Submission Document

G3: Water governance and community based management

Ganges Basin Development Challenges of the CPWF

February 2011
PART A: SUMMARY

1. Project Data

<table>
<thead>
<tr>
<th>BDC: Ganges Basin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Title: G3: Water governance and community-based management</td>
</tr>
<tr>
<td>Project Lead Organization: IWMI</td>
</tr>
<tr>
<td>Consortium partners (who receive budget): Socioconsult Ltd; IWM; Bangladesh Agriculture University (BAU), Mymensingh (through a MOU that will support BAU students to do their Master’s thesis under the project)</td>
</tr>
<tr>
<td>Consortium partners who do not receive direct budget support, but are involved in advisory and next user roles: Bangladesh Water Development Board (BWDB), Local Government Engineering Department (LGED), Department of Agricultural Extension (DAE) and Department of Fisheries (DOF)</td>
</tr>
<tr>
<td>Project Leader (name and contact details): Aditi Mukherji, IWMI, New Delhi</td>
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<tr>
<td>Duration: 3 years</td>
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<tr>
<td>Target start date: April 2011</td>
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<tr>
<td>Finish date (not later than 30 April 2014): 25th April 2014</td>
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<tr>
<td>Maximum budget requested from CPWF (in US$): 1.2 million</td>
</tr>
<tr>
<td>Any matching funds offered (provide brief explanation): No</td>
</tr>
</tbody>
</table>

2. Project Summary

Inundation and severe flooding in the coastal areas is a frequent occurrence in Bangladesh. This leads to loss of life and property as well as severe impacts on livelihoods. The government of Bangladesh has been investing steadily in coastal zone management through construction and rehabilitation of polders. This project is about water governance and community based management of polders in coastal zones in Bangladesh. The challenges facing the polder communities are complex and similar to those faced by many communities in which water is used for multiple purposes. But unlike other multiple use systems (such as canals, tanks), where there is rarely ever a commonality in interest, in case of polder communities, the fear that these polders may breach during a natural calamity and cause damage to life and property makes it easier to bring about a modicum of community action. However, beyond this commonality, the communities face conflicting interest. They must prioritize water use across different sectors (water for irrigation vs. water for shrimp cultivation, pond fisheries) or within the same sector (irrigation for boro crop vs. irrigation for upland crops) and also cope with prolonged periods of submergence and non-rainy days. They must also limit potential conflict between water users, as they endeavor to use water efficiently, without seriously compromising equity issues, such as those related to access to water by marginalized members of the community and women. The main objective of this research project is to understand the different modes and outcomes of water governance in selected polder sites and understand the role that communities play in such governance, conflict resolution and productive use of land and water resources.

Given the complexity of issues, we will adopt a three phase research approach. In Phase I, we will conduct situation analysis in six selected polders. This will enable us to understand the different uses of water in polders, the conflicting interests arising thereof and the different governance mechanisms that are in place to manage these conflicts and their comparative advantage and disadvantages. In Phase II, we will zoom into community governance issues of two polders and do a detailed study on pros and cons of community management of polders.
Phase III will run concurrently with Phase I and Phase II and we will do training and capacity activities in this phase. The main output of the project will be generation of knowledge aimed at sustaining high levels of polder governance through community participation.
PART B: PROJECT DESCRIPTION

3. BDC Goals to which the project will contribute

The overall BDC goal is to reduce poverty, improve food security and strengthen livelihood resilience in coastal areas through improved water governance and management, and more productive and diversified farm systems. Within this broad BDC goal, the specific objective of this project is to improve water governance and management of coastal polders. It is hypothesized that polders where proper governance systems are in place and where the community is directly involved in such governance are better managed than polders where such governance systems and community involvement is absent. Better governed polders, in turn, will have better outcomes in terms of food security and livelihood benefits and will, in the process, contribute to building up longer term resilience among the communities who live in coastal areas in Bangladesh.

