	5.83	30.9%	41.6%	15.3%	34.3%	63.7%	0.19%
		Shakchar	A	498	5.29	13.3%	79.9%	45.5%	44.9%	74.4%	5.34%
		Dakshin Hamchadi	D	1 233	5.27	28.2%	71.5%	26.3%	31.1%	59.7%	1.77%
		Uttar Joypur	C	1 323	5.61	38.0%	30.6%	16.5%	29.4%	64.9%	0.39%
	RAMGANJ	Bhadur	D	1 294	5.10	31.2%	26.5%	33.0%	27.6%	44.8%	0.70%
		Bhatra	D	1 055	5.27	33.0%	20.3%	23.4%	26.2%	54.1%	1.41%
		Bholakot	D	1 157	5.45	35.3%	38.6%	21.4%	26.7%	62.6%	0.21%
		Dharbeshpur	D	1 122	5.22	37.1%	30.3%	22.4%	29.8%	63.1%	0.69%
		Kanchanpur	D	1 263	5.40	30.8%	46.9%	28.7%	35.2%	56.5%	1.31%
		Karpara	D	1 130	5.56	32.7%	35.1%	23.6%	26.3%	70.4%	0.41%
		Lamchar	D	1 011	5.37	32.3%	31.9%	21.6%	29.8%	63.7%	0.81%
		Noagaon	D	1 235	5.50	34.0%	50.9%	27.1%	36.6%	53.6%	0.93%
		Sonapur	D	1 468	5.27	36.3%	28.4%	33.4%	35.6%	39.5%	0.65%
	RAMGATI	Charlawrence	A	565	5.75	10.3%	71.6%	39.5%	45.9%	79.1%	0.69%

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District	Thana	Union/Paura	Zone	Density no per sq.km	HH Size	Literacy Rates	% HH with no potable water	% of HH Landless	Refined Activity Rates	% active pop. in Farming	% active pop. in non-crop
COMILLA	LAKSAM	Purba Baisgaon	D	951	5.59	26.2%	53.2%	21.9%	29.4%	67.0%	0.07%
		Paschim Baishgaon	D	933	5.82	23.1%	55.7%	26.2%	31.6%	60.7%	0.04%
		Purbagobindapur	D	809	5.99	19.8%	26.1%	30.3%	35.9%	54.3%	1.57%
		Paschim Gobindapur	D	929	5.68	25.5%	58.5%	23.8%	35.6%	54.8%	0.45%
		Lakshampur	D	845	5.71	27.9%	61.1%	23.4%	28.4%	55.7%	0.59%
		Purba Natherpetua	D	1 079	5.64	28.8%	41.3%	24.8%	39.6%	42.3%	0.82%
		Paschim Natherpetua	D	982	5.62	27.3%	56.7%	23.5%	30.8%	47.1%	1.19%
		Paschim Uttardha	D	1 025	5.46	23.5%	31.6%	21.7%	33.6%	60.8%	0.03%
		Uttar Hawla	D	928	5.83	31.8%	43.0%	21.2%	34.2%	56.7%	0.98%
		Damshin Hawla	D	876	4.56	31.2%	48.5%	19.1%	35.4%	63.1%	0.25%
Chandpur	Faridganj	Purba Gupti	D	1 386	5.64	39.4%	41.7%	24.4%	30.2%	58.2%	2.51%
		Purba Subidpur	D	1 135	5.64	33.0%	36.0%	19.3%	34.2%	71.6%	0.73%
	Hajiganj	Purba Barkul	D	1 137	5.37	30.1%	13.1%	29.1%	30.9%	55.2%	2.45%
		Paschim Barkul	D	1 387	5.32	23.8%	20.8%	32.9%	30.5%	49.2%	0.61%
		Uttar Gandharbapur	D	967	5.24	28.6%	17.9%	23.5%	34.2%	64.8%	4.36%
		Dakshin Gandharbapur	D	916	5.20	32.3%	50.0%	21.4%	26.8%	64.5%	0.13%
	Shahrasti	Purba Chitashi	D	880	5.71	29.7%	49.1%	22.2%	30.7%	70.2%	0.00%
		Paschim Chitasi	D	1 006	5.49	35.6%	41.5%	21.5%	26.5%	63.2%	0.00%
		Uttar Suchipara	D	967	5.55	31.3%	39.6%	20.8%	28.6%	70.6%	0.75%
		Dakshin Suchipara	D	953	5.18	35.1%	42.3%	20.1%	27.5%	65.1%	0.36%

Table App G.1.2 Information Union Wise from BBS 1991 Census

District	Thana	Union/Paura	Zone	Density no per sq.km	HH Size	4 Rates	% HH with no potable water	% of HH Landless	Refined Activity Rates	% active popul. unemployed	% active pop. in Farming	% of HH with Roof in Bamboo	% active pop. in Fish/live	% of HH with electricity
Noakhali	Begumganj	Alyerapur	C	1 766	5.53	49.8%	28.7%	28.9%	34.3%	7.6%	54.0%	20.0%	1.2%	9.3%
		Amanullapur	C	1 939	5.80	45.3%	12.0%	31.8%	30.3%	7.2%	53.2%	14.1%	1.4%	6.6%
		Ambarnagar	C	1 811	5.91	41.2%	15.7%	38.7%	30.0%	10.0%	44.1%	19.4%	3.1%	15.4%
		Amishapara	C	1 353	5.69	54.6%	15.5%	31.5%	35.9%	12.0%	44.5%	13.7%	0.7%	1.6%
		Baragaon	C	1 381	5.52	38.6%	15.6%	33.6%	30.8%	9.6%	45.8%	20.9%	1.4%	6.9%
		Chaumohani	B	2 966	5.67	35.7%	21.3%	50.3%	39.6%	6.8%	15.2%	13.6%	1.2%	44.6%
		Bazra	C	1 834	5.58	39.3%	24.7%	41.2%	35.8%	10.9%	33.7%	21.4%	2.3%	14.1%
		Begumganj	B	1 922	5.40	47.2%	9.0%	31.1%	33.9%	14.8%	27.7%	26.1%	2.7%	14.0%
		Chhayani	B	1 370	5.37	40.9%	9.2%	20.4%	29.0%	8.0%	48.6%	19.1%	1.7%	0.5%
		Deoti	D	1 593	6.57	56.1%	15.2%	32.9%	37.0%	5.4%	41.3%	12.8%	0.4%	7.3%
		Durgapur	B	2 087	6.34	38.6%	60.5%	36.2%	37.0%	10.0%	27.9%	18.5%	0.9%	16.0%
		Eklashpur	B	1 706	5.80	44.1%	13.2%	33.3%	34.4%	9.5%	25.5%	21.6%	1.1%	25.1%
		Gopalpur	C	1 574	5.56	41.9%	7.8%	37.1%	34.4%	11.2%	45.9%	17.4%	1.2%	10.6%
		Jirtali	C	1 430	5.72	44.2%	23.0%	26.0%	38.0%	10.7%	43.6%	18.3%	0.9%	15.8%
		Jayag	D	1 301	5.81	49.4%	13.9%	30.9%	29.7%	10.0%	45.8%	13.0%	0.9%	15.5%
		Kadirpur	B	1 418	5.78	39.0%	33.9%	37.8%	35.3%	9.4%	52.2%	40.6%	2.0%	7.1%
		Kutubpur	B	1 707	5.66	45.4%	22.5%	32.1%	30.2%	6.3%	40.4%	17.7%	0.7%	15.7%
		Mir Warishpur	C	1 898	5.62	44.4%	13.3%	35.0%	32.6%	11.3%	28.2%	15.2%	1.0%	17.2%
		Nadana	D	1 245	5.88	40.7%	12.4%	35.5%	29.9%	14.4%	42.7%	17.4%	1.1%	3.1%
		Nateshwar	C	1 531	5.90	38.3%	19.4%	29.3%	31.4%	7.8%	45.3%	19.8%	2.1%	13.7%
		Rajganj	B	1 797	5.43	39.4%	12.0%	25.7%	32.4%	6.2%	42.8%	23.6%	1.0%	3.3%
		Rasulpur	B	1 426	5.68	46.9%	24.6%	30.1%	35.2%	3.6%	40.8%	30.1%	1.6%	11.2%
		Sharifpur	B	1 413	5.34	40.7%	26.0%	29.9%	32.4%	13.3%	46.8%	29.4%	2.7%	2.2%
		Sonaimuri	D	1 759	5.68	40.5%	15.1%	35.0%	32.9%	7.3%	32.4%	14.0%	0.4%	13.9%
		Sonapur	C	1 473	5.73	50.2%	7.3%	25.4%	27.4%	9.2%	50.1%	17.3%	1.0%	6.0%

District	Thana	Union/Paura	Zone	Density no per sq.km	HH Size	4 Rates	% HH with no potable water	% of HH Landless	Refined Activity Rates	% active popul. unemployed	% active pop. in Farming	% of HH with Roof in Bamboo	% active pop. in Fish/live	% of HH with electricity
	Chatkhil	Badalkot	D	1 178	6.05	52.9%	12.0%	40.7%	30.1%	14.3%	46.3%	11.0%	2.4%	8.6%
		Chatkhil	D	1 539	5.75	55.5%	7.8%	35.3%	31.6%	10.8%	41.1%	12.6%	1.5%	23.2%
		Khilpara	C	1 375	5.68	46.8%	9.2%	21.6%	33.9%	9.1%	50.4%	13.6%	1.1%	8.7%
		Mohammadpur	D	1 304	5.81	52.5%	15.2%	26.4%	32.3%	8.1%	47.3%	13.0%	1.2%	5.8%
		Nayakhola	D	1 546	5.89	57.6%	7.5%	36.0%	28.8%	10.9%	42.4%	9.2%	0.6%	28.5%
		Panchgaon	D	1 906	5.80	53.5%	10.7%	42.2%	31.5%	7.3%	32.0%	9.3%	1.0%	22.4%
		Parkote	D	1 474	5.62	53.1%	7.9%	29.5%	36.6%	4.0%	54.5%	9.2%	1.0%	3.5%
		Ramnarayanpur	C	1 623	5.38	47.4%	7.9%	33.3%	31.1%	11.0%	43.3%	14.5%	1.4%	7.5%
		Sahapur	D	1 450	5.63	48.8%	20.3%	22.9%	33.9%	6.5%	46.7%	11.8%	0.9%	7.8%
	Senbagh	Arjuntala	C	1 285	5.43	40.8%	12.9%	27.5%	32.0%	10.6%	40.8%	30.0%	0.9%	18.7%
		Bijoybagh	C	1 336	5.96	37.7%	20.5%	36.0%	37.3%	9.5%	37.2%	35.5%	0.4%	5.3%
		Chhatarpaia	C	1 464	5.72	41.4%	17.2%	32.9%	33.1%	11.5%	50.6%	38.6%	1.5%	0.3%
		Dumuria	C	1 052	5.61	35.6%	51.5%	21.6%	30.9%	11.1%	55.0%	44.3%	0.6%	0.3%
		Kabinpur	C	1 601	5.61	42.2%	14.7%	35.1%	33.8%	7.9%	39.3%	29.7%	0.9%	11.1%
		Kesharpar	C	1 470	5.89	52.4%	13.4%	30.1%	35.1%	8.8%	47.2%	32.4%	0.9%	2.6%
		Nabipur	B	1 340	5.68	34.8%	22.7%	33.6%	34.6%	10.9%	42.0%	33.4%	1.9%	0.9%
Noakhali	Noakhali	Ashwadia	B	1 168	5.70	31.9%	28.5%	43.7%	36.9%	7.7%	44.1%	57.0%	8.2%	6.7%
	Sadar	Bataiya	B	1 320	5.65	35.5%	19.3%	40.3%	32.3%	17.6%	41.2%	36.4%	0.4%	0.8%
		Binodpur	A	1 802	5.55	44.4%	7.6%	48.7%	35.0%	7.2%	35.0%	27.3%	0.7%	5.2%
		Charmatua	A	538	5.62	18.7%	48.9%	30.0%	38.6%	4.0%	66.3%	74.3%	1.2%	4.0%
		Dadpur	B	1 460	5.59	32.2%	19.8%	24.6%	33.4%	5.5%	53.1%	39.5%	0.3%	0.0%
		Ewazbalia	B	974	5.60	21.7%	49.1%	36.8%	36.2%	5.3%	67.5%	72.3%	1.5%	2.1%
		Ghoshbagh	B	902	5.62	31.6%	34.0%	33.3%	34.7%	2.4%	54.5%	47.9%	0.6%	0.3%
		Kadirhanip	B	1 274	5.72	40.8%	4.5%	51.9%	34.2%	10.2%	28.1%	25.6%	0.8%	7.0%
		Kaladaraf	B	525	5.63	15.0%	31.2%	40.6%	37.8%	3.5%	70.7%	79.2%	1.4%	0.2%
		Narottampur	B	1 420	5.80	41.0%	31.9%	40.9%	39.3%	9.4%	46.3%	43.1%	2.5%	0.0%
		Niazpur	B	1 391	5.47	38.7%	12.6%	38.6%	33.7%	19.7%	32.0%	37.9%	3.8%	0.9%
		Noakhali Pour	B	5 240	5.73	49.0%	25.6%	64.3%	40.8%	6.4%	5.2%	14.8%	0.6%	56.6%
		Noakhali	B	742	5.66	25.3%	47.0%	48.9%	38.6%	3.9%	58.4%	70.0%	2.1%	2.3%
		Noannai	B	1 558	5.47	33.5%	11.9%	32.1%	38.0%	6.0%	46.7%	38.3%	0.6%	0.8%
		Sundalpur	B	723	5.84	31.4%	65.8%	46.9%	44.2%	6.3%	60.9%	66.6%	1.3%	1.8%

