ANNEX 6

PARTICIPATORY WORKSHOPS

ANNEX 6: PARTICIPATORY WORKSHOPS

TABLE OF CONTENTS

6.1 Objectives and Site Selection ---------- A6 - 1
6.1.1 Objectives ---------- A6 - 1
6.1.2 Site Selection ---------- A6 - 2

6.2 Methodology ---------- A6 - 2
6.2.1 Methodology ---------- A6 - 2
6.2.2 Process ---------- A6 - 3
6.2.3 Schedule ---------- A6 - 3

6.3 Records of Participatory Workshops (PRA) ---------- A6 - 4
6.3.1 Mymensingh District ---------- A6 - 4
6.3.2 Kishoreganj District ---------- A6 - 7
6.3.3 Netrakona District ---------- A6 - 10
6.3.4 Sherpur District ---------- A6 - 14
6.3.5 Tangail District ---------- A6 - 17
6.3.6 Jamalpur District ---------- A6 - 20

6.4 Results of PRAs ---------- A6 - 24
6.4.1 Some Cross Sectional Analysis ---------- A6 - 24
6.4.2 Participatory Planning and Decision Making Prosess ---------- A6 - 26

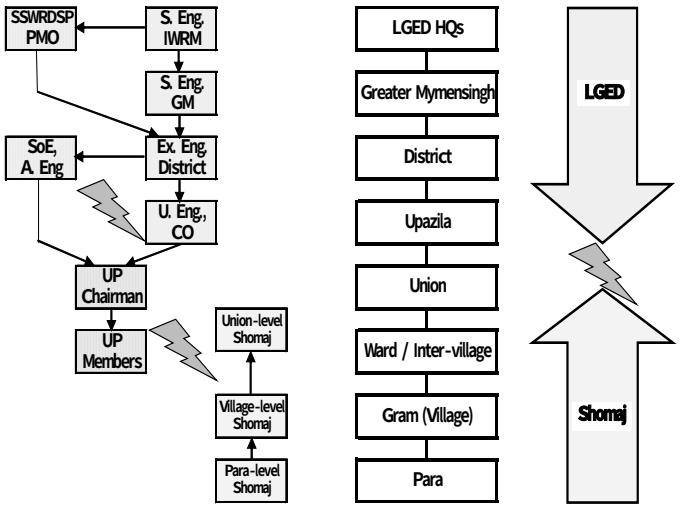
A 6 PARTICIPATORY WORKSHOPS

6.1 Objectives and Site Selection

6.1.1 Objectives

The Study Team conducted problem analysis workshops and interviews in September 2004 at 13 potential sub-project areas, of which 6 had passed appraisal and 7 had failed after pre-screening, and the Team found "There seems to be two major communication gaps in the planning of the sub-projects. One gap is between union level and *gram* (village) / *para* level, and the other between project employee and LGED employee line. The former gap hinders getting the consensus of the people and establishing participation and ownership of the people. The latter gap hinders identifying and designing a good sub-project."

Therefore, the Study Team assumed that organizing several participatory workshops (PRA) at *gram* level beside sub-project level, with active participation of villagers, local leaders, *Upazila* Engineer, District Assistant Engineer (SSWRDSP-2), District Socio-economist (SSWRDSP-2), District Sub-assistant Engineer (SSWRDSP-2) and other local LGED staff, can conquer these communication gaps and promote better project design and better consensus among all the actors. The Team requested Assistant Engineer (SSWRDSP-2) and/or Socio-economist (SSWRDSP-2) of each district to choose one promising sub-project area to organize participatory workshops.



Communication

The participatory workshops (PRA) including interviews, which were organized by the Team, have two major stakeholders, the Study Team / LGED and the local communities, and the expected benefits are different:

(1) Expected Outputs for the Study Team and LGED

1) To collect more grass-roots information especially on decision-making and collaboration in the community-base projects and activities.
2) To clarify the needs of the community
3) To verify a participatory planning and decision making process for small-scale water resources development including involvement of *Upazila* Engineers, District Assistant Engineers (SSWRDSP-2), District Socio-economists (SSWRDSP-2), District Sub-assistant Engineers (SSWRDSP-2) and other local LGED Staff.

(2) Expected Outcomes for the Local Communities as a by-Product

1) To share the ideas and opinions at intra-gram, inter-gram and sub-project levels.
2) To start some collaborative actions for consensus and for the future.
3) Capacity building of the individuals and the communities.

6.1.2 Site Selection

Site Selection for the PRA site each district among the subproject area of SSWRDSP-2 was made through the discussion with Assistant Engineer and Socio economist of SSWRDSP in each district LGED. They area as follows:

Subproject Name	Location	Status	Type & Area
Not known yet.	7 Grams In Trishal, Rampur, MYMENSINGH	Under preparation.	CAD Not know yet
Not known yet.	9 Grams In Noabad, Joyka & Boulai, Karimganj And Sadar, KISHOREGANJ	Under preparation.	CAD & DI Not know yet
Krishnakhali & Karonkhola Canal Re-excavation & Construction of Regulator SP	10 Grams In Medni, Sadar, NETRAKONA	UDCC approved	CAD & DI 900 (750ha)
Kharamura Drainage SP	7 Paras In Ranishimul, Sribordee, SHEPUR	UDCC approved.	CAD & DI 210 (160ha)
Nikla-Gabira-Ghungee-Amaldaha SP	8 Grams In Alowa, Bhuapur, TANGAIL	Under preparation. UDCC approved.	FM & DI 950 [600ha]
Chinitola-Madardaha SP	10 Grams In Kulia, Nangla & Melandaha Pouroshova, Melandaha, JAMALPUR	F/S completed. No decision yet.	FM & DI 1,000 [900 ha]

6.2 Methodology

6.2.1 Methodology

The Team and the PRA Contractor made of four men and three women consultants spent about 10 days at each proposed sub-project area for preparation, interviews, workshops and report writing. Major activities of the Team and the PRA contractor at each sub-project area were as follows:

(1) Arrangement of workshops with local leaders

1) Preparation of about four gram level workshops to strategically cover all the study area.[1]
2) Preparation of one integrated workshop at sub-project level for summary and some consensus building.
3) Making by UP Chairpersons, UP Members, *matabbors* and other local leaders for participation.

(2) Gram level interviews and workshops

1) Interviews focused on poor villagers.
2) Mapping, rich-poor profile and other RRA tools if necessary.[2]
3) *Appreciative Inquiry* :
   a) Discovery Stage by sharing success stories of community- based projects and activities,
   b) Dream Stage by sharing the future image of individuals and the community where they can repeat more success stories,
   c) Design Stage by sharing what actions they can take today, tomorrow and next week.

(3) Integrated workshops

1) Presentation of the results of the *gram* level workshops.
2) Presentation of observation and analysis by the Team: identification of intra-gram / inter-gram issues, and sub-project / upazila / district level issues if any.
3) Discussion especially on inter-gram and sub-project level issues, and on immediate actions.

[1] Study area for this PRA is basically a catchment area and is wider than the project area.

[2] The Team also planned to conduct an Objectives Analysis and actually tried once at the integrated workshop in *Mymensingh* District. The Team found, however, the consensus among the villagers in the project area generally does not reach the level to discuss future activities of WMCA after completion of the construction work.

6.2.2 Process

Interviews and Participatory Workshops Schedule at Each Sub-project Area are as follows:

1st – 3rd day: Meeting with key persons and arrangement of workshops by the Study Team, transect of the study area and interviews of villagers by the PRA Contractor.

4th – 7th day: Four *gram* level workshops (three *para* level workshops at the sub-project area in *Sherpur* District) using mapping, rich-poor profile and *Appreciative Inquiry*.

8th day: An integrated workshop at sub-project level:

- Presentation of the results of the four *gram* level workshops by villagers
- Presentation of the observation and analysis by the Study Team and the PRA Contractor
- Technical issues of the proposed sub-project by *Upazila* Engineer and/or District Assistant Engineer (SSWRDSP-2) or Sub-assistant Engineer (SSWRDSP-2)
- Social issues and WMCA by District Socio-economist (SSWRDSP-2)
- Question & answer, and free discussion

9th – 10th day: Reporting by the PRA Contractor.

6.2.3 Schedule

Schedule of Participatory Workshops (PRA) at each subproject area was afollows:

District	*Upazila*(s)	Union(s)	Date
Mymensingh	Trishal	Rampur	05 April (Tue) – 14 April (Thurs) 2005
Kishoreganj	Karimanj and K. Sadar	Noabad, Joyka and Boulai	16 April (Sat) – 25 April (Mon) 2005
Netrakona	Sadar	Medni	27 April (Wed) – 06 May (Fri) 2005
Sherpur	Sribordee	Ranishimul	08 May (Sun) – 17 May (Tue) 2005
Tangail	Bhuapur	Alowa	19 May (Thurs) – 28 May (Sat) 2005
Jamalpur	Melandaha	Kulia, Nangla and Melandaha Pouroshova	30 May (Mon) – 08 June (Wed) 2005

6.3 Records of Participatory Workshops (PRA)

These are the summaries of interviews and participatory workshops conducted in the six districts during April-June 2005. (See Table 7.3.1) The participants of *gram* level workshops in each district were 330 to 404 and the sum was 2,253. The participants of the integrated workshop in each district were 105 to 260 and the sum was 940.

6.3.1 Mymensingh District

(1) Outline of the PRA Site

Sub-project Name: Not known yet. District: *Mymensingh* *Upazila*: *Trishal* Union: *Rampur*	*Grams*: 1) *Namapara-Charpara*, 2) Vatipara, 3) *Kakchar-Noyapara*, 4) *Kakchar*, 5) *Darilla*, 6) *Khbiapara*, and 7) *Uzanpara*	Appraisal Status: Under preparation.
Type / Project Area (Benefited Area): Command area development / Area not known yet.		
Major Proposed Activities / Facilities: Canal re-excavation.		
Necessary Modification: Outlet canals need to be included in the project area.		

(2) Gram level workshop 1

Namapara (10:30AM – 12:30AM, 7 April 2005, Male:20, Female:25, Children:30, Total:75)

- There were bad floods in 1988, 2000 and 2004.
- Many villagers have changed their jobs from farming to fish cultivation.
- Villagers think their strength is they are hard working, and weakness is they are not using and not willing to introduce modern technology. Their opportunity is good communication system and threatening is severe natural environment.
- Villagers consider about 5% of them are rich with five to seven acre of farmland, about 40% are middle with less than two acre of farmland, about 30% is poor with only homestead area, and 25% is very poor with no land at all.
- During 1960's, villagers excavated 1km of *khal* for irrigation and drainage. About 10 leaders took the initiative, and about 500 villagers were at the meeting.
- Villagers want their children to have more education.
- Villagers say they can excavate 1km of *khal* by themselves again.

A *gram* level workshop for children

(3) Gram level workshop 2

Vatipara and *Nayapara* (3PM – 5:30PM, 8 April 2005, Male:45, Female:60, Children:20, Total: 125)

- Water logging in rainy season from June to October is a main problem in the area. School, *madrasha*, bazaar and earthen roads are submerged for 10 to 15 days.
- Villagers made a *mondir*, a *madrasha* and a non-government primary school by themselves.
- Villagers thought the Team came to steal Golohor *Beel* because there was an NGO lead by the wife of

A *gram* level workshop for women *(Mymensingh)*

a high government official which tried to lease the *beel* for 99 years.

(4) Gram level workshop 3:

Kakchar (11AM – 0:40PM, 9 April 2005, Male:25, Female:15, Children:15, Total: 55)

- The *Hinger Khal* and *Katama Khal* have silted up.
- Villagers use tube wells for drinking and pond water for bathing, washing and other daily uses. Some women use tube wells for daily uses too.
- About 50-60 villagers excavated from *Golhar Beel* to *Khirdaka Kuri Beel Khal* by their own efforts. They also constructed a mosque and an earthen road.
- Villagers say they want to see flood and water logging free village in the future. They also say they can excavate about 1km of *khal* by themselves.

A *Gram* level workshop for men with UP Member *(Mymensingh)*

(5) *Gram* level workshop 4

Uzanpara (9 AM – 1 PM, 10 April 2005, Male: 30, Female: 35, Children: 10, Total: 75)

- Villagers irrigate the land for Boro using the water of Chechua Beel.
- Because Hinger Khal and Kata Khal have silted up, water logs in rainy season from June to October. Aman rice is damaged as much as 50%.
- Villagers cultivate vegetables in higher land all year around. Uzanpara is higher than Vatipara and Namapara.
- Villagers say about 5% of them are rich who are educated, and have six or more acre of land, brick house, two or three ponds and 10 to 15 cows. About 10% are middle who are also educated, and have about two acre of land, tin roof houses, a pond and four or five caws. About 25% are poor middle who are not so educated, and have about 40 decimal cultivable land, no pond and one or two cows. About 60% and the majority are poor who are illiterate and have no cultivable land, a decrepit hut and no cow.
- Villagers constructed an earthen road and a mosque by themselves.
- Villagers want to re-excavate Hinger Khal and Kata Khal.

(6) Integrated workshop at Birrampur Govt. High School (4PM – 5PM, 12 April 2005, Male:75, Female:0, Children:30, Total:105)

1) Issues

- There was confusion about the sub-project ideas relating the *beels*. Most of the villagers thought that if the sub-project is implemented, then the *beels* will be taken away from them. There was also conflict in the area regarding the leasing of the *beels*.
- There is inter-*gram / para* conflict (*Between Namapar and Darilla, Uzanpara*) in the area; as an impact of these conflict villagers of *Namapara* made a separate school for the children.
- People are cultivating *Khas* land around and in the *beel;* and also in the *khals* that had been silted up.
- Many youngsters prefer fish-culture more than agriculture. Significant number of villagers think that vegetable is more profitable than producing *Aman* rice as the roads to the *Upazila* market and national highway are good.

2) Discussion

- Some of the participants were opposing, extremely, the idea of the sub-project relating the beels. Few UP member then tried to clarify the issue. But still, confused people were not totally satisfied.

In addition to that they told that the UP Chairperson and members need to tell them about the sub-project development idea and the process clearly. (Some UP members, especially women didn't know about the sub-project idea at all.)

An integrated workshop
(Mymensingh)

- One young Matabbor from Namapara, along with other youngsters, opined that fishing is their future direction; and if the sub-project is implemented it must contribute in enhancing fish-culture.

3) Consensus / Differences of opinions

- Participants in the meeting agreed that they need to resolve the conflict and reach consensus about the sub-project development.
- Namapara villagers, who segregated themselves as an impact of their internal conflict, told that other villages need to talk to them and settle down the conflict issue.
- Few people from other villages said that Namapara villagers have separated themselves at their own. One of the issues was nominating an UP member, whom they didn't want.
- Some participants were saying that availability of water for irrigation would benefit the poverty reduction of the villagers more. But youngsters were saying that use of modern agricultural technique is more important in this context. Participants agreed that they need to think about the dowry and early marriage issue, and give effort to solve these problems.