4. Research questions and methodologies

This project is about water governance and community based management of polders in salinity affected coastal zones in Bangladesh. The challenges facing the polder communities are complex and similar to those faced by many communities in which water is used for multiple purposes. But unlike other multiple use systems (such as canals, tanks), where there is rarely ever a commonality in interest, in case of polder communities, the fear that these polders may breach during a natural calamity and cause damage to life and property makes it easier to bring about a modicum of community action. However, beyond this commonality, the communities face conflicting interest. They must prioritize water use across different sectors (water for irrigation vs. water for shrimp cultivation, pond fisheries) or within the same sector (irrigation for boro crop vs. irrigation for upland crops) and also cope with prolonged periods of submergence and non-rainy days. They must also limit potential conflict between water users, as they endeavor to use water efficiently, without seriously compromising equity issues, such as those related to access to water by marginalized members of the community and women. Issues of gender and unequal power dynamics among different stakeholders have strong implications for polder governance as is the role of local governments. With land and water salinity on the increase, and the limited availability of fresh water, communities will face challenges in balancing competing demands and issues of polder governance will become more pertinent than ever before. The goal of this project is to improve water governance and management of coastal polders through research aimed at understanding of what works, what does not work and why and how best to achieve better governance outcomes. For doing so, the project will address the following research questions:

1. Who are the major users of water in the polders and how does their interest vary across different types of water and land use?
2. What are the existing institutions and governance systems in place for managing coastal polders and how do they vary across space and time?
3. How are the different water users within polders affected by existing water governance and land use?
4. Which governance systems offer the best livelihoods outcomes for communities, rural women, disadvantaged groups and poor farmers and reduce conflict across different users?
5. How can these governance systems best meet the water requirement of different production systems?
6. How can institutional arrangements best be improved for water management within polders?
7. How can community-based management reduce vulnerability?
8. What tools and information are needed to support community decision making?
The six original questions of this call, plus the two derived ones can be categorized in two groups: 1) questions that ask “who and which,” followed by 2) questions that ask “how and what”. The “who and which” questions help define the problem of water governance in polders (questions 1 and 2), while the “how and what” questions (questions 3 to 8) seek to enhance understanding of governance mechanisms and describe helpful approaches to resolving governance challenges.

Given the different nature of questions, we will adopt a three phase approach. In phase 1 (also called Work Package 1), we will answer the “who and which” questions using a broader sample of 6 polders and approximately 30 polder communities (@ 5 villages/communities per polder). This is the situation analysis phase of the project and will take place in the first year of the project (2011-2012). This will enable us to understand the different uses of water in polders, the conflicting interests arising thereof and the different governance mechanisms that are in place to manage these conflicts and their comparative advantage and disadvantages. In Phase II (Work Package 2), we will answer the “how and what” questions. The duration of this phase is also one year (2012-2013). This is the diagnostic phase of the project. Results from Phase I and Phase II of the project will feed into the Phase III of the project which is Capacity Building and Experience sharing with polder communities and local government institutions (2013-2014). We give a broad brush picture of the methodology to be followed in each of the phases. Detailed methodology for Phase I will be reported in Inception Report, while the detailed methodology for Phase II will be reported in Annual Report 2011-2012.

**Phase 1: Situation analysis in six polders (May 2011 to April 2012)**

For answering the “who and which” questions (such as “Who uses water in polders?” and “what types of governance systems are prevalent in the polders?”) we will undertake detailed problem identification and constraint analysis through the following 3-stage process:

1. We will conduct systematic review on management and governance aspects of polders in coastal Bangladesh as well as draw lessons for similar community managed water sources such as tanks. For this we will draw from work of IRRI and IWMI in PN 10, and work by BWDB, BRAC and IPSWAM and evaluate past efforts in community management of polders.

2. We will conduct field visits at 6 polder sites and approximately 30 villages located within these polders (described in next section), to assess the situation and prepare analytical summaries. Polders will be chosen on a number of criteria such as extent of salinity, IPSWAM intervention in terms of community building, accessibility and availability of IRRI and BRAC panel data. These will lead to situation analysis reports. Method followed will be a combination of qualitative methods and questionnaire surveys, though the emphasis will be on qualitative methods. Focus Group Discussions (FDGs) will be conducted with community members, both men and women as well as with elected representatives of local government institutions, upazila samities, and officials of the water management groups (WMGs) and federated water management associations (WMAs). The objective of these field visits will be to take stock of different types of water uses within the polders, conflicts arising thereof and the governance structures that are in place to resolve these conflicts. The main outcome of this phase will be construction of interest-influence matrix for each type of water use. This interest-influence matrix will help inform us on the role of power, politics and gender in decision making vis-à-vis water uses and conflicts in polders. Situation analysis, in sum, will identify actors and institutions across the six chosen polders and come up with a first cut analysis of which kind of institutional settings leads to what kind of outcomes.
3. We will meet officials of BWDB and Integrated Planning for Sustainable Water Management (IPSWAM), who have been implementing and overseeing both the construction of polders for salinity management and helping to foster community action for sustainable governance of polders in the region. We will also meet with local level NGOs that have been helping the Government of Bangladesh and other donors in forming polder user groups and the functional farmer groups to do a thorough stakeholder analysis. Indeed Socioconsult – the main implementing and consulting agency for IPSAWM project is a part of our project team and we will benefit from their accumulated experience.