Table App G.1.3 List of Unions With Annual Growth Rates < 1.00%

Thana	Union Names	Zone	Rate
Begumganj	Begumganj	B	0.79%
	Durgapur	B	0.86%
Chatkhil	Badalkot	D	0.04%
	Khilpara	C	0.34%
	Mohammadpur	D	0.60%
	Nayakhola	D	0.15%
	Ramnarayanpur	C	0.92%
	Sahapur	D	0.62%
Senbagh	Bijoybagh	C	0.46%
Noakhali	Binodpur	A	0.07%
	Kadirhanip	B	−1.10%

Table App G.1.4 List of Unions With Annual Growth Rates > 2.00%

Thana	Union Names	Zone	Rate
Begumganj	Chaumohani	B	2.44%
	Deoti	D	2.78%
Senbagh	Arjuntala	C	2.28%
	Chhatarpaia	C	2.19%
	Dumuria	C	2.17%
	Kabinpur	C	2.12%
	Kesharpar	C	2.32%
Noakhali Sadar	Ashwadia	B	2.51%
	Narottampur	B	2.02%
	Noakhali PSA	B	4.50%
	Noakhali	B	2.09%
	Sundalpur	B	3.07%

>>2

APPENDIX G2

GROUP DISCUSSION & CASE STUDIES FOR SOCIAL IMACT ASSESSMENT

APPENDIX G2 : People Participation In Social Impact Assessment

G.2.1 Women Case Studies

G.2.1.1 Senbagh : the Case of Nahar

- **Location**

Thana : Senbagh.
Union : Arjuntala;
Village : Arjuntala;

- **Livelihood**

Mrs. Nahar (32) is a field worker for a Mahila Bittahyn Samabay Samity (M B S S) since 1990. She has two children. Her husband used to work in Bandharban (Chittagong Hill Tracts) but could not get a regular and permanent job. He left Bandharban in early 1991 because he had malaria. He came back home and once he was relieved he arranged to get employment abroad with the help of one of his brother-in-law who is working in Kuwait.

The "fees" charged by the labour recruitment company through which he managed to get a job in Kuwait were Tk. 65,000, to be paid before the departure. To finance this amount, he mortgaged 0.5 acres of land (Tk. 15,000), his wife (Nahar) sold her gold ornaments (Tk. 6,000), her mother-in-law and sister-in-law received a loan through M.B.S.S. (Tk. 10,000) and finally he borrowed Tk. 34,000 form relatives and friends.

Nahar's husband went to Kuwait on July 1991 and is now getting Tk. 6,000 per month as salary. He took two years to repay the money he borrowed at the time of departure and he could start to save only from very recently. Every month too, he sends some money to Nahar to help her to maintain the family. As Nahar is also working and gets a regular monthly salary of Tk. 1,800 she is in a relative good financial position and is able to maintain her family of two children quite well.

She has rented a house in Arjuntala by the side of her parents house but do not live with them. She thinks that this is better to keep a good relationship with her parents and brothers. She gets their help whenever required but as she is doing a salaried job she is able to have a sort of independence which is quite unusual in the context of rural Bangladesh. Quite often, the wives of migrant labourers are "taken care of" by members of the kin groups and cannot have an independent life. Instead of living with her kin, she shares the house with another family and has to pay 700 taka monthly rent.

The case of Nahar shows that if a woman gets the opportunity she can manage to live a more or less independent life. In this particular case, the MBSS helps her to get more say and control in her family as she could manage to live separately with her children in the absence of her husband.

G.2.1.2 Senbagh : the Case of Shamsunahar

- **Location**

Thana : Senbagh
Union : Kadra
Village : Hijli

- **General**

Shamsunahar (35) is the manager of a Mahila Bittahyn Samabaya Samity (MBSS group supported by BRDB). She has one son of 17 years old and an adopted daughter of 3½ years old. Both her husband and sons are rickshaw pullers while her mother works in CARE rural road maintenance programme. They do not have any cultivable land to make a living but they own their house and homestead.

- **Livelihood**

About 7 years back she asked a lady working in the Social Welfare Office under the thana administration to look for any opportunity she could avail so as to earn a living by herself. After sometime, she joined the Mahila Bittahyn Samabaya Samity, a BRDB supported group which comprise now 36 members. Shamsunnahar is the manager of the group. After registration 21 members of the group got 65,000 Taka loan. Once the borrowers have paid back the loan, 26 members have taken 76,000 Taka loan which they have to reimburse within 18 months time.

In 1988, Shamsunnahar received Tk 3,000 as loan. Unfortunately, she could not fully utilize the money in a productive way because she has to spend it to meet the household basic needs. Although her husband did not help her at all, she somehow manages to pay the loan back. In 1990-91 she took another loan amounting to Taka 2,500 in order to buy a second hand rickshaw costing for her husband though she "officially" took the loan to buy a cow.

She also attended training courses on sewing for a period of six months through social welfare and NRDP programme. She got a machine from NRDP costing Tk 3,800 on a loan basis. Nowadays, she can earn about Tk 200 per month from this activity.

Shamsunnahar indicates that she wants to take more loans from Samity in order to purchase a calf, to raise poultry and to start up petty trading activities. At the end of the discussion, she mentioned that with the support of the Samity she could manage the whole family quite well and that she expects her situation to improve further. She also said that many women in her area want to be member of the Samity to make a better living but due to lack of resources, the scope for extension of the number of members is quite limited.

G.2.1.3 Sonagazi : the Case of Razia Khatun

- **Location**

Thana : Sonagazi
Union : Char Darbesh
Village : Char Darbesh

The village located by the western side of little Feni river and by the eastern side of embankment i,e, outside the embankment.

- **General**

Razia Khatun (33) is the wife of a sharecropper and she is the leader of eight Grameen Bank female groups comprising a total of 40 members. Her husband, who is sharecropping six acres of land inside the embankment, used to own five acres of land. However, this land was situated outside the embankment and has now been eroded by the little Feni river. Razia has got three daughters and two sons. All her children but her eldest daughter (15) and her youngest son (4), are studying in Madrasa. There is primary school but they prefer Madrasa teaching for their children because children can learn to read 'Koran' and Arabic language.

- **Economic activities**

In Chaitra and Baisak, men are engaged in sowing Aus while women make things for household use, such as mat ('Pati'), 'Kula' and 'Dala' (made od bamboo, used for rice cleaning) or for outside sales. The eldest daughter of Razia is also involved in this type of activities which provides some substantial cash income, around Tk 200 per month.

During the month of Jaistha Razia does only household related work including the preparation of 'mutha' (dry cowdung for fuel). In Asar she takes care of the germination of Aman paddy in her home. This falls entirely within the area of women's responsibility while men are involved in preparing the field for cultivation. Razia indicates that preparing one mound of paddy for sowing requires five days of work which is done by women.

At the end of Kartic and throughout Agrahayan, once Aman has been harvested, Razia is involved in post-harvesting activities including, threshing, winnowing, drying, and par - boiling. Razias' family received 40 mounds of paddy from share cropping 6 acres of land. She engaged two poor women to help her for about 15 days during post harvest period. These two women were given three meals a day and one mound of paddy once the work was completed.

In Falgoon they get some pulses as well. Also, Razia has two ducks, four hens and ten chickens produce eggs which she occasionally sells. Razia mentioned too that she took one thousand Taka loan from Grameen Bank to start up seasonal petty business. This part-time activity enables to substantially supplement the family's income.

- **Main Problems and Issues**

Razia mentioned that the people of this area are very poor. There are no mills or workshops in the area and employment opportunities are very limited except during paddy harvesting seasons. Bhadra, Aswin, Kartic, Falgoon and Chaitra are the months for heavy crisis during which the poor is regularly facing starvation problems.

Saline water from little Feni river and its tidal effect is one of the main issue in this area. Razia said that, during winter season, no crops are grown in the surrounding fields. Even, the cultivation of vegetables in the homestead is hampered due to water salinity.

There are only about twenty tubewells in the village for population of about nine thousand. They are used to drink pond water. Only from Falgoon to Jaistha (four months) they use 'fitkiri' (transparent caustic stone which look like ice) in the drinking water for purification. During other time they used to take straight pond water for drinking.

Only when saline water from Little Feni river overflows the ponds, Razia and other women of the area goes to other side of the embankment and bring drinking water from tubewell. They go to others houses after the sunset in a group, take bath and bring drinking water. Due to 'purdah' they do not go to other's house in the day time.

Razia makes 'Mutha' with cowdung and preserve them for rainy season. She also sells them, at the cost of one Tk for 4 pieces. She cooks food two times and takes meal three times. In the morning they take the left over food (Panta). During dry season, she cooks outside with leaves and straws.

Cyclones and river erosion are a recurrent problem in this area regularly destroying land and housing property. Another source of difficulties noted by Razi is the absence of medical facilities.

- **Project Interventions**

The construction of a new sluice gate below Kazirhat near Musapur is very much welcomed by all the women present around Razia. If salinity and tidal affect problem is solved, the people of this area will be able to grow more crops; all the people will be benefitted, including landless labourers and landless farmers.

However, Razi pointed out that the women participation in earth cutting work will be limited to the very poor and the destitute. Other women, for social status and "purdah" reasons will not worked outside their houses even if their socioeconomic position is not very good. For those women, "bari" based income generating activities including, handicrafts, poultry raising, petty business etc.. should be encouraged and the participation of women to Grameen bank should be developed.

G.2.1.4 Begumganj : the case of Amena Begum

- **Location**

Thana : Mir-Warispur
Union : Mir-Warispur
Village : Begumganj

- **General**

Amena Begum (50) is the wife of a wage labourer. She has got three sons and three daughters. Two sons and two daughters are married and live separately. One unmarried son and a young daughter of about 11 live with them. Though they do own cultivable land (.8 acre) they had to mortgage their plots to meet the expenses of her daughters' marriages including dowry. As a result, they have no more access to cultivable land and Amena's husband has to work for others to earn a living.

- **Livelihood**

Her son and husband pull rickshaw and also do seasonal work in others' farms. However, as there is only one crop in this area they cannot get much work. Only during the time of harvesting IRRI they get employed for fifteen days to one month. During this time of the year wage rate is also good and quite often they get Tk 50 per day with one meal.

Amena does not go to work in others' houses since the earnings of both her husband and son are somehow sufficient to maintain a sort of living. She cooks only once a day, usually at noon and the all family members eat three times every day. At noon and at night everybody takes full meal while in the morning they take 'panta' (left over rice soaked in water). This is the normal diet of the day labourers of the area. She said fish is a very rare item though she regularly purchases some dried and fresh fish from local markets.

When Amena was asked whether she wants to do some work to improve her livelihood, she replied that she cannot think of anything she could do. She only said her husband and son will not allow her to go out and work for money. When asked if she was interested about Grameen Bank or other income generating programmes through which she could obtain loan to develop "bari" based renumerative activities, she indicates that she would be too afraid that her husband "snatches" the money away from her and then not to be in a position to pay the money back.

- **Project Interventions**

As this is a depression area, Amena and other women present around mentioned that they cannot immediately think of anything to improve the area. But when the options of re-excavating Noakhali khal, WAPDA khal and Rahmatkhali khal was communicated to them, they reckoned that these measures could well enable farmers to grow more crops since surface water will be available throughout the winter season. As a result, the whole area will be benefitted from these schemes.

With respect to the disposal of the earth removed from the canal beds, the spoil could well be spread on the side of the canals so that no cultivable land would need to be acquired. These women mentioned that they will not work in earth cutting and that only the "CARE women" and few others like them might work. They indicate that there are plenty of men to do this kind of work so why should women be engaged in such a tough work.

G.2.1.5 Chatkhil : the Case of Zohora Khatun

- **Location**

Thana : Chatkhil
Union : Panchgaon
Village : Panchgaon

- **General**

Zohora Khatun (50) is the wife of a sharecropper and has three sons. One of them is married and works in a shoe making factory of Chittagong while his wife (Zohora daughter-in-law) lives in the village with Zohora's family.

- **Livelihood**

Zohora's husband used to work in glass factory of Dhaka leaving behind his family in the village. What he earned during that time was not even enough for his own survival in Dhaka so he sent money to his wife very much irregularly. During this period, Zohora was highly dependent on her parents to maintain her family. Now, her husband "sharecrop in" a tiny piece of land (0.5 acres) from Zohora's mother.

About 13 years back she came to know from a beggar that a lady from Joag Gandhi Asram was looking for some poor and destitute women who would like to get training in spinning and handicrafts. Zohora was thrilled with joy and she came to meet Miss Jharna Dhara at the Asram. Her kin and family were firmly against this idea but she never listened to them and she regularly attended the training courses. Also, her sons got admission in the free primary school of the Asram. For about three years Zohora got different kinds of training. Now she is working as a trainer and gets a regular salary which significantly supplement the family's income obtained from farming.