Box 6.3.1

Though *Namapara* villagers were opposing the venue selected for *the integrated workshop*, even after they came to the workshop at first. They left as other villagers were not present that time, but came back again.

The UP Chairperson was not willing to come to the venue as the villagers were saying. He came to the venue, but quite late.

Upazila Engineer and Socio-economist (SSWRDSP-2) were present in the integrated workshop.

(7) A Few Important Findings at the Interviews and the Participatory Workshops

- An NGO lead by the wife of a high government officer tried to take a 99-year lease on a *beel* and many villagers are very sensitive about the *beel* issue.
- There is a social conflict especially between two *grams*. They built a village elementary school at the backyard of *matabbor*'s house to avoid sending their children to go to the government elementary school in the other *gram*.
- The villagers of that *gram*, however, came to the integrated workshop by a large group. They said they want to discuss with the villagers of the other *grams*, and waited for other villagers to come.

6.3.2 Kishoreganj District

(1) Outline of the Proposed Subproject

Sub-project Name: Not known yet. District: *Kishoreganj* *Upazilas*: *Karimanj* and *Sadar* Unions: *Noabad*, *Joyka*, and *Boulai*	*Grams*: 1) *Ulkhola* and 2) *Sindri*p and 3) *Uttar-Nansree* in *Noabad* Union, 4) *Baliabari*, 5) *Khidirpur*, 6) *Shimulgora* and 7) *Bankata* in *Joyka* Union, and 8) *Patda-degreekanda* and 9) *Patda-pataria* in *Boulai* Union	Appraisal Status: Under preparation.
Type / Project Area (Benefited Area): Command area development and drainage improvement / Area not known yet.		
Major Proposed Activities / Facilities: Canal re-excavation and construction of a sluice gate.		
Necessary Modification: It is a two-*upazila* and three-union, not a one-*upazila* and two-union sub-project as in the proposal.		

(2) *Gram* level workshop 1

Khidirpur and *Simulgora* (2:30PM – 5:30PM, 19 April 2005, Male:25, Female:50, Children:15, Total: 90)

- Vatishory Khal was a river 30 years ago, but silted up and is narrow now.
- Most of Khidirpur went under water in 2004.
- In 1971, Razaker captured these villages and burned all the huts so villagers had to leave the villages and lost all the properties. They said they became poor because of that.
- Men said about 1% of the villagers are rich with 30-40 *kany* (10.5-14 acre; 1 *kany* = 35 *decimal*) of land, about 15% are middle with less than 5 *kany* (1.75 acre) but have enough rice all year round, and about 80% are poor with only homestead land and being hand-to-mouth.
- Women said about 5% are rich with 30-35 *kany* (10.5-12.25 acre) of land and getting services from the government or NGO. About 25% are middle with cultivable land for rice and vegetables, and about 70% are poor with no land and being hand-to-mouth.
- Villagers said they can get VGF (Vulnerable Group Feeding) cards only if they pay Tk. 1,000-1,200 each for UP Member.

A *gram* level workshop for women *(Kishoreganj)*

- Women said about 30 women had to pay Tk. 10 to UP Member, when they worked for NGO's earthwork and got Tk. 100.
- 20-25 villagers of Shimulgora construct an embankment of 40 ft long, 20 ft high and 10 wide every year for 80 to 90 years. They also constructed several earthen roads.

(3) *Gram* Level Workshop 2

Bankata (3PM – 5PM, 20 April 2005, Male:25, Female:45, Children:15, Total: 85)

- Villagers use Bankhata Khal water for irrigation. There is no water in Bankhata Khal from mid February to mid April so they take cattle about 2 km for bathing.
- About 50 families have to use the only tube well for drinking water.
- About 20 women are doing an earthwork for BRAC and getting Tk. 100.
- Noabad people constructed an embankment for fish cultivation in British period (before 1947)

and caused problems. Noabad people took the case into court, and won, so that the embankment was cut.

- Villagers said about 10% are rich with 2.5 ha (6.25 acre) or more cultivable land, four or five cows, one or two fish ponds, one or two cows and sometimes with business. About 25% are middle with one ha (2.5 acre) or more cultivable land, sharecropping, one fish pond, two or three cows, and sometimes a pump and having somebody in the family working for government or in private sector. About 65% are poor and hand-to-mouth. They live in others' house and work there.
- Villagers want to reach consensus with other villages, construct an embankment and start fish culture.

(4) Gram level workshop 3

Ulukhola (9:30 AM – 1 PM, 21 April 2005, Male: 60, Female: 30, Children: 15, Total: 105)

- Vatiswar and Shoronswati Khals have silted up and became narrow. No water in those khals during dry season, so that villagers are using shallow tube wells.
- Villagers said there is no unity because there are two many matabbors.
- Women said about 10% are rich with 40-50 *kany* (14-17.5 acre) land and are educated. About 30% are middle with 3-5 *kany* (1.05-1.75 acre) land and are sometimes doing sharecropping. About 65% are poor and hand-to-mouth with rickshaw pulling, fishing etc.
- Men said who have 5-10 *kany* (1.75-3.5 acre) of land are middle and who have no land are poor.

(5) Gram Level Workshop 4

Patda-degreekanda and Patda-pataria (9:30 AM – 11:30 AM, 24 April 2005, Male: 45, Female: 20, Total: 65)

- There is only a little and dirty water in the ponds in dry season, so that villagers are affected by skin diseases.
- About 200 ha of land is fallow in dry season because of water scarcity.
- Many villagers go to haor for farm labor in dry season.
- Villagers think about 10%, who are government officers, teachers and businessmen, are rich with 20 *kany* (7 acre) of land and having been abroad. About 30% are middle with about one acre of land, having one grocery shop and two fish ponds and producing vegetables. About 60% and the majority are poor with no agricultural land, no jobs, no education and having financial problems.
- 10-12 matabbors and 200-250 villagers re-excavated a *khal* in 1977.
- Villagers said their dream is the villagers of the three unions (Bowlai, Joyka and Noabad) will reach consensus. They also said they will talk to the villagers of the other unions tomorrow.

(6) Integrated Workshop

Ulukhola Government Primary School (11 AM – 1P M, 23 April 2005, Male: 75, Female: 15, Children: 50, Total: 140)

1) Issues

- Three Unions (*Joyka, Noabad, Boulai*) are interrelated in context of the location of *Beels*, and *khals* and sharing and usages of their water. *Vatiswar, Norosundar*, and *Shoronswati Kha*l flow through Joyka, (Upstream) *Noabad* and *Boulai* (Downstream) Unions. In many places these *khals* have become narrower and already silted up. Many people are

An integrated workshop
(Kishoreganj)

cultivating the *Khals* beds and which happened to be *Khas* land. Villagers of *Patda-degreekanda* and *Patda-pataria* were flooded severely as the canals have silted up. As a result they cannot do *Aman*. They also cannot get water for *Boro* as the water level went down (250-300 ft) in dry season.

- Among the villagers, youngsters are more interested about fishing project through conserving water in the *beels* and *khals.*
- There were conflict between *Bankata* (Joyka Union) and *Noabad* regarding an earthen dam (given by *Bankata* villagers) that divides the two areas, before 1947. As of the court decision of that time order was given to cut the dam.
- UP members take money from the villagers for giving VGF (Vulnerable Group Feeding) card. They take Tk. 10 from the women who do earthwork and make Tk. 100. However, UP members give the earthwork job mostly to their relatives.

2) Discussion

- The Matabbors, especially of Boulai Union, urged about the importance of Inter-Union-Organization on common issues and shared activities. The role of UP must be very cooperative in this context; and greater union consensus is required.
- UP Chairmen of Joyka and Boulai Union, and member of Noabad UP told that lack of consensus and unity hampers development activities. (Joyka UP Chairperson sited the example of Joyka sub-project, which activity is temporarily stopped by the court order as conflict occurred relating the sub-project and WMCA). The UP Chairperson of Boulai especially told that it was important for his union to know about the proposed sub-project from Noabad Union, but he didn't know about it before. He added that if no re-excavation takes place in his Union (Patda-degreekanda and Patda-pataria Gram), it will cause damage to the downstream villagers and ignite further conflict.
- Upazila Engineer Karimanj and Socio-economist (SSWRDSP-2) Kishoreganj suggested the participants that if there are separate sub-project proposal from Boulai Union; and those sub-projects could be integrated. He also opined that without re-excavation at the downstream it will cause damage and conflict in the area.
- Some youngsters from Noabad Union and Bankata (Joyka Union) discussed about the potentials of fishing project in the area. They also expressed their opinion to work together in this context.
- One of the participants (a common village folk) said that in early days people have lot of land and poverty was less. So it was easier for the Matabbors to reach consensus; and they were able to initiate and implement many Community Based Activities. But now there are constraints of land, and too many Matabbors with differences of opinion. As a result it is difficult to reach consensus on common issues.

Upazila Engineer
(Karimanj, Kishoreganj)

3) Consensus and Difference of Opinions

- The present UP Chairpersons and UP leaders agreed to work together as they are interrelated in context of water issues.
- Matabbors of Boulai Union and Noabad Union decided for a meeting to discuss their issues and potentials of the inter Gram and Inter Union right after the Integrated Meeting of the JICA Study Team.

District Socio-economist SP-2 and
UP Chairpersons *(Kishoreganj)*

- The UP Chairperson and Matabbors, along with the participants, agreed that they need to talk to the people who all are cultivating Khas land, and settle down the issue.
- People of Boulai Union (Patda-degreekanda and Patda-pataria Gram) told that they are ready to re-excavate their portion of the Khals by themselves, if the proposed sub-project from Noabad Union is implemented.
- Matabbors from Noabad Union agreed that they need to consider the issue of Boulai Union (Patda-degreekanda and Patda-pataria Gram) for implementing the sub-project. Because they think that they share the common issues relating water and agriculture.

Box 6.3.2

The UP Chairperson of *Noabad* Union was not present in the meeting; One UP member and One *Matabbor* spoke on behalf of him (UP Chairperson) in the Integrated Workshop.

One villager sang a song in the integrated workshop about the importance of love in mankind and helping each other.

(7) Important Findings at the Interviews and the Participatory Workshops

- The UP Chairperson who submitted the proposal left the office and the new UP Chairperson might not be so enthusiastic about the sub-project.
- The real project area includes three unions two *upazilas* not two unions one *upazila* as mentioned in the project proposal, more over, the additional *gram* of the third union could be benefited by the proposed sub-project the most. The villagers of that *gram* are very serious about the sub-project and outnumbered other villages including where the venue was.
- By the initiative of the *matabbbor*s of the additional *gram*, local leaders decided after the integrated workshop to have a meeting to reach a consensus on the sub-project.

6.3.3 Netrokona District

(1) Outline of the Proposed Subproject

Sub-project Name: *Krishnakhali* & *Keronkhola* Canal Re-excavation & Construction of Regulator Subproject District: *Netrakona* *Upazila*: *Sadar* Union: *Medni*	*Grams*: 1) *Medni*, 2) *Krishnapur*, 3) *Rampur*, 4) *Digjan*, 5) *Vatlivita*, 6) *Baroari*, 7) *Shaljan*, 8) *Khoerbangla*, 9) *Dhorerbangla*, and 10) *Bangladaspara*	Appraisal Status: UDCC approved.
Type / Project Area (Benefited Area): Command area development and water conservation / 900 ha (750 ha).		
Major Proposed Activities / Facilities: *Karonkhola* canal re-excavation and construction of a regulator.		
Necessary Modification: Outlet canal and a *beel* need to be included in the sub-project.		

(2) Gram Level Workshop 1

Digjan (10 AM – 12:45 AM, 30 April 2005, Male: 36, Female: 70, Total: 106)

- A sluice gate was built on Komorullah Khal at Digjan by BWDB but is not working now.
- About 50 families of Digjan who live beside Komorullah Khal use khal water for bathing, washing, and cooking etc. from mid June to mid January.
- Villagers think about 10% of them are rich who cultivate two ha (5 acre) or more, have two persons from the family working for government or in business, and have five or six cows. About 40% are middle who cultivate one ha (2.5 acre) or more, work in private sector and have two or three cows. About 50% are poor, who are day laborers such as rickshaw pullers or sharecroppers.
- People of Digjan constructed a 1.5km earthen road in 1968-1969 by themselves.
- Villagers think they need unity between young generations. They want to have cooperatives.

A *gram* level workshop for women *(Netrakona)*

(3) Gram Level Workshop 2

West Medini and Shaljan (9:45 AM – 11:30 AM, 1 May 2005, West Mediny [Male: 29, Female: 29, Children: 35, Total: 93] and Shaljan [Male: 3, Female: 8, Total: 11])

- Kiron Khal and Sugrai Khal were excavated, but silted up again. Heavy rain causes water logging and also villagers cannot get enough water for irrigation.
- Villagers think about 3% of them are rich having more than 10 ara (12.8 acre) of cultivable land, more than Tak100,000 in cash and a motor cycle. About 20% are middle having less than 10 ara (12.8 acre; 1 ara = 16 katha, 1 katha = 8 decimal) of cultivable land, and about 77% are poor having no cultivable land, doing day labor and live hand-to-mouth.
- UP Member takes 600Tk from every aged allowance, 2,000 – 3,000Tk from every person working for three-year earthwork program, who gets 1,000Tk/15 days.

(4) Gram Level Workshop 3

East Medini, Krishnapur and Rampur (9:30AM – 11:30AM, 2 May 2005, East Medini [Male:17, Female:36, Children:35, Total: 88], Krishnapur [Absent] and Rampur [Absent])

- Villagers construct a 30ft embankment of Keronkhali Khal in mid October every year. About 200 villagers join for decision making. They use the water for Boro irrigation, but sometimes heavy rainfall breaks the embankment during mid April to mid May. They also use a deep tube well and a shallow deep tube well for Boro irrigation and the water fee is 200Tk/acre.
- Since the regulator in East Medini is broken, water logs for two or three days when there is heavy rain. It damages Boro crops, and sometimes Aman paddy.
- Since Krinakhali Khal has silted up, heavy rain causes water logging. The alignment is clear though.

(5) Gram Level Workshop 4

Khoerbangla, Dhorerbangla and Bangladaspara (9:30AM – 11:45AM, 3 May 2005, Khoerbangla [Male:57, Female:10, Children:18, Total: 85], Dhorerbangla [Male:5, Female:2, Total:7] and Bangladaspara [Male:2, Female:3, Total:5])

- BWDB constructed an embankment along Kangsha River for flood protection of the agricultural land of Khoerbangla and Bangladaspara.
- The land of Bangladaspara is higher than Khoerbangla, however, the floor of Tilok Khali Khal

(upstream the of Krishnakhali Khal) does not follow the topography so that re-excavation of eight to ten ft at Khoerbangla is necessary. Also the water from Kangsha River does not come easily, because the inlet of Tilok Khali Khal is high.

A *gram* level workshop for men with UP Member *(Netrakona)*

- The farmers of Bangladaspara and Dhorerbangla are using the water of Kangsha River by three pumps in Boro season. The water fee is 50Tk per decimal.
- From mid February to mid April, the water layer goes down 20 to 30 ft from about 250 ft.

