# Aide Memoire Annual Review Mission Blue Gold Program

## 23 August - 5 September 2014

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## Inhoud

# Abbreviations

| | |
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| BARD | Bangladesh Academy for Rural Development |
| BRAC | Bangladesh Rural Advancement Committee |
| BWDB | Bangladesh Water Development Board |
| CEIP | Coastal Embankment Improvement Project |
| DPP | Development Project Proforma |
| FFS | Farmer Field School |
| ICB | Internal Inspection Ministry of Foreign Affairs the Netherlands |
| IPSWAM | Integrated Planning for Sustainable Water Management Project |
| LCS | Labour Contracting Society |
| LGI | Local Government Institutions |
| MoA | Ministry of Agriculture |
| PWMR14 | Participatory Water Management Rules 2014 |
| SAFAL | Sustainable-agriculture-food-security-linkages Project |
| TA | Technical Assistance |
| WASH | Water Supply Sanitation and Hygiene |
| WMA | Water Management Association |
| WMF | Water Management Federation |
| WMG | Water Management Group |
| WMO | Water Management Organization |

This document describes the findings and recommendations of the Annual Review Mission to the Blue Gold Program that took place from 23 August to 5 September 2014 on behalf of the Embassy of the Kingdom of the Netherlands. Appendix is the Terms of Reference for the Review Mission. The review mission consisted of Dr. Frank van Steenbergen (mission leader), Professor M Fazlur Bari and Dr. Arun Kumar Saha. The mission expresses its thanks to the Embassy, BWDB, DAE and TA Team for the excellent discussions and facilitation of the work.

This is the final version of the Aide Memoire incorporating valuable comments on the Draft Version received by Bangladesh Water Management Board, the Department of Extension, the Embassy of the Netherlands and the Technical Assistance Team. The Review Mission has considered these comments and has included a large number of the suggestions, but not all of them. An overview of comments and response is given in Appendix 2.

The findings and recommendations in this Aide Memoire concern:

- Section 1: Blue Gold Program Objectives
- Section 2: Overall Progress
- Section 3: Blue Gold Activities
- Section 4: Project organization
- Section 5: Reflections

The annexes to the report discuss several issues, including specific questions asked in the terms-of-reference, in more detail.

# 1 Blue Gold Program Objectives

Poverty alleviation is the main concern in Blue Gold. The project objective is:

*'reduce poverty for 150,000 households, living on 160,000 ha of selected coastal polders by creating a healthy living environment and a sustainable socio-economic development'*

By its very nature – i.e. working on water security in the coastal polders, supporting income generating activities through training and enhancing market access the Blue Gold project makes an important contribution to poverty alleviation in some of the most deprived and vulnerable parts of Bangladesh.

Poverty alleviation could be further and more explicitly articulated in the Blue Gold activities. According to the Household Survey undertaken in 4 polders[1] 54% of the households own less than 0.5 acre of land and are thus classified as landless. Moreover, based on this Household Survey the overall number of households in the Blue Gold area may be larger than expected. Average household land holding in these four relatively representative polders is 0.60 ha against 1.07 ha assumed in the original project objective. Extrapolating this would bring the gross target population to 267,000 households – out of which 144,000 households classify as landless.

Recommendation to better profile poverty reduction are: (1) larger engagement of Labour Contracting Societies; (2) priorities in the Food Security and Agricultural Development component and (3) priorities in the Business Development and Private Sector Involvement component.

### (1) Larger Engagement of Labour Contracting Societies

The most direct transfer of resources to the very poor under Blue Gold is the work undertaken by Labour Contracting Societies (LCS). The current target is that a minimum of 50% of earthworks is implemented by Labour Contracting Societies[2]. The LCSs are usually groups of 50 either male or female landless farmers for whom this income opportunity is very important. ***To strengthen the poverty profile of the project it is recommended to increase the proportion of earthworks contracted to LCS[3] in steps and preferably achieve 75% by 2017*** - as is common in several other projects. It is recommended that annual targets are developed in this regard. There could also be a

[1] Blue Gold (2014), Household Survey Polders 22, 30, 43/2D and 43/2F. Technical Report 6.

[2] The investment budget is Euro 15,750 M and approximately 45% of this consists of earthworks (Euro 7,087M). If 50% of this is undertaken by LCS Euro 3,94 M (8% of Netherland contribution) is transferred to the hands of the very poor. Assuming a daily labour rate of TK425 this amounts to approximately 930,000 labour days. With the recommended increase in proportion of work under LCS this could go to 1,500,000 labour days.