Zohora indicates that, following her example, many poor destitute women have joined different programmes undertaken by the Ashram and are now in a position to maintain their children by themselves. After having received training and being provided with a house and latrines (on a loan basis) these women are able to live an independent life and do not need to rely upon their kin to survive. Today, fifty women are permanently working in Joag Gandhi Asram while another fifteen, who have been trained in handicrafts making and in sewing, are earning a living working at home and selling the goods they produced.

The main problem of Zohora's family is that her 2nd son of 21 yrs old wants to get a job abroad, in middle-east or in any other country. He feels that there is no scope for him to earn money if he stays in Bangladesh. Two of his maternal uncle and one paternal uncle are living in middle-east and he feels like joining them there. As a result, Zohora's son is pressing her and her husband to borrow money so as to send him in middle east. The situation faced by Zohora is very common throughout the area where a significant part of the youth labour force is trying hard to get an opportunity to get an employment abroad.

- **Project Interventions**

If Mohendra Khal is re-excavated it will help villagers to grow more crops. In this regard, Zohora expects that her husband could "sharecrop in" more land and that he will produce more paddy.

Zohora and other women present told that, as they have come out of their home once, breaking with the tradition of "purdah", they will not hesitate to work in earth cutting as well to earn a better living. However, they simply indicate that the women who may participate in earth cutting should be put under the leadership of a woman to ensure that they will receive their due share.

Women of Gandhi Asram mentioned that, though they have learnt to produce a wide array of things, the scope to sell the goods produced is rather limited. They insist that marketing system be developed to ensure that their goods get purchased. In this regard, Zohora underlined that most of the women of the Gandhi Ashram are able to organize women group and to give training as well. Thus, assuming these women can get a loan they are capable of running a production unit but their main problem will be where to sell their production.

Also, Zohora indicates that some factories like soap, mosquito coil, insane sticks, match box, biscuit manufacturing etc. could be established in the nearby area. This would enable poor men and women to get job and to earn a decent living.

G.2.1.6 Lakhsmipur : the Case of Safina Begum

- **Location**

Thana : Lakhsmipur
Union : Mandari
Village : Ratanpur

- **General**

Safina Begum (35) is the wife of Anwarul Haque, a landless labourer, and she has 4 daughters and 4 sons. One of her daughter got married while two of her eldest sons, respectively 18 and 16 years old are working, one as helper in a bus and one with a contractor who is a relative. Youngest daughters and sons are going to primary school but Safina has also engaged a private tutor who cost to the family

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fifty taka per month. As her husband and eldest sons are earning money, they have decided to give a good education to their youngest children.

- **Livelihood**

Safina's family is living on government's land. They have made their house on this land in 1976. At that time she took loan form her father to bear the construction cost.

Young daughters and sons often collect fuel but most of the time they have to buy them. They use khal water for washing and tube-well water for drinking all of them take bath in nearby ponds. Whenever she is in trouble she gets help from her parents who enjoy a better and more secure socio-economic position. Whenever Safina's family faces some difficulties, especially during the monsoon, she managed to get loan from her parents or other close relatives.

She has a daughter of about 14 years and is very worried about the cost of her marriage. Safina thinks that at least eight to ten thousand taka will be required to bear the expenses of the marriage, dowry included.

- **Project Interventions**

Safina's family is living on government khas land and she is fully aware they might have to leave the place if government wants to widen the road or re-excavate the adjacent khal. When asked what she thinks about if they have to evacuate the land, she told that she will do whatever her husband wants her to do. However she thinks that if government asked them to leave the place they have to obey the order. But, as they are poor and have no property or land of their own, she hopes that the government will either give them another piece of land to live on, or will give them some money to allow them to find out a place by themselves. When asked what she will prefer, she replied that this decision has to be taken by her husband and eldest sons. As far as she is concerned, she will follow their decision.

G.2.2 Khal Re-excavation : Three Case's Studies

G.2.2.1 Mohendra khal

- **Location**

Discussions with people of different categories were made both in:

- eastern side of Mohendra khal (Joyag Union)
- western side of Mohendra khal (Panchgaon Union).

- **People Consulted**

Some of the people interviewed were involved in the previous Mohendra khal re-excavation programme. A list of the participants to the discussion is given below:

- Mr. Makbul Ahmed - Secretary, Joyag Union Parishad, Thana Begumganj.
- Mr. Abul Khair, Head Master, Panchagaon Girls High School.
- Syed Musfiqur Rahman, B.A. Student.
- Mr. Abdur Rouf, (Lebu Miah), Ex-U.P. Chairman, Panchagaon.
- Mr. Anukul Chandra Pal, Accounts Officer, Gandhi Asram Trust.
- Ms. Esa Chakraborty, Supervisor, Gandhi Asram.
- Mrs. Zohara Khatun, Trainer in Gandhi Ashram, Panchagaon.
- Tuni Begum, Widow, Landless women, Panchgaon.
- Two other teachers of Panchagaon school; some farmers and landless labourers living by the side of Mohendra khal.

- **Previous Experience of Khal Re-excavation**

- **Payment**

Mohendra khal was re-excavated once in 1974-75 under Food-For-Work (FFW) programme. Wheat was sold in the market and the labourers were paid in cash because most of the workers did not like to get wheat as wages. At that time, the renumeration received by the labour involved in the re-excavation work was higher than the equivalent monetary value of the wheat allotted by FFW for one man-day of work. To solve this problem, the management committee claimed to FFW to have used more labor-days to perform the work that the number actually used, As a result more wheat was allocated and the committee managed to pay to the labourers the agreed rates.

It was also re-excavated in 1982 as well under Food-For-Work programme too. Labourers were allotted 63 kg. wheat for 1,000 sq. feet earth work. However, labourers were paid only 60 kg., the remainder was allotted to the workers' leaders and supervisors. Khal re-excavation committee selected five Sardar (labour leaders) and one supervisor for 100 labourers. These 6 persons received half a kg of wheat for each 1,000 sq.feet re-excavated.

- **Management Committee**

Re-excavation committee was formed with a minimum of five and a maximum of seven members. One of the committee member should be a woman. Generally the following members were in the committee:

- U.P. chairman and U.P. members of the concerned union,
- school teachers,
- social workers,
- female (generally U.P. member),
- Imam of mosque.

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- **Land acquisition**

No land acquisition was required for the last two re-excavation because earth could be kept on both sides of the khal.

- **Expected Benefits of the Re-excavation**

Owners of cultivable land on both sides where the earth will be kept would be benefitted in the following way:

- After khal re-excavation, the irrigation of their plots will be easy and IRRI cultivation during the dry season will be more secure
- During monsoon, the cultivation of Aman will be more feasible because the farmers will have to embank only three sides of his plots during this season. It will reduce the cost.
- Water hyacinth will not be able to enter their plot.
- Soil spill on land will increase fertility.
- Plantation on both sides of khals can be made.
- Earth spill on both sides can be used as roads

Though more crops mean more work for the people, farmers will get relatively more benefits out of the scheme.

- **Suggestions on How to Implement the Scheme**

- **Management/Implementation Committee**

Members of the Implementation Committee should comprise the following persons:

- representatives from all political party
- U.P. chairman and U.P. members
- school teachers
- local elites
- farmers directly concerned/affected

- **Implementation Procedures**

- Work has to be finished before the monsoon.
- Measurement of earth cutting has to be done immediately after the work.
- Remuneration of labour should not be pending for several days or weeks.
- Remuneration of labour should be in cash.
- Proper assessment of the amount of labour remuneration has to be made prior to starting of the work
- Local people do not want the work to be monitored or supervised by WAPDA.
- Donor agency supervision is preferred.

- **Women's involvement**

- Men do not like that women get involved in earth cutting works because there are plenty of men available for this type of job
- However, they mentioned that if destitute women want to do earth cutting, they should be organized by women, so that they will not cheated by men.

G.2.2.2 Nadana Khal

- **Location**

By the side of Nadana Khal in a village called Kalnai under Nadana Union of Begumganj thana.

- **People Consulted**

- Abu Yousuf Azad, middle farmer, 1½ acres of land by the side of the khal,
- Abdus Sattar, Secretary, Union Parishad, Middle farmers,
- Zahirul Islam, small farmer,
- Firoze Alam, farmer and businessmen,
- Mobarak Ullah, Ex.- U.P. Member,
- Rahamat Ali, landless labourer.

- **Present Problem**

IRRI boro is the main crop in this area but the khal is gradually silting up. As a result, just before harvesting time, the occurrence of early monsoon water cannot be drained properly posing a serious threat to the crop.

In order to retain water for dry season irrigation, villagers, with U.P. chairman and members, build a cross-dam on the khal in the month of November. Despite the cross-dam, the khal usually dries up by the end of January and there is a great paucity of water in the months of February and March. During this time, farmers depend on rainfall and on the few ponds which still hold water to meet the water requirement of the crop. Needless to say that, in many case, the yields obtained are quite below average.

- **Previous Experience of Re-excavation**

According to people Nadana Khal was re-excavated in 1974 under Food-For-Work programme. U.P. Chairman, U.P. members and local elites were in charge of the scheme and formed a management committee for the implementation. The spoil earth was kept by the side of the khal and it seems that nobody raised any objections.

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- **Cross-dam, a Popular Way to Hold Water**

Every year, under the initiative of U.P. chairman, villagers make cross-dams on Nadana khal. Within two km, two cross-dams were made this year in last November. With the decreasing of water level few more dams were made in adjacent connecting khals to restore water in these minor khals.

The earth deposited on the side of the khals during 1974 re-excavation was used to erect these cross-dams. The villagers takes about 10 to 15 days to accumulate earth on the spot of the cross-dams. About 150 labourers were involved in the construction work. Chairman of Nadana managed the entire amount of money required to build the cross-dam. Every year chairman gets some wheat for thus job. However, he received an allocation worth six thousand taka but the cost of the dam was about thirty thousand taka. To finance the difference, he has collected some money form the villagers and has personally heavily contributed. Participants mentioned that, though it is a great loss for him, it was not possible to wait till government sanction of wheat under FFW. If he had decided to wait, it would have probably been too late and the result would have been no water in the khal for IRRI cultivation.

Participants agreed that if the cross-dams are very much necessary for boro cultivation, they bear a major inconvenient. When all these cross-dams break away at the beginning of the rainy season, the huge amount of earth which is washed away significantly contributes to the siltation of khals.

- **Expected Benefits**

- Irrigation with the water of the khal through low lift pumps will be possible and easy. As a result, the crop will be more secure and higher yields could be expected.
- Spill of soil could be kept either in one side of the khal or in both sides. If is kept in one side, it could be used as road.
- Farmers having plots along the side of the khal will certainly allow the spoil to be kept along the canal because it will offer a good protection from early monsoon flooding limiting pre-harvesting damages to IRRI.
- They can plant trees on the embankment
- Water hyacinth will no more enter into their fields.
- Government can promote fish culture in khals. Also, if there is water in the khals during dry season then over fishing like now will not take place because there will be more fish available.
- Public will take the soil to elevate their homestead and land at their own cost.

- **Land Acquisition and Payment**

According to the participants to the discussion, there is no need for further land acquisition because the khal is wide enough. However, it has to be made 5 to 6 feet more deep. But if land has to be acquired in some places the compensation has to be provided on time. The amount of compensation should be calculated based upon the current market value of the land. Also, because the general practice of land owner is to register smaller surface of land than what is actually owned (so as to pay less tax), if the compensation is based only on the government records (without on the spot measurement), the people will be losers.

- **Suggestions for implementation**

  - Re-excavation of big khal like Nadana has to be made by private or government contractors.
  - Contracting firm has to be liable to the government and donor agencies for their work.
  - Proper re-excavation will be achieved only if it is supervised by people linked with the donor agencies.
  - Small khals, for which less than 100 tons of wheat will be required, can be re-excavated under the supervision of U.P. chairman and local committee.

- **Women's Participation**

  Fifteen women work in CARE sponsored Rural Maintenance Programme (RMP). Thirty women are given Vulnerable Group Development cards. Some poor women like them might work in earth cutting though plenty of men are available for work. Labourers from Charland might also come for earth cutting because they are already used to come in the area at the time of IRRI harvesting.

G.2.2.3 Rahmatkhali Khal

- **Location**

By the side of Rahmatkhali Khal in a village called Ratanpur under Mandari Union of Lakshmipur thana.

- **People Consulted**

  - Md. Solaiman, Irrigation project manager,
  - Md. Abdul Kader, U.P. Member, one acre of land, involved in business,
  - Md. Nurul Alam, middle farmer, three acres of land,
  - Mr. Mizanur Rahim Mizan, rich farmer and businessman,
  - Landless labourers and marginal farmers were also met afterward.

- **Present Problem**

  Khals are silted up and no water is available for dry season irrigation. Also, during rainy season, monsoon water cannot be drained out quickly.

- **Previous Experience of Re-excavation**

  In 1978 some re-excavation work was done. U.P. Chairman, U.P. members and local elites were involved in the management committee. In 1984 too, the khal was re-excavated but not much work was done. Labourers received only about 20% of wheat while the remainder 80% went to government officials, political party members, and members of the local committee in charge of the implementation of the scheme.

