Blue Gold Program

Technical Report 09

Water Management Organisations – Comparative Analysis

Embassy of the Kingdom of the Netherlands,
Dhaka, Bangladesh

Bangladesh Water Development Board (BWDB)
Department of Agricultural Extension (DAE)

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WMOs Comparative analysis

Final

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Government of the Netherlands
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Mott MacDonald, Amsterdamseweg 15, 6814 CM Arnhem, PO Box 441, 6800 AK, Arnhem, Netherlands
T +31 (0)26 3577 111 F +31 (0)26 3577 577 W www.mottmac.com

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Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
	17 April	Hero Heering	Blue Gold team		
Final Draft	28 April	Hero Heering	Blue Gold Team	Hero Heering	Final

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List of Abbreviations

BRAC	Bangladesh Rural Advancement Committee
BWDB	Bangladesh Water Development Board
CDSP	Char Development and Settlement Project
DAE	Department of Agricultural Extension
DLIAPEC	District Level Inter Agency Project Evaluation Committee
EKN	Embassy of the Kingdom of the Netherlands
FCD	Flood Control and Drainage
FCDI	Flood Control, Drainage and Irrigation
GPWM	Guidelines for Participatory Water Management
IPSWAM	Integrated Planning for Sustainable Water Management
IPSWARM	Guidelines for Integrated Planning for Sustainable Water Resources Management
LGED	Local Government Engineering Department
LGI	Local Government Institutions
NSP	Narail Sub Project
NWPo	National Water Policy
O&M	Operation and Maintenance
SIP	Sub Project Implementation Plan
SWAIWRPMP	South West Area Integrated Water Resources Planning and Management Project
SWN	Sub project West Narial
TA	Technical Assistance
WMA	Water Management Association
WMC	Water Management Committee
WMF	Water Management Federation
WMG	Water Management Group
WMIP	Water Management Improvement Project
WMO	Water Management Organisation

1. Introduction

1.1 Background

The Blue Gold Program became operational in March 2013 and extends over a 6 years period, until March 2019. In the Inception Phase, the TA team reviewed the strategy and assumptions underlying Blue Gold and revised the work plans in consultation with the donor agency (EKN) and the implementing partners BWDB and DAE. Also, stock was taken of on-going and planned projects and initiatives in the coastal areas, relevant for the project.
The Inception Report provided the main findings, recommendations and proposals of the TA team aiming specifically at work plans, schedules of activities, timings and logistics for each of the five project components. On 26 June 2013 the draft Inception Report of the Blue Gold Program was presented in a workshop at BRAC Centre Inn, attended by many government officials and development partners. The Proceedings of the Presentation of 26 June were issued in September 2013 and the full document including responses on all comments was submitted to the EKN for approval.
On 17 February 2014 a letter was received from EKN stating that the Inception Report was conditionally approved. One condition was that a comparative analysis needed to be carried out relating to the formation of Water Management Organisations (WMOs) in the various Dutch funded projects and lessons learned from previous and current programs and projects in Bangladesh were reviewed in this regard.

1.2 Objective of the assignment

The objective of the current assignment is therefore to study and critically review the formation of WMOs in the Blue Gold Program with a specific emphasis on the unit of planning and boundaries used for the organisations and compare these with the methodology used in other projects. Special attention will be paid to other Dutch funded projects in particular the Char Development and Settlement Project Phase IV (CDSP IV), the Integrated Planning for Sustainable Water Management (IPSWAM) program and the South West Area Integrated Water Resources Planning and Management Project (SWAIWRPMP). Also some reference will be made to the Water Management Improvement Project (WMIP).

1.3 Report Structure

The report describes the results of this analysis, where chapter two gives an overview of the methodology used in the Blue Gold, CDSP IV, South West and WMIP projects and chapter three provides the overall conclusion and recommendations.

2. WMO Formation

2.1 Introduction

In January 1999, the Government of Bangladesh published the first National Water Policy (NWPo), which provided policy directives for all the agencies and institutions involved in water resource management and related development projects. Based on the NWPo, the “Guidelines for Participatory Water Management” (GPWM) were developed and introduced in 2001. These guidelines are in particular applicable to BWDB and LGED, the agencies most involved in water management projects. But the GPWM obviously apply to all other stakeholders such as WMOs, other community based organizations, Local Government Institutions (LGIs) and others. The GPWM identify three levels of Water Management Organisations (WMOs) namely: Water Management Groups (WMGs), Water Management Associations (WMAs) and Water Management Federations (WMFs). The Integrated Planning for Sustainable Water Management (IPSWAM) program was tasked to make the GPWM operational and developed the Integrated Planning for Sustainable Water Resources Management (IPSWARM) guidelines, which were formally approved by the BWDB in 2008.

2.2 Basic Principles for Participatory Planning

The IPSWARM guidelines provide the basic principles for a participatory integrated planning approach for water resource management. These principles are:

- Participation: All the interest groups are involved in planning for sustainable water resource management.
- Social Organization: Improvement of the resources can only take place if people work together, solve their differences and organize themselves for the management of their resources. Central to the concept of social organization is social unity; people organize around a common interest.
- Agreed distribution of rights, benefits, concessions and obligations: Since water is considered to be a common property, all interest groups should negotiate with each other and agree on who will do what, where, and when and how work and possible benefits will be distributed. Only then can social unity be established and activities receive the necessary support.
- Integrated approach: Water management activities in one area affect the use and opportunities for use in other areas. Therefore all water management related activities have to be analysed and planned in an integrated manner. The integrated approach will also ensure that environmental issues are covered in the planning methodology.
- Gender related: The actual role and problems of men and women with regard to water management are taken into consideration, by involving both men and women in the planning process. Specifically, gender issues are addressed at all planning stages.

2.3 Unit of Planning

As mentioned above the GPWM distinguishes three tiers of WMO for projects of 5,000 hectares or more (see page 21 of GPWM):

- Water Management Group (WMG) at the lowest level for each smallest hydrological unit or social unit (para or village).
- Water Management Association (WMA) at the mid-level for each project or system.
- Water Management Federation (WMF) at the apex level of the project/scheme.