(6) Integrated Workshop

Medni UP Office (3 PM – 5 PM, 4 May 2005, [Male: 80, Female 0:, Children: 15, Total: 95],

1) Issues

- At the upstream of the *Krishnakhali Khal*, which is also called *Tilok Khali Khal* by the local people, some people are doing fish-culture in the *kha*l (*Khas land*) by constructing earthen dam; and obstructing the water flow in the *khal*.
- Water need to be pumped out from the river to keep the flow of *Krishnakhaki khal*.
- Sluice Gates of BWDB, one at the upstream of *Keronkhali khal* (Near *Kangsha* River), and the other at the downstream of *Krishnakhali khal*, are not working. As a result *Krishnapur Gram* (Downstream of *Krishnakhali khal*) is flooded away every year as water backflows from the closed Sluice gate; and the water cannot pass to the *Ghagutia beel*. Also another regulator on *Keronkhali Khal* at the Union road, between east and west *Medni*, is out of order.
- *Sugrai khal* and *Komorullah khal* is silted up and connected to the *Krishnakhali khal*. People are cultivating *Khas* land on *Sugrai khal*. There are also private lands in the *Borobila beel*, and it is water-logged; because the water cannot be drained out. *Komorullah khal* and a branch *kha*l of *Komorullah khal* (both connected to *Krishnakhali khal*) need re-excavation. Water conservation may not be possible if *Borabila beel* is not considered, and the re-excavation of the above stated *khal* is not done.
- Some villagers of *West Medni* and *Shaljan* opposed the canal re-excavation if there is no fishing project undertaken.

2) Discussion

- Upazila Engineer Sadar, said that if the BWDB sluice gate at the outlet of Krishnakhali khal is not working then it might cause problem to the downstream areas. He also gave emphasis on inclusion of the Borabila beel in the sub-project so that it can be used as a reservoir.
- The UP chairperson told that there used to be a bypass khal (alignment is visible) from the Krishnakhali khal at the downstream. So, even if the BWDB sluice gate is not working, may not cause problem.

Upazila Engineer *(Sadar, Netorakona)*

- One villager from Shaljan said that there is also private land in the Sugrai khal; but they will not oppose if fish-culture is considered in the sub-project.
- The Socio-economist (SSWRDSP-2) Netrakona told the villagers that people around the Borabila beel area and other villages need to discuss more about improving the sub-project development. Sub-assistant Engineer (SSWRDSP-2) Netrakona told that the villagers need to sit together and give a concrete idea about the design of the proposed sub-project.

3) Consensus and Differences of Opinions

- A villager, while presenting the map, opposed to the UP Chairperson and told that the bypass khal is not enough to drain out all the water. He urged that if the BWDB,s sluice gate is not repaired, it is going to cause flood at the downstream. Another villager added that if people are doing fish-culture at the upstream of the Krishnakhali khal by giving earthen dam in the khal then how there will be enough water in the stream of the khal.
- Participants in the integrated meeting agreed that the BWDB sluice gates need to be repaired if the project is implemented. They agreed that the outflow of water to the Ghagutia beel is an important issue; otherwise it will have negative impact to the down-streamers.
- UP Chairperson told that he and his members will talk to the businessmen that are doing fish culture at the upstream of Krishnakhali khal.
- Participants agreed that the *Khas* land cultivation issue needs to be solved if they are willing for implementing the sub-project.

An integrated workshop with UP Chairperson *(Medni, Netorakona)*

Box 6.3.3

Some villagers were not satisfied about the even at the end of the meeting about the canal re-excavation. Because they said that the *Krishnakhali Khal* were re-excavated five to seven times before. But every time only little work was done. So if the same thing happens, then it is useless to do it again.

The Sub-assistant Engineer (SSWRDSP-2) *Netrakona* replied that this time everything will be done by you (the villagers). So proper re-excavation will be taken care of; and you will be monitoring everything in the sub-project. The project is yours.

(7) A Few Important Findings at the Interviews and the Participatory Workshops

- The villagers who live near the river think they can pump up water from the river by the sub-project. The villagers who live at the center of the project area near the *beel* welcome the sub-project only if it benefits fish culture.
- The villagers who live near the outlet of the canal said they already suffer back flow. They are afraid that the sub-project might bring more back flow.
- A villager said re-excavation of the same *khal* was done five to seven times so far, but none was complete. So if the same thing happens, then it is useless to do it again.

6.3.4 Sherpur District

(1) Outline of the Proposed Subproject

Sub-project Name: *Kharamura* Drainage Subproject District: *Sherpur* *Upazila*: *Sribordee* Union: *Ranishimul*	*Gram:* *Kharamura* *Paras*: 1) *Porabari*, 2) *Kutchpara*, 3) *Kharamura*, 4) *Garopara*, 5) *Tilapara*, 6) *Nahanpara*, and 7) *Moddhppara*	Appraisal Status: UDCC approved.
Type / Project Area (Benefited Area): Command area development and drainage improvement / 201 ha (160 ha).		
Major Proposed Activities / Facilities: Lining of drainage canals.		
Necessary Modification: The benefited area has been irrigated for nine years now, so that the project purpose is not command area development but drainage improvement only.		

(2) Gram Level Workshop 1

Kutchpara (10:30 AM – 0:30 PM, 11 May 2005, Male: 45, Female: 40, Children; 15, Total: 100)

- The villagers use an earthen dam (200-250 ft long) at Harai River for Boro season irrigation.
- If the dam is broken in Boro season, their Boro rice production decreases dramatically.
- The villagers suffer diarrhea because of drinking shallow well water.
- Most of Kutch (Indigenous people) women work in the field for cultivation and planting.
- Villagers said about 2% of them are rich, who have agricultural land up to ten acre and 10 to 12 cows. About 20% are middle, who have agricultural land up to two acre and two or three cows. About 78% are poor, who have no agricultural land and no cow, and are day laborers.

(3) Gram Level Workshop 2

Porabari (10:15 AM – 12 AM, 11 May 2005, Male: 52, Female: 48, Children; 20, Total: 120)

- The villagers originally constructed an earthen dam at Harai River beside Kharamura Mazar ten years ago, but it could irrigate only about 150 acre (60ha). They constructed another one in 1969 at the proposed site of BDR (Bangladesh Rifles) camp in Porabari and could cover about 450 acre (200 ha).
- If the dam is broken in Boro season, their Boro rice production decreases dramatically.
- Villagers cannot use the earthen dam in Aman season even though it is very dry. If they can have a permanent dam, they can irrigate in Aman season.
- Only rich families have tube wells and there are only three in Parabari. Many villagers are affected by diarrhea because they are drinking open and dirty well water.
- Villagers go to Indian forest to cut and collect woods. They carry CFT wood for 7 km to Viadanga market by buffalo driven carriage. They can make 150Tk per day by selling wood.

(4) Gram Level Workshop 3

Garopara (10:30 AM – 0:30 PM, 13 May 2005, Male: 96 [Garo: 64, Muslim: 32], Female: 53 [Garo: 30, Muslim: 23], Children; 32 [Garo: 10. Muslim: 22], Total: 181 [Garo: 104, Muslim: 77])

- Garo (Indigenous people) are female headed households. When they get married, grooms come to their wives' families. Daughters inherit 14/16 and sons inherit 2/16 in Garo tradition.
- Garo's headman is called sonuhokma and is chosen by vote.
- Garo villagers said 95% of them are day laborers and wood cutters.

- They collect wild potatoes from Tawa Kocna Hill area.
- Garo villagers said those who have five to ten acre of land and ten to twenty cows are rich, who have two to five acre of land and five to ten cows are middle, and who have no land and no cows and are day laborers are poor. Muslims said those who have one to ten acre of land and five cows are rich, who have 50 to 100 decimal of land and two cows are middle, and who have no land and are day laborers are poor.

A *Garo* woman presenter
(Sherpur)

(5) Integrated Workshop

Kharamura Dakhil Madrasa (10 AM – 0:30 PM, 15 May 2005, Male: 150, Female: 70, Children; 40, Total: 260)

1) Issues

- Landless people formed a committee and constructed the dam two years ago, but they also had the problem of collecting the water fee; and some fee collectors flew with they money that they have collected.
- Sometimes, during *Boro* season, the earthen dam is broken by heavy tide of *Harai* River; and farmers have difficulties to irrigate the full area (*450 acre*).
- Wild elephants, comes from the hilly (*Tawakucha hill*) jungles in India, damages the crops and other fruits, such as Jackfruit, Mango etc.
- In rainy season the tide in *Shomeswari* and *Harai* River have huge current. As a result people cannot cross the river; and villagers of *Kharamura* are almost stuck within the village during that time. Many villagers, especially landless and poor, go to India to fetch firewood, and CFT wood. They go there by group with a risk of getting shot by the BSF (*Border Security Force, India*). Some villagers were killed in this process.

An integrated workshop
(Sherpur)

- BDR (*Bangladesh Rifles; Border security force*) wanted to do a camp, near the place of the earthen dam that community is constructing every year; but villagers opposed about their selection of the proposed camp site.

2) Discussion

- Villagers were talking more about a bridge on Shomeswari River than the sub-project, so that they can be well communicated with outside. They have to cross the river almost everyday for their livelihood, and children need to go to school.
- The villagers said that they have taken measures to get protection from the elephants.
- One Matabbor said that if there are lining of the irrigation drains they would be able to release the water faster for the down streamers use; and it is important to consider their needs. He also urged for a permanent structure or a rubber dam at the place of the earthen dam.
- The Upazila Engineer Sribordee told that permanent structure (Rubber dam) may not be a good idea, because BSF might not like it; and it may cause problem in the border. In addition BSF might change the flow of the river to other direction.
- The Socio-economist (SSWRDSP-2) Sherpur, told that how they can solve some of their problems regarding Management Committee regarding misappropriation of water user fee and

District Socio-economist SP-2
(Sherpur)

uncollected water fee; and also what WMCA can do in this context, if there is one.

- The Up chairperson told that the bridge on the Shomeswari River is very crucial for communication for the villagers. He requested the UE that if this could be considered or included in the proposed sub-project design.

3) Consensus and differences of opinions

- All the participants agreed about the importance of the Bridge on the *Shomeswari* River; and they said that it is a crying need for the villagers of *Kharamura*.
- *Garo* (*Indigenous people*), and *Kutch* (*Indigenous people*) headmen / *Matabbors* said that they had been living peacefully with the *Bengalis*; and they fully agreed about the lining of the drainage and a bridge on *Shomeswari* River.
- A villager said that they are to be given priority as a laborer if there are construction works from the sub-project. He also said that local people may work as a contractor.

UP Chairperson
Ranisimul, Sherpur

- The Socio-economist (SSWRDSP-2) *Sherpur* said in this context that local landless and poor people will be given priority if LGED or the sub-project is doing any construction or earthwork activities. Contractors will be selected by the LGED, however, through the formal procedures. He also told that the villager through WMCA (*if formed*) will be able to monitor the quality; and they can complain if there are issues regarding quality.

Box 6.3.4

Kharamura village is surrounded by *Shomeswari* River (West and South), *Harai* River (East) and Indian border (North). As per as the location they sometimes feel unsecured about if any incident occurs by the BSF.

(6) A Few Important Findings at the Interviews and the Participatory Workshops

- Major activity of this sub-project is lining of the drainage canal of a 100% community-based project initiated by a *matabbor*. This is the ninth season and usually 20 to 30 landowners invest in the construction of the earthen dam (200-250 ft long) before *Boro* season and collect the water fee of Tk. 800/acre from other landowners after the season. The fee is Tk. 500/acre for the investors and small landowners with 20-25 decimal are exempted of the fee. Damage to the harvest is also considered.
- This season, 29 landowners and one landless invested about Tk. 240,000, of which about Tk. 90,000 in the construction (35 laborers x 30 days x Tk. 100/day) and Tk. 50,000 in guard (6 persons x 6 months x Tk. 1,500/month). The benefited area is about 450 acre so that expected revenues are about Tk. 360,000 (450 acre x Tk. 800/acre).
- Because of drought in *Aman* season, rice production was quite low two years ago. So no landowners could become the members of the management committee and could invest in the construction of the earthen dam. Landless (33 people) constructed the earthen dam voluntarily and they became the management committee. Landowners were supposed to pay Tk. 600/acre that year, but some landowners did not pay. Some management committee members of that year, who constructed the earthen dam and collected the water fee, mishandled the money and escaped to Dhaka.

An earthen dam made by community (Sherpur)

6.3.5 Tangail District

(1) Outline of the Proposed Sub-Project

Sub-project Name: *Nikla-Gabira-Ghungree-Amaldaha* Sub-Project District: *Tangail* *Upazila*: *Bhuapur* Union: *Alowa*	*Grams*: 1) *Amula*, 2) *Dighikatuli*, 3) *Bilamula*, 4) *Chanamula*, 5) *Nikla-Gopal*, 6) *Nikla-Gobardhan*, 7) *Anarkhapara* and 8) *Changthapara*	Appraisal Status: Under preparation (UDCC passed by the former proposal).
Type / Project Area (Benefited Area): Flood management and drainage improvement / 950 ha (600 ha).		
Major Proposed Activities / Facilities: Re-excavation of three canals and construction of an embankment and a sluice gate.		
Necessary Modification: Outlet canals need to be included in the sub-project. Inlet canals and *beels* might need to be included too.		

(2) *Gram* Level Workshop 1

Amula and Dighikatuli (9:30 AM – 12 AM, 22 May 2005, Male: 58, Female: 35, Children; 12, Total: 105)

- All the *beel* area is water logged during rainy season. Villagers plant Chamara rice in beel area in May, but they can harvest only two or three times in these ten years. It was damaged completely in 2004 too. They plant HYV-Aman at high land, but it was also damaged by heavy flood in 1998, 2002 and 2004.
- Villagers think 15% of them are rich who have more than four acre of land and are in government services or business, 50% are middle who have 2-4 acre of land and are often in small business, and 35% are poor who have about 0.5 acre of homestead land and who are day laborers.

A *gram* level workshop for women *(Tangail)*

- About 2,000 villagers re-excavated 3 km of Ekani Khal in one and half months in 1965.
- Villagers said the success of re-excavation depended on unity and co-operation. They said they can arrange a general meeting, reach consensus and plan how to implement the program.

(3) Gram Level Workshop 2

Bilamula and Chanamula (9:30 AM – 12 AM, 23 May 2005, Male: 75, Female: 30, Children; 27, Total: 132)

- Golabari beel area is water logged from June to October if heavy rain continues for 15 to 20 days.
- They use deep or shallow tube wells for irrigation in Boro season. Water fee is a quarter of the harvest.
- Eastern side of the new railroad gets water logged because of the Khal silted up. Water stays one month after the rainy season.
- Only 10% of the women in Bilamula were educated 10 years ago, but it is about 40% now thanks to BRAC School and the 7 km road from Bilamula to Bhuapur. The road reduced the traveling time from

A *gram* level workshop for men *(Tangail)*

one hour and a half to 30 minutes. Now they can send their daughters to the school and collage in Bhuapur and Nikla. Most of the women also can get health care at Bhuapur Upazila Health Complex. That reduces the mortality rate at delivery.