As a result of this bad former experience, though villagers feel the need of re-excavation, they are very much skeptical regarding the issue of proper implementation.

- **Expected Benefits**

  - Irrigation with the water of the khal through low lift pumps will be possible and easy. As a result, the crop will be more secure and higher yields could be expected.
  - Spill of soil could be kept in both sides of the khal.
  - If it is kept by the side of the main road, then road will be stronger.
  - Afforestation on embankment could be possible.
  - Villagers can elevate their homestead with the soil.

- **Land acquisition**

Additional land acquisition may not be necessary. But those who are encroaching into government land will have to evacuate. This problem has to be settled with the help of U.P. chairman and local elites of the area. If government need any land for greater benefits of the community as a whole, then people have to give up that land.

- **Suggestions for implementation**

  - From Joksinhat to Battali Bazar in Mandari Union, within about six km, about 100 landless families are presently living and will be displaced if the re-excavation work is done. Some of them have settled there for more than ten years and have no other places to go. Therefore, arrangements have to be made for their resettlement. Government should provide them another place to settle on or should give them money so as to allow them to purchase a homestead by themselves.

  - Re-excavation should be done under a proper supervision system so as to ensure that the work is done as per specifications.

  - Whoever takes the contract has to be liable directly to the donor agencies. Villagers believe that it will minimize corruption practices during the implementation of the project.

G.2.3 Discussion With Representatives from Various Social Groups

G.2.3.1 Companiganj (1)

- **Location**

Thana	:	Companiganj
Union	:	Musapur
Village	:	Musapur (Jelalpur)

One km west side of the Little Feni River outside the Meghna embankment near Red Crescent school-cum-cyclone shelter building built in 1988.

- **Participants**

Farmers from protected area and Fishermen, one union leader (7).

- **General**

The fishermen follow two types of employment. One group of fishermen is getting boat and fishing materials from farmers or moneylenders. From their catch, they have to give back 50% to the owner of the equipments and they keep the remaining 50% for themselves. In the other system, the owner of the fishing materials is hiring fishermen on a daily basis and is handling the whole catch.

Most of the professional fishermen have no fishing materials due to lack of capital. Some of them take loan from moneylenders during the slack fishing season in order to buy equipment. However, very few are doing it because interest rates charge are usually very high, between 6% to 10% per month.

The peak season for fishing is September-October, while the fishing season is spread from May to October. Fish catch from river, consisting mainly of Ilsha fish, is landed on river sides and sold to wholesalers during high tides (twice a day).

In both the protected and unprotected areas there are no IRRI boro cultivation due to non-availability of freshwater from DTW. However attempts were made but they were largely unsuccessful since at a depth of 800 feet the water was still saline.

Big area of cultivable land fall outside the embankment but, due to the salinity of the water, only one paddy crop (Aus) can be grown. However, even this crop is subject to damages due to the sudden intrusion of saline water which frequently occurred at the time of harvesting. Moreover, saline water damages other crops too, including trees and vegetables.

In the surrounding areas few people are migrating which could mean that the agriculture and fishing activities apparently give enough job opportunities and income.

The area is very much cyclone prone and has got a wireless center in the cyclone shelter. They are informed when signal No. 3 is given and they can communicate with Sandwip, Hatya, Urir Char, but the accommodation provided in the shelter (only one floor) is rather insufficient.

- **Main Problems**

- Irrigation unfeasible due to salinity of both surface and ground water.
- No credit support from institutional banking sectors
- No government support in the field of agriculture supply and extension

- **Proposals**

- An embankment with a regulator to protect from saline water intrusion.
- Development of surface water irrigation facilities if the regulator is built.
- Credit support.

- **Expected Benefits from Embankment and Regulator**

- On all cultivable land located outside the embankment, it will be possible to grow 2 crops. As a result, farm income will raise and more employment in agriculture will be available for the landless.
- The global environment will be less saline and more suitable to trees and homestead gardens.

G.2.3.2 Companiganj (2)

- **Location**

Thana	:	Companiganj
Union	:	Char Parboti
Village	:	Char Parboti

One kilometer West side of Kazirhat regulator on the embankment, west side of the Little Feni River.

- **Participants**

Nine Farmers, Businessmen and Labourers

- **General**

For these framers, the main source of income is obtained from paddy cultivation while the cultivation of betel leaves is providing a significant contribution to the total household income, probably around ten to fifteen percent. They cultivate only two crops of paddy, one of aus and one of aman. It is not possible to grow a crop of boro since surface water and groundwater irrigation are not feasible in this area. First, there is no khals in the immediate surroundings from which surface water could be extracted, and, second, the groundwater is saline even at a depth of eight hundred feet.

Outside the embankment, the situation is even worst for farmers because they can only cultivate a single aman crop. A aus crop will not be secure because, in May-June, saline river water is regularly entering paddy fields at each high tide.

The harvest of paddy provide them with sufficient amount of rice to live on for 6-8 months depending on years and size of holdings. To secure a living for the remaining months, they have to find alternative sources of income such as fishing, petty trading and wage employment.

Pond aquaculture is not very much developed in this area because there is a serious risk that saline river water spills over the embankment which would destroyed the standing crop in the fish ponds.

The participants reported that around 300 families have to migrate every year to get employment, especially from December to January and from April to May. The most popular destination are Chittagong, Dhaka and Sylhet.

In the village several "samities" have been organized by people engaged in the following activities:

- Fishing business and small trade
- Rickshaw pulling
- Farming, Krishok Samabaya Samity (KSS)
- Landless poor and women (Grameen Bank)

The farmers complained that they get hardly any services and facilities from the KSS. In fact, they perceived it as a "half dead" institution. The reasons given are listed below:

- The KSS used to supply seeds and fertilizers but now farmers have to purchase these inputs from local market.
- Credit facilities are very limited since only short-term loan of rather small amounts can be obtained.
- The majority of the people involved in the samity did not behave properly and were corrupted. As a result, credit availability has significantly reduced.

Another comment of the farmers was that agriculture extension was very much poor in this area. They mentioned that the "block supervisor" limits his extension activity to establishing a demonstration plot. As a result, the prime and only beneficiary in terms of training is the farmer who hold that particular plot while other farmers do not receive any technical advises or training.

- **Main Problems**

- Siltation of the Little Feni River causing inflows of saline water and drainage congestion.
- Intrusion of saline water on paddy fields during high tides.
- Groundwater irrigation is not feasible due to salinity of the aquifer
- Agriculture extension services are rather limited and do not meet the needs of the majority of farmers.

- **Proposals**

- Construction of a regulator on the southern side
- Re-excavation of khal to improve drainage.
- Easy terms and conditions to get loan from banks.

- **Expected Benefits from the Proposed Interventions**

  - The area of cultivable land will increase.
  - Water salinity will be less and so will be the crop damages.

G.2.3.3 Sonagazi

- **Location**

Thana	:	Sonagazi
Union	:	Char Dorbeshpur
Village	:	Paschim Char Dorbeshpur

West side of the Little Feni river. Along the embankment, inside, North side of Musapur.

- **Participants**

Five labour/fishermen who are landless and homesteadless.

- **General**

Since they do not own any cultivable land, they entirely depend on the sale of their labour force to secure a living. As a result, their livelihood is highly dependent on the availability of job opportunities. As they do not own any cultivable land and homestead land either, they are living on the eastern side of the embankment on BWDB land. They have built their house/hut (roof made of grass) on government property without any legal document. They migrated there around ten years ago to find jobs and settled there because they got free access to a piece of land on which they can live.

In March-April, which is the slack season there, they are employed very irregularly, around 7-8 days per month in average. The rest of the year, they are able to work between 20-25 days/month. In May-June, they are engaged for paddy transplantation and during the monsoon they are hired for fishing. Later, during the winter season, the get employed for the cultivation of dry season crop and get involved in any earth work scheme.

The most critical part of the year is in March-April when employment is scarce and irregular. During this period they are almost starving, eating one meal of rice a day only. Having no assets whatsoever which could be of some interest to a would be patron/protector, they fall outside the patron-client relationships system and do not have access to small loans which would enable them to improve their situation during the bad days of the slack season.

- **Main Problems**

  - The water in the surroundings is aline and thus improper for bathing and drinking purposes.
  - Erosion which will endanger their homestead within 1 or 2 years.
  - Fuel wood scarcity.
  - Irregular employment during the slack season.

- **Proposals**

  - Regulator to reduce the erosion.
  - Set up of factory for fish processing to create employment.
  - Credit facilities.

- **Expected Benefits from the Proposed Interventions**

  - More employment in agriculture.
  - Reduction of land erosion.
  - Better availability of freshwater.

G.2.3.4 Begumganj

- **Location**

Thana	:	Begumganj
Union	:	Eklaspur
Village	:	Purba Eklaspur

On the western side of Noakhali khal 3 miles south to Begumganj.

- **Participants**

Farmers, businessmen, daily labourers, agriculture block supervisor.

- **General**

In the village they grow only one crop IRRI boro. Though this village is situated along Noakhali khal, only few farmers use water from the khal for irrigation. Usually, farmers hold flood water within the road embankment as long as possible. Then, when it dries up, they rely on rain water for the growing period. In very few cases farmers irrigate with water coming from individual ponds. Though during the monsoon farmers cannot cultivate aman, the main source of income is nevertheless deriving from agriculture activities for both landholders (through farming) and daily labourers (through wage employment). During the harvesting period of boro (April) some labourers are "migrated in" from the nearby Charland area.

Most of people depends on agriculture to secure a living, people with small holdings (below 2-3 acres) need to have alternative sources of income to maintain their family. Others, including daily labourers have to find employment during the slack season or are likely to meet difficulties. Fishing is the dominant activities during the monsoon providing the poor with additional resources to live on.

Throughout the life cycle of a household some periods of financial stress regularly occurred. For a wide array of reasons, a household might have to raise funds to meet specific demand including, but not limited to, marriage and dowry, school fees, purchase of agriculture implements and inputs, financing of the departure of a family member who wish to get a job abroad, recovery from natural disasters, illness of one of the household member, and food scarcity.

To obtain the required amount of money, one common practice for those who have land is to "mortgage" a piece of land in exchange of a certain amount of money. In this system, the borrower gives his land for cultivation to the moneylender until he returns all the money back. The borrowing rate is Tk 15,000 to Tk 20,000 per acre of land mortgaged. Otherwise borrowing of capital is done against paddy. The practice is Tk 1000 against the capital plus one mound of paddy as interest for a 3 months period which is equivalent to some 100 percent per annum.

The share cropping system is 50% of the harvest for each party whereas the sharecropper bears all the cost of inputs. In this area the land is nowadays negotiated at a market price of Tk 150,000 - 200,000 per acre though the officially recorded price will not be over Tk. 150,000.

- **Main Problems**

  - Insufficient drainage facilities into Noakhali khal during the rainy season.
  - Too few facilities to irrigate with ground water.

- **Proposals to Solve the Problems**

  - They admit that usually the water is drained out in the Noakhali khal to the north and that it is insufficient due to water congestion. Re-excavation may solve the problem.
  - Majority of the participants claimed that the water should be drained out to the south but it is not the case. The reason is that Noakhali khal was block in Sonapur town some ten years ago by some influential jute businessmen who wanted to preserve their "monopoly" situation in the bazaar.

- **Expected Benefits**

  - Improvement of drainage will allow farmers to grow and additional crop during the rainy season (Aus/Aman).
  - Irrigation from surface water will be ensured.
  - Employment opportunities will increase.
  - General socio-economic situation will improve.

- **Problems and Issues for Khal Re-excavation**

  - Generally they reckoned that to provide benefits to the majority people, a minority of households (10-20%) will have to lose some land if the re-excavation scheme is to be done.

  - Though both side of the khal has been acquired, many people are still paying tax for pieces of land which are now under water. Therefore, in case of land acquisition people will claim to be compensated for those plots of land too and not only for the land which is not submerged.

  - For land compensation, people will claim the market price for all public land necessary, even the public land now under water.

  - The disposal of the excavated soil is not perceived as a problem because most of the households need some soil.

G.2.3.5 Lakshmipur (1)

- **Location**

Thana	:	Lakshmipur
Union	:	Sak Char
Village	:	Zohed Ali Kha

Two km east side of Rahmatkhali Regulator and north side of Rahmat khal.

- **Participants**

Small farmers and daily labourers.

- **General**

The people who are living in this village have migrated some 40-50 years back. This area was previously a charland and was under control of a Zaminder. As the land become gradually cultivable, few people came over there to settle down under the framework of a government programme aimed to allocate land to landless households. At that time, each landless settler received a right on 5.2 acres of land. However, the majority of the area is still owned by big an absentee landlord which possessed some 100 to 200 acres of land.

These days, as a result of land transfer among inheritants, the initial allocation of 5.2 has been fragmented in smaller lots and the majority of the households are now functionally landless owning less than 0.5 acres of land. Most of the area is cultivated only during aman season, though some boro is grown along the khal, and sharecropping is the dominant tenure pattern. However, the sharecropping

terms seem to be very much at the advantage of the tenant who receives 80% of the harvest. This may be due to the risky nature of the cultivation forcing landowners to give serious incentives to the tenants to find somebody to accept to take the risk of growing a crop in this area. This assumption can be further documented by the fact that the local price of land, which varies from Tk 60,000 to Tk 80,000 per acre, is significantly lower than on the mainland. This would mean that the return form farming is much lower and much less secure explaining why sharecropping is the dominant tenurial form in this zone.