The IPSWARM guidelines on page 7 mention that the unit of social organisation is a village or a small hydrological unit and at this level a Water Management Group (WMG) is formed. Occasionally, in the case of village based organisations, one WMG is formed for two or more very small adjacent villages (with close social relations) whereas on the other hand sometimes two WMGs are created in very large villages. Also in the latter case the division of a village is based on social and physical characteristics. Several WMGs in a project form a Water Management Association (WMA). In case of large projects two or more WMAs could be formed.

2.4 The Formation of WMOs in Blue Gold

As stated in the Inception Report and in line with the Program Document, water resources development is the entry point and the initial driver of the community organization process in the Blue Gold Program. Water Management Organisations are the driving force for development in each polder (see Figure 1) and the Program area as a whole. The aim is to organise the communities to create an effective partner at the local level that is in a position to formulate community priorities as the starting point for the program. For the formation of WMOs, Blue Gold follows the IPSWARM guidelines developed under the IPSWAM program. These guidelines were based on the GPWM and are binding for polder or sub-project rehabilitation of Flood Control and Drainage (FCD) schemes carried out under the BWDB.
The actual formation process and the steps therein are described in detail in the Inception Report and will not be repeated in this document. However, the following aspects are of importance:

- The unit of organisation for the WMG is a village
- At polder level a WMA is formed (in case of large polders more than one WMA could be formed)
- A Water Management Committee (WMC) is formed for the purpose of O&M at catchment or hydrological unit level.

2.4.1 Water Management Group (WMG)

Strong WMGs form the basis for effective and sustainable water management and ultimately overall polder development. Based on the experiences from IPSWAM it has been concluded that a village is the best organisational unit for a WMG. A village is in many cases a relatively homogeneous group of households or families that have been living together for many years. The villagers know each other well and there is some cohesion among the different stakeholder groups, which brings with it elements of “social control” and “confidence and trust”, that are the corner stones of a successful social organisation process. The spontaneous development of saving and micro-credit groups as part of the WMG development is the result and evidence of this conducive environment. Resource mobilization during emergency maintenance works is also facilitated because communication is easier among members, living in the same village. Finally the planning and implementation of income generating activities (collective actions) are facilitated at this level as these require transparency, frequent communication and trust among members.

The village is furthermore an organisational unit with recognised and known boundaries, which means that it is easy to determine who will be a member of the organisation. In the context of rural Bangladesh, the village is considered to be a social unit which is known by all households residing within its boundary. This means that the community mobilization process is greatly facilitated. A village based WMG allows for the participation of the whole community in the planning and decision-making processes which is essential to sustainable development.

In this way 246 WMGs (registered as Cooperative Societies) were formed in the past and transferred to the Blue Gold Program. In addition, around 600 new WMGs will be formed and strengthened to jointly manage the water management infrastructure, engage in agricultural and economic activities, and enter into market transactions within the local territories or with outside parties in order to enhance production income levels in the polders. From the recent household survey (full census) in 4 IPSWAM polders, it appears that the average number of households in a WMG is 270, [with a larger average number of households per WMG in Patuakhali (324) when compared to Khulna (212)]. This is comparable to the average number of households per WMG in the Southwest Project (250 – 300 households).
Figure 2 provides the boundaries of the WMGs and WMCs formed in Polder 30, as an example.