- The earthen road form Chanamula to Bilamula goes under water during rainy season. Children cannot go to school and it is difficult to for villagers to carry their crops.
- The villagers of Bilamula said about 10% of them are rich, and have 10-12 *bigha* (1 *bigha* = 33 *decimal*, 3.3-4 acre) of land, two cows and tin-roof house, about 30% are middle, who have one acre of land and one cow and are mostly share croppers, and about 60% are poor, who are landless and hand-to-mouth day laborers or van and rickshaw pullers.
- The villagers of Chalamula said about 5% of them are rich, who have about six acre of land and four or five cows, and are mainly businessmen, about 10% are middle, who have up to two acre of land and one or two cows, and are in small business, and about 85% are poor, who are landless day laborers.

(4) Gram Level Workshop 3

Anarkhapara and Changthapara (9:45 AM – 11:45 AM, 24 May 2005, Anarkhapara [Male:36, Female:25, Children:15, Total:76] and Changthapara [Male:6, Female:0, Children:0, Total:6])

- To drain out water from Gungri beel, Hoonpucha beel, Golabari beel and Magura Baith beel, Changtapara villagers excavated Changtapara Khal in Pakistan period.
- Many villagers said it is necessary to re-excavate Changtapara Khal during the workshop, however, some landowners said it is not. Changtapara Khal is about 1 km long and is Khas land, but there are 15-20 landowners who live in Changtapara village.
- Anarkhapara villagers said about 5% of them are rich with 30-70 *bigha* (10-23.3 acre) of cultivable land, about 10% are higher middle with 15-30 *bigha* (5-10 acre), about 15% are middle with 7-15 *bigha* (2.3-5 acre), about 30% are lower middle with 1-7 *bigha* (0.3-2.3 acre), and about 40% are poor with no cultivable land.

A *gram* level workshop for men *(Tangail)*

- Changtapara villagers made about 300ft earthen road in 1985 by their own efforts.

(5) Gram Level Workshop 4

Nikla-Gopal and Nikla-Gobardhan (10 AM – 12 AM, 25 May 2005, Male: 42, Female: 15, Children; 13, Total: 70)

- Villagers use deep or shallow well water for irrigation in Boro season.
- In rainy season, about 15 fishermen go to khal and beel area (Gabura beel, Tarai beel, Gungri beel, Hoonpucha beel, Golabari beel and Dighi beel) by boat for fishing.
- Because of water logging, villagers need to harvest their Boro rice 10-15 days before fully ripened.
- Villagers excavated most of the khals in 1962, but they silted up by 10-12 years ago.
- Villagers said about 10% of them are rich full-time farmers with 20 *bigha* (6.6 acre) of land, about 20% are middle with about five *bigha* (1.7 acre) of land and small business, and about 70% are poor, landless day laborers, van and rickshaw pullers.

(6) Integrated Workshop at Amula Dhakhil Madrasa

1) Issues

Upazila Engineer
(Buapur, Tangail)

- Some villagers at *Changthapara* claimed that there are private land in the *Ekani khal* (about half Km); and re-excavation of this *khal* is important to drain out stagnant water of *Baitta beel* and surroundings.
- At the downstream (especially to the South-East) re-excavation of *Moragang* is required. *Morgang* is silted up and was connected to *Lohajang* River to the South-East of *Changthapara*. Inclusion of neighboring area (South-*Salla* Union and East-*Narandia* Union: *Kalihati Upazila*) is crucial for the proposed sub-project as some re-excavation is essential over there.
- Most of the year *Aman* is damaged in the area as the area is water logged by heavy rain. In addition all the water from *Bhuapur Pouroshova* and *Govindadasi* Union comes to the proposed sub-project area.
- People are cultivating on the silted portion of the *Khals* both inside and outside (downstream) of the sub-project area.

2) Discussion

- Matabbors from Nikla-Gopal told that they all can talk to the said landowners of some portion of the Ekani khal and settle down the possible conflict issue if we want to re-excavate the canal. He also raised a question that he didn't know that in which process some portion of the Khal become private land, which used to be Khas land as of his knowledge.
- The UP member for Bilamula said that they would be able to solve the issue of opposition regarding the khas land. Because, if they can drain out the stagnant water and produce Aman, it would bring immense benefit to their area. They need to verify the validity of claiming some portion of Ekani khal as private land.
- Matabbor from Amula said that we need the cooperation of the UP Chairperson of Salla and Narandia Unions to re-excavate their portion where people are cultivating now. He requested the present UP members and Upazila Engineer Bhuapur, to initiate a discussion in this regard.
- One villager said that they can do fish culture in khals and beels if they are able to implement the sub-project.
- One villager from Nikla-Gobordhan said that they cannot give away their benefit for the opposition of very few people. They must convince those who might oppose; and the Shomaj and UP must take appropriate measure to solve the issue.

3) Consensus and differences of opinions

- Everybody agreed about the issue of inclusion of Salla and Narandia Unions as canal re-excavation is required in those areas also, to drain out the stagnant water of the sub-project area.
- Participants urged that Union Parishod (Council) to take more active part in solving the Khas land issues. Some participants also said Matabbors are important in this regard.

Box 6.3.5

The UP Chairperson of Olowa Union joined the workshop just at the ending time. So she really could not say much about the sub-project issues and ideas. However, she thanked the Study Team to arrange such a meeting where people were able to talk about their issues and ideas relating the sub-project development.

(7) A Few Important Findings at Interviews and the Participatory Workshops

- Some villagers claim that the canal goes through their private land. They said their land was registered long time ago and they voluntarily contributed the land for canalization when it was originally made. They said they cannot give up their land now because population has increased and the land has become very scarce.
- The UP Chairperson, who is the wife of the late UP Chairperson, admitted that she has never visited the ward and met the *matabbors*.
- There is no doubt that the sub-project needs to include re-excavation of the downstream canals and it might become three-union three-*upazila* rather than one-union one-*upazila* sub-project.

6.3.6 Jamalpur District

(1) Outline of the Proposed Subproject

Subproject Name: *Chinitola-Madardaha* Sub-Project District: *Jamalpur* *Upazila*: *Melandaha* Unions: *Kulia* Union, *Nangla* Union and *Melandaha Pouroshova*	*Grams*: 1) *Chinitola*, 2) *Bhaluka*, 3) *Sadipati* and 4) *Tarakandi* in *Kulia* Union, 5) *Haripur-Pathaliya*, 6) *Charaildar*, 7) *Bagurpara*, 8) *Gobindapur* and 9) *Boiradanga* in *Nangla* Union, and 10) *Pachurpara* in *Melandaha Pouroshova*	Appraisal Status: Feasibility Study completed, but no decision yet.
Type / Project Area (Benefited Area): Flood management and drainage Improvement / 1,000 ha (900 ha).		
Major Proposed Activities / Facilities: Re-excavation of canals, re-sectioning of embankment and construction of three regulators and one sluice gate.		
Necessary Modification: Outlets of the canals and outside of the embankment need to be included in the sub-project area.		

(2) Gram Level Workshop 1

Gobindapur, Boiradanga, Bagurpara, Boiradanga and Pachurpara (10 AM – 0:10 PM, 2 June 2005, Gobindapur [Male: 35, Female: 15, Children; 16, Total: 66], Boradanga [Male: 15, Female: 0, Children; 15, Total: 30], Bagurpara, Boiradanga and Pachurpara [Absent])

- Water comes from Jamuna River (about 15km away) through Baradaha River and Gobindapur Khal in rainy season (from mid June to mid September). Agricultural land in the area is flooded because the water cannot pass Bagla Khali road. Two families built their houses on Gobindapur Khal and they block the flow.
- Water layer goes down for seven or eight ft in dry season.
- Women doing small business have increased from 1% to 3% in three years.
- About 15 women of Gobindapur are working in Dhaka.

A *gram* level workshop for men *(Jamalpur)*

- Young women cannot attend the meeting like this because of social restriction.
- Villagers need to pay 1,000Tk to UP Chairperson for V.G.F. (Vulnerable Group Feeding).

- Gobindapur villagers think about 10% of them are rich with more than 10 bigha (3.3 acre) of agricultural land and maybe in business, about 25% are middle with more than five bigha (1.65 acre), and about 65% are poor with no land, no duck, hen or cow. 45% are rickshaw pullers.
- Boiradanga villagers think about 10% of them are rich with more than 20 bigha (6.6 acre) of agricultural land and tin-roof houses, about 45% are middle with more than three bigha (0.99 acre) and tin-roof house, and about 50% are poor with no land and live in huts.

(3) Gram Level Workshop 2

Haripur-Pathaliya and Charaildar (3:30 PM – 5 PM, 3 June 2005, Haripur-Pathaliya [Absent], Charaildar [Male: 72, Female: 15, Children; 10, Total: 97])

- Water comes from Jamuna River through Kamira Khali Khal in rainy season (from mid June to mid September).
- Aman rice was fully damaged in 2000, 2001 and 2004, and 25% damaged in 1989, 1990, 1991 and 1994 in these 16 years.
- During flood, all the tube wells and latrines also go under water and that causes diarrhea.
- Madar Daha River flow north to south in rainy season (mid June to Mid September) and south to north in dry season.
- The villagers think about 3% of them are rich with more than ten bigha (3.3 acre) of land, three or four cows and tin-roof houses, about 7% are middle with more than two or three bigha (0.66-0.99 acre) of land, and about 90% are poor with no land and in day labor.
- About 250 villagers constructed an earthen dam of 150m long in four to five days in 1978. About 100 villagers were in the meeting for decision making.

(4) Gram Level Workshop 3

Chinitora (10:30 AM – 0:30 PM, 4 June 2005, [Male: 50, Female: 26, Children; 30, Total: 106])

- Water comes from Bekero Khal in rainy season (mid June to mid August). Water also came from Madar Daha River over Sadipati-Chinitola Road.
- Villagers cultivate only Aman rice because Boro rice is damaged by flood.
- Villagers suffer diarrhea and other water related diseases in rainy season.
- 20 to 25 women of Chinitora are doing earthwork in Karanigong, Dhaka, and about 10 women are working in garment factories in Dhaka.

A *gram* level workshop for men *(Jamalpur)*

- Villagers think about 10% of them are rich with 10 bigha (3.3 acre) or more land, six or seven cows, one or two persons in the family abroad, and one or two persons in government or private sector, and about 30% are middle with more than two bigha (0.66 acre) of land, one or two cows and small business, and about 60% are poor with no land and are daily / farm laborers.
- About 500-700 villagers excavated about 1km of Boila Khali Khal overnight about 100 years ago. About 5,000 villagers made about 3km of Tarakandi-Melandaha Road overnight about 20 years ago.

(5) Gram Level Workshop 4

Sadipati (10:30 AM – 0:30 PM, 5 June 2005, [Male: 60, Female: 25, Children; 20, Total: 105])

- Water comes from Jamuna River through Alia River to Sadipati in rainy season. The embankment along Jamuna River is eroded away by heavy rainfall.

- All of culture fishes are washed away by flood.
- Villagers think about 10% of them are rich with more than ten *bigha* (3.3 acre) of agricultural land and in business, about 40% are middle with more than three *bigha* (0.99 acre) of land and two cows or goats, and about 50% are poor with about 10 decimal of homestead land.
- 30 to 40 villagers re-excavated about 1 km of Dublai Beel's Khal in two or three days about 50 years ago.


A *gram* level workshop for men *(Jamalpur)*

(6) Integrated workshop

Haripur Govt. Primary School (11 AM – 1 PM, 6 June 2005, Male: 175, Female: 0, Children; 50, Total: 225)

1) Issues

- Gobindapur Khal is silted up at the down stream (South of the sub-project boundary); and there are houses in the khal. These downstream areas, which is outside the sub-project boundary is heavily flooded. Another natural khal that came out of Madardaha River also needs re-excavation (outside the sub-project area). People also make seed beds in the khals for Aman.
- Sands come to farmland from the flood of Madardaha River. Sand layer comes up if about a foot or so is dig, in the farmlands, especially in Haripur, Charaildar, Chinitola and Sadipati gram.
- If the embankment to the east-bank of the Madardaha River is heightened, the west side (Mahmudpur Union) of the river, might be negatively affected more during flood.

2) Discussion

- UP Chairperson, Nangla Union said that the downstream part should be considered and the UP will give a separate proposal for that part; otherwise the sub-project area would exceed 1,000 ha. He agreed that the re-excavation of the downstream portion of Gobindapur khal is important for water drainage, however.
- The Assistant Engineer SSWRDSP-2 Jamalpur, said that he could not agree with the sand layer issue, as he thinks that it is not rational. "If you talk about the issues that may hamper the sub-project, then we will not do the project here" he added. He also said "I don't know about what are the activities the sub-project is going to do, exactly till the detail feasibility report is submitted".
- One villager suggested that if the project needs to take earth for heightening the embankment they must not take earth from adjunct lands of the proposed embankment; rather the project can take earth from the wider ranges of lands, so that not more that a foot is necessary to dig. If so, then villagers have no problem to give earth form their land for heightening the embankment at Chinitola and Sadipati grams.


District Assistant Engineer SP-2 *(Jamalpur)*


An integrated workshop with UP Chairperson *(Nangla, Jamalpur)*

- The Upazila Engineer Melandaha, said that there won't be any "Heightening of embankment" to the east-bank of the Madardaha River; it is just "resectioning of the embankment". He said that LGED needs villagers cooperation in "land acquisition matters" if it is necessary. He also said that heightening of embankment to the north of the sub-project area (Chinitola and Sadipati side) might be necessary. He suggested the villagers to think about it carefully.

- The UP Chairperson of Mahmudpur Union (West side of Madardaha river: outside the sub-project area) wanted to know that why he didn't know anything about the project. He said that if it is re-sectioning of the embankment on the east bank of Madardaha River, it will cause more flood in his area (to the west bank); and people will suffer more by flood. He demanded that construction of embankment to the west bank of the River needs to be considered as mitigation.
- One Matabbor from Charaildar gram said that if the embankment is not heightened on the east bank of the Madardaha River, the farmland of Charaildar and Haripur would be flooded; and sand would come to the farm land with the flood water.

3) Consensus and differences of opinions

- An old villager (who has land adjunct to the proposed embankment at Sadipati gram) from Sadipati gram said that if proper compensation is given there would not be any problem with the land acquisition. Everybody then agreed that the landowners will be cooperating in this matter.
- The participants agreed to support the sub-project as it will benefit them in cultivating Aman and get less affected by flood; keep the area free from water logging.
- Participants agreed that downstream portion of the Nangla Union seeks very important consideration; and the Gobindapur khal needs re-excavation at the downstream (outside the sub-projet boundary); otherwise downstream would be severely flooded.
- Some participants agreed that another embankment to the west bank of the Madardaha River need to be constructed, so that their suffering doesn't increase as a result of the proposed sub-project.
- The UP Chairperson of Mahmudpur Union was not convinced about the embankment issue. He opposed the sub-project, if his area is not considered for mitigating the impact as result of constructing or re-sectioning of embankment to the east bank of the river.