During the slack season many day labourers are employed as fishermen. The lease of Rahmatkhali khal is controlled by a moneylender of Lakshmipur. He then sub-lease the khal to fishermen societies at a much higher price. Since the construction of the regulator in 1975 the fish population has very much decreased especially ilsha fish.

- **Main Problems**

The participants claimed that the area is poorly populated due to insecurity. Thieves are often visiting their areas and take away cows and assets. They know that the thieves are from Ramgati area in Charland. To avoid stealing of cows they have to keep the cows very close to the place where they are sleeping, quite often in the same room.

The education facilities are few in number and very poor in quality with the first high school being 6 miles away.

Before the construction of the regulator the bazaar close to Meghna river was prominent and it was a important trading place with goods being sold and transported as far as Chandpur, Barisal, Bhola and Lakshmipur. Now the bazar is hardly existing.

Nowadays agriculture production cannot be developed because surface water irrigation is not possible since the existing minor khals are silted up.

- **Benefits from Project Intervention**

All participants claimed that the improvement of the regulator will have no impact on their actual situation.

- **Proposals**

However, they identify the following measures as very useful to improve their livelihood:

- Re-excavation of minor khals (e.g. Gorur khal).
- Fair system to get access to fishing rights.
- A new gate to allow passage of boat, and a better management to make possible the passage of fish.

G.2.3.6 Lakshmipur (2)

- **Location**

Thana	:	Lakshmipur
Union	:	Char Sharif
Village	:	Nurullapur

West side of WAPDA khal

- **Participants**

Farmers and contractors

- **General**

The area is already intensively cultivated with Boro covering 90% of the NCA, Aus 50% and Aman 100%. Irrigation of the boro crop is done using electrical LLPs to extract water from WAPDA khal.

In the years of 1961-63 re-excavation of WAPDA khal was done and since that time, the area has gradually developed an intensive paddy cultivation agriculture. However, only from 1989 did the farmers get a regular water supply from the khal throughout the winter season. Due to high productivity of land in this area, land price is quite high, ranging from Tk 200,000 to Tk 400,000 per acre, though officially recorded prices are never exceeding Tk 150,000 per acre.

Although good returns are obtained from crop production, the picture cannot be completely ideal since one of the problem raised by farmers relates to land erosion. In this regard, the participants reported that every year many landowners are loosing a piece of land due to the erosion the bank of the khal.

- **Proposals**

- a regulator in Pearpur to avoid water shortages like in the last winter (1993) which was due to insufficient high tide in the Meghna.
- drainage of Noakhali Khal to south to reduce flow of water and erosion.

- **Problems and Issues for Khal Re-excavation**

- The participants recalled that when the khal was initially re-excavated in the 60's, the alignment was first designed straight but influential people managed to modify it so as to preserve their cultivable land from being acquired by the government.
- The biggest problem faced by farmers is land erosion and resulting loss of property. The re-excavation will not reduce this natural hazard.

- According to the participants, the idea of straightening the khal might still be an achievable objective but significant difficulties might be encountered because such an alignment will mean that the khal will go through some villages. Under the present land acquisition system, those who will loose their cultivable and/or homestead land may not get what they perceive as a proper compensation and conflicts might erupt impeding the implementation of the scheme.

- The problem of re-excavated soil does not seem to be a big issue. Only, the participants wonder whether this will increase erosion.

- If the re-excavation is done properly by re-excavating the initial alignment, they will support it but they do not believe that local contractors will ever be able to do the work due to the likely opposition of some influential persons.

G.2.3.7 Lakshmipur (3)

- **Location**

Thana	:	Lakshmipur
Union	:	Digali
Village	:	Purbo Jamertali

Along Rahmatkhali khal, southern side, 5 km south of Chandina.

- **Participation**

Small farmers and daily labourers.

- **General**

A vast area of this village is afforested and every group of houses ("bari") is surrounded by 2 to 5 ponds. The participants reported that this kind of environmental pattern is common only in the villages of Digali union.

The area was mainly occupied by people of Hindu religion up to the partition of indian sub-continent in 1947. Now, the majority of the population is muslim. Through the area has got many ponds the participants claimed that their major source of income come from paddy cultivation. All the ponds, which have an average size of 0.3 acre, are used for carp culture. The operators of these ponds are usually not the owners but individuals or groups who obtained access to the pond through lease arrangements. Often, pond holders are fishermen but this does not always hold true.

The exploitation of the ponds is not done by the owners due to multi-ownership problems. Usually, ponds belong to too many persons, quite often more than fifteen. Therefore, as they usually cannot all agree on the methods of cultivation and as many of them are not in a position to invest capital, they prefer to lease it out whenever possible. The average lease amount is Tk 33,000 for 1 acre for a period of five years.

From the agriculture land, villagers grow two crops a year, IRRI boro and transplanted local aman. The IRRI boro crop is irrigated with water from Rahmatkhali khal but it usually dries up by the month of March. Those who have little land and those who are sharecropping do not get enough paddy to live on for the whole year and they often have to sell their labour during the slack season. Though the land is sharecropped following the tebhaga system (3 shares), they do not get substantial profit from land cultivation because the price of the inputs and water is too high.

To meet up financial crisis poor people have often to borrow money at the rate of 6 percent per month. To face the exceptional big expenses such as wedding, disease, school fees, bribe for employment, deposit to go abroad, etc. they borrow money and quite often they have to mortgage land as collateral. The amount of credit obtained is usually very low, as compared to the price of land, ranging from Tk 15,000 to Tk 20,000 per acre.

The participants do not know about any NGO activities in the area but they are aware of the existence of a farmers' samity (KSS). However, they mentioned that, because it was controlled by few large landowners, it never involved small farmers and is now dismantled.

The market price for land varies between Tk 80,000 to Tk 160,000 per acre. For homestead land it may go up to Tk 200,000 per acre. However, a common practice is to write only half of the price on the deed agreement.

- **Main Problems**

  - Erosion of the bank of Rahmatkhali khal which destroys cultivable and homestead land and homestead of people. This situation is even more acute since there is no government land at all along the khal. As a results, all eroded land is privately owned and each year several farmers lost their only asset.

  - Lack of water in the khal in the month of February-March to meet irrigation needs. Almost every year they have to stage demonstration and blockade of the main road so as to bring to the notice of the Deputy Commissioner that the insufficient level of water in the khal is seriously harming their livelihood. They pretend that this is due to the negligence of the people responsible of the operation of the regulator at the mouth of Rahmatkhali khal. This year for instance, after some demonstrations, the regulator was opened during high tides and two or three days later water was again available in the khal.

  - The price of agricultural inputs is too high and they are not organized to be able to get cheaper rates.

- **Proposals for Implementation of the Re-excavation of Rahmatkhali Khal**

  - All the people present to the discussion agree that the implementation of the project will never be satisfactory, in terms of ensuring that re-excavation is done as per specifications and that payment of labourers is fair, through the current system of Project Implementation Committee (PIC) controlled by U.P. chairman and U.P. members.

  - An old man, who lost his two sons and who is now struggling with seven grand children and no cultivable land, narrated how the construction of the first coastal embankment was done in 1967-68. During that time, he worked as a labourer. The project people who designed the embankment came on site and called for labourers. Section by section, they appointed a group of labourers, showed them the work to be done and placed pegs. A week later they came to inspect the work done and as per volume of work completed the labourers were paid on the spot. The labourers were organized by labour leader (Sarder) who supervised the work. The old man does not remember whether the Sarder got extra payment in addition to what labourers got. However, because the labourers were pleased with him, they individually give him something out of their own earnings. He feels that the re-excavation of Rahmatkhali khal should be done in the same manner.

  - Regarding the disposal of the re-excavated soil all participants appreciated the system of spreading it over the land.

  - A concern was raised about erosion of the bank of the khal and they feared about the way re-excavation was going to be done. They advised to follow an alignment which will in someway bring the flow of water to a straighter direction.

  - Because most of the people have ponds which are suitable for aquaculture they would welcome an organization which could help them in pond management and which would provide credit support at a fair rate of interest.

G.2.3.8 Chatkhil

- **Location**

Thana	:	Chatkhil
Union	:	Mohammadpur
Village	:	Kullleshree

West side of Mohendro Khal, 4 km north of Sonaimuri-Ramganj road.

- **Participants**

Farmers and daily labourers.

- **General**

The main source of income for the inhabitants of this village is derived from agricultural activities. In most of the area farmers are producing two crops a year,irrigated IRRI boro and broadcast aman. Only a small area (around 10% of NCA) is cultivated with aus. The cultivation of aus is not expanded because, according to farmers' reports, the rats are cutting the stems before ripping period.

The labourers are mainly involved with agricultural activities though during two months of the year (Asar and Kartik), they have to pass through a serious hardship period. Some of them migrate out to find employment while others stay at home and get occasionally some employment, around 7-8 days per month in average. During harvesting period the labourers are paid Tk 70 for a full day work (7h to 17h) without food. Among the participants two labourers migrated in for the boro harvesting period, they are coming from Ramgati char and planned to stay here for some 2 weeks or so. In the village they are about 40 people who came from the char areas to work for the harvesting of IRRI boro.

In this area, the sharecropping terms provide each party with 50% of the harvest. However, the landowner contributes to the production costs since he does all the ploughing while the sharecropper has to bear the costs of other inputs. The farmers participating in the discussion admitted that under this system the sharecropper is losing money although they mentioned that the sharecropper is working for himself during off time.

- **Main Problems**

- The participants pointed out as first problem the irregular availability of water during the last phase of the cultivation of IRRI boro. The Mohendro khal does not retain enough water for the whole irrigation period. Therefore, for the maturation of the paddy farmers have to pump water out from adjacent ponds or desperately wait for rain.

- This year a DTW was installed at a depth of 520 feet, to ensure a regular source of irrigation water. However, the iron content of the water is pretty high and this water is not suitable for paddy cultivation.

- Due to irregular availability of employment, the daily labourers have to migrate out during some part of the year to get some work. Often, they face financial difficulties and it is a common practice among them to borrow money from moneylenders to meet their basic needs.

- During the rainy season the area is flooded with 4 to 6 feet of water and the cultivation of IRRI T. aman is not feasible.

- The construction of a bridge over the Mohendra khal was approved two years ago but so far, no work has started except excavation for the foundations. This is the only road which connects the village with urban centers.

- Cultivation of aus paddy is practically unfeasible due to the high population of rats infesting the fields during the monsoon. The farmers noticed that the rats also damage the aman crop.

- **Issues and Proposals Related to Mohendra khal**

The participants accepted the idea that the water flows in and out from Dakatia river. Just after the rainy season they build a crossdam to retain the water in the khal, but it is insufficient for the whole irrigation period. Practically, it dries out at the end of January and no more water will enter the khal, even during high tides, until the end of the winter season.

In order to bring more water to the khal so as to retain water throughout the winter, the participants proposed the following:

- Construction of a regulator at the junction of Mohendra khal and the Dakatia river in order to retain more water in the khal at Bashgaon.
- Pumping station at Bashgaon to keep water in Mohendra khal if necessary.

Alternative suggestion is to re-excavate the all length of the khal at a depth which will allow tidal water from the Dakatia river in the khal throughout the winter season.

As far as re-excavation of Mohendra khal is concerned, the participants recalled from their experience that re-excavation work is never properly done, e.g.the khal is never excavated at the specified depth.

Another issue is that, in both sides of the khal, there is no government land and they are concerned about the scale of the land acquisition which might be needed to dispose of the re-excavated soil. In the same line they foresee losses of land and crop which may create serious conflicts and disturbances during project implementation.

- **Responses to project intervention**

- No problem if the soil is spread over the cultivable land. Farmers will welcome the additional layer of new soil if it height remain below one foot.

- No problem if there is a mechanism to compensate the farmers for the loss of standing crops. In case of sharecropping, 50% will go to landowner and 50% to the sharecropper. In case of land without standing crops at the time of re-excavation, the landowner should be compensated for the possible decrease in land fertility due to spread of spoil. However, the compensation given should be lower than in the case of farmers loosing standing crops.

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- **General**

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- For implementation of the scheme, they do not want U.P. chairman and U.P. members involved. The main reason is that, by experience, they know that through them the work will not be done as per design and the labourers will not get fair wages.

- Instead, they propose that the work be done by involving directly the labourers (LCS) who will then be supervised and controlled by an honest person living along the khal, or by an honest organization such as NGO.

- For supervision they advised to have the same people than those who have designed the scheme. These people should also be responsible to certify that the job is completed as per specifications.

G.2.3.9 Ramganj

- **Location**

Thana	:	Ramganj
Union	:	Korpara
Village	:	Fatehabad

Along the Joksin Khal (Kamta Khal) on the western side, 8 km south of Ramganj.

- **Participants**

Farmers, businessmen, daily labourers.

- **General**

The major crops in this area are IRRI boro and T. aus. This year (1993), the, due to unavailability of water during the growing stage, the yields of boro were very low. No aman is grown in the area because there is no sufficient time to grow an aman crop in between aus and boro crops. If aman was cultivated after aus, the harvesting will be late and it will hamper the boro crop. It was also mentioned that if boro is cultivated after aman, then the yields are lower due to decreasing fertility and nutrients in the soil. Moreover, farmers have to start boro cultivation very early so as to make the maximum use of the remaining flood water. Therefore, if they cultivate aman less water will be available for boro and the crop will be seriously affected.