Methodology followed will be literature reviews, FGDs (with WMAs and WMG’s in project areas, in non-project areas, members of LGI; Union Parishad members), PRAs, questionnaire surveys and in-depth expert interviews. The main output will be situation analysis (one per polder) and an interest-influence matrix analysis.

**Phase II: Community governance mechanisms in two selected polders (May 2012-October 2013)**

For answering the “how and what” questions (Questions 3 to 8), such as how are the polders governed and what can be done to make such governance structures equitable and efficient we will choose two polders (one IPSWAM and another non-IPSWAM polder) and do a comparative analysis using a combination of qualitative and quantitative research methods. This component of the study will build upon situation analysis and diagnostic studies of the first phase and also make use of previous studies by IPSWAM.

We will use Institutional Analysis and Development (IAD) framework for our analysis. Drawing on various disciplines such as political science, economics, anthropology, game theory and law, researchers studying common property resources (CPR) have developed IAD framework (Ostrom 1990) This framework attempts to identify “key working parts of typical situations facing participants in various circumstances” (Tang, 1992:13). Oakerson (1986) outlines a triadic interaction framework which analyzes the physical attributes of the resource, the community attributes of the people managing them and the attributes of the institutions that have been formed to manage the resource. These attributes are generated through standard qualitative research methods such as focus group discussions, key informant interviews and questionnaire surveys. IAD framework provides a robust tool for analyzing information collected from various sources. This framework helps one to examine how rules, physical attributes and attributes of the community shape various action situations. However, IAD framework has often been criticized for being ‘apolitical’ and ‘ahistorical’ in nature. We will explicitly add the angle of power, politics and gender in our analysis to understand how underlying power structures in rural Bangladesh affect and in turn get affected by polder governance structures. For understanding the linkages at different levels of decision making (communities, local government and national government), we will try to understand institutions, socio-economic and political context and discourses across governance and governance levels using a framework by Clement (2009) that incorporates politics within the standard IAD framework.

Depending on our questions of interest, the units of analysis will range from individual members of a household (male vs. female members), households, members of the WUGs and WMA and representatives of LGIs. We will conduct several in-depth case studies within the chosen polder areas. Some these case studies will look at issues of conflict resolution, women’s participation in management of polders, role of landless labour groups in construction and management of infrastructure; effect of different management structures on governance outcomes in the polders,
rule of water management and farmers acceptability of new seeds and practices (as developed by G2). Once the case studies are finalized, these would be conducted by three sets of researchers. First, IWMI researchers and their national partner organizations would directly conduct some of the case studies. Some case studies would be commissioned to national or international consultants, as needed. Finally, a smaller subset of case studies will be carried out by graduate students from Bangladesh Agricultural University under the overall guidance of their professors and IWMI scientists.

Detailed research method for this phase of the study will be finalized only after the Phase I of the project and will be documented in the First Year Annual Report (2011-2012). But given the comprehensive, yet, wide ranging nature of the questions, our methods will be eclectic and involve qualitative instruments such as, FGDs, key informant interviews, discourse analysis, stakeholder analysis and PRAs, as well as quantitative methods including econometric analysis and rigorous impact evaluations. We will therefore adopt a mixed method approach and respond to questions using appropriate tools.