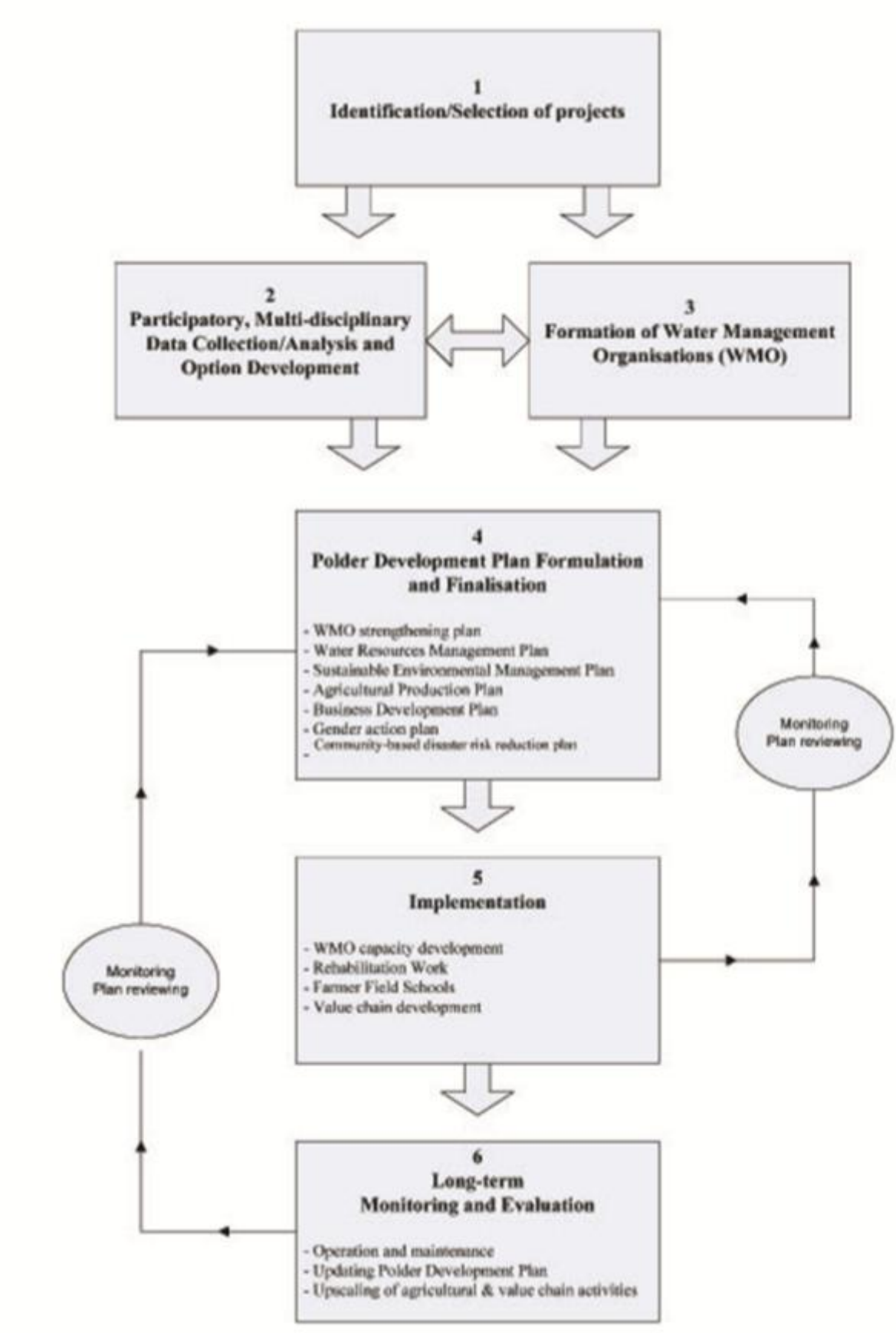
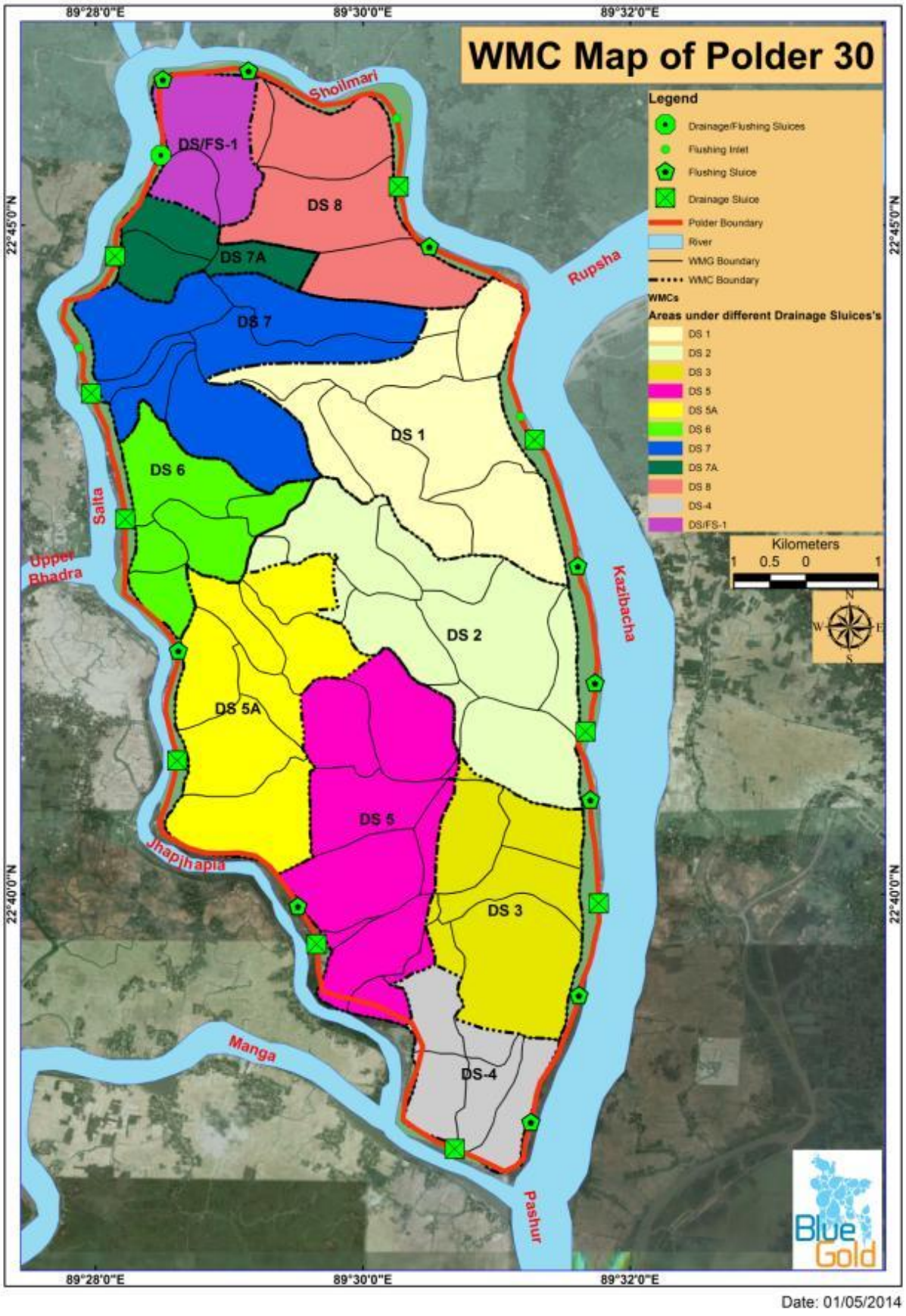


Figure 1: Blue Gold Polder Development Approach

Figure 2: Boundaries of the WMGs and WMCs in Polder 30



2.4.2 Water Management Association (WMA)

In general the WMA is formed at polder level; in the case of very large polders more than one WMA could be established, based on the hydrological conditions of the polder. The WMA consists of one male and one female member from each WMG in the polder. The WMA is in charge of the overall water management and therefore the O&M agreement between the BWDB and WMA is agreed and signed at this level.

Sixteen WMAs have been formed in the nine IPSWAM polders (45.000 ha).