The daily labourers life patterns follow the patterns of agriculture seasons. This means that during the growing period of paddy, no farm work is available and employment is scarce. As a result, they have difficulties to afford more than one meal of rice per day during these periods. Quite often, some of them migrate to Dhaka during to find employment during the slack season.

To meet unforeseen financial requirements for wedding purposes and dowry, for serious illness, for going abroad, for food crisis, for court case, for bribing officials to get jobs... the participants mentioned that quite often they have to borrow money at very high interest rates usually around 10% per month. In the area mortgaging of land (Kot) is also a common practice for marginal and small farmers when they are in need of money. The person in difficulty writes a deed agreement mentioning that if he cannot return the money, the borrower will get his land. The rate is Tk 15,000 to Tk 20,000 per acre.

Among the participants, many of them sharecropped in some land. They give 50% of the harvest to the landowner who then contribute to the production costs by paying Tk 1500 to Tk 2,000 per acre. Otherwise, if the sharecropper bears all input costs, he gives only 40% of the harvest to the landowner. In this area, the market price of land varies from Tk 200,000 to Tk 350,000 per acre depending upon land types and flood levels.

- **Main Problems**

  - Insufficient water in the khal for irrigation.
  - Feasibility of irrigation through DTW is yet to be confirmed, some people reported that a try made in the neighbour village.
  - Poor scope of employment for day labour during slack season and some of them have to migrate out.

- **Proposals**

  - Installation of DTW to secure the availability or irrigation water during winter season.
  - Pumping over Chandpur Irrigation Project (CIP) embankment to bring water in the area through Farida khal. Farmers reported that another area has already benefitted from this kind of advantage against the payment of some money.
  - As an alternative to the two above proposals, farmers suggested that the re-excavation of Joksim khal could be made at such a depth so as water will be retained throughout the dry season.

- **Implementation Issues**

  - Majority of the people present claimed that the disposal of re-excavated soil will not be a problem because they should sacrifice a little to get more benefits. **However a landowner having agricultural land along the khal strongly objected and walked out.**

  - It seems that if the spoil is spread over land within a distance of fifty meters from the banks of the khal, people would be satisfy with that.

  - They have no faith in chairman and members to implement properly the re-excavation scheme.

- To ensure a proper re-excavation of the khal they feel that a re-known organization should look after the implementation of the scheme, employing local labourers to perform the work.

- They suggested that three parties should be involved in the re-excavation work, viz,:

  - o project people to supervise and certify the work.
  - o an agency to disburse the money.
  - o an organized group of labour with Sarder (labour leader).

- With respect to the issue of maintenance of the khal after implementation, the participants reckoned that the beneficiaries should be made financially responsible in one way or another, though nobody feels responsible for the maintenance of Government property. The discussion went further and they proposed that an agreement with all beneficiaries, represented through committee, could be made before implementation. This agreement will state that once the khal is properly excavated, the beneficiaries will do necessary work to remove water hyacinth and will take actions to prevent people to use the bank since it increases siltation process.

G.2.4 Discussion with Local Officials and NGOs Representatives

G.2.4.1 Senbagh : Thana Bittahyn Central Cooperative Association

- **Location**

BRDB office at Senbagh thana headquarters

- **Participants**

- Abdul Hossain, chairman of Thana Bittahyn Central Cooperative Association, (TBCCA).
- Nikhil Debnath, Accountant, TBCCA.
- Mohindro Kumar Das, Thana Rural Development Officer (TRDO), TBCCA.

- **General**

The main activities of TBCCA are related to the monitoring and follow up of existing landless groups which have already been organized (MBSS and MSS) and to the supervision of loan disbursement for income generating activities to society members. Nowadays the programme is running with a seed capital, fixed for one year, of Tk. 3 million provided by DANIDA awaiting extension of NIRDP or integration within the "Rural Poor Programme" of BRDB. The capital is a revolving fund used to finance the capital investment required to start up activities such as paddy husking, cow fattening, goat rearing, purchase of rickshaw, petty business, etc. Interest rate is 16% per annum and the loan disbursement and utilization is supervised at field level by inspectors from BRDB.

- **Main problems**

For Mohendro Kumar Das (TRDO) the main problem of this area is that a great number of the people do not get employment and are therefore depending on other household members who are earning. As a result, the hardship of each family becomes day-by-day more acute since the ratio between earning and non-earning is gradually shrinking. Mr Das noted that population is growing but the extend of employment remains more-or-less stable explaining why the local economy cannot absorb the increasing labor force surplus.

Mr Das also indicated that the amount of capital available through credit to societies members is too low to have significant effect on the capital formation and local economy growth. Also, the procedures are very much cumbersome and access should be simplified and eased.

Other problems identified by Mr Das are that the existing khals dry up during the winter season rendering surface water irrigation risky and uncertain. Moreover, as the number of DTW are insufficient irrigation is limited in this area and so is the land under boro cultivation and the employment opportunities in farm work during winter. According to Mr. Das, the major deficiencies of the BRDB system which are seriously constraining the development of MSS/MBSS groups activities are the following:

- The mechanisms to get a loan for an individual society member is too complicated and take too long. Quite often at the time when the application for loan is approved the season for which the money was required is over and the would be borrower does not need the loan any more.

- The ceiling for loan is too low. For instance, with respect to cow fattening, Tk 6,000 is not enough to buy a good cow. As a result, the borrower will have a tendency to use the money for other non-productive purposes (consumption) and will probably face some difficulties to reimburse the loan.

- The staff working at field level (inspectors) are recruited locally though they are under his control he cannot exercise his full authority because they are well connected with influential people. Moreover they are getting very low salary in the range of Tk 1200 to Tk 1400 per month with travel and daily allowances on top (Tk 125 per day).

- The TRDO reckoned that NGOs and Grameen Bank are more successful to effectively reach the poor because they are less administrative, more flexible and are able to respond quickly to the real needs of their group members.

- Earlier under BRDB Rural Poor Programme the purpose of group formation was clearly to encourage institutional development which was achieved through motivation of target groups and awareness building. Now that field workers of BRDB have learned that people are forming groups only to get loan, they are doing less motivation work and group formation is achieved by raising expectation on access to credit.

G.2.4.2 Senbagh : Thana Central Cooperative Association

- **Location**

BRDB office at Senbagh thana headquarters

- **Participants**

- Golam Mustafa, KSS group director.
- Golam Rahman Mazumder, KSS group director
- Ali Akhas, Thana Rural Development Officer (TRDO), TCCA (Thana Central Cooperative Association).

- **Main Issues and Problems**

The normal BRDB programme is now in a very precarious situation and the TRDO mentioned that the activities are close to nil. According to the participants, this is due to an ordinance issued by the Prime Minister Office which declared a complete moratory on agriculture loans not exceeding Tk 5,000. This means that borrowers are exempted to reimburse the capital and the interests as well. For loan above Tk 5,000 and below Tk. 10,000 the moratory is only partial and the borrowers are exempted to pay the interests while they will have to reimburse the principal. However, this ordinance is not applicable for loan disbursed through BRDB because a part of the capital comes from foreign funds. Due to this ordinance all farmers who took loan through BRDB are very upset and resented. Many of them have unilaterally stooped to pay their installments awaiting another ordinance from GOB which would make them eligible to the same facilities.

Both the TRDO and the two KSS directors present at the meeting mentioned that another very significant issue is the poor effectiveness of BADC with respect to the maintenance of DTW. Due to the poor performances of BADC in this regard, the demand for irrigation loans is very limited not to mentioned nil. To understand the importance of this issue, it is necessary to the describe the disbursement process of irrigation loans through BRDB and the interactions existing with BADC.

The loan application is prepared by the KSS then forwarded to Janata Bank after approval of BRDB. The money is paid directly from Bank to BADC who then do the installation of the DTW following the specifications mentioned in the loan application. The usual loan amount is 1,68,500 Tk with an annual interest rate of 16%. The full amount has to be repaid in six monthly installments following one year grace period. Normally a contract is established between BADC and the KSS stipulating that full maintenance will be ensured by BADC during the first year.

Mr. Golam Mostafa told us that one DTW was installed in his area for the benefits of the members of his KSS. However, it has never supplied irrigation water since the last 2 years. The diesel engine started to give trouble after one week, he paid for the spare parts and still he could not get enough water to irrigate.

Moreover the farmers within the command area lost confidence and the KSS members are unwilling to refund the loan. The situation becomes very critical because the interest is accumulating and if they do not refund the loan, the mortgaged land will be taken by the bank. The KSS members are very much upset against BADC because they never fulfil their duties and ultimately they would not be guilty. Mr. Akkas (TRDO) mentioned that he has several KSS with the same problems and under those circumstances BRDB activities are not supporting the development of agriculture but instead are rather hindering it.

G.2.4.3 Begumganj : Thana Bittahyn Central Cooperative Association

- **Location**

BRDB office at Begumganj thana headquarters

- **Participants**

- Md. Ismail, chairman of Thana Bittahyn Central Cooperative Association, (TBCCA).
- Abdul Karim, Abdul Quader, Samsul Haque, BSS members
- Kartik Kumar Roy, Thana Rural Development Officer (TRDO), TBCCA.

- **General**

The Thana Bittahyn Central Cooperative Association of Begumganj was initiated in 1986 under the framework of the Noakhali Integrated Rural Development Project (NIRDP). Now that NIRDP has withdrawn, Begumganj TBCCA is going though difficult time though it is still operating.

From 1986 to 1990 the main activities have been institutional development through formation of landless societies (BSS and MBSS groups) and financial resources development through the establishment of a group saving fund. Since 1991, with money allocated by DANIDA (Tk 3 millions) used as a revolving fund, a credit programme started to finance the development of income generating activities among societies members. The terms of the loan are not soft, with an annual interest rate of 16% out of which 1% goes to the field inspectors, 1% to the society manager, 1% to the society saving funds, 2% to bad debt reserve kept by TBCCA and 11% to TBCCA revolving fund.

- **Main Problems of the Area**

- In 90% of the area, only one crop of IRRI boro can be cultivated. Cultivation of aus and aman is almost impossible due to water logging resulting of poor drainage of early rain water and late monsoon water.

- No cottage industries or small-scale rural industry to absorb the labor force surplus during slack season resulting in lack of employment opportunities for a majority of labourers living in the area.

- **Proposals**

  - Re-excavation of WAPDA khal to allow for a better drainage of monsoon water and to retain more water for irrigation during the winter season.
  - Use of BSS and MBSS members for re-excavation work.
  - Implementation of afforestation programme on the embankment through BSS/MBSS groups.

- **Questions Related to Khal Re-excavation**

Md. Ismail, TBCCA chairman wondered about whether or not the use of LLPs in WAPDA khal will still be possible in the future if the water levels go further down. In fact, he mentioned that he believes that sooner or later it will be no more possible to lift water for irrigation if the khal is not re-excavated.

Regarding the issue of how to dispose of the earth which will be re-excavated, he ensured that in Noakhali there will be no problem, because plenty of people need earth for their homestead and/or their fields. Moreover, if the soil is spread over a long distance people will be even more pleased provided that they do not have to pay for it.

To keep water during winter season he suggested to build a series of intermediary gates in the khal.

With respect to the issue of land valuation and compensation, he indicated that the market price for agriculture land ranges from Tk 200,000 to Tk 250,000 for one acre. However, he mentioned that a common practice is to officially record lower transaction price, usually not over Tk 150,000 per acre.

G.2.4.4 Lakshmipur : SOPIRET (NGO)

- **Location**

Thana	:	Lakshmipur
NGO	:	SOPIRET
Met with	:	Nurul Huda, Deputy Director

- **General**

The NGO is working in Lakshmipur and Ramganj thanas. Besides family planning and health/sanitation programmes, they organized group of landless and provide them credit support to develop income generating activities. Mr Huda pointed out that in their working area most of the farmers are growing a single crop during the rainy season because irrigation facilities are insufficient during the winter.

They noticed that their target groups go through difficult times and hardships at least twice a year (March-April and September-October) due to little scope for employment.

- **Expected Benefits of the Project**

Upon presentation of the proposed interventions Mr.Huda supported the project and mentioned the following benefits:

- more employment opportunities
- production of more crop and thus of more food
- as a result, a general improvement of the health status of the poor can be expected

G.2.4.5 Noakhali Sadar : UPOMA (NGO)

- **Location**

Thana	:	Noakhali Sadar
NGO	:	UPOMA
Met with	:	Monu Gupta, Rafiqullah.

The NGO started activities in 1990 in Noakhali and is extending in Ramganj Thana. The main activities are institutional and human development through group formation and saving. Also, activities pertaining to social forestry, health, sanitation and credit support to income generating activities are normal components of UPOMA's working strategies for the poor. Besides working in the project area they have also developed some working experience in the newly emerged chars in the southern end of Noakhali.