**Phase III: Capacity building and experience sharing (August 2012 to April 2014)**

This phase will go concurrently with Phase II and will run exclusively in the last six months of the project. It will be devoted to capacity building and experience sharing. We will create a platform for collecting and disseminating information and knowledge of polder governance issues. We will invite all stakeholders directly involved in the construction and management of polders in Bangladesh (government officials, NGOs, WMAs and WMGs) to join the new *Polder Alliance for Learning and Management- Bangladesh (PALM-Bangladesh)*. Capacity building activities will be carried out through execution of a refresher course on management of polders in the IPSWAM project areas and brief training courses and meetings in non-IPSWAM project areas to acquaint these communities about the work carried out in IPSWAM polders and its overall impact. Another training course will focus on the local decision makers such as members of LGIs and Union Parishad members where we will share our experience of community participation in project polders with them. Training courses will also be held in collaboration with G2 component on the various new technologies (both crop and fish) that they will develop as a part of their project. In these training sessions we will disseminate these technologies and also try to understand stakeholder’s perception of these technologies and the adoption barriers that they face. Training modules and components will be finalized during Phase II of the project and as and when project results start coming in. An integral part of the capacity building and experience sharing phase of the project will be the involvement of representatives from next users (BWDB, LGED, DAE and DOF). For overall implementation of the project we will create a national level steering committee. A senior official, nominated by the Head of the Organization will represent the organization. S/he will participate in the filed visits and in the policy level meetings of the G3 project. He will then communicate the outcomes of the meetings within the organization and take necessary steps for up scaling of our efforts. For this purpose, a Letter of Agreement (LoA) will be signed between IWMI and next users’ organization. This phase will see involvement of both the end users (farmers and farmers’ communities) and next users (governmental organisations) for better uptake of study results.
Inundation and severe flooding in the coastal areas is a frequent occurrence in Bangladesh. The government of Bangladesh, ever since its independence in 1974 has been investing steadily in coastal zone management through construction and rehabilitation of polders. Most of these initiatives have been supported by the Dutch government in the past. The following paragraphs give a brief history of interventions by the Government of Bangladesh (GoB).

In 1975, with Dutch assistance, BWDB started the Early Implementation Project (EIP). The projects had mainly a rehabilitation and relief character. They needed comparatively limited technical preparation and could therefore, in theory, start early and hence the name. Over the years, the Early Implementation Project has implemented 88 schemes in various regions of Bangladesh, covering an area of 463,250 ha. The implemented schemes consisted of the development of low-lying basins (haors) and polders through the excavation of canals, construction of sluices, closures, and embankments. In this project, the emphasis was on physical construction of new infrastructure and rehabilitation of existing ones, though community participation concepts like embankment management groups and landless labour cooperative society (LCS) were introduced for the first time in this project. This later became a blue print for IPSWAM project.

This was followed by a Delta Development Project in 1976. This was limited to polder areas in Bangladesh and its initial aim was to establish three empoldering projects of a representative nature for different water zones: the saline water zone, the fresh water zone, and the transition zone. Their problems and consequently the development strategies were different. The development programme of the project also included technical and socio-economic elements. Due to financial constraints, the project was implemented in one polder (polder 22) in Khulna.

The third polder related project was the Land Reclamation Project (LRP), also implemented by the BWDB. This involved reclamation of new land by dam construction across tidal rivers. A pilot polder was developed in Char Baggar Dona, including the settlement of several thousand extremely poor landless people on newly accreted land. This achieved long-term success.

By the end of LRP, in 1991, both the Government of Bangladesh and the Netherlands, in recognition of the two distinct approaches, decided to continue the LRP project under two separate projects namely: a) Char Development and Settlement Project (land based); and b) Meghna Estuary Study (water based). This was followed by an Estuary Development Program (EDB). This is an ongoing project and its components include investigating potential of cross dams in erosion control and accretion of new lands. The latest in a series of coastal area projects is the Char Development and Settlement Project (CSDP). This has an explicit focus on poor people and areas. The main concepts of the Char Development and Settlement Project are: settlement of government (khash) lands by the landless; integrated development of reclaimed (khash) lands settlement by the landless; poverty alleviation through livelihood improvement for the new land (char) dwellers; contribution to Integrated Coastal Zone Management (ICZM).

Supported by Dutch grants, the GoB, through the sponsoring Ministry of Water Resources (MoWR) and with BWDB as the lead agency, has achieved considerable success in the first two phases of the CDS (1994-1998 and 1999-2005) in improving the lot of the poor masses, especially that of divorced and destitute women in the coastal areas of Noakhali, Feni and Chittagong Districts. In CDS-II, apart from the distribution of 4,500 ha of khas land to 6,848 landless families (about 45,000 people) and construction of considerable infrastructure, other important aspects such as capacity building for key institutions, e.g. improvement of the land settlement
bureaucracy, formation and development of Water Management Organisations (WMOs), and accumulation and dissemination of knowledge on the use and storage of fresh water in the (char) area were achieved. The specific objectives of CDSP–III are to promote an institutional environment that sustains the proposed interventions; accumulate and disseminate data and knowledge on coastal char development; and directly improve the economic and social situation of the people in the coastal chars in a sustainable way.

In addition to BWDB, the Local Government Engineering Department (LGED) too has been implementing a number of projects in coastal zones in Bangladesh. For over 10 years, LGED has been implementing the small scale water resources development sector project (SSWRDSP) with the participation of stakeholders in developing small-scale water resources in the country. The first phase of the Project was from 1995 to 2002, and the second phase from 2002 to 2009. This project has a major community participation component and established 129,000 Water Management Cooperative Associations (WMCA) during the project period.

