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Working Paper 3

Building Organisations and Network for PWM A procedural guideline (1st draft)

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Building Organizations and Networks for PWM

A procedural guideline (draft final)

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Blue Gold Program

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List of Abbreviations

ADP	Annual Development Plan
AKAS	Accounts Keeping and Audit System
BGP	Blue Gold Program
BWDB	Bangladesh Water Development Board
CBDRR	Community Based Disaster Risk Reduction
CBO	Community-Based Organisation
CCA	Climate Change Adaptation
CDMP	Comprehensive Disaster Management Program
CDSP IV	Char Development and Settlement Project Phase IV
CEGIS	Centre for Environmental and Geographic Information Services
CO	Community Organizer
CRA	Community Risk Assessment
CWM	Chief Water Management (BWDB)
DAE	Department of Agricultural Extension
DLS	Department of Livestock Services
DoC	Department of Cooperatives
DoE	Department of Energy
DoF	Department of Fisheries
DP III	Directorate of Planning III
DPP	Development Project Proforma
DRR	Disaster Risk Reduction
DTL	Deputy Team Leader
ECC	Environment Clearance Certificate
ESIA	Environmental and Social Impact Assessment
EKN	Embassy of the Kingdom of the Netherlands
ESMP	Environmental and Social Management Plan
FFS	Farmers Field School
FGD	Focus Group Discussion
FO	FFS Organiser
FY	Financial Year
GAP	Gender Action Plan
GDP	Gross Domestic Product
GoB	Government of Bangladesh
GoN	Government of the Netherlands
GPWM	Guidelines for Participatory Water Management
HH	Household
IGA	Income Generating Activity
IPSWAM	Integrated Planning for Sustainable Water Management Management
IRRI	International Rice Research Institute
IWM	Institute of Water Modelling
IWRM	Integrated Water Resources Management
JPMC	Joint Polder Management Council
LCS	Labour Contracting Societies
LGED	Local Government Engineering Department
LGI	Local Government Institutions
MFS	Market Oriented Farmers Field School
M&E	Monitoring and Evaluation
MoU	Memorandum of Understanding

NDPD	National Disaster Preparedness Day
NoC	No Objection Certificate
NGO	Non-Governmental Organisation
O&M	Operation and Maintenance
PCD	Program Coordinating Director
PD	Project Director
PDP	Polder Development Plan
PF	Producer Group Facilitator
PMC	Project Management Committee
PSC	Program Steering Committee
SAAO	Sub-Assistant Agricultural Officer (DAE)
SAE	Sub-Assistant Engineer
SDE	Sub-Divisional Engineer
SO	Section Officer (BWDB)
SSSWRDSP	Second Small-Scale Water Resources Development Sector Project
SWAIWRPMP	Southwest Area Integrated Water Resources Planning and Management Project
TA	Technical Assistance
TL	Team Leader
TNA	Training Needs Assessment
ToC	Theory of Change
TOT	Training of Trainers
UAO	Upazila Agricultural Officer
UDMC	Union Disaster Management Committee
UP	Union Parishad
UZ	Upazila Parishad
VAP	Village Action Plan
VC	Value Chain
VCA	Value Chain Analysis
VCD	Value Chain Development
VCS	Value Chain Selection
WAP	Water Management Group Action Plan
WMA	Water Management Association
WMG	Water Management Group
WMIP	Water Management Improvement Project (World Bank)
WRM	Water Resource Management
WMO	Water Management Organisation
XEN	Executive Engineer (BWDB)
XO	Extension Overseer (CWM office-BWDB)
ZSE	Zonal Socio economist

Executive Summary

The Blue Gold Program is a US\$63.3-million joint initiative funded by the governments of Bangladesh and the Netherlands. The development programme – which began in March 2013 and is scheduled to last six years – aims to reduce poverty for 150,000 households in the coastal districts of Patuakhali, Khulna, Satkhira, and part of Barguna. It helps local communities stabilise their environments and pursue sustainable socio-economic development through participatory water management and diversified farming practices with an increased orientation on markets.

A growing realisation that (i) participation should be effective from the onset of the programme; (ii) that water management should be clearly geared towards local economic development; and (iii) that participatory water management requires constructive relationships between new and existing stakeholder organisations; has prompted BGP to replace its component-wise centrally-led implementation approach, by an integrated process carried-out at regional and local levels. This document summarises the Blue Gold work process for building organisations and networks for water management for development. It does so with the aim of promoting further use of and thought on integrated approaches for developing participatory water management.

At the heart of the Blue Gold approach towards building organizations and networks for PWM is a unified work process that is applied across the polder areas in which the programme is active. The work process integrates five activity clusters, as follows:

1. Build Institutional Framework for Participatory Water Management, which comprises activities directly focussed on establishment and development of WMOs and their linkages with other organisations like local government, line agencies, private sector enterprises and non-government organisations;
2. Main Infrastructure Development includes planning, design, construction and operation and maintenance of infrastructure at polder and catchment levels; including addressing environmental and social safeguards;
3. Internal Water Management comprises planning and implementation of water management at the sub-catchment level (corresponding in many cases to WMG area) and at the on-farm level;
4. The Agriculture and Marketing Services cluster describes process undertaken to strengthen the delivery of agricultural and marketing services in the polders; and
5. Environmental and Social Management and Disaster Risk Reduction (DRR) activity cluster describes activities related to the preparation for ESMP and DRR plans and mitigation of risks caused by the effect of extreme events on water safety.

The integrated and unified work process is described through a nested structure: the five activity clusters are in turn split-up in several work processes, which are subdivided into steps. Steps are only described in summary; as the description is intent on showing the coherence of the approach. To this end, the steps are placed in a time-line and the lead role in implementation is allocated to either the implementing agencies; to technical and advisory staff at regional or polder-level; or to existing and new organisations at the local level (local government institutions and water management organisations).

The description of the BGP work process – elaborated in chapters 2.1 to 2.5 – provides a snapshot of the present thinking of how to best organise the work. It is not considered to be a fully matured process as yet, as lessons continue to be drawn. But it provides an example of an integrated work process and it is intended to serve as a point of reference in future discussions on integrated approaches for participatory water management.

A final chapter reflects on the issues and concerns that still exist around the approach as being applied by BGP. These concerns widen the discussion on participatory water management from one focussed on approach, to one that takes heed of the required enabling environment for participatory water management. The chapter opens discussions on a non-exhaustive list of five issues:

- WMO representation beyond the polders;
- preferential work allocation to vulnerable groups;
- internal WMO dynamics and dynamic development of byelaws;
- financing and contributions; and
- agency capacity

These discussions are proposed to be addressed in a wider forum and with an aim to review and develop the enabling environment for participatory water management beyond the duration and working area of PWM investment projects, such as the Blue Gold Program.

1. Introduction

The Blue Gold Program is a US\$63.3-million joint initiative funded by the governments of Bangladesh and the Netherlands. The development programme – which began in March 2013 and is scheduled to last six years – aims to reduce poverty for 150,000 households living in polders in the coastal districts of Patuakhali, Khulna, Satkhira, and part of Barguna. It helps local communities stabilise their environments and pursue sustainable socio-economic development through participatory water management and diversified farming practices with an increased orientation on markets.