2.4.3 Water Management Committee (WMC)

To ensure the proper fulfilment of the O&M tasks in a polder, the WMGs of villages that drain to the same sluice and thus form a hydrological unit are working together in organising urgent operation and maintenance matters. In practical terms such a hydrological unit consists of 3-5 villages (see Figure 2). The main idea behind this organisation along hydrological boundaries or “catchment wise” organisation of O&M is that the villages further away from the sluice are also affected by the sluice operation and therefore should have a say in it. At the same time, these villages should contribute to the maintenance of this sluice and the embankment around it because they benefit from the infrastructure.

This organisation is referred to as the Water Management Committee (or Block Committee) and is responsible for the following activities:

- to jointly plan routine O&M by the villages in the catchment;
- to organise mobilization of labour and materials needed for routine O&M;
- to monitor implementation of routine O&M;
- to function as a platform for discussion about O&M in the catchment.

The Water Management Committee consists of:

- the WMA members from all villages (WMG) in the catchment (2 per village);
- a limited number of extra WMG members with O&M experience in the catchment (optional, maximum 1 per WMG);
- the operators of the sluices.

It should be stressed that the Water Management Committee is not considered as an extra tier in the WMO hierarchy. It rather is a committee consisting of WMA members from each WMG in the hydrological unit or catchment, which organises joint routine O&M of all villages in that catchment.

Conclusion:

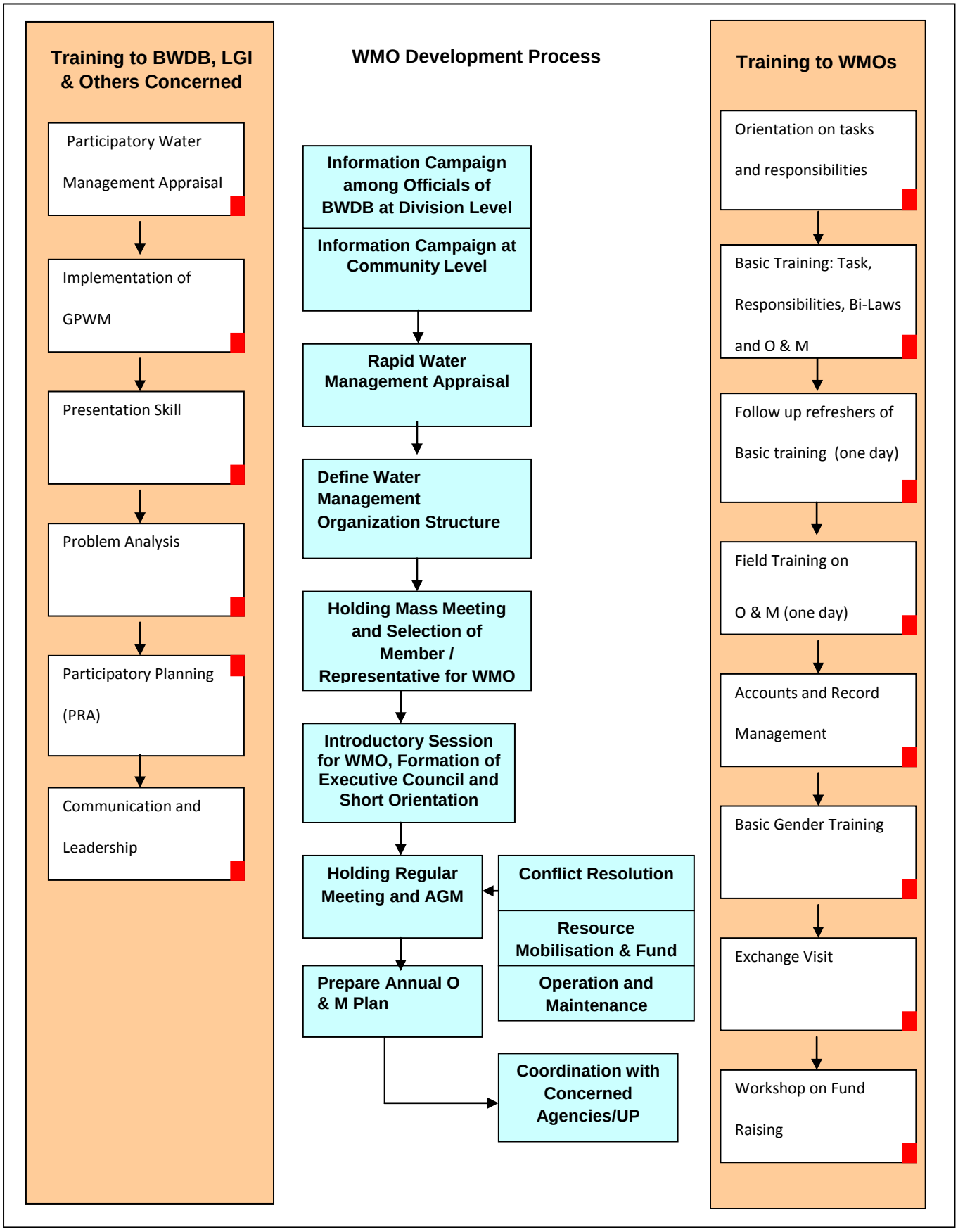
- **In Blue Gold the unit of organisation for the WMG is a village.**
- **At polder level a WMA is formed (in case of large polders more than one WMA could be formed).**
- **A Water Management Committee is formed for the purpose of O&M at catchment or hydrological unit level**

2.5 The Formation of Water Management Organisations in CDSP

In CDSP I and II, the basic unit for formation of a WMG was the smallest hydrological unit. This was changed during CDSP III when as a consequence of new insights in addition to hydrological factors sociological concerns were also taken into consideration.
First, the water management systems of the whole project area were identified. Then each water management system was divided into several water management blocks. A water management block is the hydrological unit and includes the area of land that drains to the same sluice or regulator. In the CDSP area there are no real villages, but Samaj, which are known social community groups. Therefore within the area WMGs were formed based on small social units or communities (Samaj) while hydrological

considerations were also taken into account to identify the boundaries. The formation process basically follows 8 steps (see Figure 3).