To respond to the need of integrated program for coastal management, the water resources planning organization (WARPO) implemented the Integrated Coastal Zone Management Plan Project (ICZMP). The Government of the Netherlands, along with the Governments of the U.K. and Bangladesh, has supported this 4-year project up to December 2005. The contribution of the project can be summarized in presenting the country with milestone documents like the Coastal Zone Policy 2005, Coastal Development Strategy and a Priority Investment Programme. These documents were based on thorough understanding of coastal livelihoods, institutional environment and knowledge base.

Integrated Planning for Sustainable Water Management (IPSWAM) focuses on community involvement in polder management. It took lessons from the earlier projects, especially EIP, System Rehabilitation project (SRP), SSWR DSP and CDSP projects. One of the main objectives of IPSWAM is to strengthen O&M through the transfer of its responsibilities from central (BWDB) to local level and the establishment of sustainable mechanisms at polder levels. The IPSWAM project was started in 2003 with the goal of strengthening the capacity of water sector organisations, including local level WMOs, the different offices of the BWDB (headquarters and regional/local level) and, to a limited extent, local government institutions, to responsibly assume their roles as specified in the National Water Policy and the Guidelines for Participatory Water Management.

G3 project will review all the above programs in detail and trace the trajectory of developments that led to the emphasis on community participation in polder management and how this in turn influenced Bangladesh’s water and irrigation policies. In particular, it will focus on the efforts of IPSWAM (by comparing IPSWAM with non-IPSWAM polders) in involving communities for day to day O&M of polders and the benefits derived thereof (BWDB, 2006).

This project will also draw upon previous work under CPWF (PN 7, PN 10 and PN 35). PN 7 looked at development of salt resistant rice and non-rice crops in saline prone areas of coastal Bangladesh (Ismail, 2009). PN 10 looked at production systems that integrate agriculture, aquaculture and fisheries in coastal zones of Bangladesh for improving livelihoods and incomes of poor people in the region (Tuong and Hoanh, 2009). Islam et al. (2010) have documented the conflicts in use of water and land resources for agriculture and shrimp cultivation in coastal Bangladesh. Their case study in Baganchra-Badurgacha subproject in south-western Bangladesh shows that local communities are key functionaries in WMAs and they were able to regulate water uses and provided a platform for conflict resolution. Chowdhury et al. (2010) have done a
detailed cost benefit analysis of livelihood benefits from polder construction and found that even under the most restrictive assumption that the only benefit of polders has been stabilization of aman paddy, the rate of return on investment from such construction is 37% -- which is relatively high compared to many other investments. Comprehensive Assessment Series # 9 (Hoanh et al. 2010 Eds) document a whole range of case studies from coastal regions in Bangladesh and West Bengal, among others, on governance and management issues on coastal areas and our study will draw upon those.

### 6. Links to other BDC projects

<table>
<thead>
<tr>
<th>Research outputs</th>
<th>Dependencies on other BDC projects to produce it</th>
<th>Use of research output by other BDC projects</th>
<th>Risks and assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature review on coastal zone management (CZM) policies and institutions in Bangladesh</td>
<td>None</td>
<td>G5: Preparation of short brochure or communication materials</td>
<td>None</td>
</tr>
<tr>
<td>Detailed polder level institutions, policies and governance reports for 6 polders</td>
<td>G1 and G4: Provide geo-referenced data; and maps for village selection within polders and baseline information including polder and village level demographic, land use information; G2: Information on their actual or planned technology intervention in the chosen polders so that we can take those into account while doing fieldwork; G5: Will help G3 in getting this information from G1, G2 and G4.</td>
<td>G1: For extrapolation of technology adoption domains; G2: Plan for up-scaling of technology and stakeholder's acceptance of technology; G3 will produce preliminary report for 3 of the 6 polders by end of 2011. These 3 polders are the ones where G2 will work and hence will be of use to them and others. The reports on rest 3 will be prepared by early 2012 and all finalized by March 2012.</td>
<td>Assumptions: We get maps and baseline information from G1 and G4 on time. Risks: Natural calamity and or political unrest may delay our work.</td>
</tr>
<tr>
<td>Detailed governance reports from two selected polders</td>
<td>None</td>
<td>G2: Detailed understanding of farmers perception of new technologies offered by G2, G5: Results will be disseminated by G5.</td>
<td>None</td>
</tr>
<tr>
<td>4-5 in-depth thematic case</td>
<td>G2: Provides materials for at least one case</td>
<td>G2: A detailed case study on adoption</td>
<td>Risks: Natural calamity and or</td>
</tr>
</tbody>
</table>
7. Suggested sites