The Blue Gold Program seeks to strengthen and activate the institutional framework for participatory water management, as outlined by policies and regulations of the Government of Bangladesh (GoB)¹. These policies and regulations describe *inter alia* the roles and responsibilities of (i) Government line agencies, including the Bangladesh Water Development Board (BWDB); of (ii) beneficiaries of water management infrastructure, including their Water Management Groups and Associations; and of (iii) Local Government Institutions, including Union and Upazila Parishads. By strengthening the institutional framework; by investing in water resources infrastructure and by strengthening agricultural services, Blue Gold aspires to reduce poverty and enhance food security. Reduction of the vulnerability of polder inhabitants – and especially poor and disadvantaged categories – to weather extremes (which become more frequent as climate changes) is an important condition supporting poverty reduction and food security. The approach applied by BGP is referred to as **water management for development**.

1.1 Participatory Water Management

The Blue Gold Program is one of several projects implemented by the Bangladesh Water Development Board (BWDB) (and in case of the Blue Gold Program; by BWDB and the Department or Agricultural Extension (DAE) as well) that apply the Guidelines for Participatory Water Management. The same guidelines are also applied by the small scale water resources sector of the Local Government Engineering Department. The approach to establish participatory water management has developed since the guidelines were issued in 2000. Several lessons, *inter alia* from completed and ongoing projects, like IPSWAM, CDSP and SWAIWRPMP have been taken on board in the design and during the course of the Blue Gold Program:

1.1.1 Lesson 1: PWM is activation from the start

It is not enough to hand-over responsibilities for water management and the associated infrastructure to water management organisations. WMOs take a keener interest if the infrastructure is configured in response to their desires. Participation therefore starts in the design stage, when a comprehensive development plan for the catchment is made. In case of BGP this is the polder development plan. It

¹ Government of the People's Republic of Bangladesh, Ministry of Water Resources, **Guidelines for Participatory Water Management**, Dhaka, 2000; and: Government of the People's Republic of Bangladesh, **Participatory Water Management Rules, 2014**, Circular 20 Magh 1420 Bangla Year/2 February 2014 AD, published in Bangladesh Gazette, Additional Issue, February 11, 2014 (translation: Blue Gold). These regulations are reinforced by provisions for local governance: Government of the People's Republic of Bangladesh, **Local Government (Union Parishad) Act**, 2009, Additional Gazette, Dhaka, October 15, 2009 / 30 Asshin, 1416 (Translation World Bank)

should be developed early on during BGP's involvement in a particular polder, but it should at the same time reflect concerns and priorities of the people dependent upon the water management infrastructure.

Moreover, the approach should seek to activate the WMOs and to support those WMOs that are more responsive to the programme. The approach is therefore rolled out in adherence to the steps achieved by the WMOs, and more support is offered to those WMOs that actively seek to improve their performance. In practise, the above means that a training session is not supplied unless the WMO has taken care of the requisite preparatory steps.

A second aspect of activation is that capacity building, which originally was pursued by providing training, is increasingly provided through more interactive approaches such as workshops and horizontal learning approaches. Both techniques place the WMOs in the driver seat, rather than seeing them as recipients of knowledge.

1.1.2 Lesson 2: PWM is water management for development

Water management for development is in fact the slogan of the Blue Gold Project and reflects the fact that working on participatory water management needs to be justified by positive development outcomes. The efforts of BGP are not only aimed at establishing water management organisations (WMOs), but also at activating these to use agricultural opportunities created by water management and to use business opportunities created by the improved production environment.

The focus of BGP is therefore not on establishing local water management organisations (WMOs), but on reaping local benefits from improved water management practices. This requires initiatives by WMOs and relevant partners, such as: adapting crop choices to water management; enlisting other resources to further fine-tune local infrastructure; bulking, grading and packaging of produce to serve other markets, etc. More often than not these initiatives require will be shared by the WMOs (or sections thereof) and other actors in the area: local governments, line departments, non-government organisations and the private sector.

1.1.3 Lesson 3: PWM is organisations and networks

Shared development initiatives require that WMOs interact with other entities; making participation synonymous with cooperation with and between relevant entities.

The approach of BGP is more than organisational strengthening of newly established water management organisations. It also builds the institutional linkages (relationships and partnerships) through which the linked organisations can take joint initiatives and enhance their effectiveness through cooperation.

Figure 1 illustrates the distinction between organisational strengthening and institutional development. Whereas organisational strengthening aims to improve water management by establishing (if need be) and strengthening water management organisations; institutional development seeks to improve water management by improving the interplay between all organisations that have a bearing on water management. The BGP approach combines both elements:

- it aims to establish water management groups (and associations thereof) in 22 polders in southwest Bangladesh, through which the inhabitants of these polders are capacitated to play an active part in the planning, design, development and management of the water infrastructure;
- It also aims to develop linkages between the water management organisations and other organisations having a bearing on the use and management of water resources. This quite naturally includes the Bangladesh Water Development Board and the Department of Agricultural Extension (who are implementing agencies of BGP) but also extends to involve local governments and the departments represented therein as well as a potentially wide array of public, civic and private organisations engaged in fields such as water development, agriculture, fisheries and local economic development.

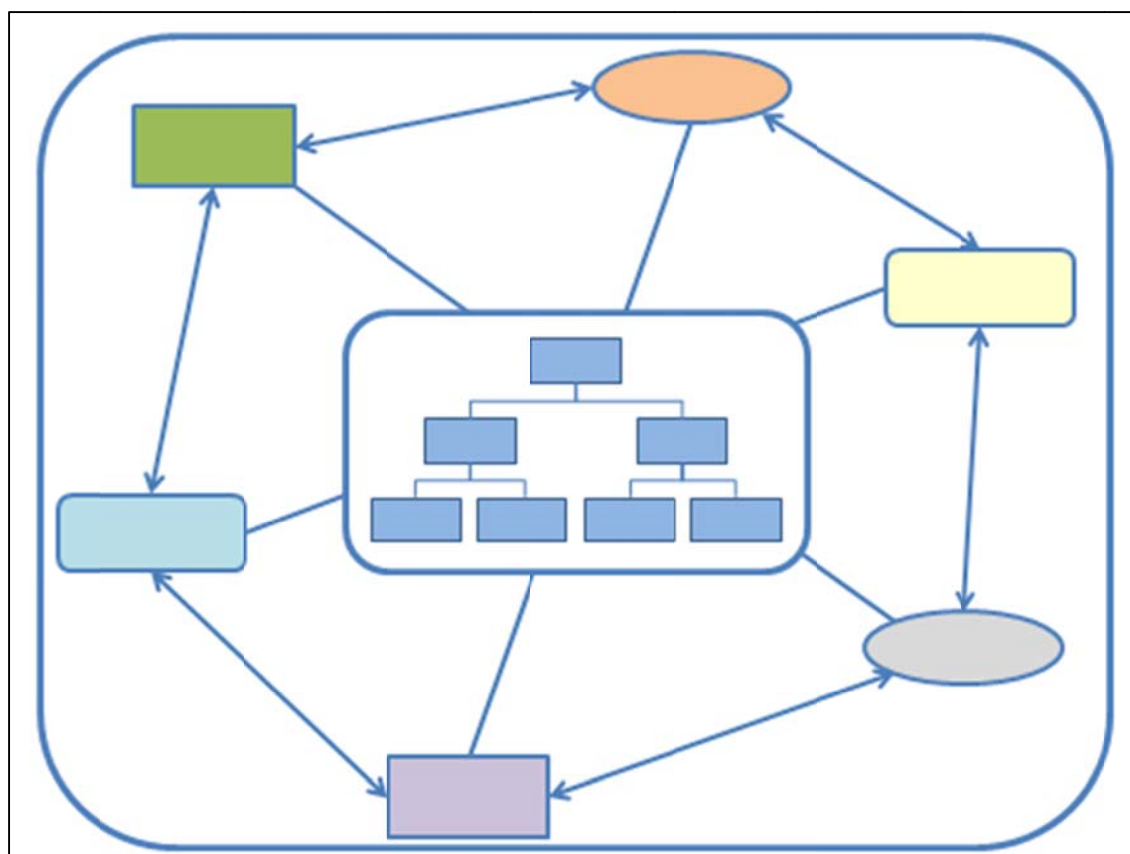


Figure 1: organisational strengthening (central box) and institutional development (larger picture)

In brief: BGP seeks to strengthen and activate the institutional framework for participatory water management by building and strengthening organisations and networks.