Figure 3: The formation of WMOs in CDSP



Boyer Char (6,600 ha.) can serve as an example; this char was the new working area in CDSP III. There are 42 samaj in the area, which was split in 56 hydrological blocks, with some samaj divided into 2 units based on the hydrological boundaries. Then the people at each unit or block informally elected or selected 1-3 men and 1-3 women as their representatives in the WMG.

The 8 steps are similar to those at Blue Gold and could be described as follows:

- Information campaign
- Workshops with key persons on demarcation of area
- Plan for WMG formation
- Mass meetings (men and women separately)
- Induction / orientation session on tasks and responsibilities of WMG, election of 12 member committee
- Regular meetings, preparation of by-laws, training of members and leaders, registration with DoC
- Assumes responsibility for operation of structures, strengthen liaison with LGI, mobilising savings
- WMG involved in activities of other implementing agencies, WMA formation; the WMA coordinates water management activities for the whole char area.

In this way 10 WMG and one WMA were formed on Boyer Char and registered as cooperatives (see Figure 4).

There is one major difference between CDSP and Blue Gold and this relates to WMG membership. In CDSP the WMG members are in effect 'representatives' of the wider local population. This is based on experience and again has to do with the specific conditions of the CDSP working area where:

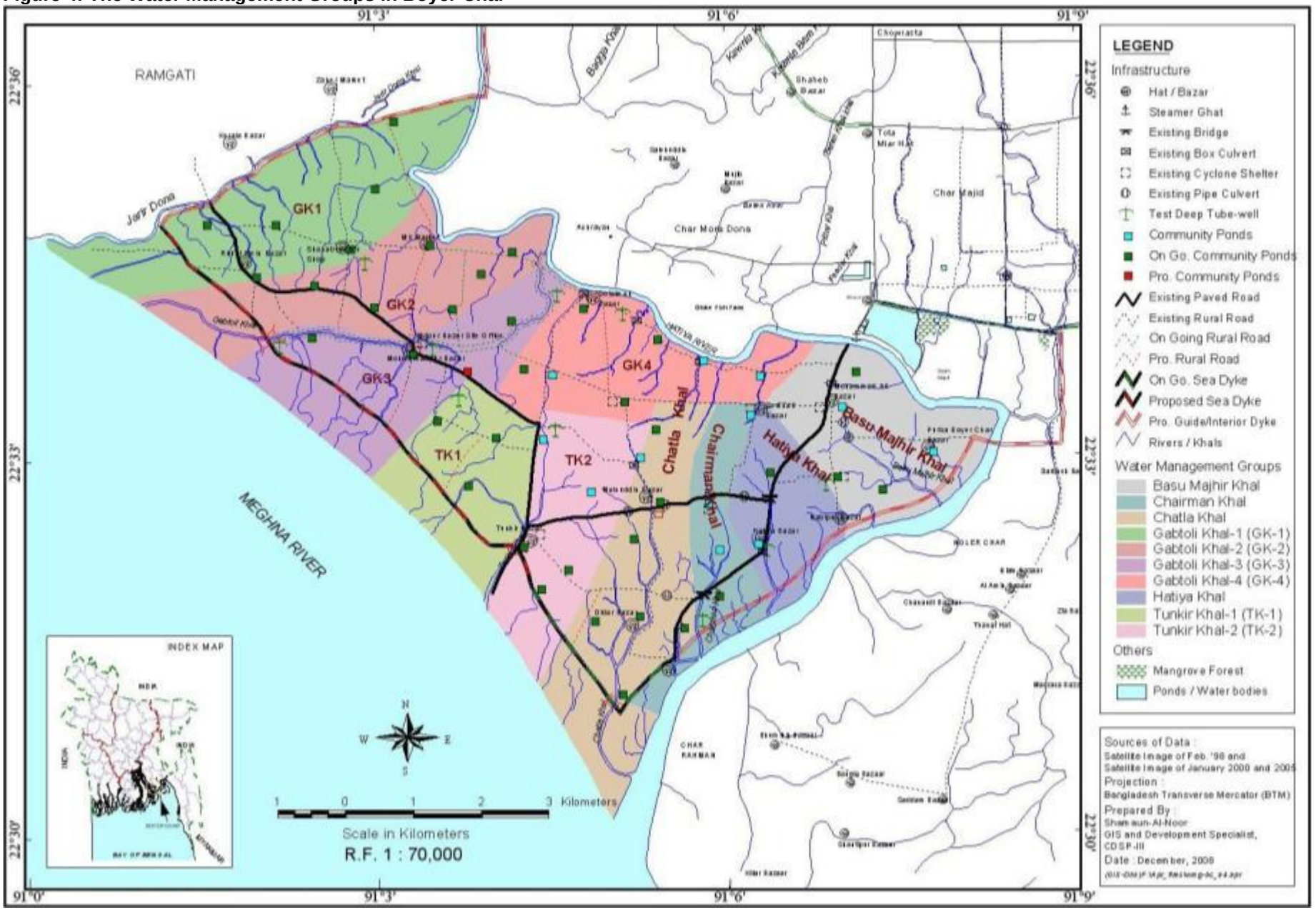
- The WMGs mainly consist of landless people with relatively low educational background, which means that they are less capable of managing a big organisation.
- The BWDB has no staff available in the project area to enhance the capacity of the formed organisation and this is done by the limited TA staff members.
- However, based on a recent advisory mission it has been agreed to gradually expand the WMO membership (see CDSP mission report No 5: Field Level Institutions)

In CDSP-I, the WMG for Char Majid for instance has 49 members representing a population of about 13,000. In CDSP-III there are 10 WMGs with a total membership of 368 while the total population is about 42,000 (8,500 households).