We will do study at two levels. In phase I, we will work in six polders and do a detailed situation analysis of existing institutional and governance mechanisms and their outcomes in six polders in Bangladesh. Our study polders will be in Barisal and Khulna division. The polder chosen for this phase are polder numbers: 3; 30; 31; 34/2; 43/2F and 43/1. These polders were selected along following criteria in consultation with G2 team and our national partner:

Different salinity levels (highest in polder 3, medium in polder # 30 and lowest in polder #43/2F. These are the same polders as chosen by G2 project team)

IPSWAM (30 and 43/2F) vs. non IPSWAM polders (all the others); Polder 31 had World Bank intervention, dominated by shrimp cultivation. Here, the governance structures and mechanism for involving farmers were different as such provides a good contrast to IPSWAM polders. In Polder 34/2 the local BWDB Executive Engineer tried to emulate IPSWAM method and we will include it on our analysis for understanding different institutional arrangement and how it affects polder management.

Polders with high access: 43/2F; 43/1; moderate access: 30 and 31 and 34/2 and polders with poor access: Polder 3.

IRRI panel data available for: Polder 30 (used for both 30 and 31); Patuakhali (42/F and 43/1)

The polders also are of varying size and population density (as shown below).

<table>
<thead>
<tr>
<th>Name of Polder</th>
<th>Appx. Gross Area (ha.)</th>
<th>Appx. Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polder 43/2F</td>
<td>4,500.00</td>
<td>38,000.00</td>
</tr>
<tr>
<td>Polder 41/1</td>
<td>17,000.00</td>
<td>130,000.00</td>
</tr>
<tr>
<td>Polder 30</td>
<td>5,800.00</td>
<td>48,000.00</td>
</tr>
<tr>
<td>Polder 31</td>
<td>4,700.00</td>
<td>47,000.00</td>
</tr>
<tr>
<td>Polder 34/2</td>
<td>6,400.00</td>
<td>64,000.00</td>
</tr>
<tr>
<td>Polder 3</td>
<td>22,000.00</td>
<td>140,000.00</td>
</tr>
</tbody>
</table>

Location maps of polders are attached as Annex 1. These sites have been selected in consultation with G2. We will work on 6 polder sites, while G2 is working on three sites. Our sites also include G2 sites.
8. Project Outcome Pathways
See Annex A Project workbook, worksheet PNX-QLM

9. Activities and Implementation Plan
See Annex A Project workbook, worksheet PNX-Gantt Chart

10. Communications
IWMI has set up a triple approach to the uptake of its research results. This includes building uptake strategies into projects, involving regional strategies to continue with uptake after the life of the projects, and aligning corporate information and communications to support uptake strategies. This will target key uptake points, moving the results of research to first level outcomes of building awareness, knowledge and capacity with the aim of leading to adoption, improved water management, and ultimately more impact. Impact pathways are supported at a) the individual project level, and b) at the policy level, with distinctive roles for IWMI’s theme leaders, project leaders, regional directors and IWMI’s Corporate Information and Communications Unit in supporting key uptake points, moving the results of research to action and adoption. Each output target contributes in some way towards achievement of overall planned outcomes. These outcomes have been defined at the output level, and achievement of them will depend on uptake strategies within, across, and outside of projects at regional and institutional levels. IWMI’s corporate uptake strategy will be operationalized on ground through the involvement of local governments, polder communities, farmer associations and NGOs and will involve a series of capacity building workshops and trainings. This strategy shall be further aligned with the national uptake and adoption programs in Bangladesh and also aligned with the uptake and impact strategy of CPWF.

Phase III of the project is dedicated entirely to communications and capacity building whereby we will hold meetings with WMAs working within our polder sites. This will involve three types of activities, one refresher training courses for those WMAs which have been already trained as a part of the IPSWAM project, 1-2 exposure training course to villages that were not exposed to IPSWAM training and 1-2 days training and consultation workshop with local officials of BWDB, LGED and LGIs to sensitize them further on the importance of including communities in decision making and governance of polders.