1.2 Objective: To promote the integrated work process

The above lessons imply that the Blue Gold Program should set up an integrated work process in each of the polders it works in. BGP's efforts with respect to planning and investment; agriculture and marketing; internal water management and flood safety form an integrated whole starting and ending in water management organisations and their active participation in the institutional networks around them². This integrated approach forms a departure from the component-wise central programming that defined at the onset of the BGP; and replaces this with an integrated work process largely carried-out at regional and local levels.

The objective of this working paper is to foster the development of integrated approaches to participatory water management. Integrated approaches are defined as approaches that aim to realise the development potential of water resources, that place water management organisations in a driver seat for development activities; and that enable WMOs to co-operation across organisations to achieve water management for development.

In order to achieve its objective (foster development of integrated approaches to participatory water management), this working paper will provide the following:

² A more comprehensive overview of adjustments being made to approach and organisation of BGP are presented in the working papers on Theory of Change and Exit Strategy, respectively.

- Chapter 2 sets out to document the BGP approach as it is envisioned at this moment. Dynamic change will continue to take place, but will in future be documented in the same manner as done in sections 2.1 to 2.5. As an overview of this Chapter, a structure for describing an integrated work process is presented, this should ensure that the whole picture is not lost in operational detail presented starting from 2.1 to 2.5. This will benefit the BGP implementing agencies' and TA staff (providing them a manual of the process in use); and it will benefit those willing to reflect on alternative approaches for participatory water management (by providing a reference) ;
- Chapter 3 moves beyond the integrated approach as documented in the preceding chapters and will open the discussion on improving the enabling environment for participatory water management.

2. Blue Gold Approach to PWM

Overview

At the heart of the Blue Gold approach towards building organizations and networks for PWM is a unified work process that is applied across the polder areas in which the programme is active. The work process integrates five activity clusters, as follows:

- a. Build Institutional Framework for Participatory Water Management which comprises activities directly focussed on establishment and development of WMOs and their linkages with other organisations like local government, line agencies, private sector enterprises and non-government organisations;
- b. Main Infrastructure Development includes planning, design, construction and operation and maintenance of infrastructure at polder and catchment levels; including addressing environmental and social safeguards;
- c. Internal Water management comprises planning and implementation of water management at the sub-catchment level (corresponding in many cases to WMG area) and at the on-farm level;
- d. The Agriculture and Marketing Services cluster describes process undertaken to strengthen the delivery of agricultural and marketing services in the polders; and
- e. The Environmental and Social Management Plan and Disaster Risk Reduction (DRR) activity cluster describes activities related to the formulation of ESMP and DRR plan and preparation for and mitigation of risks caused by the effect of extreme events on water safety.

Detailing the overall approach

When preparing to describe the BGP work process and its constituent parts, the authors faced a number of challenges:

- The description of steps to be taken to build organisations and networks for participatory water management should fit within the available parameters, of which the available timeframe of roughly four years per polder appears to be the most restraining condition. Institutional development processes tend to be open-ended, while the duration of the Blue Gold Program and its area of intervention is fixed;
- The description of the work process needs to be structured to prevent readers getting lost in detail. The description must sometimes focus on a particular detail, while always showing the relevance of the small part to the larger whole;
- The description must make clear whether an activity is undertaken by the field wings of the implementing agencies; whether it is undertaken by the institutional partnership for polder water management; or whether it is an – essentially one-off – activity supported by the programme;
- The description should present the coherent nature of the overall process. While the five activity clusters are implemented in parallel, they are essentially interlinked, with steps undertaken in one cluster coinciding with, leading to or contributing to steps in another cluster.

For each of these challenges (timeframe, structure, responsibilities and coherence), a visualisation is developed that describes how it was addressed.

Timeframe

Figure 2 visualises how the timeline for each activity cluster is fitted into a standard four-year implementation period per polder. This duration has been set, bearing in mind the overall timeframe of the Blue Gold Program (up to September 2020), and the remaining ambition of completing the programme in 22 polders in the southwest region.

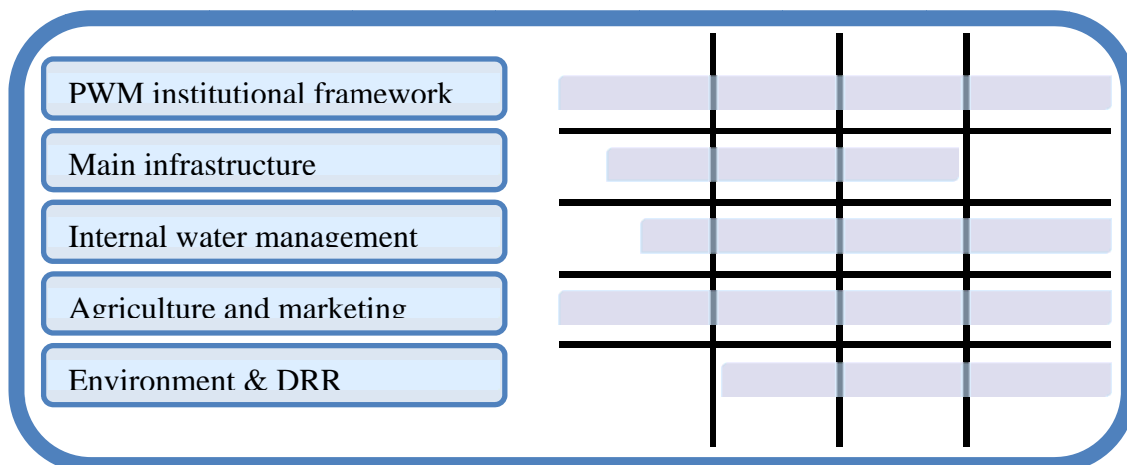


Figure 2: Generic timeframe for building organisations and networks per polder

Structure

Figure 3 shows the grid by which the unified work process of BGP is broken down into discrete yet coherent steps. At the highest level of abstraction is the unified work process of BGP, which is to build organisations and partnerships for participatory water management in 22 polders in SW Bangladesh. This unified process is broken down into five chapters, or clusters, as described above. Each cluster is split up in several processes, which in turn comprise of distinct activities – or steps, as they are called here. Some steps (especially planning sessions and data collection) are common to several processes and even across clusters. Wherever this occurs, the description will call attention to the fact that a step serves more purposes.