Conclusions

- **The formation of WMGs in the CDSP project follows the GPWM and the IPSWARM guidelines and is very much in line with the methodology used in Blue Gold. The difference is that since there are no real villages the Samaj (small community organisation) is used as unit of planning for WMGs. A WMA is formed for the whole Char.**
- **There is however a major difference in the membership of the WMGs in CDSP, whereby the members are acting as representatives for the whole planning unit.**

Figure 4: The Water Management Groups in Boyer Char



2.6 The Formation of Water Management Organisations in SAIWRPMP

Before a comparison regarding the WMO formation could be made between Blue Gold and the Southwest Area Integrated Water Resources Planning and Management Project it should be understood that the water management infrastructure in the first project is mainly used for drainage whereas in latter project the system is also used for irrigation. SAIWRPMP is thus a FCDI project situated much more inland so the river water is less saline and can be used for irrigation for a large part of the year; whereas this is not possible in the coastal polders of Blue Gold. Nevertheless, the project follows a similar procedure for the formation of WMOs as in Blue Gold. Table 1 gives the details of the step-by-step participatory process for the formation, mobilization and strengthening of WMOs.

Table 1: The Process of WMG formation in SWAIWRPMP

The steps followed in WMO formation
1. Project Orientation Meeting at District Level
2. Consultation meeting / Workshop at Union Level
3. Clearance from the Union Council
4. DLIAPEC Approval (DLIAPEC = District Level Inter Agencies Evaluation Committee)
5. Project Confirmation
6. Preparation of Beneficiaries List
7. Formation of WMG Foundation Committee
8. Clustering of Villages
9. Members Enrolment (Continuation)
10. WMG Formation (Ad-hoc)
11. WMG Bye-Law drafting Committee (BDC) formed
12. Training to BDC members on Bye-Law drafting
13. Election Committee formed
14. Draft Bye-Law Prepared
15. Voter List
16. Election / WMG Formed
17. Bye-Law approved in General Meeting
18. Application Submission date to DoC for Registration
19. Date of Registration by DoC
20. Target date for O & M Signing between WMA & SMO (SMO = Sub-project Monitoring Office)
21. WMG Proceeds to O & M with monitoring

There is though a major difference in approach between SWAIWRPMP and Blue Gold relating to the unit of planning for the formation of WMGs. As mentioned earlier the Blue Gold program uses a village as the basic unit of planning. In the South West project, the WMGs are generally based on clusters of villages with the exception of a few cases where these are based on single village. Initially the area is divided in hydrological units, based on the number of sluices and regulators. These units are comparable to the catchment areas in Blue Gold with as difference that in the latter they are managed by a WMC, whereas in South West this area is under control of the WMA. The area is further divided in smaller units which form the WMG by clustering villages:

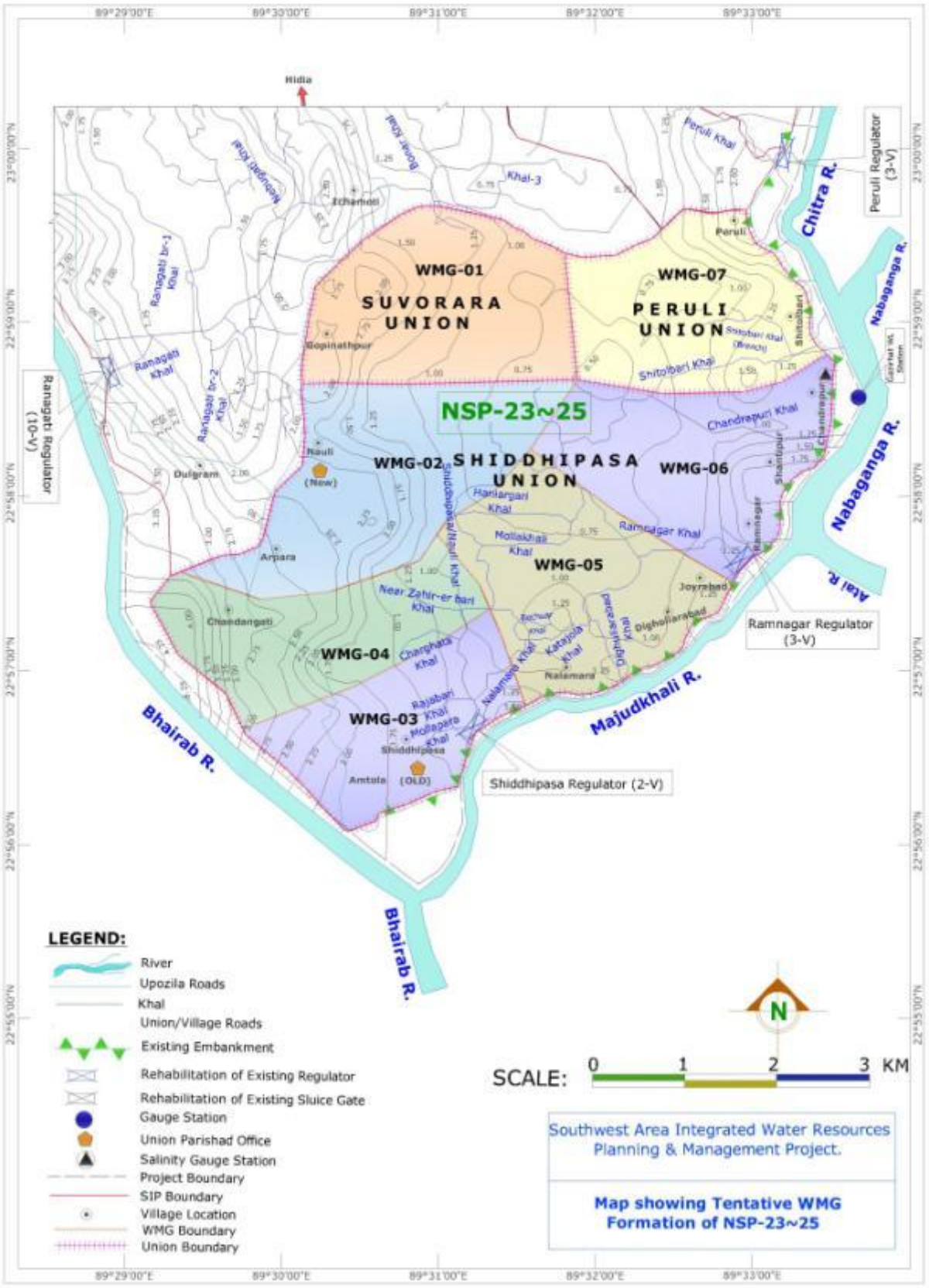
In clustering the villages the following factors are considered:

a) The contour lines and flow of water within the unit that will form a WMG.