[3] This is more than a safety net measure – it also help to inject financial resources in poor money starved and under capitalized rural economies.

stronger bias to female LCS, as women LCS in several cases tend to deliver higher quality work and the income usually directly feeds into the family income.

Under the recent Participatory Water Management Rules 2014 LCSs are contracted through the WMGs. The practice is already in place in the South West project, though its implementation needs some precaution[4]. ***It is recommended that the Blue Gold team works out procedures for safe handling of LCS contracts under the new arrangements of the PWMR 2014 and monitors the implementation***.

### (2) Priorities in the Food Security and Agricultural Development Component

The main activity in the Blue Gold Food Security and Agricultural Development component concerns the Farmer Field Schools. At this stage 1000 FFSs are planned on crop production (focus on rice and other field crops including post harvest technology), 200 on fisheries and 200 on livestock/poultry/ home gardens. ***With the large number of landless it is suggested that a larger proportion of FFS should concern topics relevant to landless households (i.e. livestock, poultry, home gardens) in addition to normal crops. The TA Team and DAE that are implementing the FFS are recommended to make a plan in this regard and ensure selection of trainees from the group of landless, also making plausible that a reasonable proportion of trainees (more than 30%) are from this target group. Similarly, the current focus on explicitly organizing FFS for women should continue and the experiences be recorded.***

### (3) Priorities in the Business Development and Private Sector Involvement Component

Similarly activities under the value chain development in the Business Development and Private Sector Involvement component should be poverty-sensitive and gender-sensitive, without hampering commercial viability. Several of the value-chains provisionally chosen (scavenging chicken, moringa, household vegetables) serve commodities produced by landless people and in particular by women and hence no special action is required.

[4] Here it is understood that a margin is taken from the LCS contract and used to replenish a maintenance fund (for 40%) and redistributed among WMG members partly for the cost of contract management (60%). As this effectively takes money from the very poor this practice is not recommended.

# 2 Overall Progress

With project commencement in March 2013 the Blue Gold Program is completing the first quarter of the planned six-year implementation period. The first period of Blue Gold was spent in setting up the project organization and then starting up the program. Progress was also affected by frequent political unrest.

The project organization is now 'up and running' and implementation of activities has started in the first five out of the planned 26 polders Furthermore preparatory activities have started in another 7 polders. Not all of the newly planned polders have been selected yet***. It is recommended that some flexibility is observed in polder selection, both in the number of polders and area of a candidate polder for selection.*** The final identification of polders may also be postponed till there is clarity on the investment costs per hectare required and the implication for the area that can be covered under Blue Gold (see also 3.2.2).

The assessment of the mission is that achieving the overall quantitative targets (in area covered for instance) in Blue Gold within the current time frame will be challenging. ***It is recommended that the overall project planning is updated to see whether with current work processes the overall results can be achieved.***

There are a number of issues in implementation:

1. Component 1 had assumed that WMGs in ex-IPSWAM areas were ready to start activities, yet in many cases they had to be revived. In addition, work is required to register WMG anew under the new regulations of the PWMR2014. An issue here is the availability of BWDB staff that can undertake the registration and in the future the auditing. Assurances have been given from Chief Water Management Department to mobilize additional staff and to work under interim arrangements in the meantime (in particular the Ad Hoc Committees), but it is to be closely monitored whether this will happen timely, as it involves higher-level decisions. Across the board the overall staff strength of BWDB is below requirements, but even more so in the Office of the Chief Water Management Department. Ad-hoc measures should be considered to avoid the registration and auditing of WMOs becoming a bottleneck that can seriously affect project implementation.
2. An assessment of the community mobilisation resources required made by the component 1 team suggests that there could be insufficient time to complete the task at hand, if the current methodology is followed. There are opportunities for less time-consuming but still effective engagement and the ***TA Team is recommended to prepare a modified methodology for community mobilisation – combined with the recommendations under section 3.1.***
3. The team working on component 2 has completed the engineering assessments for two polder plans, whilst two are in hand. Critical now is the capacity of the BWDB to undertake field surveys, which is insufficient. The workload moreover will further increase when work starts on polders where major rehabilitation is required and work and expenditures will be more elaborate. This may develop into a serious constraint***. It is recommended that a re-assessment of the workload under component 2 is done and measures such as outsourcing are taken.***