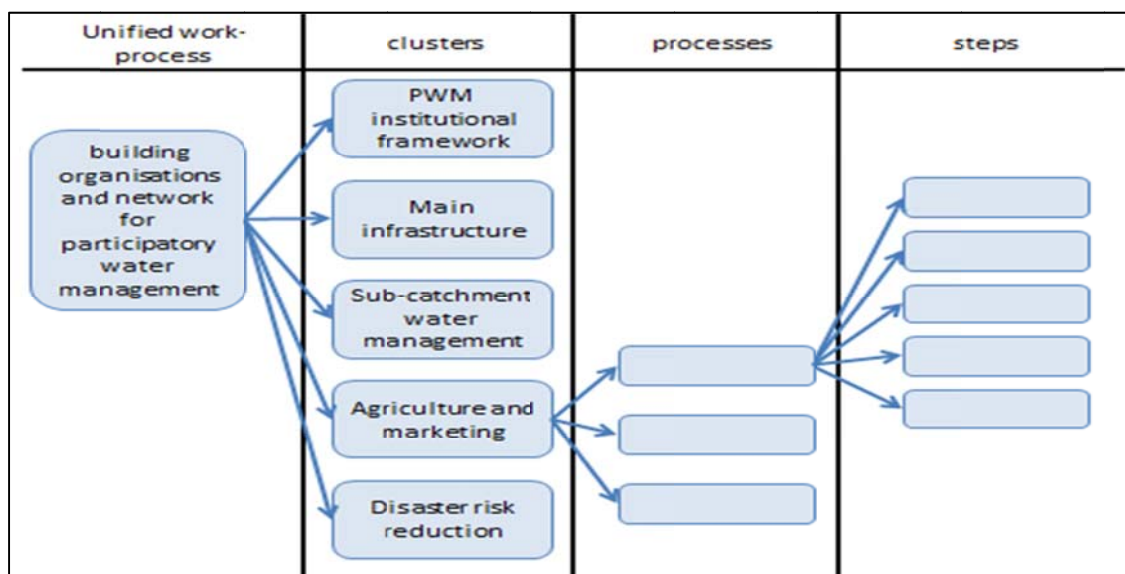


Figure 3: Breakdown of the overall process into distinct steps

- The focus is on the steps that constitute the programme's primary process. Little attention is given to crucial activities within the BGP implementing agencies and TA. Thus, the reader finds scant reference to procurement, no information on reimbursement of finances, nor background on engineering standards;
- The steps are presented here in a summary-style. Most steps are supported by more detailed instructions, policy documents or other material. The description is a skeleton, on which flesh is provided by additional instructions and by the professionalism of the regional and polder staff.

In a number of instances throughout this document, additional information on the nature of the PWM-work is provided in boxes, which provide a sample of how BGP works and what effects are observed. The reader, who seeks to know more details on certain steps, is well-advised to approach the Blue Gold Program.

2.1 Cluster I: Institutional Framework

The first activity cluster of the Blue Gold Program approach includes the actions needed to establish the institutional framework for participatory water management within the selected polder area. This includes both the building of new organisations that represent local interests in water management; as well as development of networks through which those local interests participate in water management for development. This activity cluster therefore includes establishment of new polder organisations (WMG, WMA and JPMC); formation of coordination bodies between new and existing organisations; and development of constructive relations between the entities that have a stake in water management for development.

Cluster I establishes and maintains the essential basics for organisations and networks. The activation of organisations and networks is included in activity clusters II – V.

The following is a brief overview of all processes under the institutional framework cluster that are supported by the Blue Gold Programme.

- A. **Preparations** – Prior to the formal introduction of BGP to the representatives of the polder's population and of the agencies working in the polder, a polder team, comprising field staff of the implementing agencies (BWDB and DAE) and technical assistance staff at polder level will be formed, briefed and mandated;
- B. **Introduction** – Through this process the active support of local agencies and organisations, including local governments, for activities undertaken or supported by the Blue Gold Program is sought; and BGP representatives, including the polder team (BWDB, DAE and TA), are introduced to the area and its representatives;
- C. **WMG establishment** – This process includes all steps that are required to establish a capable water management group. This includes information to intended beneficiaries, development of management capacities in the executive committee, support to the process of registration and advise to the WMG on water management-related activities;
- D. **WMG EC activation** – this process uses training sessions to enhance the EC's management control over the processes in which the WMG engages. Further activation takes place through the concrete activities in clusters 2.1 to 2.5, but here the foundations for organisational management are laid;
- E. **WMA establishment** – In partial overlap to the preceding sub-process, this process builds the water management association, both in terms of organisation and in terms of capacities;
- F. **Registration, audit and follow-up** – Once the basics of the organisations are established, registration, periodic audits and follow-up support is provided by the Office of the Chief Water Management of the BWDB and is – once the WMG or WMA is established – a continuous service;
- G. **Formation of joint polder management committee** – building on the involvement of organisations and beneficiaries in the consultation for the planning of main infrastructure

Cluster	Process	Stage	Description	key partners				year 1												year 2												year 3												year 4													
				BWDB	DCE/CEO	LCI	WMA	WMA	Bakultala	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
I			PWM institutional Framework																																																						
	F		Registration, audit, follow-up																																																						
		1	register WMOs																																																						
		2	prepare and conduct annual audit																																																						
		3	support WMO performance																																																						

2.1.6.2 Narrative

This process describes the continuous support services rendered to aspiring and registered WMGs and WMAs. The Office of the Chief Water Management is the lead actor with support from the CEO/PEO and DCEOs assigned at the Zonal level, and it provides support for registration, and follow-up in the form of necessary advice and assistance to the respective executive committees. Annual audit is conducted by the BWDB Directorate on Audit who also provides assistance in orienting WMGs on audit requirements which is part of the Accounts Keeping and Audit System (AKAS) training.

1. The process starts where processes 2.1.3 and 2.1.5 end: at the request for WMG/WMA registration. DCEO/CEO (representing OCWM) reviews documents, advises on completeness, correctness and integrity and – once the criteria are satisfied – issues the registration, while informing the concerned local governments and regional BWDB offices of the same;
2. Once registered, the WMG enters the roster for annual auditing by Directorate Audit. Each audit includes advice to the DCEO (on continued registration) and advice to the concerned organisation (on strengthening the organisation).
3. In addition to the recurrent formal roles, the OCWM uses its presence in the field as a means to provide support, both on demand at its own volition, to the WMGs and WMAs it has registered.



Bakultala WMG is one of those WMGs who constructed its own office without outside help. The leaders and members were united in their vision to construct their office using their own resources

Solution of massive water logging problem jointly by the UP, WMG and Community

Polder 26 is located within 7 Wards of Shobna Union Parishad of Dumuria Upazila at Khulna District. This polder has only one sluice gate at Gialtola on the bank of the river Mara Bhadra for drainage of water from the polder. The entrance of this sluice gate gradually silted up and created massive water logging problem in this polder, as a result crops are submerged and damaged from the beginning of the rainy season since last several years. The people were expecting government initiative to get rid of the problem but that did not happen. Considering the sufferings of the community Mr. Sardar Abdul Gani, Chairman, Shovna Union Parishad took initiative to solve the problem. UP and WMGs mobilized the community and removed silt from the entrance of the sluice gate and the gate became operative for drainage. Through this joint initiative of UP, WMG and community, this problem is solved and resulted to increased agricultural production, increased employment and business opportunity connectivity and mobility in the polder (Blue Gold Barta)



2.2 Cluster II: Main Infrastructure

This second activity cluster aims for the long-term availability and performance of main water management infrastructure. This infrastructure is developed to reduce occurrence floods and water logging for inhabitants of the polder, and generally comprises embankment rehabilitation and retirement, renovation and new construction of regulators in the main embankment and excavation of primary khals. The volume of infrastructure investment is limited by the overall allocation in Blue Gold's DPP and by the budget allocated in the Annual Development Plans.