- **Opinions on the Proposed Interventions**

They fully support the proposals and commented positively on the expected project effects. Nevertheless they emphasize that to achieve sustainable development objectives, additional aspects will need to be considered and supported by the project. Among these important questions the following could be noted:

- Organization of the poor to enable their participation in the project through earth work (LCS), afforestation and supply of agriculture inputs (fertilizer, seeds, pesticides..).
- Development of irrigation facilities and of a system to distribute water among farmers.
- Provision of capital to sharecroppers to enable them to intensify their farming activities
- Provision of capital to landless/women to support the development of income generating activities.
- Definition of mechanisms to improve the marketing of agriculture production.
- Establishment of a system for the maintenance of the re-excavated khal.
- Implementation of a scheme for the afforestation of BWDB land.
- Improvement of water management to take into consideration the interests of fishermen.

G.2.4.6 Ramganj : BRDB

- **Location**

BRDB office at Ramganj thana headquarters

- **Participants**

Met with Thana Rural Development Officer (TRDO), Serajur Haque, and Assistant Rural Development Officer (ARDO), Accountant and Inspector.

- **Discussion about System Rehabilitation Project (SRP) in Chandpur Irrigation Project (CIP)**

The maintenance of the CIP embankment falling under Ramganj thana is implemented through groups of women formed by BRDB (MBSS) which are, for this particular kind of work, called Earth Maintenance Group (EMG).

Each EMG is composed of ten women and is responsible of taking care of seven km of embankment. Each EMG has an account in a local bank in which the wages of the women are deposited every month by BWDB. Each woman is paid Tk 25 for every working day, excluding weekly and national holidays.

The supervision of the work is done jointly by the consultancy firm, BWDB and BRDB. Upon certification of the consultant the money is transferred to the EMG account. From her wages, a woman cannot withdraw more than 80%, or 20 Tk per day. The remaining 20%, or 5 Tk per day, are kept as saving and cannot be withdrawn before six months. The EMG is only maintaining the embankment through earth work. The ARDO mentioned that they are awaiting a support for involving the group in embankment afforestation.

G.2.4.6 Feni : BWDB System Rehabilitation Project (SRP)

- **Location**

BWDB office (SRP) in Feni

- **Participants**

Met with Mr. Muksed Alam and Mr. Korshed Alam

- **General**

From Feni office, the SRP is working in three polders namely Chandpur Irrigation Project (CIP), Muhuri Irrigation Project (MIP) and Karnafuli Irrigation Project (KIP).

The objective of the project is to organize the maintenance of the infrastructure and increase the irrigation scope in involving the landless people, with the collaboration of BRDB and NGOs, so as to uplift their socio-economic conditions. BRDB was chosen because it almost works everywhere in the country forming farmers' societies (KSS) for irrigation schemes. However, so far BRDB has only achieved to organize ten to fifteen percent of the farmers and a mass of small farmers are yet to be organized into water's users samity.

Another overriding objective of the project is to improve the communication between people who have designed the surface water irrigation schemes and the beneficiaries. In another words, this means that the feeling of SRP personnel is that those who have designed these projects (engineers) have not been able to respond to the needs of farmers and landless people. As infrastructure is already built, SRP has been designed as an approach to maximize the project benefits and to ensure that proper maintenance of the infrastructure is carried out. This should be partly achieved by getting the engineers to spend fifty percent of their time with the farmers.

- **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 hammer.

- **Maintenance of the Khals**

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

- **Maintenance of Water Control Structures**

SRP is planning the same system for maintenance of structures, with a group of labourers. For rehabilitation of "kacha" infrastructure they are using Labourers Contracting Society (LCS). 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.

Mr. Khorshed Alam expressed his full satisfaction upon the work accomplished so far by LCS and indicated two aspects of the system which need to be developed and generalized:

- The labourers are trained before starting the work and they are paid upon measurement and on a regular basis. Therefore, the labor 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.

Recommendations

Mr. Khorshed mentioned that they are now working on FCDI projects which were designed and implemented without consultation with the beneficiaries. Now, to involve 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.

He suggested that in the future, direct consultation/participation of the beneficiaries must be done as during the design phase of the project. Then, 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 samity 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 samity that the maintenance will be taken care of by the members through contribution in kind. e.g. by their own labour.

APPENDIX G3

PROPOSALS FOR NGO'S SUPPORT (UPOMA)

APPENDIX G3 : Proposals for NGO Involvement in Project Implementation

PREPARED BY

UPOMA
Uttar Fakirpur
Maijdi Court
Noakhali - 3800
Amalendu Kandi
Executive Director

Dhaka Contact
Amalendu Kandi
UPOMA
24/2 Mitali
Rayer Bazaar
Dhaka - 1209
Tel: 814251

G.3.1 Area and present Activity

District of Noakhali is one of the most back ward, under developed and vulnerable area situated in the southern part i.e. the coastal region of Bangladesh which is about 200 kilometers from Dhaka city. The largest majority of the population are landless, agri-laborers, day laborers, marginal farmers small share croppers, fishermen, destitute women and unemployed youths.

Presently UPOMA is conducting a socio-economic development project for the most disadvantaged section of the community with special emphasis towards women. The activity is spread all over Sudharam (Noakhali) thana. The activities which are implemented through organized groups are as follows:

- Formation of groups
- Human and skill development training
- Motivate and guide the organized groups to take up various kinds of income generating activities
- Education
- Water supply, sanitation and ecology
- Popularize vegetable and horticulture through kitchen gardening.

G.3.2 Results

Due to financial constraints Upoma has not been able to expand its activities as per the dream of its personals. Upto now its work is being spreader over 18 unions and 65 villages under Sudharam thana.

Total numbers of organized groups are 106. Each group is depositing its savings in the bank. Upoma workers conduct regular group meetings.

Groups	Members	Savings	Number of bank a/c opened by the groups
Male - 40	Male - 791	Male - 1,24,933	Male - 36
Female - 66	Female - 103	Female - 1,24,419	Female - 44

G.3.4 Proposed Area to be Covered under NNP (FAP 5)

UPOMA proposes to design an integrated development activities in three unions as **pilot project** which is under FAP-5. In these areas, water logging and drainage is one of the major problems. Due to this it is not possible to cultivate land throughout the year. Also, groundwater is not suitable for cultivation because of salinity. People's livelihood depends on agriculture. Scope of employment besides agriculture is negligible. So most of the people live under and just above the poverty line, repeatedly suffering food crisis during the year.

The proposed areas where UPOMA wishes to extend its activities are in Dadpur, Kaladaraf and Noanni unions of Noakhali Sadar. The proposed unions have a population of approximately 100,000. Eighty percent of them depends on agriculture. Around 60 percent are landless.

These areas have a road linkage with the district town and commercial areas so there is a potentiality to develop horticulture, vegetable, dairy and fisheries. In these areas too, a special leaf which is used to make mat is available and it is a potential sector in which women can get employment because mat has got a good demand on local market.

G.3.5 Proposed Activities

In the present situation the activities of UPOMA are implemented in a very limited scale and can be regarded as negligible to fulfill the requirement of the target population. To alleviate the poverty and initiate a process of self reliance, UPOMA needs to expand its activity as much as possible. With that aim it proposes to start integrated development activities in three unions as a pilot scheme. UPOMA will organize the most disadvantaged section of the rural community with an emphasis towards women folks and landless poor. Then it will motivate the target people so as to promote their participation in the construction of infrastructure and khal re-excavation. For instance, UPOMA could support the organization of Labour Contracting Societies. The major activities which could be carried out by UPOMA are as follows:

- Institutional development of the poor (group formation)
- Human resources development and skill development training
- Development of income generating activities
- Support to agriculture, homestead cultivation and horticulture
- Homestead and/or embankment afforestation
- Improvement of water supply & sanitation
- Education
- Development of poultry, fishery and live-stock
- Support to infrastructure development through LCS.

G.3.6 Target Beneficiaries

The following section of the rural community are being treated as the target people by UPOMA:

- Wage laborers
- Destitute women
- marginal farmers and sharecroppers.

Upoma defines the target people as follows:

"a person who is involved in doing manual labour fully or partly either in others' land or in other occupation and who does not own a sufficient amount of land to maintain his livelihood throughout the year".

G.3.7 Steps to be Taken to Implement Activities

As already mentioned, the proposed activities are deigned for the upliftment of the target group. To prepare the target people and make them capable of getting benefits out of the activities, UPOMA will organize groups, conduct training (both human in the sense of social and cultural and technical), and will receive training support from other organizations having expertise in particular sectors. It will also support the groups by providing credit for income generating activities in the various sectors in which members have interest and for which the demand in the local and urban market is good. It will also motivate the groups to create their own savings so that they can reduce their dependency towards UPOMA within the shortest possible time.

It is widely seen that the advantages of all the infrastructures goes mainly to the resourceful section of the community. The poor working community only gets employment in the time of construction. So, UPOMA will organize and motivate the poor so that he can be benefitted in the time of construction as well as after construction.

Through organized groups (LCS type) the poor will participate in construction activities and after that he can be supported to start up income generating activities. Also group members can take over water bodies for fish cultivation, they can plant trees in both sides of khals, share croppers can be organized so as to claim for a reasonable share of the products (tebhaga system). In addition UPOMA can help the landless to get access to the khals land for settlement and cultivation.

G.3.8 Monitoring, Supervision, Evaluation and Administration

These are a very important component of UPOMA activities so as to ensure that the programme is well on tracks. Experienced staff will do the supervision and monitoring will be an integral part of the activities. Monitoring tools and formats will be used. These will be treated as an internal evaluation through which problems and prospects will be identified and accordingly programme will be redesigned if necessary.

UPOMA has a core team with enough practical background to chalk out plan and to follow-up the activities. The team will integrate its activities through coordination meeting with field staffs. It will also listen to the views of the target beneficiaries in order to implement the programme in a better way. Reporting of the activities will be done monthly for internal purpose and annually for both internal and external uses, including financial aspects.

To implement the programme UPOMA will set up three sub offices in three unions, one central office in district headquarters and one liaison office in the Dhaka city.

G.3.9 Budgetary Requirements

■ Budget Abstract

Expenditures	1st year	2nd year	3rd year	Total
Administration	212,225	212,225	212,225	636,675
Organization building	1,427,000	1,427,000	1,427,000	4,281,000
Training	291,500	291,500	291,500	874,500
Education	444,000	444,000	444,000	1,332,000
Income generating activities	710,000	710,000	710,000	2,130,000
Water supply, sanitation and ecology	364,000	364,000	364,000	1,092,000
Fixed and Recurring expenditure	1,008,000	1,008,000	1,008,000	3,024,000
Price Escalation (10%/year)		445,672	935,911	1,381,583
Grand Total	4,456,725	4,902,397	5,392,636	14,751,758

■ Organization Development

1.	Field workers 30 Nos. Tk. 2000 x 30 x 13	7,80,000.00
2.	Extension workers 6 Nos. Tk. 2500 x 6 x 13	1,95,000.00
3.	Supervisors 3 Nos. Tk. 3000 x 3 x 13	1,17,000.00
4.	Field coordinator (programme) 1 nos Tk. 4000 x 1x 13	52,000.00
5.	Training 1 No. Tk. 4000 x 1x 13	52,000.00
6.	Accountant 1 No. Tk. 3500 x 1 x 13	45,500.00
7.	Computer Operator 1 No. Tk. 3500 x 1 x 13	45,500.00
8.	Office Assistant Tk. 2000 x 1 x 13	26,000.00
9.	Minimal staffs 4 Nos. Tk. 1500 x 4 x 13	78,000.00
10.	Travelling conveyance and allowance	36,000.00
	Total Tk.	14,27,000.00

- **Fixed and Recurring Expenditures**

Total Tk. 10,08,000.00

To run the office the following furniture, fixture, tools and vehicle will be needed

1.	Office rent		1,20,000.00
2.	Table	18	36,000.00
3.	Almirah	2	8,000.00
4.	Cabinet	5	15,000.00
5.	Chair	50	25,000.00
6.	Fan	8	20,000.00
7.	Computer	1	100,000.00
8.	Photo copies	1	100,000.00
9.	Cycle	36	1,62,000.00
10.	Motor cycle	5	3,00,000.00

Stationeries, printing and utilities

1.	Stationery	36,000.00
2.	Printing	50,000.00
3.	Utilities	36,000.00
	Total Tk.	10,08,000.00

- **Training**

  - **Human development training Total No. of participants 275**

Food cost Tk. 75 x 275 x 5		1,03,125
Conveyance	Tk. 100 x 275	27,500
Training materials	Tk. 25 x 275	6,875
Accommodation	Tk. 30 x 275	8,250
		1,45,750

- **Skill development training total Nos. of participation 275**

Food cost	Tk. 75 x 275	1,03,125
Accommodation	Tk. 30 x 275	8,250
Conveyance	Tk. 100 x 275	27,500
Training materials	Tk. 25 x 275	6,875
		1,45,750
		Total Tk. 2,91,500

- **Education**

Total number of centre will be 60 Expenses for one literacy centre 20 learners per literacy centre

(a)	Books, Primers, Khata Pencil	Taka	500.00
(b)	Black board	Taka	200.00
(c)	Chalk Pencils	Taka	100.000
(d)	Remuneration of teachers Tk. 300 x 13 month	Taka	3,900.00
(e)	Function after completion of course	Taka	300.00
(f)	Accommodation cost	Taka	2,400.00
		Taka	7,400.00
	One sebok (teacher) will run 2 (two) centre)		
	Total cost 60 x 7400	Taka	4,44,000.00