Box 6.3.6

After the integrated workshop, UP chairperson of *Nangla* was trying to convince the *Mahmudpur* UP chairperson about the embankment issue. The *Mahmudpur* chairperson seemed like "Not convinced", however. He was pressing that the sub-project must think about the possible impact that his people might face.

(7) A few important Findings at the Interviews and the Participatory Workshops

- The embankment along the river in the PRA Report was originally re-sectioning of the road in the proposal. It was changed by the reconnaissance team. The UP Chairperson of the other side of the river attended the integrated workshop and expressed his worry about the negative impact of embankment to the other side.
- Some villagers live along the embankment along the canal said at a gram level workshop that they cannot cultivate their land if surface soil is taken away for embankment. They said the soil is only 1 ft thick and the bottom is sand. After the workshop, village leaders gathered and reached consensus to take a little bit of soil from a wide area to mitigate the negative impact.
- Some villagers who live downstream of the project area expressed their worry about the negative impact of making a sluice gate and of re-excavation. Assistant Engineer (SSWRDSP-2) *Jamalpur* explained that another proposal for the downstream area has been already submitted.

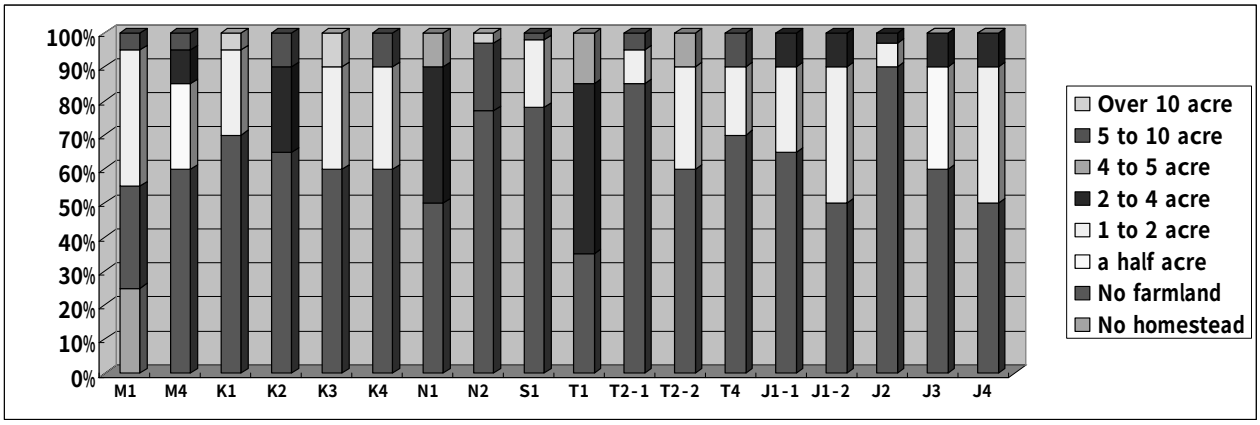
6.4 Results of PRAs

6.4.1 Some Cross Sectional Analysis

(1) Rich-poor profiles at the *gram* level workshop

Rich-Poor Profile at *Gram* Level Workshops

	M1	M4	K1	K2	K3	K4	N1	N2	S1	T1	T2-1	T2-2	T4	J1-1	J1-2	J2	J3	J4
No homestead	25%																	
No farmland	30%	60%	70%	65%	60%	60%	50%	77%	78%	35%	85%	60%	70%	65%	50%	90%	60%	50%
a half acre		25%															30%	
1 to 2 acre	40%		25%		30%	30%			20%		10%	30%	20%	25%	40%	7%		40%
2 to 4 acre		10%		25%			40%			50%				10%	10%	3%	10%	10%
4 to 5 acre							10%			15%		10%						
5 to 10 acre	5%	5%		10%		10%		20%	2%		5%		10%					
Over 10 acre			5%		10%			3%										



Note: Mymensingh (M1, M4), Kishoreganj (K1 to 4), Netorakona (N1, N2), Sherpur (S1), Tangail (T1, T2-1, T2-2, T4), Jamalpur (J1-1,J1-2, J2 to

1) 18 Rich-poor profiles conducted at the *gram* level workshops show that villagers define landless farmers as poor and the ratio of the poor ranges from 50% to 85% except in the workshop at *Amula Dhakhjl Madrasa* in *Alowa* Union, *Bhuapur Upazila*, *Tangail* District (T1), where the poor is only 35% and the rest (65%) of the villagers own more than one acre.

2) The villagers of *Haripur-Pathaliya* and *Charaildar Grams* in *Nangla* Union, *Melandaha District* (J2) said the poor, who own no farmland, account for as high as 90% in the area.

3) The ratios of the poor vary from 35% to 85% in the sub-project area of *Tangail* and 50% to 90% in a sub-project area in *Jamalpur*, Social structure at *gram* level might be totally different even in a 1,000 ha area.

4) At all of the *gram* level workshops in *Kishoreganj*, villagers define the rich as the landowners of more than 20-40 *kany* (7-14 acre) or 2.5 ha (6.25 acre) and that is more than any other districts. It is probably because they are in the *haor* area and there are some large landowners.

(2) Cash Income of Relatively Poor Villagers

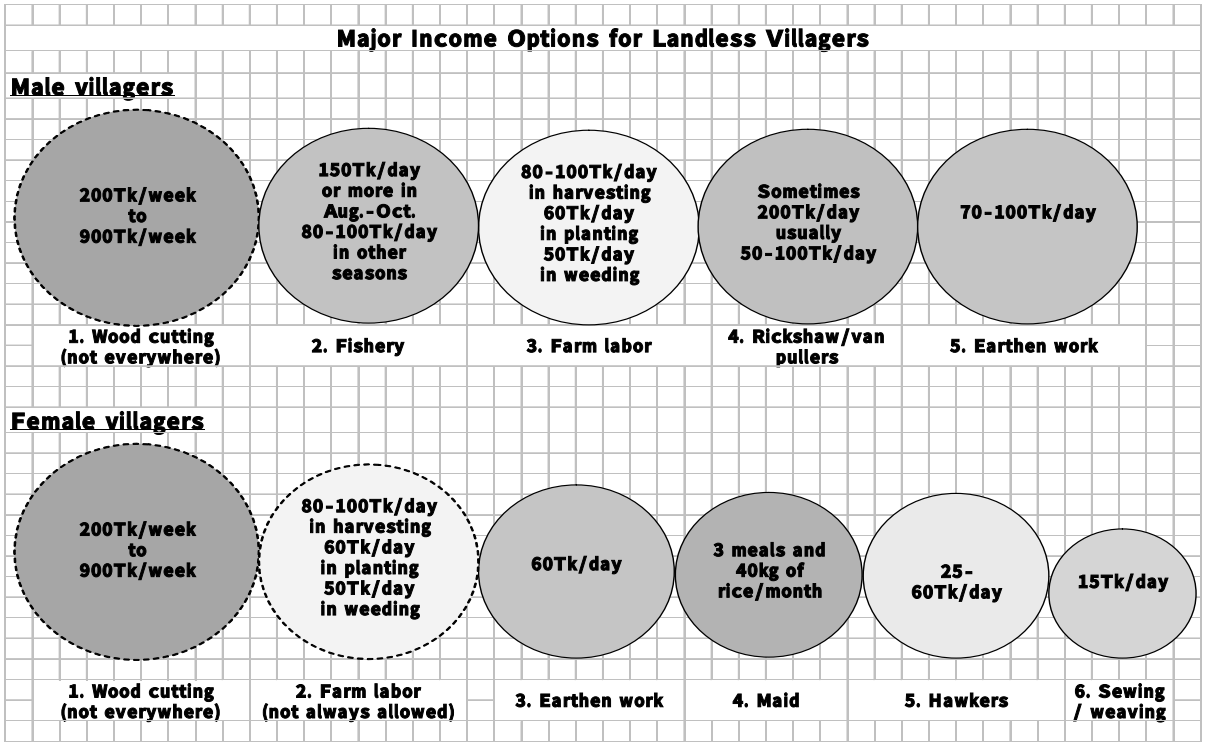
1) The PRA Consultant Team made 92 interviews in total, 15 or 16 interviews at each sub-project site. They did a purposeful sampling of interviewees by visiting rather small and shabby huts. 26 out of 92 interviewees or 28.3% are women, and strikingly, 15 out of 26 or 57.7% of the women are single (14 widows and one divorcee). At the sub-project area in Kishoreganj, all the four women interviewed are widows.

2) 8 out of 26 female interviewees or 30.8% said they are doing maid and earn something like three meals and Tk. 30/day or 0.5 kg of rice per day to 1 *mond* (40 kg) per month. 6 out of 26 or 23.1% are day laborer earning Tk. 30 to 100 and they are all in Sherpur. 5 out of 26, or 19.2% said they are hawkers of fishes, vegetables and household goods, and earn 25 to Tk. 60/day. Also another 5 said they are housewives.

3) 32 out of 92 interviewees or 34.8% said their major income source is day labor and the daily wages range from 30 to Tk. 100/day. At the sub-project area in Sherpur, 14 out of 15 interviewees or 93.3% are engaged in day labor of farming, forestry and earthen work etc. One villager said he is a farmer with 50 *decimal* (0.5 acre) of farmland.

4) The daily wages and availability of farming labor vary from month to month. For example in Jamalpur, the wage is about 50Tk per day in July-September, about Tk. 60 per day in January-March, about Tk. 80/day in November-December, and about Tk. 100 in April-June. Usually one meal and 0.5 kg of rice are provided by the landowners in planting and weeding seasons, and two meals and 1 kg of rice in harvesting season.

5) 9 out of 92 interviewees or 9.8% said they are sharecroppers but their land sizes are something like one or two *bigha* (0.33 or 0.66 acre) and they do day labor substantially. 8 out of 92 interviewees or 8.7% are rickshow/van pullers and earn Tk. 50 to 200/day. Some are working in Dhaka. 7 out of 92 interviewees or 7.6% are hawkers of fishes, vegetables, ice cream and household goods and earn Tk. 25 to 100 (Tk 25 to 60 for women) per day.



6) In conclusion, options of day labor for women are less and wages are lower than men. Men can choose fishery or farm labor in high season, and rickshaw/van pullers, earthen work or hawkers in low season. Many of them can still make Tk. 50-70/day all year round. Maximum wages women can make, however, is Tk. 60/day if earthen work is available. Only some women are lucky enough to find wood cutting / planting jobs or to be able to work in the field. Otherwise, to work as a maid might be the best regular occupation.

7) The majority of poor farmers (55 out of 92 interviewees or 59.8%, the cases with no interest are excluded) are borrowing money at very high interest (8% to 20% per month or 100% to 240% per year). 57.9% are the loans for food, agriculture, business etc. and the average amount is Tk. 1,873. 34.2% are for health problems and the average amount is Tk. 3,431. Others are for land and houses (Tk. 20,000 and Tk. 14,000 from NGOs), and for wedding (Tk. 7,800)

6.4.2 Participatory Planning and Decision Making Process

(1) Common Issues

1) On Project Designing

① All of the six sub-projects where the Team had workshops go beyond union borders. If the benefited area is close to 1,000 ha and the area of each union is something like 2,000-3,000 ha, the sub-project most likely is a multi-union project.
② Negative impacts tend to occur near the border of the project area, especially beside the facilities such as embankment, sluice gates and culverts. They are not paid attention so that no mitigation measures can be taken, if appraisal teams only study inside of the project area.
③ Project purpose, major project facilities and activities are not so clear in the sub-project proposals, and they are being refined through "appraisal" process by the appraisal teams.
④ *Upazila* Engineers, District Assistant Engineers (SSWRDSP-2) and other local LGED staff are not involved in substantial project designing because it is considered as a job to be done during the "appraisal" process.
⑤ Phasing of the projects and priority in *upazila* / district development (plans) are not so clear.

2) On Consensus Building

① Few districts or upazilas have full appraisal reports, so that local LGED staff cannot explain the results, either the proposals pass or fail, fully to UP Chairpersons and villagers.
② Few UP Chairpersons consult gram level leaders, sometimes not even UP members, before submitting sub-project proposals.
③ One transect walk and one workshop in a sub-project area are not enough for consultation. Important negative impacts and social conflicts can be unrecognized by the appraisal teams, and many questions of the villagers will be unanswered.
④ Neighboring villagers of a sub-project do not have opportunities to be consulted by the appraisal teams.
⑤ Many villagers do not have opportunities to get information on WMCA so that they do not know what WMCA is even after they have agreed to join WMCA.

(2) Possible Immediate Actions

1) On Project Designing

① Assuming all the sub-projects are multi-union, *Upazila* Engineer, District Assistant Engineer (SSWRDSP-2), District Socio-economist (SSWRDSP-2) and other local LGED Staff need to check all the sub-project proposals and rewrite them accordingly.
② The study area for the appraisal teams need to include potentially affected areas such as outside of embankment, outlets or inlets of sluice gates and culverts, and upstream of dams. The study area must be significantly wider than the project area.
③ *Upazila* Engineers, District Assistant Engineers (SSWRDSP-2), District Socio-economist (SSWRDSP-2) and other local LGED staff must refine the sub-project proposals so that the project purpose, major project facilities and activities are clear.
④ Full and active participation of *Upazila* Engineers, District Assistant Engineers (SSWRDSP-2), District Socio-economists (SSWRDSP-2) and other local LGED staff in project designing is a must. Participation does not only mean participation of the villagers, but of all the actors.
⑤ *Upazila* Engineers, District Assistant Engineers (SSWRDSP-2) and other LGED staff at *Upazila* and District levels need to add comments to the sub-project proposals on phasing and priority in the *upazila* and the district.

2) On Consensus Building

① For transparency and accountability to UP Chairpersons, UP members, local leaders and villagers, copies of all the appraisal reports must be sent to each district and the *upazil*a(s) so that District Assistant Engineers (SSWRDSP-2), District Socio-economist (SSWRDSP-2), *Upazila* Engineers and other local LGED staff can explain the results of appraisals to them.

② Accountability to the villagers and consensus of *gram* level leaders such as *matabbors* need to be the pre-requisites for UP Chairpersons to submit sub-project proposals

③ Two-day interviews and three to five *gram* level workshops need to be conducted in addition to one transect walk and one workshop by the PRA team. A workshop for more than three *grams* usually cannot attract so many ordinary villagers from all the grams. A workshop for every one or two *grams* is recommended.

④ The villagers of neighboring *grams* and unions must be included to the interviews and workshops by the PRA team. They could be affected negatively by the proposed sub-project. The primary purpose of impact assessment is not to show there are little negative impacts, but to show how many mitigation measures are identified and how much project design has improved from the original one.

⑤ Full explanation to the villagers on major activities, pre-requisites and benefits of WMCA is necessary before asking about their promises to join WMCA.

(3) Way Forward

① Original technical sub-project identification needs to be done by LGED and UP Chairpersons are to make proposals from the potential sub-project list. Multiple UP Chairpersons usually need to coordinate before submitting proposals.