In order to balance local priorities with available funds, planning and consultation is essential. In keeping with prevailing policies and legislation, environmental and social due diligence forms an integral part of the cluster; aimed to ensure socially and environmentally acceptable investment.

The planning and consultation exercise described for this cluster matches the priorities for main infrastructure investment to the provisions in the BWDB DPP for the BGP. At the same time, the planning and consultation process is used to define the agricultural and value chain measures that are supported through the DAE DPP and through the TA budget.

The main infrastructure cluster establishes safety from floods and water logging. Together with cluster V (Sustainable Environment and Disaster Risk Reduction), it enables better and longer flood safety in the polder areas.

Within the Main Infrastructure cluster, the following are the key work processes. Figure 6 (overleaf) shows the approximate timeline for each of these processes.

2.2.1.2 Narrative

The entire planning and consultation process is coordinated by senior technical assistance, so that the concerned partners – both agencies and local representative institutions – can focus on making contributions to what is essentially a process of decision-making. The work process moves from analysis of present scenario on water management and production identifying in the process constraints and opportunities, then identification and assessment of options and then to the definition of an agreed programme of measures:

1. **Preparation** – While the BGP is being introduced to the polder institutions under cluster I, the implementing partners and their TA prepare for the planning process by collecting secondary data on hydrology and agriculture and by preparing maps of the polder area;
2. **Water and land use planning workshop** – this is a one-day workshop where local representatives (LGI, WMO and others) and department staff (BWDB, DAE, TA) are guided through mapping exercises to make a first outline of a polder development plan. The workshop builds on the local understanding of agricultural production and water management and produces a general view of the cropping pattern and the major water management challenges in the polder; as well as options for crop diversification and water management improvements. The workshop will prioritise the proposed measures, and will – where needed – exclude those listed options that fall outside the scope of BGP (e.g. pump houses, cyclone shelters);
3. **Environmental and social scoping** – using the above workshop’s output as a point of departure, BGP TA staff prepares a scoping note for an environmental and social impact assessment (ESIA) of the polder development plan; as well as a terms of reference for outsourcing this study along with the preparation of an environmental and social management plan (ESMP). Special attention is given to risks of loss of homesteads and lands; and to local mitigation thereof; given that BGP does not include provisions for land acquisition and resettlement;
4. **Field verification** – The polder team (field staff from implementing agencies plus polder-level TA) reviews – with local people – the key problems and measures identified during the water and land use planning workshop and gives further specification of the measures (infrastructure and agricultural services) proposed. Attention will focus on isolated pockets, damaged embankments and sites of main structures;
5. **Catchment consultations** – with the measures proposed in step 2 and specified in step 4 a next round of consultation is held at the level of the catchments (boundaries set in cluster I, see chapter 3) with: the representatives of community/from proposed WMG and WMA areas (if no WMGs/WMAs exist yet); concerned LGI representatives (at least ward member, BGP liaison); BWDB field level staff (SAE/SDE, SO and XO); and SAAOs from DAE. The consultation confirms the viability of infrastructure options and provides arguments for a revision of priorities set earlier (session with landowners, leaseholders, sharecroppers and fishermen representing high, medium and low lands). The process will moreover look into preferences for homestead-based production activities (session with destitute and landless women and men, as well as those strongly involved in home-based production). Towards the end of the first year of physical construction works, a refinement of the polder development plan can be made, which would start with a second round of catchment consultations. In this round attention can be given to especially review priorities in khal re-excavation;
6. **Additional field verification** – in order to draw proper conclusions from the catchment consultations, additional field verifications may be required, as described under step 4. This may happen a second time around in relation to the refinement of the polder development plan after one year of physical works implementation;
7. **Draft polder development plan** – Based on the above information, the implementing agencies and TA prepare a brief polder development plan. It is essentially a listing of the investments to be supported through the ADP allocations of the implementing agencies, and through the budget at the disposal of the TA. It presents clear choices on which infrastructure can be supported within the available budget;

8. **Environmental and Social Management Plan** – based on the draft polder development plan, an accompanying plan is prepared, which describes the mitigation measures (also to be covered from within the available budget!) that need to be incorporated in the final polder development plan to ensure it achieves social acceptance and environmental sustainability;
9. **Polder-level consultation** – the draft PDP and the ESMP are presented to the polder coordination committee using maps and other visuals to do final fine-tuning and in order to obtain the concurrence of the local governments. After roughly one year of implementation, another fine-tuning session may be held;
10. **Polder development plan** – based on the above steps, especially 7, 8 and 9; a final polder development plan is made, which remains well-aligned to the provisions in the DPPs and which serves as a basis for requesting ADP allocations. This plan includes the no-objection certificates from the concerned union parishads.

2.2.2 Process B: Detailed preparations

2.2.2.1 Planning matrix

code			key partners						year 1												year 2												year 3												year 4											
									BWDB	DAE	DoF / DLS	LCI	WMO	Polder Team / Zonal TA	Polder TA	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5
II			Main Infrastructure																																																					
B			Detailed preparations																																																					
	1																																																							
	2																																																							
	3																																																							
	4																																																							
	5																																																							
	6																																																							
	7																																																							
	8																																																							
	9																																																							
	10																																																							
	11																																																							

2.2.2.2 Narrative

This process in essence paves the road to implementation of the programme of measures defined in process A. It is assumed that two work seasons are required to complete the fine-tuning of the main infrastructure per polder; which in turn means that there are two rounds of detailed preparation. An iteration in process A (section 4.2, steps 5, 6, 9 and 10) provides additional inputs.

The preparations cover both the application of engineering standards and the procurement of services from eligible contractors. The latter include requisite steps by WMGs to take on part of the earthwork.

1. **Engineering Assessment Topographic surveys** – This involves assessment of individual structure, survey of the embankment and selected khals, tentative costing and budget preparation and implementation plan. Standard topographic survey work refines the understanding of area elevation and capacity, and helps draw the hydrological boundaries. This forms an input for the dimensioning of infrastructure, and provides a basis for e.g. redirection of drainage in view of river siltation;
2. **Design data collection and detailed design** – Design data collection is done by field BWDB O&M Division while detailed design by BWDB Design Circle. The aim is to make cost-effective designs that meet agreed standards of engineering. Participation of beneficiaries is sought to inform decisions with respect to siting;
3. **Estimate preparation and vetting** – detailed design is completed, field BWDB O&M division prepares the estimates and vetting of those estimates will be done by central TA Team.
4. **Definition of work packages**– Once designs and estimates are vetted, a procurement process starts by defining the packages through which the works will be contracted. Special attention is

- given here to defining work packages for earthwork, which will be allotted on preference to WMGs, for implementation through Labour Contracting Societies;
5. **Presentation LCS approach** – One of the first tasks of the newly-elected WMG ECs is to decide whether (and to what maximum) to take part in earthwork implementation through LCSs. The polder team will explain the LCS-approach, and will assist the new EC in defining the pros and cons of their participation.
 6. **LCS preparation 1** – If agreeable to take on earthwork, the WMG EC is then responsible to prepare for it. As a first step, they are required to inform their members of their intention, then form the required LCS groups and then identify leaders for the different LCSs;
 5. **LCS training (WMG)** – Only when the WMGs have done their first step of preparation, will training be given on the technical, organisational and administrative aspects of LCS earthwork contracts.
 6. **Draft contract and tender preparation** – The BWDB – taking heed of the WMG willingness to take on LCS contracts – will then draft the works contracts and prepare and float (for other works) the tenders. The contracts will reflect the participatory nature of the supervision arrangements for works undertaken by BGP;
 7. **Construction monitoring training (WMAs)** – training will be given to the WMA ad hoc committee and selected representatives from WMG executive committees and the Union Parishad on the role and responsibility of the WMA monitoring committee. Emphasis will be placed on the proper procedure for expressing concerns with respect to construction quality. The WMA will through the committee monitor all works (earthworks and civil works) in support to the supervision by the contracting authority;
 8. **Contractor instruction** – All to-be-contracted contractors – including WMGs organising LCSs – will be informed of the specific and sometimes new conditions that apply to works contracts under the BGP. Attention will be given to the conditions with respect to health and safety, social and environmental safeguards and the supervision arrangements;
 9. **LCS preparation 2** – The WMGs that have committed to take on earthwork will now have to show that their LCSs have been formed in accordance to the conditions (explained to them during step 6). As part of this, the Union Parishads provide an assurance that the LCS members are indeed selected from among vulnerable and poor households;
 10. **Contract award** – following the contractor instruction and – in case of the WMGS – the confirmation of appropriate LCS membership; the BWDB will effectuate the contracts for the work packages.