b) The number of households residing in the area; in general it is tried to have about 250-300 households within a WMG (this number is comparable with the average number of households in Blue Gold villages)

c) Natural boundaries, roads or Union boundaries are also determining the size of a WMG.

Figure 5: The Water Management Groups in NSP 23-25



In general it could be stated that the WMG is formed in a way that is technically feasible and socially acceptable.
The Sub Project Implementation Plan (SIP) for the area SWN-23~25 of the Shitolbari-Ramnagar-Sidhipasha Scheme of the Narail sub-project shown in Figure 5 can serve as an example to illustrate how the WMGs are formed.

The SIP covers parts of 3 Unions namely Siddipasha and Shovorara unions of Abhoynagar Upazila under Jessore district and Peruli union which falls under the Kalia Upazila of Narail District. There are 13 villages within this SIP SWN 23-25) and these are fully or partly associated with one of the three Unions. The river Bhairab is flowing at the west side of the area whereas the Chitra, Nabagonga and Majudkhali rivers are situated east of the sub project area. The water management infrastructure related to SIP SWN 23-25 consists of 2 regulators, 16 Khals and about 10 km BWDB embankment from Majudkhali Kheya ghat to Peruli. The 13 villages were clustered into 7 groups in order to organise 7 WMGs (see Figure 5).

Conclusion
The starting point for planning in the South West project is the hydrological (catchment) unit or WMA area. This area is further divided in smaller areas by clustering villages on the basis of criteria such as maximum number of households, natural and Union boundaries and water flow.

2.7 The Formation of Water Management Organisations in WMIP

Originally two components were distinguished in the Water Management Improvement Project (WMIP).

- The System Improvement and Management Transfer (SIMT) component: This component would support the rehabilitation and improvement (R&I) of existing 81 medium (average area 2,500 ha) and 21 large (average area 8,400 ha) FCD and FCDI schemes of BWDB, covering approximately 378,900 ha
- The O&M Performance Improvement (OMPI) component: This component would support measures to improve O&M performance of some 98 medium and large BWDB schemes, covering approximately 410,200 ha, which are “technically functional” and do not require major rehabilitation of the water management infrastructure.

These two components were at a later stage of project implementation merged, and rehabilitation would be carried out through a systematic approach called Participatory Scheme Cycle Management (PSM).
Since the IPSWAM programme was termed the pathfinder project for WMIP, the planning approach used in WMIP is to a great extent similar to the participatory planning system developed in the IPSWAM project (see Table 2).

This means that WMIP uses the same units of planning for the WMGs (the village) and WMAs (the scheme or polder) as in Blue Gold. Sometimes large polders are split to form two WMAs. In line with the IPSWAM procedure Block Committees are formed in a catchment or hydrological units to carry out O&M activities and to operate the structures.

The main difference with IPSWAM was that the formation of WMOs and the social organisation process were outsourced to NGOs. However it turned out that the capacity of the NGO and experience in social organisation for water resources management was very limited, leading to unclear and not transparent WMO formation processes and thus very weak organisations. Out of the 10 NGOs that were engaged in social organisation activities in the project there are now only 4 remaining. The WMIP project currently targets 67 schemes out of which about 30 have been completed. So far 801 WMGs have been formed (of which 51 have been registered as cooperative societies under DoC) and 72 WMAs.

Conclusion

Since the IPSWAM programme was set-up as the pathfinder to develop a participatory planning approach for the WMIP project the project uses the same methodology. This also means that the units of planning used in WMIP are the same as those used in Blue Gold.

Table 2: Participatory Scheme Cycle Management (PSM)

Slep. No.	Scheme Cycle Phase	Tasks	Key Issues/Action
	Pre-identification.	Screening of schemes by hydrological unit/sub-unit.	a) Scheme selection on analysis of scheme performance. b) Assess environmental./economic impact. c) Impact on drainage congestion. d) Impact on navigation & fisheries habitat. e) Effect of flooding in surrounding area.
01.	Identification	I. Identify zones and prepare list of possible schemes. II. Prepare inventories of stake holder's interest. III. Pre select scheme.	a) Awareness campaign. b) Inventory and pre-selection of schemes and stockholders interest. c) Inventory of schemes using selection criteria. d) Preparation of environmental. training manual and training plan. e) Consultation with LGIs & Line Dept. on short listed scheme. f) Approval of short list by WMIP-PCU
02.	Assessment	Collection of information on social environment technical and economic factors using PRA. by TA-BWDB team jointly.	a) Environmental data collection as per IUCN guideline. b) Secondary source use for develop data layer. c) Primary data collection though PRA. d) Assess rehabilitation requirement and public consultation. e) Preparation of mitigation plan. f) Preliminary assessment of land acquisition. g) Approval of baseline data by WMIP-PCU.
3.	Screening	I. Screening of scheme on the basis of social Environmental Technical and Economic criteria II. Prepare prioritized short list of Schemes III. Finalize land acquisition proposal (LAPs)	a) Finalize the maps prepared by under cycle -1, b) Selection Criteria for SIMT and OMIP. c) Apply Screening criteria linked in the EMF d) Minimize acquisition private lands.
4.	Mobilization	I. Establish /reorganize WMOs II. Strengthen WMOs III. Train BWDB field Staff such as XOs and sociologists in RAP preparation.	a) Share maps with WMOs b) Assessment of Training need and c) Apprise WMOs about relevant of surrounding projects and d) Starting formation / reorganization of WMOs . e) LAPs to be approved
5.	Planning	I. Formulate scheme improvement plan in consultation with WMOs.	a) Assess impact of intervention proposed jointly with WMOs. b) Assess cumulative impacts.