② Under current project design / appraisal system, a concrete image of the sub-project cannot be completely clear before the feasibility study. Major impact assessment and consensus building process, however, is done by the PRA before the feasibility study. The Study Team strongly recommend that “Consensus to be made at project formulation level before it is going for appraisal process.(*Technical proposals from UE to be done with villagers through participatory workshopd / discussion meeting on SSWRDSP before it is submitted for appraisal*)

③ All the planning process needs to be constructed so that the level of participation goes up gradually through project designing and appraisal toward implementation.

④ Many *Upazila* Engineers, District Assistant Engineers (SSWRDSP-2), District Socio-economist (SSWRDSP-2) and other local LGED staff think that sub-project designing is the job of consultants sent by LGED HQ. LGED has to make it clear that it is the job of LGED itself, and arrange human resources and capacity development for that.

⑤ Appraisal system of sub-project need to be transformed from pinpoint appraisal system to aerial appraisal system with development plans.

(4) WMCA

1) WMCAs in SSWRDPSP-1

① There are 280 sub-projects in SSWRDSP-1 and the average members of WMCA are 413, of which 100 or 24.2% in average are female members. The members are largest at 833 (an average of four WMCAs) in *Pabna* District and smallest at 110 (an average of four WMCAs) in *Bogra* District.

② The target amount of beneficiary contribution is Tk. 128,417 in average per WMCA. The amount is highest at Tk. 363,342 (an average of six WMCAs) in *Chapai Nawabganj* District and lowest at Tk. 27,259 (an average of seven WMCAs) in *Thakurgaon* District.

③ The collected amount of beneficiary contribution is Tk. 290/member in average. It is highest at Tk. 1,247/member in *Bogra* District and lowest at Tk. 104/member in *Jhenaidah* District.

Some Statistics of SSWRDSP-1

District	Number of WMCAs	Beneficiary Households	Members						Beneficiary Contribution (Tk)				
			Male	Female	Total	Members / B.H.	Female rate	Members / WMCA	Target	Collected	Collected / Target	Target / WMCA	Collected / Member
Bagerhat	5	4,054	2,591	466	3,057	75.4%	15.2%	611	873,212	865,785	99.1%	174,642	283
Barguna	8	2,584	1,709	611	2,320	89.8%	26.3%	290	351,017	327,287	93.2%	43,877	141
Barisal	19		10,199	3,914	14,113	N.A.	27.7%	743	5,438,182	5,426,429	99.8%	286,220	384
Bhola	6	2,928	3,042	814	3,856	131.7%	21.1%	643	727,992	736,328	101.1%	121,332	191
Bogra	4	3,314	315	125	440	13.3%	28.4%	110	596,453	548,690	92.0%	149,113	1247
Chapai Nawabganj	6	4,049	2,042	424	2,466	60.9%	17.2%	411	2,180,054	1,004,186	46.1%	363,342	407
Chuadanga	10	5,527	2,217	1,348	3,565	64.5%	37.8%	357	715,646	723,019	101.0%	71,565	203
Dinajpur	10	3,919	2,122	723	2,845	72.6%	25.4%	285	790,406	676,167	85.5%	79,041	238
Faridpur	13	5,820	3,832	1,375	5,207	89.5%	26.4%	401	1,166,378	1,179,966	101.2%	89,721	227
Gaibandha	4	3,542	2,204	996	3,200	90.3%	31.1%	800	553,949	544,500	98.3%	138,487	170
Gopalganj	8	2,726	1,407	345	1,752	64.3%	19.7%	219	590,548	418,445	70.9%	73,819	239
Jessore	3	1,353	771	326	1,097	81.1%	29.7%	366	242,768	228,572	94.2%	80,923	208
Jhalokathi	11	5,396	3,166	1,065	4,231	78.4%	25.2%	385	1,540,517	1,523,118	98.9%	140,047	360
Jhenaidah	5	2,331	1,505	400	1,905	81.7%	21.0%	381	191,593	197,824	103.3%	38,319	104
Joypurhat	6	3,941	2,140	322	2,462	62.5%	13.1%	410	628,973	552,530	87.8%	104,829	224
Khulna	4	2,166	1,417	469	1,886	87.1%	24.9%	472	907,676	892,695	98.3%	226,919	473
Kurigram	9	4,406	3,322	1,470	4,792	108.8%	30.7%	532	1,337,372	1,362,870	101.9%	148,597	284
Kushtia	4	2,521	1,346	545	1,891	75.0%	28.8%	473	536,902	515,708	96.1%	134,226	273
Lalmonirhat	1	1,330	644	186	830	62.4%	22.4%	830	98,481	94,325	95.8%	98,481	114
Madaripur	6	2,892	2,258	572	2,830	97.9%	20.2%	472	875,341	655,117	74.8%	145,890	231
Magura	4	1,061	806	154	960	90.5%	16.0%	240	173,345	151,199	87.2%	43,336	157
Meherpur	8	2,007	1,922	546	2,468	123.0%	22.1%	309	324,427	360,135	111.0%	40,553	146
Naogaon	10	4,168	3,105	803	3,908	93.8%	20.5%	391	1,094,026	1,100,902	100.6%	109,403	282
Narail	9	3,266	2,093	660	2,753	84.3%	24.0%	306	560,140	596,527	106.5%	62,238	217
Natore	7	3,206	2,322	519	2,841	88.6%	18.3%	406	748,687	655,224	87.5%	106,955	231
Nilphamari	8	2,939	1,333	749	2,082	70.8%	36.0%	260	630,591	617,741	98.0%	78,824	297
Pabna	4	2,970	2,820	512	3,332	112.2%	15.4%	833	623,118	593,069	95.2%	155,780	178
Panchagar	7	2,955	1,661	541	2,202	74.5%	24.6%	315	563,076	598,550	106.3%	80,439	272
Patuakhali	10	3,786	2,329	1,073	3,402	89.9%	31.5%	340	2,012,325	1,842,342	91.6%	201,233	542
Pirojpur	12	6,148	4,337	1,230	5,567	90.5%	22.1%	464	2,470,955	2,498,429	101.1%	205,913	449
Rajbari	9	3,383	2,703	678	3,381	99.9%	20.1%	376	776,809	732,918	94.3%	86,312	217
Rajshahi	11	3,823	2,713	532	3,245	84.9%	16.4%	295	1,442,662	1,437,201	99.6%	131,151	443
Rangpur	8	3,753	1,481	758	2,239	59.7%	33.9%	280	522,398	477,869	91.5%	65,300	213
Satkhira	7	2,407	1,743	457	2,200	91.4%	20.8%	314	663,879	663,905	100.0%	94,840	302
Shariatpur	9	4,773	3,983	988	4,971	104.1%	19.9%	552	1,763,014	1,606,456	91.1%	195,890	323
Sirajganj	8	5,620	3,457	1,088	4,545	80.9%	23.9%	568	1,053,016	1,001,602	95.1%	131,627	220
Thakurgaon	7	1,797	671	260	931	51.8%	27.9%	133	190,816	181,638	95.2%	27,259	195
Average	8	3,418	2,371	758	3,129	82.7%	24.2%	413	971,804	907,818	93.4%	128,417	290

2) Community-based projects

① From the success stories of community-based projects, the Team has found that 20 to 30 villagers invested for a gram level earthen dam project in *Sherpur* District about Tk. 240,000 every season for nine years. In case of a gram level DTW project in *Mymensingh*, 35 villagers invested Tk. 350,000. The amount is almost as much as the target amount of beneficiary contribution in *Chapai Nawabganj* District.

② The water fee of the earthen dam project in *Sherpur* District is Tk. 800/acre, and that of the DTW project in *Mymensingh* District is 140Tk per Katha (Tk. 1,750/cre). The investment, water fee, construction wages and who work as day laborer etc. were decided by *shomaj* of *matabbors* and villagers have had no serious problems of investment nor collecting water fees.

④ The interviews showed that more than 20% of the poorer households in the villages could be female-headed. Also more than half of the population is usually landless and poor. The figure could be as high as 90% in some grams.

⑤ Women have much less options and opportunities for cash income in the villages. If they are not lucky enough to be able to work in the forest or in the paddy field, the best they can do is to find temporary earthen work, work as a maid (usually 40 kg of rice per month plus three meals) or as a hawker (could be Tk. 30-40/day).

3) Recommendations

It seems to be very difficult for poor families, especially female-headed families, to contribute Tk. 300, sometimes more than Tk. 1,000, in cash to join WMCA. They might not be the direct beneficiaries of the sub-projects either if they are landless. On the other hand, it is not difficult for villagers to invest Tk. 300,000 at gram level if they are community-based projects, the decision was made through *shomaj*, and landowners, who are more likely the real direct beneficiaries of sub-projects, invest and

pay the water fee. Therefore:

① To exempt poor landless farmers, especially female-headed households, from cash contribution to join WMCA.
② To introduce progressive cash contribution system based on gram level decision.
③ To charge operation and maintenance fee solely on landowners' accounts.
④ To include community-based water resources development projects into WMCAs under SSWRDSP-2 even if they are not selected as sub-projects. There are community-based water resources development projects in villagers that the community is managing by themselves. WMA to be given for these community based activities for enhance institutional strengthening and technical assistance on SSWRD.
⑤ To make the relation between WMCA and UP clear, For example, UP could play advisory rolls to the WMAs.
⑥ More publication and share / exchange information among Actors in small scale water resources development project. Media campaign on SSWRD through newspaper, radio, television, etc.

Table A 6.2.1 Site from Participatory Workshops and Interviews

Sub-project NAME / Description	Not Known Yet. FORM-1 Under Preperation	Not Known Yet. FORM-2 Under Preperation	Krishnakhali & Keronkhola SP	Kharamura Drainage SP	Nikla-Gabira-Ghungree-Amaidaha SP	Chinitala-Madardaha SP
LOCATION						
District	***Mymensingh***	***Kishoreganj***	***Netrakona***	***Sherpur***	***Tangail***	***Jamalpur***
Upazila(s)	***Trishal***	***Sadar & Karimganj***	***Netrakona Sadar***	***Sribordee***	***Bhuapur***	***Melandaha***
Union(s)	***Rampur***	***1. Noabad(Karimganj), 2. Joyka (Karimganj), 3. Boulai (Sadar)***	***Medni***	***Ranishimul***	***Alowa***	***1.Kulia, 2.Nangla, 3. Melandaha Pouroshova***
Grams (paras)	*1)Namapara-charpara, 2)Vatipara, 3)Kakchar-Noyapara, 4)Kakchar, 5)Darilla, 6)Khablapara, 7)Uzanpara.*	***Noabad Union** :1)Ulukhola, 2)Sindrip, 3)Uttar-Nansree **Joyka Union:** 4)Baliabari, 5)Khidirpur, 6)Shimulgora, 7)Bankata. **Boulai Union:** 8)Patda-degreekanda 9) Patda-pataria*	*1)Medni, 2)Krishnapur, 3)Rampur, 4)Digjan, 5)Vatlivita, 6)Baroari, 7)Shaljan, 8)Khoerbangla, 9)Dhorerbangla, 10)Bangladaspara.*	*1) Kharamura (big gram) **Paras:** 1)Porabari, 2)Kuychpara, 3)Garopara, 4)Tilapara, 5)Nahanpara, 6)Moddhoppara.*	*1)Amula, 2)Dighikatuli 3)Bilamula, 4)Chanamula, 5)Nikla-Gopal, 6)Nikla-Gobardhan, 7)Anarkhapara, 8)Changthapara.*	***Kulia Union** : 1)Chinitola, 2)Bhaluka, 3) Sadipati, 4)Tarakandi, **Nangla Union:** 5)Haripur-Pathaliya, 6)Charaildar, 7)Bagurpara, 8)Gobindapur, 9)Boiradanga **Pouroshova:** 10)Pachurpara*
PROJECT DESCRIPTION						
Project Area	Not Known Yet	Not Known Yet	900 ha	201 ha	950 ha	1,000 ha
Benefitted Area			750 ha	160 ha	600 ha	900 ha
Project Purpose	Type: CAD	Type: CAD & DI	Type: CAD / WC; to ensure water for boro irrigation in winter; components: 1 no WRS.	Type: CAD & DI	Type: FMD	Type: FMD; Purpose: To improve drainage congestion during pre-monsoon and ensure aman cultivation from flood of Melandah river; components:
Major Proposed Activities / Facilities	Canal re-excavation	Canal re-excavation, Construction of a sluice gate	Karonkhola Canal Re-excavation and Construction of a Regulator	Lining of drainage canals	Re-excavation of 3 nos. of canals, Construction of an embankment, a sluice gate	Re-excavation of khal, re-sectioning of embankment, construction of 3 nos. of regulators and 1 no sluice-gate.
APPRAISAL STATUS	New proposal not made yet.	New proposal not made yet.	Not Yet (Passed UDCC)	Not Yet (Passed UDCC)	Not Yet (Passed UDCC)	Feasibility Study Completed; no decision yet.
PARTICIPANTS OF WORKSHOPS						
***Gram (para)* level Workshops**	**1.[M: 20, F: 25, C: 30, T: 75]**	**1.[M: 25, F: 50, C: 15, T: 90]**	**1.[M: 36, F: 70, C: 0, T:106]**	**1.[M: 45, F: 40, C: 15, T:100]**	**1.[M: 58, F: 35, C: 12, T:105]**	**1.[M: 50, F: 15, C: 31, T: 96]**
	2.[M: 45, F: 60, C: 20, T:125]	**2.[M: 25, F: 45, C: 15, T: 85]**	**2.[M: 29, F: 29, C: 35, T: 93]**	**2.[M: 52, F: 48, C: 20, T:120]**	**2.[M: 75, F: 30, C: 27, T:132]**	**2.[M: 72, F: 15, C: 10, T: 97]**
	3.[M: 25, F: 15, C: 15, T: 55]	**3.[M: 60, F: 30, C: 15, T:105]**	**3.[M: 17, F: 36, C: 35, T: 88]**	**3.[M: 96, F: 53, C: 32, T:181]**	**3.[M: 42, F: 25, C: 15, T: 82]**	**3.[M: 50, F: 26, C: 30, T:106]**
	4.[M: 30, F: 35, C: 10, T: 75]	**4.[M: 45, F: 20, C: 0, T: 65]**	**4.[M: 64, F: 15, C: 18, T: 97]**		**4.[M: 42, F: 15, C: 13, T: 70]**	**4.[M: 60, F: 25, C: 20, T:105]**
	T:[M:120. F:135, C: 75, T:330]	**T:[M:155, F:145, C: 45, T:345]**	**T:[M:146, F:150, C: 88, T:384]**	**T:[M:193, F:141, C: 67, T:401]**	**T:[M:217, F:105, C: 67, T:389]**	**T:[M:232, F: 81, C: 91, T:404]**
Integrated Workshops	**[M: 75. F: 0, C: 30, T:105]**	**[M: 75, F: 15, C: 50, T:140]**	**[M: 80, F: 0, C: 15, T: 95]**	**[M:150, F: 70, C: 40, T:260]**	**[M: 90, F: 0, C: 25, T:115]**	**[M:175, F: 0, C: 50, T:225]**
INTERVIEWEES						
Number of Interviewees	**[M: 13, F: 2, Total: 15]**	**[M: 11, F: 4, Total: 15]**	**[M: 9, F: 6, Tptal: 15]**	**[M: 9, F: 6, Total: 15]**	**[M: 9, F: 7, Total: 16]**	**[M: 15, F: 1, Total: 16]**
Major occupations	Laborer: 4, sharecropper: 2	Laborer: 4, hawker: 3	Hawker: 4, rickshaw puller: 3	Laborer / wood: 14, farmer: 1	Laborer: 5, maid: 4	Laborer: 6, sharecropper: 5
Female headed households	1 6.7%	4 26.7%	3 20.0%	3 20.0%	4 25.0%	0 0.0%