2.2.3 Process C: Works Implementation

2.2.3.1 Planning matrix

code			key partners	year 1												year 2												year 3												year 4																		
#	#	#		BWDB	DAE	DOF/DLS	LGI	WMO	polder team	Zonal TA	polder TA	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11
II			Main Infrastructure																																																							
	C		Works implementation																																																							
	1		pre-work measurements																																																							
	2		advance payments																																																							
	3		supervision and reporting																																																							
	4		running bills payments																																																							
	5		post-work measurements																																																							
	6		confirmation																																																							
	7		final payments																																																							

and marketing aspects (linked to Cluster III, Chapter 2.3). The workshop will seek to strengthen the capacity of WMOs on WM planning identifying in the process production, marketing and business opportunities. This is followed by identification of O&M requirements to support WM linked to production and marketing aspects. Activating the WMOs in taking over operation and in taking care of routine maintenance is also an objective of this training;

2. **Assign responsibilities** – taking an active role in O&M presupposes that arrangements are made to do so. The WMGs and WMAs are to assign responsibilities for O&M in their organisation, and to ensure that the costs (or effort) of O&M is compensated for;
3. **O&M Orientation** – the persons assigned responsibilities towards O&M (including management of contributions) are given a training on technical aspects of O&M;
4. **Routine O&M** – once responsibilities are assigned, the WMGs/WMAs can start demonstrating their ability to make wise use of the infrastructure. A good start of O&M is a precondition for the hand-over of infrastructure;
5. **Hand-over of infrastructure** – A full year after works completion (i.e. the defects liability period), the BWDB is ready to handover completed infrastructure to concerned WMG or WMA that have proven their keenness and ability to make wise use of the infrastructure;
6. **Sign O&M agreement** – a framework for continued maintenance and operation of the infrastructure is provided by making a polder-wise O&M agreement, where BWDB, WMOs and LGIs commit to the long-term upkeep and utilisation of the polder main infrastructure;
7. **Periodic and emergency maintenance** – once the O&M agreement is effective, the BWDB will assume a responsibility towards periodic maintenance (e.g. replacement of mechanical parts in regulators, re-sectioning, etc.) and emergency works.

2.3 Cluster III: Internal Water Management

This third activity cluster focuses on the optimisation of the relation between water management and agriculture and fisheries within the polder, with the aim to enable households to improve farm productivity and profitability. The cluster has a strong link to the activities around agriculture and marketing, described in the next chapter.

The main infrastructure provided through activity cluster II (Chapter 2.2) reduces the risk of inundation and floods, but does little to enhance the productivity of water resources. This activity cluster includes steps whereby at the local level, the benefit of water management for fisheries and crops is increased. This can be done by fine-tuning water management conditions (e.g. water level management, retention, drainage and inlet of water); but also by adapting production systems to water availability (e.g. synchronised cropping, crop zoning, rice-cum-fish systems, early maturing varieties, etc.).

The Blue gold Program supports two processes for fine-tuning the relationship between water and productivity. The first one is aimed at all active WMGs, whereas the second focuses on active WMGs with a substantial potential for major improvement of the water – crops – fisheries nexus.

- A. **WMG action planning** – comprises a set of steps that help the WMG actively pursue improved production outcomes, by identifying and pursuing improvements to the local farming system; and by associating with the actors and agencies that can support them in this endeavour. The first step is the initiation of WM planning workshop and O&M training (as explained in section 2.2.4.2);
- B. **Community water management** – This is a more intensive process whereby with the help of external parties a community water management intervention is defined and implemented. This would include small infrastructure works to better manage water; changes to the cropping system and introduction of better suited varieties. Community water management is only supported in a limited number of WMG areas

Figure 7 shows the approximate timeline for the above work processes.

2.4 Cluster IV. Agriculture and Marketing

This activity cluster aims to enhance agricultural and marketing services within the polder area; and it will take place throughout the four-year duration of BGP involvement in a typical polder (see **Figure 8**).

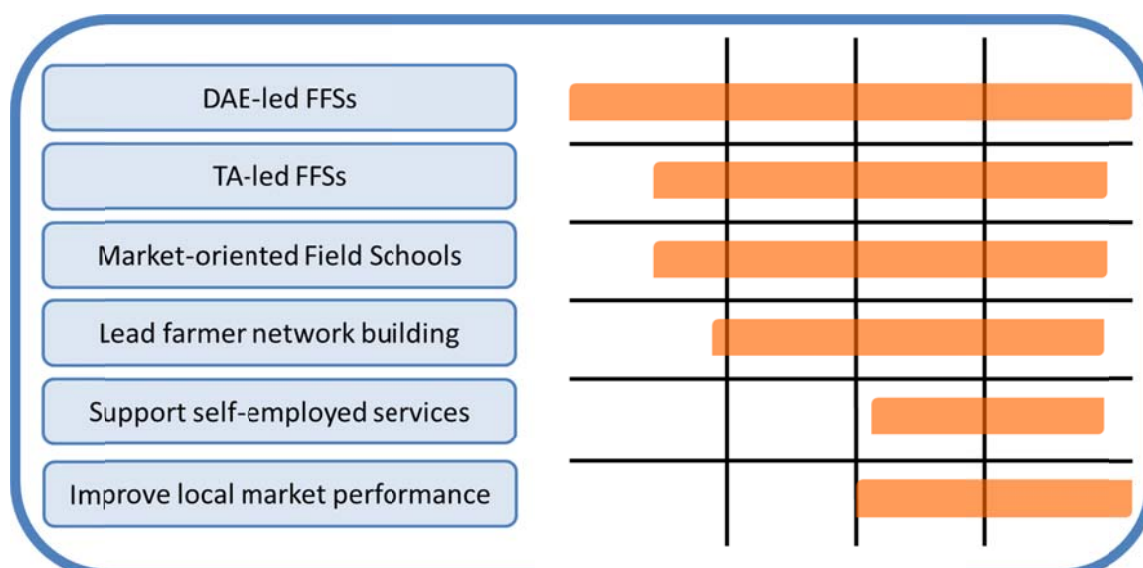


Figure 8: Approximate timeline for the work processes under activity cluster IV

The long duration is achieved as one core process in the cluster (the roll-out of Farmer Field Schools (FFS) by DAE) is already on the ground at the moment of BGP entry into a polder. DAE is firmly established in the rural areas, and FFSs are its preferred method of agricultural extension. In BGP polders, this is however not the only process undertaken to bolster the delivery of agricultural and marketing services as described below.