A national level steering committee will be formed for smooth implementation of the project. The members of this committee will include key staff from G3 and G2 and nominees of the next user organizations such as BWDB, LGED, DAE and DOF. The purpose of this steering committee will be two fold. First, it will provide a platform for oversight of the project and make sure that G3 produces outputs in a timely manner such that its outputs can be used by other projects, particularly G2. Second, the government officials in this committee will take part in project meetings and field visits and will help in uptake of results in their respective departments. For this purpose, IWMI will sign a LOA with government partners.

The communication products will include:

- At least three journal articles and several policy briefs (in English and Bangla) characterizing actors, institutions and governance structures in selected polders along with an analysis of what kind of governance structure work, why and why not and what needs to be done to sustain community involvement in polder management.
- Two, more detailed reports covering these same aspects, one of each of the two polders which will be studied in detail in Phase II of the projects.
- Short, journalistic articles summarizing project findings, for national Bangla media
- Revised training modules and creation of short training module (with help from G5) to disseminate our findings.
- Process and outcome documentation of training and capacity building meetings
- A suite of popular communication products in multiple media (posters, short video clips) in local languages, relating key messages on polder governance that can be used in extension programs of government, NGOs, and community-based networks, and also reproduced or broadcast through mass media.
- An open access website to make available preliminary project results and draft communication products for peer review and stakeholder feedback, and to disseminate final products

While developing the communication materials, we will work closely with all other Ganges BDC project, especially G5.
PART C: CONSORTIUM DETAILS, INDICATIVE BUDGET AND REFERENCES

11. Consortium Details

Lead Institution

IWMI has 25 years of experience of working on water governance and community based management of irrigation schemes. IWMI is recognized as a pioneer of Irrigation Management Transfer (IMT) and Participatory Irrigation Management (PIM) research – research that deals with community participation in irrigation schemes. The recently concluded Ganges Basin Focal Project was implemented by IWMI in partnership with World Fish Centre and several other organizations in Bangladesh. In this project, we carried out studies on water, crop and fisheries in Bangladesh. CPWF funded PN 42 (Groundwater Governance in the Indo-Gangetic Basin) had a Bangladesh component where we looked at socio-economic and governance aspects of groundwater in Madaripur district in Bangladesh. This district lies within the slightly saline zone and is a part of the Ganges BDC study area. In early 2000s, IWMI had carried out a series of studies on adoption of small scale irrigation technologies (treadle pumps etc.) in Bangladesh. Currently we are also working on two projects in West Bengal, India. One is a Gates funded project on Agricultural Water Management Solutions in West Bengal and another is DFID funded project on impact of electricity policies on water use. As a part of CPWF projects (PN 10), IWMI worked in partnership with IRRI in coastal saline water environments in Vietnam and Bangladesh. This will complement our ongoing projects on evaluation of community action in irrigation and water management in Asia and agricultural water management solutions in West Bengal. IWMI has also been invited to be a partner in the IUCN Project on “Ecosystems for Life: A Bangladesh – India Initiative” and work under the two projects shall have complementary activities. IWMI has a good track record of working with multiple partners and is known to be a credible institution when it comes to delivery of high quality outputs.

Project Partners

Socioconsult provides specialist services for natural resources management projects, in all stages from formulation to implementation. Major areas of consultancy services include water resources, rural development, agriculture, fishery and livestock, forestry and land. Major services of Socioconsult include project and program management, community mobilization, institutional development, socio-economic and agronomic studies, quantitative surveys and qualitative assessment, stakeholder analysis, gender assessment, and training and capacity development of clients.

It is involved in research and consultancy services for about two decades and has experience of working with government, non-government, national and international research and development organizations. Socioconsult works both single-handedly and in association with other reputed national and multi-national consulting firms.

It has successfully completed several water sector projects such as Early Implementation Projects (EIP), managing the Integrated Planning for Sustainable Water Management (IPSWAM) under Ganges Basin for seven years and managing multi-sectoral water management project, Char Development and Settlement Project (CDSP) under Meghna Basin, for last six years together partners.

Socioconsult was involved in the Challenge Programme on Water and Food (CPWF-10), a research initiative on rice and aquaculture, was initiated by IRRI in Bangladesh and Vietnam. It was one of the local partners of this project in Bangladesh, other partners being BRRI, BFRI, BWDB, LGED,
HEED-Bangladesh. The role of Socioconsult in this research initiative consisted in assisting IRRI in field survey in coastal regions of Bangladesh, and analysis and interpretation of the socio-economic data collected.