ANNEX 7

IDENTIFICATION AND PRIORITIZATION OF POTENTIAL SUB-PROJECTS

ANNEX 7: IDENTIFICATION AND PRIORITIZATION OF POTENTIAL SUB-PROJECTS

TABLE OF CONTENTS

7.1 Status of Sub-Projects under SSWRDSP-2 ---------- A7 - 1

7.2 Prioritization Procedure of Potential Sub-Projects ---------- A7 - 1

7.2.1 Identification of Potential Sub-Projects ---------- A7 - 1

7.2.2 Verification of Potential Sub-Projects ---------- A7 - 10

7.2.3 Qualification of Potential Sub-Projects ---------- A7 - 12

7.2.4 Prioritization of Potential Sub-Projects ---------- A7 - 13

7.2.5 Hydrological Analysis on Identified Potential Subprojects ---------- A7 - 23

7.3 Hydrological Characteristics of Identified Potential Sub-Projects ---------- A7 - 24

Reference: Sample of Scoring ---------- A7 - 25

A7 IDENTIFICATION AND PRIORITIZATION OF POTENTIAL SUB-PROJECTS

7.1 Status of Sub-Projects under SSWRDSP-2

Present status (as of August 30, 2005) of sub-projects under SSWRDSP-2 is summarized in Table A7.1.1. In total, LGED has received 477 sub-projects from 198 unions in 50 upazilas of which 112, 63 and 54 sub-projects have been passed and 324, 49 and 5 and 28 sub-projects have been failed in Pre-Screening, Reconnaissance and PRA stages respectively. 26 sub-projects have been passed and 28 are in process in Appraisal stage. Finally, 14 sub-projects have been selected for implementation under SSWRDSP-2.

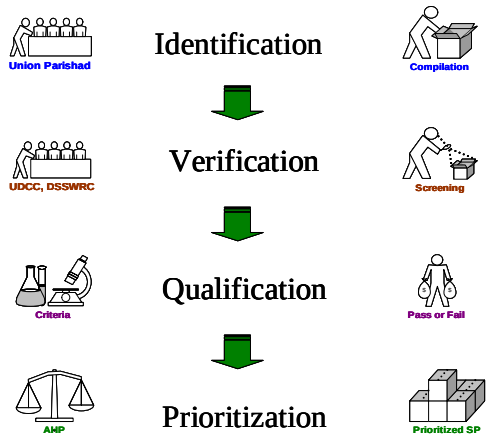
Table A 7.1.1 Status of Sub-Project Submitted under SSWRDSP-2

District Name	Proposal Received			Pre-Screened SP		Reconnaissance SP		PRA SP		Appraisal SP		Implementation SP	
	Upazilas	Unions	Nos. of SP	Pass	Fail	Pass	Fail	Pass	Fail	Pass	In Process	Pass	FY
Jamalpur	6	25	40	11	24	7	4	7	0	3	3	1	
Kishoreganj	12	34	73	22	50	12	10	9	3	7	3	5	2004-2005
Mymensingh	10	59	147	20	126	15	5	15	0	6	9	3	2004-2005
Netrakona	8	38	156	26	129	13	13	11	1	5	6	3	2002-2003 (2) & 2004-2005
Sherpur	5	18	28	15	0	7	8	3	1	1	2	0	
Tangail	9	24	33	18	13	9	9	9	0	4	5	2	2004-2005
Total	**50**	**198**	**477**	**112**	**342**	**63**	**49**	**54**	**5**	**26**	**28**	**14**	

Note: As of August 30, 2005

7.2 Prioritization Procedure of Potential Sub-Projects

The potential sub-projects have been finalized based on the stepwise activities of identification, verification, qualification and prioritization.



7.2.1 Identification of Potential Sub-Projects

Extensive field survey was carried out at all the 562 unions of Greater Mymensingh. The JICA study team went through a lot of background preparations before mobilizing the JICA survey teams for field survey. Below is outlined the activities carried out for identification of the potential sub-projects.

- *Background Preparation*: Field investigations were made during both wet season of 2004 and dry season of 2005 to:
  - Clarify present status of water resources development.
  - Clarify different water related problems.
  - Clarify views of other organizations.
  - Clarify people's opinion on poverty reduction.

  Secondary data were collected from different agencies to grasp:
  - Problems such as flood, drought, arsenic contamination.
  - Water bodies such as river, khals, beels.
  - Topography.

  Union Questionnaire Survey was carried out to get overall picture of union regarding:
  - Problems and constraints on water resources development.
  - How people manage the problems.

– How do they think to solve the problems.
– Flood damage during normal and extreme years.
– Water bodies with names, sizes.

Based on the above field investigations and primary and secondary data, survey forms were drafted and discussed with the LGED counterpart.

- *Trial Field Survey*: JICA study team members along with survey teams visited several unions and conducted trial survey to understand the process of filed survey and finalize the survey forms.

- *Field Survey*: JICA survey team along with LGED field level engineers visited each union (562 unions in total) spending half of a day to two days, discussed with the local people and visited proposed sites of sub-projects and formulated sub-projects in front of them. Two types of field surveys namely Inventory and Enumerator survey have been carried out.

- *Upazila Development Coordination Committee (UDCC) Consultation Meetings*: JICA study team in cooperation with LGED field level engineers compiled all the identified sub-projects by upazila and finalized them through consultation meetings at each upazila (58 upazilas in total) spending half of a day with interactions among union parishad chairmen and upazila officers.

- *District Small Scale Water Resources Committee (DSSWRC) Consultation Meetings:* JICA study team along with LGED head office and district level engineers consulted with district officers (6 districts in total) on the identified potential sub-projects and finalized them.

- *Digitization of Sub-Projects*: All the finalized identified potential sub-projects have been scanned and digitized from upazila maps using AutoCAD Map software. Gross areas of the sub-projects have been estimated based on the digitized maps. The boundaries of the potential sub-projects have been drawn based on JICA surveyors field information, topographic map of National Water Resources Database (NWRD) of WARPO, road network and settlement locations of LGED's Upazila and GIS maps.

- *GIS Analyses*: A comprehensive GIS database of the sub-projects has been developed using ArcView GIS software. As for the base map, LGED's GIS database has been utilized. Overlapped and interconnected sub-projects could easily be sorted out using GIS map. Through overlaying the sub-projects with other information like topography, slope, inundation land types, catchments, BWDB projects etc. collected from NWRD of WARPO, hydrological characteristics of the sub-project areas have been analyzed.

As mentioned above, two types of survey namely Inventory and Enumerator survey were carried out. The difference between the two survey methods is that there was site visit for Inventory survey (just to clarify the present condition of the sub-project area but no actual measurement of dimensions of water bodies and infrastructure) where there was no site visit for Enumerator survey. However, from the output of survey result, it is observed that as for planning purpose, there is basically no significant difference in quality among the potential sub-projects identified by the two different survey methods. Therefore, it is suggested that for future identification of potential sub-projects, Enumerator survey would serve enough the purpose and will be cost effective.

(1) Inventory Survey

Inventory survey was carried out in 211 unions and 1 paurashava (Bhuapur paurashava of Tangail district since 1 sub-project was submitted by that paurashava under SSWRDSP-2). Fig. A7.2.1 shows the inventory survey unions.

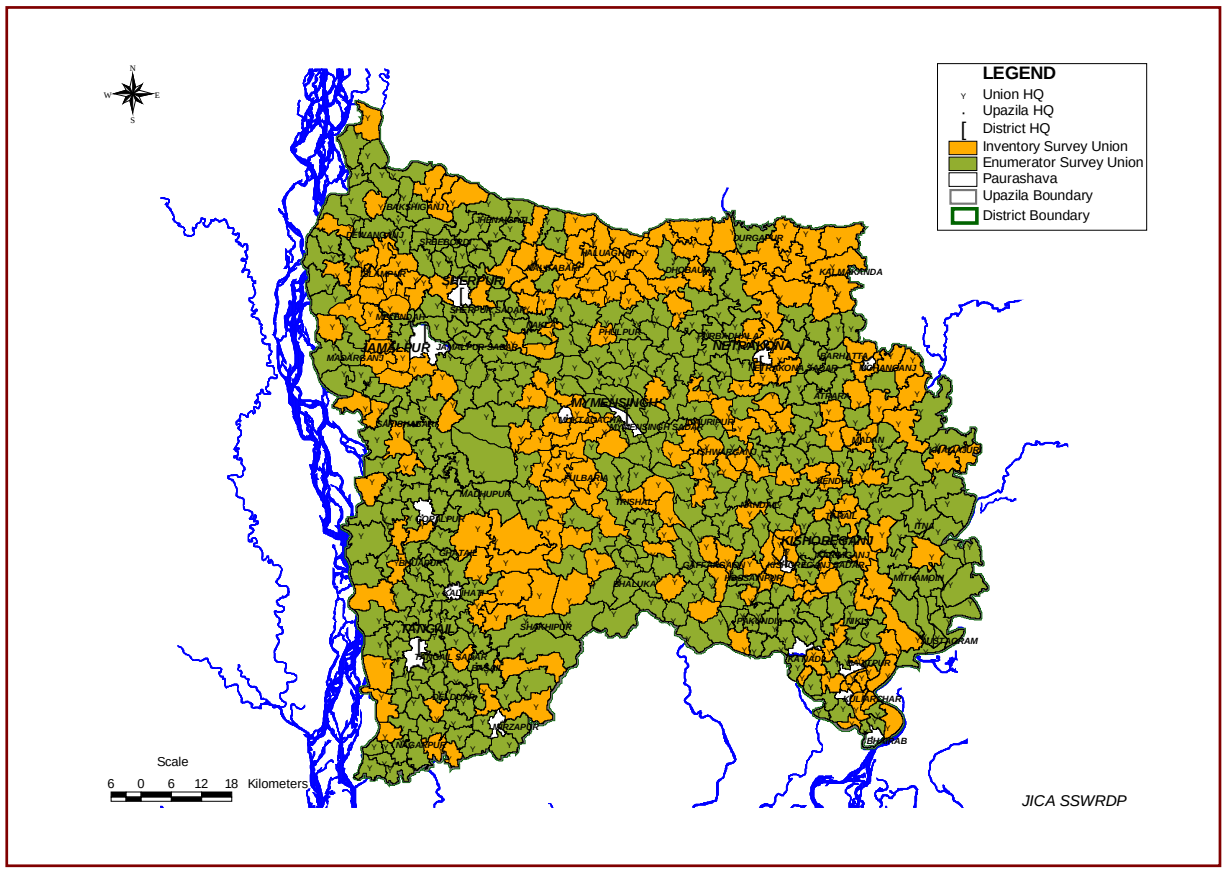


Fig. A 7.2.1 Inventory and Enumerator Survey Unions

The criteria used for selection of the inventory survey unions were:

Inventory Survey should:

- Cover all the agro-ecological zones.
- Cover all the inundation land types.
- Cover all the upazilas. As of February 2005 i.e. before start of inventory survey, 10 upazilas didn't submit any proposal to LGED.
- Include all unions that submitted proposal sub-projects to LGED under SSWRDSP-2. As of February 2005 i.e. before start of inventory survey, 198 unions submitted proposals to LGED.
- Take into account problematic areas as identified by Union Questionnaire Survey.
- Consider geo-physical balance. 3 unions were added.

Inventory survey was carried out by six survey teams with 12 members. Each team consisted of one senior and one junior water resources engineer. The survey was carried out between April to June, 2005.

Various supporting materials were provided to the inventory survey teams, a list of which is presented in Table A7.2.1. Since the survey work was not just measurement survey but also needed planning and judgment on the field for potential sub-project identification, therefore all the necessary background information were provided to the survey team such as:

- Satellite image, GIS map, LGED upazila map, Banglapedia map.
- List and map of water bodies, existing and planned BWDB projects, topography.

In addition, camera and GPS equipment were provided to each survey team.

Table A 7.2.1 List of Documents, Forms and Maps Provided to the JICA Survey Teams

Sr. No.	Document Type	Item	Nos.	Remark
1	Form	Working Survey Forms (3 Nos.) for Inventory on Water Bodies and Infrastructures	2 Sets / Union	A4 Copy
2	Form	Working Survey Forms (5 Nos.) for Potential Sub-Project Information	2 Sets / Union	A4 Copy
3	Form	Union Questionnaire after Verification by Upazila Engineers	1 Set / Union	A4 Original
4	Document	Instruction Manual for Inventory Survey	1 Set / Survey Team	A4 Copy
5	Document	Survey Schedule	1 Set / Survey Team	A4 Copy
6	Document	Sample Copy of Trial Inventory Survey	1 Set / Survey Team	A4 Copy
7	Document	Union Questionnaire Verification Items	1 Set / District	A4 Copy
8	Document	Social Data (Population, Household Nos. and Area) by Union	1 Set / District	A4 Copy
9	*Document*	*Sub-Project Proposals Submitted to LGED by UP Chairman under SSWRDSP-2*	*1 Set / Upazila*	*A4 Copy*
10	Document	List of BWDB Large Scale Projects in Greater Mymensingh	1 Set / District	A4 Copy
11	Document	List of WARPO Beels by District	1 Set / District	A4 Copy
12	Document	Number of WARPO Beels and Water Bodies by District	1 Set / District	A4 Copy
13	Document	List of River, Khals & Beels by Union as Extracted from Union Questionnaire Survey	1 Set / Upazila	A4 Copy
14	Document	Contact Address and Telephone Numbers of Upazila Engineers	1 Set / Survey Team	A4 Copy
15	Document	Contact Address and Telephone Numbers of District LGED Engineers	1 Set / Survey Team	A4 Copy
16	B&W Map	1/50,000 Working Map of Union with Legend as Copied from LGED Upazila Map	2 Sets / Union	A4 / A3 Copy
17	B&W Map	1/50,000 Upazila Map of LGED	1 Set / Upazila	A1 Original
18	B&W Map	Upazila Map as Printed from Image File of Banglapedia	1 Set / Upazila	A4 Copy
19	Colour Map	GIS Map by Upazila as printed by LGED GIS Department	1 Set / Upazila	A1 Original
20	Colour Map	Location Map of WARPO Water Bodies by District as printed from GIS Software	1 Set / District	A3 Original
21	Colour Map	Location Map of BWDB Large Scale Projects by District as printed from GIS Software	1 Set / District	A3 Original
22	Colour Map	Topographic Map by District as printed from GIS Software	1 Set / District	A3 Original
23	Colour Image	IRS Satellite Image by Upazila as printed from Image File using Plotter	1 Set / Upazila	A1 Original
24	Colour Image	Four Types of Sub-Projects as Defined under SSWRDSP-2	1 Set / Survey Team	A4 Copy

Table A7.2.2 and A7.2.3 show sample Inventory survey forms for water bodies and infrastructures and potential sub-project information forms. The forms have been developed based on discussion with LGED counterparts and trial field survey. The forms have been completed in the field for each survey unions and for each identified potential sub-project with some exceptions. Below is listed the forms that have been used for survey:

- 2 forms for inventory on water bodies and infrastructures for each union:
  - 1 form on inventory of water bodies.
  - 1 form on inventory of infrastructure(s) lying within the proposed sub-project(s).