- A. **AE-led FFSs** – This is a continuous service provided through DAE workers at Union-level. The exact nature and content of the FFSs does develop over time, partly in response to demands from the farmers (less paddy, more other field crops); and partly through support to DAE provided *inter alia* by senior BGP advisors, with respect to inclusion of nutrition, farming as a business and agricultural water management (see also cluster III, Internal Water Management);
- B. **TA-led FFSs** – This is a service in response to needs expressed in the catchment-level planning workshops and surveys (discussed under cluster II, Main infrastructure) and concentrates on non-field crop services, including fisheries and livestock rearing, with a strong focus on the productivity of the homestead;
- C. **MFSs** – market-oriented farmer field schools provide an intensive curriculum to groups of specialised producers who are willing to enhance the profitability of their product through better alignment to and linkage with markets. They undertake joint action with respect to e.g. forward and backward market linkages, optimising water management; synchronising crop practices to water availability, etc.;
- D. **Lead farmer network building** – this process addresses capacities and networks of resource farmers, contact farmers and similar individuals. It stimulates the initiative and entrepreneurship of farmers who show leadership in the FFSs and MFSs. It builds the lead farmers (also known under other terms) own personal network with similar individuals and with the services available to their area; with a view to enable them to bring the delivery of services more close to the communities within the polders;
- E. **Support local service providers** – Using the model developed for community-based animal health workers, BGP supports the emergence of service providers who help a further penetration of government services in the field of agriculture into the rural areas. Such service

4. In response to the above, the lead farmer takes on his / her role of assisting the extension worker and – where possible – provides further dissemination of extension messages;
5. Especially aiming at lead farmers and similar individuals who have shown initiative in provision of agricultural services, the BGP TA organises in close cooperation with DAE, DLS, DoF and the local governments a series of network events and dedicated training sessions that aim to enhance capabilities and joint initiatives in the realm of service provision;
6. Partly during and partly in response to the above, lead farmers will undertake individual or shared initiatives in extending existing agricultural and marketing services deeper into the rural areas .

2.4.5 Process E – support self-local service providers

2.4.5.1 Planning matrix

code			Description	key partners							year 1												year 2												year 3												year 4													
#	#	#		B.W.D.R	DAE	DoF / DLS	LG1	W.M.D	Farmer Team	Local TA	Polder TA	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
IV			Agriculture and marketing																																																									
	E		support local service providers																																																									
		1	identify service opportunities and gaps																																																									
		2	Define criteria for LSPs																																																									
		3	identify would-be LSPs																																																									
		4	subject matter training																																																									

2.4.5.2 Narrative

1. The extension workers jointly identify potential services that can be intensified for better service availability in the polder areas, such as provision of animal health services (especially providing vaccines with solid advice), sale of viable fish fry, with advise on capture fisheries, distribution of and advise on fruit trees, etc.;
2. The extension services will suggest criteria and selection processes for identifying individuals or teams that could provide a service;
3. The network of lead farmers and the Union Parishads are asked to identify willing and able candidates to help provide (or further extend) such services. The involvement of local government is crucial, as it has an interest in balancing area coverage with the availability of competing services. Too many self-employed providers of the same service will lead to poor quality; whereas too little will leave gaps in services;
4. BGP will support appropriate training to the self-employed service providers, in close cooperation with the concerned departments. Training will include subject matter skill, as well as the capabilities to run a commercial service;
5. Qualified self-employed service providers are provided an identity cord through concerned departments and local government specifying the services and the area of service provision. The license is renewable, so that the departments and the local governments can discontinue poor service-providers;

3. Beyond Blue Gold: Crucial Issues and Dilemmas

The Blue Gold Program uses a highly structured yet complex work process to promote participatory water management with close links to food security, value chains and business development in order to get more households above the poverty line. The Programme arrived at such a process through the gradual realisation that water management for development requires upfront involvement of water users; a clear intention to realise development benefits and multiple partnerships between water management organisations, line agencies, local governments, local development organisations and private sector.

The work process described in chapters 2.1 to 2.5 incorporates lessons learned since the issuance of the Participatory Water Management Rules 2014 (upfront involvement, development benefits and partnerships, more detail in chapter 1). When structuring the way to describe the work process (chapter 2) and when actually describing it in detail (chapters 2.1 to 2.5); the authors faced some issues and dilemmas. Rather than presenting the BGP work process as a final cut, the authors emphasise that the descriptions are a work in progress; and that many more lessons need to be learned before the approach is anyway near final. The detailed description of the work processes are as much a benchmark for further development, as a guide for implementers. For this reason, the work process for building organisations and networks for water management for development is published as a working paper.

This final chapter takes the discussion of how to establish participatory water management beyond the present state of the art, and argues for further development of the enabling environment for participatory water management. The chapter does not assume to be complete or comprehensive, but hopes to provide food for thought and aims to stimulate further development of an enabling environment for participatory water management.

3.1 On organisation tiers

The Guidelines on Participatory Water Management (GPWM) issued by the BWDB provide a two-layer structure for water management organisations: The primary entities (water management groups – WMG) associate at a second level (water management associations – WMA). The GPWM offers the scope to define a third level; and includes provisions for outsourced management and for joint management of water resources schemes.

With growing experience, the BGP has gradually progressed towards WMGs that are formed along hydrological boundaries and that constitute sub-catchments, within the polder. WMAs are formed at a higher level of aggregation and cover entire catchments, often associated with one of the main regulators of the polder. In smaller polders, the WMA catchment may coincide with the entire polder; whereas for larger polders, there will be a small number of WMAs.

The transfer of management tasks is partial: WMOs take on operation and routine maintenance, but periodic maintenance, rehabilitation and emergency works are a responsibility of the government; which is – in case of the coastal polders – mandated to the BWDB.

The upshot of this is that under the present PWM Rules 2014, no platform is defined to discuss polder-level management decisions:

- In most polders, there are several WMAs, but no representative body for them to participate in at polder level;
- Even where there's only a single WMA per polder, the WMA is represented in decision-making beyond its own mandate for operation and routine maintenance. Nor is there a formal venue through which agency views can be taken on board in the WMA's decisions on its own mandate.

In short: participation in the management of polders – beyond the planning and construction phases – needs to be given a form, in which it can take place.

The GWPM suggests joint management boards for major schemes and it is suggested to take up this idea in the PWM Rules 2014. The process described in chapters 2.1 to 2.5 assumes that a joint polder management committee (JPMC) will be set up shortly, to assume its role before the BGP involvement in the polders is finished. The earlier that there are rules on JPMC composition and function, the better can the BGP orient its temporal polder committee towards the ultimate situation of a permanent JPMC.

Water users' representation should not end at the level of water systems (i.e. polders, irrigation commands, etc.); but should continue to develop. As WMOs gradually become commonplace organisations with their own experience and views; there is a potential to improve decision-making on regional priorities and on national policies, by taking on board water user views and ideas. To this end, a federation of WMOs needs to be developed and their representation in the governing council of BWDB needs to be pursued.

3.2 On Labour contracting societies

The PWM Rules 2014 have defined how earthwork is to be contracted on preferential basis to Labour contracting societies (LCS). Rather than having individual contracts with each and every LCS, the BWDB contracts the WMG, which in turn is responsible to form and supervise LCSs; and which can claim a small management fee on each LCS.