■ **Revolving Loan Fund for Income Generating Activities**

Loan Policy

1.	Total amount of Loan in revolving Fund	Tk.	7,10,00.00
2.	Number of estimated borrowers for		1st year 485 families and 5 groups
3.			2nd year another 485 families and 5 groups
4.			3rd year another 485 families and 5 groups

5. Activities wise borrowers and tentative allocation for each loan

(a)	Vegetable gardening and horticulture	Tk. 500.00
(b)	Rice-husking	Tk. 1000.00
(c)	Hogla mat making	Tk. 1000.00
(d)	Goat rearing	Tk. 1000.00
(e)	Cow rearing	Tk. 5000.00
(f)	Fish cultivation	Tk. 5000.00
(g)	Small trade	Tk. 1000.00
(h)	Agriculture	Tk. 3000.00

6.	Duration of loan	Six months to 3 year
7.	Terms of repayment	Weekly (mainly) and also as agreed upon by the borrowers.
8.	Nature of repayment	Spot collection jointly by groups and staffs
9.	Service charge	10%

- **Income Generating Activities**

1.	Vegetable gardening and horticulture 100 families will be covered every year over a period of 3 yrs 300 families will be covered.	Tk. 500 x 100	Tk. 50,000.00
2.	Rice husking, 50 families will be covered every year over a period of 3 yrs 150 families will be covered	Tk. 1000 x 50	Tk. 50,000.00
3.	Mat making 150 families will be covered every year over a period of 3 yrs 450 families will be covered	Tk. 1000 x 150	Tk. 1,50,000.00
4.	Goat rearing 100 families will be covered every year over a period of 3 yrs 300 families will be covered	Tk. 1000 x 100	Tk. 1,00,000.00
5.	Cow rearing 50 families will be covered every year, over a period of 3 yrs 150 families will be covered	Tk. 5000 x 50	Tk. 2,50,000.00
6.	Fish cultivation 5 ponds will be leased in every year by 5 groups over a period of time 15 ponds will be cultivated by fish by 15 groups	Tk. 5000 x 5	Tk. 25,000.00
7.	Small business (trade) every year 10 families will be covered, over a period of 3 yrs 30 families will be covered	Tk. 1000 x 10	Tk. 10,000.00
8.	Agriculture every year 25 small share croppers and marginal farmers will be given loan. Over a period of 3 yrs 75 families will be covered.	Tk. 3000 x 25	Tk. 75,000.00
	Total Tk.		Tk. 7,10,000

- **Water supply and sanitation**

Total cost Tk. 3,64,000.000

Water supply Community distribution priority will be given to groups

Total number of 45 tube-wells will be distributed every year

342

- **Cost analysis of tube-wells**

		Taka
1.	Tube-well Head	1000.00
2.	P.V.C. pipe	1000.00
3.	Filter - 1	200.00
4.	G.I. pipe	200.00
5.	Floor caner etc. cost	500.00
6.	Carrying and installing	300.00
		3200.00

Total cost 45 x 3200 = 1,44,000.00

50% Subsidy will be given

- **Slab Latrine**

Community distribution priority will be given 10 groups. Every year 200 nos will be distributed.

		Taka
1.	Slab	150.00
2.	Ring 3 nos	300.00
3.	Mansion cost	150.00
4.	Roof & fence	300.00
5.	Carrying cost	100.00
		1000.00

Total cost 200 x 1000 = 200,000.00

50% Subsidy will be given

Afforestation

Every year 1000 families coil be covered under this programme

		Taka
1.	Rent of land for prepare seedling	3,000.00
2.	Seedling cost (Nursery development)	17,000.00
		20,000.00

Total cost of afforestation Tk. 20,000.00 every year

■ **Income Generating Activities**

1.	Vegetable gardening and horticulture 100 families will be covered every year over a period of 3 yrs 300 families will be covered.	Tk. 500 x 100	Tk. 50,000.00
2.	Rice husking, 50 families will be covered every year over a period of 3 yrs 150 families will be covered	Tk. 1000 x 50	Tk. 50,000.00
3.	Mat making 150 families will be covered every year over a period of 3 yrs 450 families will be covered	Tk. 1000 x 150	Tk. 1,50,000.00
4.	Goat rearing 100 families will be covered every year over a period of 3 yrs 300 families will be covered	Tk. 1000 x 100	Tk. 1,00,000.00
5.	Cow rearing 50 families will be covered every year, over a period of 3 yrs 150 families will be covered	Tk. 5000 x 50	Tk. 2,50,000.00
6.	Fish cultivation 5 ponds will be leased in every year by 5 groups over a period of time 15 ponds will be cultivated by fish by 15 groups	Tk. 5000 x 5	Tk. 25,000.00
7.	Small business (trade) every year 10 families will be covered, over a period of 3 yrs 30 families will be covered	Tk. 1000 x 10	Tk. 10,000.00
8.	Agriculture every year 25 small share croppers and marginal farmers will be given loan. Over a period of 3 yrs 75 families will be covered.	Tk. 3000 x 25	Tk. 75,000.00
	Total Tk.		Tk. 7,10,000

■ **Water supply and sanitation**

Total cost Tk. 3,64,000.000

Water supply Community distribution priority will be given to groups

Total number of 45 tube-wells will be distributed every year

- **Cost analysis of tube-wells**

		Taka
1.	Tube-well Head	1000.00
2.	P.V.C. pipe	1000.00
3.	Filter - 1	200.00
4.	G.I. pipe	200.00
5.	Floor caner etc. cost	500.00
6.	Carrying and installing	300.00
		3200.00

Total cost 45 x 3200 = 1,44,000.00

50% Subsidy will be given

- **Slab Latrine**

Community distribution priority will be given 10 groups.
Every year 200 nos will be distributed.

		Taka
1.	Slab	150.00
2.	Ring 3 nos	300.00
3.	Mansion cost	150.00
4.	Roof & fence	300.00
5.	Carrying cost	100.00
		1000.00

Total cost 200 x 1000 = 200,000.00

50% Subsidy will be given

Afforestation

Every year 1000 families coil be covered under this programme

		Taka
1.	Rent of land for prepare seedling	3,000.00
2.	Seedling cost (Nursery development)	17,000.00
		20,000.00

Total cost of afforestation Tk. 20,000.00 every year

APPENDIX G4

LIST OF PERSONS MET FOR SOCIAL IMACT ASSESSMENT

APPENDIX G4

List of persons met for SIA

Date : 23-04-93
Village : Musapur
Union : Musapur
Thana : Companigonj
Dist. : Noakhali

1.	Abdu Khajer	Farmer	3.50 acres
2.	Abul kaiyum Bahar	Union leader	2.30 acres
3.	Safiullah	Farmer/Fishermen	4.00 acres
4.	Abul kalam	Fishermen/Day labour	Landless living on BWDB land
5.	Enamul haque	Fishermen/Day labour	- do -
6.	Jashim uddin	Fishermen/Day labour	- do -
7.	Bhulumiah	Fishermen/Day labour	- do -

Village : Charparbati
Union : Charparbati

			acres
1.	Ahasan ullah	Farmer	5.00
2.	Karimul haque	Farmer/Businessman	4.00
3.	Enamul haque	Farmer/Businessman	4.50
4.	Hanif	Farmer/Businessman	3.25
5.	Morshed Alam	Farmer/Businessman	4.00
6.	Abul Kalam	Farmer/Businessman	2.00
7.	Obaydul Haque	Farmer/Businessman	3.60
8.	Abdus Sobahan	Day labour	.50
9.	Kashem ali	Day labour	.20

Date : 23-04-93
Village : Paschim chardarbesh
Thana : Sonagazi
Dist : Feni

			acres
1.	Shek Sadi	Farmer	3.30
2.	Ruhul amin	Farmer	4.50
3.	Badsmiah	Daylabour	landless living on BWDB land
4.	Sonamiah	Daylabour	- do-
5.	Sahabullah	Daylabour	.30

Date : 24-04-93
Thana : Senbag

Officials from BRDB

1.	Monihdra kumar Das	TRDO (TBCCA)
2.	Nikhil Debnath	Accountant (TBCCA)
3.	Abul hossain	Chairman (TBCCA)
4.	Ali Akkas	TRDO (TCCA)
5.	Golam Mostafa	Director KSS
6.	Golam Rahaman Mojumdar	Director KSS

Date : 24-04-93
Thana : Begumganj

Officials from BRDB

1.	Katri Kumar Roy	TRDO (TBCCA)
2.	Md. ismail	Chairman (TBCCA)
3.	Abdul Karim	Member BSS
4.	Abdul Kader	Member BSS
5.	Samsul Haque	Member BSS

Date : 24-04-93
Village : Purba Eklashpur
Union : Eklashpur
Thana : Begumganj
Dist. : Noakhali

			acres
1.	Nesar Ahamme	Block supervisor	3.30
2.	Samsul Haque	Farmer	2.00
3.	Golam Mawta	Farmer	5.00
4.	Abdul Wakil Bhuya	Farmer	1.50
5.	Nurul Islam	Farmer	2.00
6.	Abu Sayed	Day labour	.30
7.	Abu bakkar siddique	Farmer	2.20
8.	Motaleb	Farmer/Businessmen	3.50
9.	Abu Taher	Ferry Business	.25
10.	Saydul haque	Farmer	1.50
11.	Sultan ahamed	Farmer	3.30
12.	Zulfiker Ali	Farmer	3.50
13.	Abdur Rob	Farmer	1.75

Date : 25-04-93
Thana : Lakshmipur

Thana Officials

1. Thana Agriculture Officer
2. Thana Rural Development Officer
3. Subject Matter Specialist (SMS-Agriculture)

NGO

1. Nurul Huda, Director, Sopiret
2. Mezbahuzzaman, Deputy Director, Sopiret

Date : 25-04-93
Village : Jabeb Ali Khan
Mauza : Char Ali Hossain
Union : Shakcharr
Thana : Lakshmipur

			acres
1.	Ahasan ullah	Day labour	.40
2.	Nur Mohammed	Farmer	3.40
3.	Saydur Rahman	Ferry Business	.10
4.	Osman Gazi	Day labour	.30
5.	Mohar Ali sikder	Boatmen	nil
6.	Mohin uddin Ahamed	Day labour	.20
7.	Hossain Ali Mollah	Farmer	2.30
8.	Main uddin	Day labour	.75
9.	Ali Ahamed	Farmer	1.80
10.	Mofiz ullah	Farmer	1.50

Date : 25-04-93
Village : Nurullah
Union : Charshai
Thana : Lakshmipur

			acres
1.	Ruhul Amin sidker	Contracter/Farmer	8.00
2.	Abu Musa	Teacher	6.00
3.	Mofiz Ullah	Farmer	1.50
4.	Abdus salam	Day labour	.40
5.	Ruhul Amin	Farmer	2.30
6.	Kashem Ali	Farmer	3.00
7.	Bassu miah	Day labour	.25
8.	Abdul latif miah	Farmer	1.75

Date : 26-04-93
Viallge : Kuleshree
Union : Mohammadpur
Thana : Chalkhil

			acres
1.	Karim	Farmer	3.00
2.	Golam Mostafa	Imam/Farmer	.80
3.	Abul kashem	Farmer	2.75
4.	Abul Bashar	Farmer	.70
5.	Nurul Hoque	Day labour	.40
6.	Abul Hossain	Day labour	.30

Date - 26-04-93
Thana - Ramgonj

Officials from BRDB

1.	Sirajul Islam	TRDO
2.		ARDO
3.		Inspector
4.		Accountant

Date : 26-04-93
Village : Fatheapur
Union : Karpara
Thana : Ramgonj

			acres
1.	Alauddin	Rickshaw puller	.16
2.	Taslim	Businessmen	1.50
3.	Rajab Ali	Daylabour	.06
4.	Abdur Rahaman	Farmer	3.50
5.	Sonamiah	Day labour	.20
6.	Kalim ullah	Farmer	1.50
7.	Dil Mohammed	Day labour	.25
8.	Bahar	Day labour	.30
9.	Rustum Ali	Day labour	.25
10.	Samsul haque	Carpenter	.25
11.	Abu Syed	Farmer	1.40
12.	Belal hossain	Farmer	3.50
13.	Sekandar Miah	Farmer	1.45
14.	Sirajmiah	Businessmen	.70
15.	Abdul latif	Farmer	2.00

Noakhali
District office

1.	Mr. Monirul Hoque	Deputy Director (BRDB)
2.	Siddiqur Rahman	Principal of Agriculture Institute of Begumganj
3.	Sr. instructor	Agriculture Institute of Begumganj

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Date : 27-04-93
Village : Purba Jamer Tali
Union : Dighali
Thana : Lakshmipur

			acres
1.	Gawa miah	Farmer	1.00
2.	Matiur Rahaman	Day labour	.50
3.	Wasiullah	Day labour	.05
4.	Nur Mohammad patwary	Day labour	.08
5.	Nurmiah	Day labour	.20
6.	Joynal Abedin	Day labour	.25
7.	Humayan Kabir	Farmer	1.20
8.	Shafiullah	Day labour	.30
9.	Nurul Islam	Farmer	1.30
10.	Abdul wadud	Farmer	1.50

APPENDIX G5

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APPENDIX G5

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