Socioconsult was involved in a number of research surveys. Some of the important projects were:
1) household level survey in 62 villages under 62 Upazilas all over the country 4 times so far to create panel data for IRRI, IPFRI, BIDS and BRAC since 1999; 2) Baseline Survey and Impact Assessment of Aquaculture Extension and Smallholder Livestock Development Project-2: Focusing on Poverty Reduction for DANIDA during 1998-2002; 3) Qualitative assessment for Haor Infrastructure and Livelihood Improvement Project (HILIP) funded by IFAD in 2010.

A major project that Socioconsult is currently managing is a study project for poverty tracking, Village Dynamics in South Asia (VDSA); it is a part of a greater study in the South Asia jointly coordinated by ICRISAT and IRRI and funded by BMGF. Socioconsult is also collaborating with the International Rice Research Institute (IRRI), CIMMYT and WorldFish to implement a research project entitled Cereal Systems Initiative for South Asia (CSISA). It involves both village and household level qualitative, quantitative and thematic surveys in each cropping season.

Institute of Water Modelling (IWM) provides world–class services in the field of Water Modelling, Computational Hydraulics & Allied Sciences for improved Integrated Water Resources Management. It is a unique organization in the region having sustainable technological capability in developing mathematical models and decision support systems. The applications of IWM modelling tolls cover a wide range of water related aspects such as: irrigation and drainage management, water resources management, salinity intrusion, tidal river management, coast and estuary management, environmental impact assessment, Impact Assessment of Climate Change and Sea Level Rise on coastal environment and coastal infrastructure development, flooding, water-logging.

IWM has gained knowledge and experiences over the years in home and abroad on water resources management and assessment of effects of any natural and manmade changes on water resources in devising adaptation measures for improved water governance and water management to increase the productivity of water. The institute carries out various projects and research works to estimate river flow and flooding, drainage congestion, water availability, coastal and offshore hydraulics, marine environment, storm surge risk assessment, coastal protection, salinity intrusion and biodiversity conservation. In developing the models, IWM undertakes its own data campaign and has earned a high reputation for fast and cost effective river surveys using state-of-the-art techniques. IWM has been maintaining models for Bay of Bengal, regional models and Ganges, Brahmaputra and Meghna basin model since 1986 to assess the effect of external drivers on water resources and devising improvement measures and adaptation plan.

Bangladesh Agricultural University (BAU), Mymensingh, is the premier seat of higher agricultural education and research in the country. Its scholastic activities cover all the domains of agricultural sciences having direct bearing on terrestrial and aquatic productivity. The University was established as the nation's only University of its kind in session 1961-62 on the basis of recommendations made by the Commission of National Education and the Food and Agriculture Commission in 1959. The Scheme for the establishment of BAU was finalized on 8 June 1961 and its ordinance was promulgated on 18 August 1961. With the appointment of its first Vice-Chancellor, the university formally came into existence on 2 September 1961 and started functioning with the College of Veterinary Science and Animal Husbandry (CVSAH) at Mymensingh as its nucleus.
The main task of the university is to tone up the quality and standard of higher agricultural education and to produce first-rate agriculturists, agricultural scientists and researchers for shouldering the responsibilities of agricultural development of the country. It is a residential university mandated for offering for higher education and research in agriculture and all of its branches including conduct of examinations, conferment of degrees and granting affiliation. To achieve the objectives over 90 percent of the recurring budget and the entire development fund come from the government through University Grants Commission (UGC).

BAU has been the principal supplier of skilled human capital for modernizing our national agriculture since its establishment in 1961. And yet it has a long way to go ahead. It is our vision to make this University an integrated institution with functional relationships with relevant government organizations, non-government organizations, and private sector firms enabling BAU to contribute meaningfully to agricultural development of Bangladesh. We want to be guided by three watchwords relevance, quality and internationalization to respond to the call of a fast-changing world system.

**Research Collaboration:**
BAU has research partnership and collaboration with about 60 universities and institutes aboard. The major areas of collaborative research include: climate change and crop production, irrigation and water resources development, agriculture in coastal and salinity prone areas, biotechnology, animal health and disease control, food security, aquaculture, farm mechanization, agro-processing and agri-business development.

Professor Dr. M. A. Sattar Mandal, who is the Vice-Chancellor of the University is a leading scholar in Bangladesh and has worked on number of issues, including coastal zone management. Through a MoU with IWMI, BAU will offer graduate students who will do their field research under the project, while Dr. Mandal and his colleagues as nominated by him will provide overall supervision to the students.

**12. Indicative breakdown of budget**
For further details see Annex A.

**13. Bibliography**


Annex 1: Location of polders to be studied under G3 (highlighted in orange)