		II. Analyze feasibility of the plan. III. Prepare outline of management plan. IV. Sign agreement between BWDB, WMO and LGI. V. Prepare RAP for phased civil works.	c) Prepare plan for mitigation, enhancement, and compensation, contingency and monitoring d) Document and RAP inputs to be drawn from impacts data collected through PAP census and market price surveys. e) Phased RAPs are to be reviewed and approved by IDA.
6.	Design	Prepare detailed design for rehabilitation and improvement.	a) Incorporate plan, as out linked at scheme cyele-5 into designed of the scheme. b) Prepare cost estimated and incorporate it in project implementation cost.
7.	Implementation	I. Prepare estimate and tender documents with provision for mitigation, improvement and enhancement. II. Tendering and award of contract. III. Construction and supervision of work. IV. RAP implementation.	Monitoring implementation of environmental assessment out link plan in pre-consultation stage and monitoring progress in land acquisition, implementation of the measure including compensation payment.
8.	Management plan	Finalize Environmental Management plan for O&M stage and agree on transition period.	Integrate plan for mitigation enchainment, compensation, contingency and monitoring into the post construction management plan with required Financial provision.
9.	Operation and maintenance.	To conduct a trial operation to observe efficiently of environmental mitigation aspects as planned.	Implement O&M plan in full pursuance of environmental management plan, as Finalized.
10.	Evaluation and Management Transfer.	I. Joint evaluation of scheme operation. II. Training of WMO/LGI. III. Handing over of responsibilities for O&M. IV. Evaluation of social development aspect and resettlement plan.	a) WMO/LGI BWDB tasks respective responsibilities as per agreement. b) Each party regularly and jointly pursues environmental mitigation plans.

3. Conclusion and Recommendation

3.1 Conclusion

The previous chapter described the methodology for the formation of WMO used in the various Dutch (co-) financed projects.

It can be concluded that the methodology followed by all projects is in line with the GPWM and IPSWARM Guidelines. Although there is no uniformity in the description of the formation process the underlying principles and methodology used are very much the same.

There is a perceived difference though in the units of planning between the projects and especially between the South West project and the other three projects, where the first project emphasises that the hydrological unit is used as the basis for planning unit and the other projects use the village as planning unit. Basically the South West project uses a hydrological unit as the basis for the WMA delineation. That is not surprising as the boundaries for a hydrological unit in the inland area are less obvious than in the coastal area where a polder or char (mostly surrounded by embankments) forms the WMA. In the South West project this hydrological unit (WMA) is further split up in smaller units (WMGs) through the clustering of villages.

In the Blue Gold Program it is recognised that a catchment area or hydrological unit is important for the water resources management. Therefore a block committee or Water Management Committee is established at this level. It has been suggested to have the catchment or hydrological unit as the basis for WMG formation, but this is not advisable in the case of Blue Gold and in the context of coastal polders for the following reasons:

1. The catchment area or hydrological unit consists of a number of villages (3-5 on average) and it will be very difficult to create social unity among this large number of villages. Furthermore, it will be difficult to ensure proper representation of the interests of each village in the WMG in a situation where large villages will dominate the smaller ones. By using the village as unit of planning as described in Chapter 2.4 it is ensured that every village has similar representation in the WMC as well as in the WMA formed at polder level.

2. It will also be more difficult to form saving groups and to collect funds as people from various villages with a mixed social background, who are unknown to each other in general have less trust in each other.

3. Finally, the use of a village as the unit of planning allows the WMG to become the centre of other collective development activities and thus a true village development organisation. That is the reason why it is important that all other sub-committees or groups such as FFS groups are linked up and have their origin at the WMG. In that way people realise that their WMG is not only important for the water management in their area but serves its purpose also in the interest of general village development.

3.2 Recommendation

It could be considered to establish a WMA at catchment/sub-system level in place of the WMC, which is currently not an official tier in the planning structure and form a WMF at polder level (instead of the WMA as it is currently named). See the example on page 6, Figure 2.
This solution could also be useful in view of the recently published new rules for WMO registration and organisation that were published in the Bangladesh Gazette on 11 February 2014. These new rules are called the 'Participatory Water Management Rules 2014' and are applicable to projects of the Water Development Board (BWDB).

The new rules distinguish three tiers for polders/schemes equal to or larger than 5000 ha, namely WMG (Group), WMA (Association) and WMF (Federation). Most of the polders in the Blue Gold Program fall within this category.

Following the new BWDB registration rules the rationale for WMO formation in Blue Gold could be summarized as follows:

Village Level	Hydrological Unit Level	Polder Level	Remarks
WMG	WMA	WMF	Good rationale. It covers all levels and all purposes. **WMGs** are strong, cohesive and have trust for savings, microcredit, IGA and business development. **WMAs** have equal representation from all WMGs (villages or parts) and are responsible for water management in the hydrological unit. In fact, the WMA will take the place of the envisaged Water Management Committees and have a much stronger legal base. **WMF** will oversee the WMGs, WMAs and coordinate with BWDB. The WMF will sign the O&M agreement with BWDB.

For polders having areas ranging from 1000 ha to 5000 ha, the formation of an WMF is optional but the new registration rules do not prohibit the formation of three tiers. So, the same rationale can be used, with the WMG at village level. For formation of WMAs, the area draining to a big sluice plus any adjacent outlets, or several adjacent small sluices and outlets could be considered as the hydrological unit. The final choice of the (size of the) WMAs will be based on field investigations and discussions with the beneficiaries.

Polders with an area below 1000 ha are not part of the Blue Gold Program.