While at the time this seemed a logical step in the development of the LCS-system, the initial experiences raise some concerns:

- The WMGs are keen to take on the earthwork, as it allows them a direct income from the management fee; but they may not fully realise the complexities of LCS work at the time of submission. The related work processes in chapter 2.2 have therefore included some conditions: (i) identification of the LCS group leaders before the WMG is trained; (ii) confirmation by LGI that the selected labourers are from vulnerable groups before the contract is issued;
- Once assigned, the WMGs are keen to complete the works and at times engage labourers from outside the area to achieve this goal. Good for work progress, but less effective in giving an economic impulse to poor WMG members;
- The full procedure for commissioning works and engaging LCSs has become very lengthy and works generally start too late in the season to allow for completion within the same season;
- The gradual improvement of the national poverty situation may imply that the LCS-system has run its course, and that it is no longer relevant for alleviation of poverty;

Before rushing to readjust the LCS system, it is suggested to comprehensively review the performance of the present LCS system; both in terms of poverty impact – including impact on poor women; and in terms of efficiency of the procedures to achieve the dual goal of work implementation and poverty alleviation.

3.3 On making bylaws

Establishing new organisations leads to unpredicted outcomes; as the new organisations take their own decisions, rather than stick to stipulated instructions. This is the essence of participation, and often leads to positive initiatives by the new organisations. But sometimes, WMOs take decisions that are questionable:

- Non-literate individuals are elected to key positions (chair, secretary, member finance) on the executive committee – but they lack the basic skills required for those positions;
- Election processes sometimes become politicised, with associated ill-feelings developing between factions and other issues than the mere management of water resources taking precedence.

There appear to be two ways to deal with such ‘deviations of the spirit of participatory water management’:

- Include provisions in the general rules that preclude such situations – This would mean that the exceptional situation dictates the provisions in the general rules;
- Improve the process through which the WMG defines its own bye-rules – This would mean making good use of public meetings to define the organisation’s ground rules

Within BGP there is a preference to follow the latter road, but doing so requires that the process of defining internal rules for the organisation needs to be made more dynamic, through the good use of interactive methods in the WMGs general meetings.

3.4 On finance and contributions

The progressive development of participatory water management practices and partnerships require that allocation of resources to water management reflects the emerging new realities:

- WMOs are responsible for routine maintenance and operation – While within projects there are emerging ideas on how WMOs should mobilise resources, the WMOs themselves have as yet not volunteered their views on how to do this. We argue that, rather than pre-defining systems; (i) WMOs are stimulated to mobilise their own resources in their own way; and (ii) horizontal learning between WMOs is supported to come to a gradual convergence on appropriate ways to mobilise local resources;
- The BWDB will remain responsible for periodic maintenance, rehabilitation and emergency repairs. With increasing number of areas under joint management, the allocations of the BWDB need to be revised to reflect (i) systematic prognosis of life cycle costs for infrastructure rehabilitation and replacement; (ii) availability of funds for needs-based maintenance, and (iii) availability of funds that can be mobilised rapidly for preventive emergency works, as well as emergency repairs;
- Notwithstanding the long-term financing needs described above; the main infrastructure work that in projects such as BGP are taken up alongside the development of new organisations and networks need to be well-funded. Within BGP there are two aspects affected by resource constraints:
 - Some works are hard or impossible to implement, as the works affect livelihoods, either by taking place on un-acquired land; or by requiring displacement of dwellings. The present provisions do not allow land acquisition, resettlement and compensation;
 - The coastal zone is affected by climate and environmental change: (i) predicted flood-levels increase; (ii) periods of predicted drought become longer and more intensive; and (iii) main channels in the delta are affected by sedimentation and erosion. The present provisions are inadequate to fully address these challenges;
- PWM is established through Projects, such as the BGP, but PWM practices extend beyond the time horizon of the Projects. Joint management of polders requires that the ADPs of the O&M divisions reflect the requirements for PWM;

- PWM is about partnership. As local governments, water management groups, line agencies and possibly other partners cooperate on water management; there will be an increasing need for co-funding and co-implementation of works and activities. WMOs may excavate a local khal by their own labour; replace a broken culvert with funds from the Union; and receive technical advice from a line agency. While this would be a positive demonstration of partnership, it requires that co-funding and co-implementation is accepted by, especially, the technical agencies. It needs to be seen whether these are able to co-fund infrastructure with other agencies; or to provide technical advice without having a concomitant investment budget;
- The agencies, like BWDB, will increasingly be required to invest in registration, audit and follow-up of WMOs, either by its own manpower, or by outsourcing for instance the establishment process to third parties. Pursuing PWM requires clarity on the resources invested in this aspect of the work.

While the above points may seem to be very much finance-centred, it is stressed here that financing of PWM activities and investments is part of the enabling environment for participatory water management.

3.5 On agency involvement

The last bullet-point in the above section already points to the relative emphasis within – in this case – the BWDB for the new work routines associated with participatory water management. On the longer run, PWM would require a watershed change in the organisation:

- More logistic, human, technical and financial resources should be allowed for the tasks associated with registration, audit and follow-up of WMOs, which are now carried-out by the specialised unit under the purview of the Chief Water Management;
- The above tasks need to be more fully integrated with the primary work process of the BWDB, which takes place in the regional O&M Divisions. PWM requires a direct link to be established and maintained between the WMOs and the regional management of the BWDB.

Along with the points raised in section 8.3; the above points on the involvement of BWDB in PWM are part of a wider discussion on the enabling environment for participatory water management. It is suggested that the enabling environment for PWM is made subject of a process of review and revision. This process is larger than the Blue Gold Program and should include contributions from similar projects; experience from concerned agencies and local government institutions; and views from the water management organisations.

Case Study Showcasing Need for Social Safeguards Provision in PWM Projects

The Balaikati Water Management Group is one of 28 WMGs of Polder 43/2B, located in Auliapur Union under Sadar Upazila of Patuakhali district. Balaikati village is located at the bank of Galachipa River. An embankment section was eroding for some time and it finally broke in June/July 2012; the breach measured about 300 meters. People of five villages including Balaikati were seriously affected; about 100 houses and several hundred acres of crop fields suffered damage due to onrush of flood water. In 2013, **at the initiative of the WMG and with financial support of Union Parishad**, local people constructed temporary dyke along the site of the original embankment; but it was not strong enough to protect the area from tidal damages. Crop cultivation continued to be hampered and daily living especially during the rainy season became difficult.

Assessing the severity of erosion, Blue Gold Program included in its work plan for FY2014-2015 “retired embankment” for Balaikati erosion point. But problem arose when people came to know that the retired embankment would require a setback distance of about 150 meters; many landowners did not agree to give land along the new alignment of the embankment and since Blue Gold has no provision for land compensation and resettlement, it is difficult to motivate them to do so. That made the Blue Gold plan for retired embankment held up, meaning that this section of the embankment would remain open to tidal inundation during the coming rainy season. Feeling its urgency, the Balaikati WMG mobilized local people to take decision to do something on their own to protect their area. They decided to collect subscription from all households residing in the area – Tk. 500 per household and Tk. 2,000 per *kani* (1.5 acres of land). A total of Tk. 155,000 was collected soon. With this fund in hand the WMG initiated the construction of ‘embankment’ alongside the old embankment, and on 14 April 2015 they completed its construction. For obvious reasons, the size of the embankment is not as per BWDB design: its height is 1.83m and the crest-width 3.66m., and it is about 365m in length. They plan to fortify the embankment soon, for which they want to collect some more fund locally; they are hopeful they can do it .



Embankment at Balaikati before it was washed away



Dyke constructed by Balaikati WMG