- 4 forms for information on each proposed potential sub-project:
  - 1 form on general information, problem identification and needs assessment of the potential sub-project.
  - 1 form on expected benefits on agriculture, fisheries and livestock by the potential sub-project.
  - 1 form on socio-environmental consideration including stakeholders' participation.
  - 1 form on water use, relevant projects and institutions, farmers' organization.

For each identified potential sub-project a schematic diagram has also been sketched in the field in front of the stakeholders showing the components of the sub-project including khal-beel system and sub-project boundary.

Table A 7.2.2 Survey Forms for Inventory on Water Bodies and Infrastructures

1. Water Bodies Lying Within the Union

Serial No.	Name of Water Body (Khal[1] / Beel / River / Baor)	Type of Water Body		Size				Ownership and Management Organization		Use [Irrigation (I) / Fisheries (F) / Drinking (D) / Navigation	Present Problem Yes (Y)[1] / No (N)	Location			Photos Taken	
		Perennial (P) / Seasonal (S)	Water Stay (month to month)	Length (km)	Width (m)	Depth (m)	Area (ha)	Khash (K) / Private (P)	Name			Longitude	Latitude	Measure Point	Yes (Y) / No (N)	Roll / Frame No.
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																

2. Hydraulic Infrastructures Lying Within the Union

Serial No.	Type of Structure (Embankment / Culvert / Regulator / Sluice Gate / Bridge / Rubber Dam / Groyne	Location (Name of River / Khal)	Purpose of Structure (Drainage (Dr) / Irrigation (Ir) / Flood Management (FM))	Size			Total Capacity (m^3/sec)	Construction Year	Ownership and Management Organization	Present Problem Yes [Y][1] / No (N)	Location		Photos Taken	
				Width[1] (m)	Height (m)	Length (m)					Longitude	Latitude	Yes (Y) / No (N)	Roll / Frame No.
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														

Table A 7.2.3 Survey Forms for Sub-Project Information

1. General Information and Problem Identification

1.1 Potential Sub-Project Title

1.2 Potential Sub-Project Boundary

District :	Upazila(s) :	Union(s) :	Mouza(s) :
Gross Area (ha) :	Name of Benefitted Villages :		

1.3 Presence of BWDB Project in and around the S.P. Area

Project Type (FC / FCD / FCI / FCDI / D / I / ID)	Total Area (acre)	BWDB Project Covers				Status (check mark)		
		Full P.S.P. Area (check)	Partial P.S.P. Area (acre or % of Gross Area)	Adjacent to P.S.P. Area (check)	None (check)	Fully Operating	Irregularly Maintaining	Non-operating

Name of BWDB Project(s) :

Special Consideration(s) :

1.4 Problem Identification and Needs Assessment

Special Consideration(s) :

2. Expected Benefits by the Potential Sub-Project

2.1 Topography of the Potential Sub-Project Area

Inundation Land Type (ha or % of Gross Area)

Highland (F0) (Inundation Depth = 0 - 30 cm)	Medium Highland (F1) (Inundation Depth = 30 - 90 cm)	Medium Lowland (F2) (Inundation Depth = 90 - 180 cm)	Lowland (F3) (Inundation Depth = 180 - 300 cm)	Very Lowland (F4) (Inundation Depth > 300 cm)
				0

2.2 Benefit to Agriculture (Crop) in the Potential Sub-Project Area

Crop Name	Without Project			With Project		
	Cultivable Area (acre)	% Cultivated	% Loss	Cultivable Area (acre)	% Cultivated	% Loss
Boro						0
T. Aman						0
T. Aus						0
Vegetables						0

Special Consideration(s) :

2.3 Benefit to Fisheries and Livestock in the Potential Sub-Project Area

Benefit to Fisheries:

Benefit to Livestock:

Special Consideration(s) :

2.4 Other Benefits by the Potential Sub-Project

Increased Employment:

Decreased Deseases:

Decreased Damage o Houses:

Benefit to Irrigation:

Special Consideration(s) :

4. Water Use, Relevant Projects and Institutions, Work Volume

4.1 Domestic Water Use in the Potential Sub-Project Area

Surface Water	Use (River / Khal / Beel / Pond) :			Polluted (check)	Yes	
					No	
Groundwater	Polluted (check)	Yes		Total Arsenic Contaminated Wells (nos.)	Total Wells for Domestic Use (nos.)	
		No				

Special Consideration(s) :

4.2 Relevant Projects in and around the Potential Sub-Project Area

Name of Project (Example : Rural Development, Micro-Credit, Community Based)	Agency	Operating (check) / Start Year	Non-operating (check) / Closed Year	In / Adjacent to S.P. Area (I / A)	Comment / Public Opinion (if any)

4.3 Farmers' Organization, NGOs and CBOs in and around the Sub-Project Area

Name of Farmers' Organization, NGO or CBO	Activity	Operating (check) / Start Year	Non-operating (check) / Closed Year	In / Adjacent to S.P. Area (I / A)	Comment / Public Opinion (if any)

4.4 Work Volume of the Sub-Project

Type of Water Body or Infrastructure		Re-Habilitation			New Construction			Approximate Cost (Taka)
		Length (km)	Width (m)	Depth / Height (m)	Length (km)	Width (m)	Depth / Height (m)	
Water Body	Khal							
	Beel							
Infrastructure	Embankment							
	Regulator							

Special Consideration(s) :

3. Socio-Environmental Consideration

3.1 Stakeholders Participated during the Survey

UP Chairman	Regular UP Members (nos. and ward #)	Reserved Feamle UP Members

Profession by Livelihood (nos. or % of total)				Ethnic Group (if any) (nos. or % of total)	
Farmers	Fishery Farmers (Motsho Chashi) or Fishermen (Motsho Jibi)	Landless (Area <)	Others	Tribes	Non-Tribes

3.2 Benefited and Affected Households in the Potential Sub-Project Area

Households (Khana)	Total (nos.)	Profession by Livelihood (nos. or % of total)				Ethnic Group (if any) (nos. or % of total)	
		Farmers	Fishery Farmers (Motsho Chashi) or Fishermen (Motsho Jibi) Excluding Farmers	Landless	Others	Tribes	Non-Tribes
Benefitted							
Affected							

3.3 Social Impact by the Sub-Project

Discussed Among Beneficiaries (Yes / No):	Have Beneficiaries Consensus (Yes / No):

Special Consideration(s) :

3.4 Environmental Conservation Area in and around the Potential Sub-Project Area

Type of Environmental Conservation Area *(Identify over map also)*	Within Sub-Project Area			Adjacent to S.P. Area (check)
	Full (check)	Partial (ha or % of Gross Area)	None (check)	
Conserved Wet Land				
Conserved Forest				
Environmentally Sensitive Area				

3.5 Environmental Impact by the Potential Sub-Project

Special Consideration(s) :

In addition to survey inventory on water bodies and infrastructures and sub-project identification, union questionnaire verification was also carried out for each union. Stress was given on: presence of BWDB project in the union, number of water user group in the union, arsenic problem in the union including % of arsenic affected tube wells, cropping pattern, population and number of households.

(2) Enumerator Survey

Enumerator survey was carried out in the rest 351 unions from where no sub-project proposal has been submitted to LGED under SSWRDSP-2. Enumerator survey was carried out by six enumerators, all of whom were experienced water resources engineer and four were retired chief engineers of BWDB. The enumerator survey was carried out in parallel with inventory survey and arranged in such a way that there was no overlapping of survey teams in the same upazila at same time.

All the supporting materials that were provided to inventory survey teams were also provided to each enumerator except SSWRDSP-2 sub-project proposals. Since, the enumerators didn't conduct any site visit, no camera and GPS were provided to the enumerators. All the survey forms except inventory on infrastructures were filled by the enumerators. The enumerators also performed union questionnaire verification.

(3) Identified Potential Sub-Projects

In total, 731 individual sub-projects were identified from 562 unions based on field survey and proposed during UDCC consultation meetings. Sub-project lacking basic information and already in process by SSWRDSP-2 were excluded from the list. All the identified sub-projects had been discussed at the UDCC meetings (58 in total) and finally 694 sub-projects were accepted and agreed upon as identified potential sub-projects. The sub-projects thus identified therefore are a result of bottom up participatory approach where the local stakeholders actively participated in expressing their problems and proposing their projects, the JICA survey teams physically visited each union and formulated the main problems and proposals of each union in potential sub-projects the technical and socio-environmental side of which the JICA study team further scrutinized through UDCC and DSSWRC consultation meetings. The basic approach was not to start from identifying small scale water resources sub-projects but to start from identifying each union's major water resources problems and formulate small scale potential sub-projects.

Table A7.2.4 summarizes total number of identified potential sub-projects by type and area. The sub-projects belongs to either under the four basic types of Flood Management (FM), Drainage Improvement (DI), Water Conservation (WC) and Command Area Development (CAD) or a combination of the basic types. The identified sub-projects ranges from a minimum gross area of 33 ha in Ghatail of Tangail to a maximum gross area of 5,708 ha in Dhobaura of Mymensingh with a mean gross area of 646 ha. Total sub-project area is 465,174 ha. By type, DIWC constitutes the highest portion (27%) and CAD constitutes the lowest portion (<1%). Considering only three components namely FM, DI and WC, sub-projects having DI component constitutes the maximum (43%), followed by WC component (31%) and FM component (26%.). Location map of the identified potential sub-projects are shown in Fig. A7.2.2.

Table A 7.2.4 Summary of Identified Potential Sub-Projects

District Name	Number of Sub-Project by Type									Number of Sub-Project by Area (ha)				Number of BWDB Related SP
	District	FM	DI	CAD	WC	FMDI	FMWC	DIWC	FMDIWC	< 1,000	1,000 ~ 1,500	1,500 ~ 2,000	> 2,000	
Jamalpur	85	31	14	0	0	9	1	19	11	77	7	1	0	16
Kishoreganj	141	22	13	0	29	8	2	48	19	126	9	3	3	15
Mymensingh	159	18	40	1	7	22	3	47	21	124	19	10	6	49
Netrakona	124	22	26	1	10	21	14	25	5	75	10	1	38	45
Sherpur	55	8	19	0	7	1	1	19	0	42	11	2	0	18
Tangail	130	17	33	0	14	22	4	27	13	128	1	1	0	33
Greater Mymensingh	**694**	**118**	**145**	**2**	**67**	**83**	**25**	**185**	**69**	**572**	**57**	**18**	**47**	**176**
Percent (%)	100.0	17.0	20.9	0.3	9.7	12.0	3.6	26.7	9.9	82.4	8.2	2.6	6.8	25.4

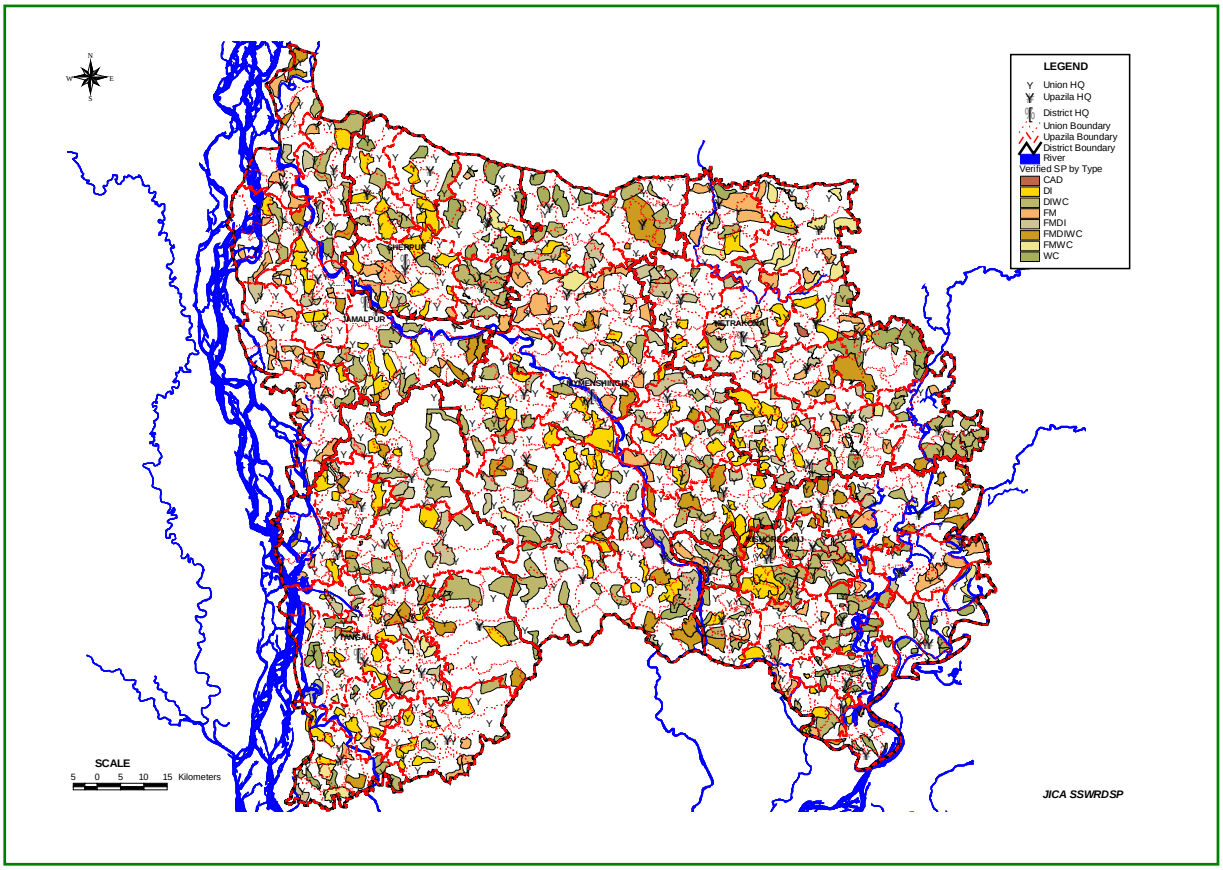


Fig. A 7.2.2 Identified Potential Sub-Projects