As mentioned staff strength of BWDB is limited. There is also the risk of frequent transfers and hence motivation of BWDB staff in management, survey, design and motivation is important. Currently a 20% deputation allowance is made available from the Government of Bangladesh budget but this is less than what is provided as incentive under comparable projects, where project allowances are 30% (as in Bangladesh Delta Plan 2100 and World Bank funded projects). ***It is useful to investigate the options for staff up-topping to address this issue - by the Embassy and project implementing agency***

# 3 Findings and Recommendations on Project Activities

This concerns recommendations on the main project components:

- Community Mobilization and Institutional Strengthening
- Integrated Water Resources Management
- Food Security and Agricultural Development
- Business Development and Private Sector Involvement.

## 3.1 Community Mobilization and Institutional Strengthening (Component 1)

This component is the basis for the sustainable management of the polders. It also provides the basis for the agricultural development and market chain development supported respectively under components 3 and 4. In general the functionality of the WMOs underpins the sustainability of the project and its broad long-term impact. Achieving result under component 1 is important, as it would be an example and lesson for (integrated) polder management in other areas in Bangladesh.

### 3.1.1 Responsibilities of WMOs at different levels

Key in this component is the development of Water Management Organizations (WMOs) that will take charge of the operation and maintenance and water management inside the polders. The Participatory Water Management Rules, issued in February 2014 (PWMR 2014), define roles and responsibilities of WMOs at three levels for polders larger than 1000 ha[5][6]. Blue Gold is one of a number of projects that aims to put the provisions of the PWMR2014 on the ground.

According to the PWMR2014, for polders of more than 1000 ha[7]:

- A Water Management Federation (WMF) will be involved in the management of the entire polder at apex level. Its role is importantly in coordinating – including with the BWDB and Project Organizations
- Water Management Associations (WMAs) will be involved in managing sub-units at secondary level within the polder and as with the WMG it has operational responsibilities;
- Water Management Groups (WMGs) will connect to individual families within the polder. Membership is broadly defined and includes farmers, fishermen and landless.

[5] According to National Water Policy (1999) small projects (including smaller polders) with area up to 1000 ha belong to Local Authority/ Local Government Institutions (LGI) and O&M of these projects would handed over to WMOs.

[6] The PWMR2014 makes frequent reference to irrigation projects.

[7] For polders between 1000-5000 ha (medium-sized) the option is mentioned to only develop two organizational tiers; for polders larger than 5000 ha three tiers are stipulated.

The table below is an overview of functional and administrative responsibilities as is described in the PWMR2014:

| PWRM2014 | WMG | WMA | WMF |
|---|---|---|---|
| Functional responsibilities | Primary discussion on water management<br>Annual crop and other production plan<br>O&M plan<br>Dispute resolution<br>Formulate modalities for execution of WMG works<br>Assessing scope for economic activities<br>Formation of LCS<br>Progressively taking over partial/full responsibility of water management<br>In case of irrigation:<br>- land levelling<br>- construction and maintenance of field channel<br>- placing demand for irrigation water<br>- collect irrigation charges | Coordinating between WMGs including dispute resolution<br>Prepare annual crop and production plans Coordinate annual crop plans of WMGs<br>Operate and maintain structures<br>Get external support services and arrange training<br>In case of irrigation:<br>- placing demand for irrigation and provide water within area of jurisdiction<br>- cleaning debris and weeds<br>- collect irrigation charges | Maintain contact with Board and project authority<br>Supervise activities of WMAs<br>Coordination with interest groups on water management<br>Make collective efforts for the implementation of existing rules and regulation to water management<br>Coordination annual crops plan and O&M plans by WMAs<br>Motivate people to collection irrigation charge<br>Get external support services and arrange training |
| Administrative responsibilities | Award primary membership<br>Prepare budgets and participation in all activities<br>Keeping records and accounts for audit<br>Maintain fund and account<br>Annual report<br>Prepare necessary deeds and documents | Represent project beneficiaries and affected people on water management issues<br>Prepare budgets and participation in all activities<br>Annual report<br>Maintain fund and account<br>Maintain contact with LG, BWDB, NGOs and self help groups | Annual report<br>Maintain fund and account<br>Communication with BWDB |

| | | | |
|---|---|---|---|
| | | Signing implementation arrangement with the BWDB and monitor implementation<br><br>Execute deeds on behalf of the WMGs with BWDB and LGI | |
| Organization | Management Committee<br><br>Annual General Meeting<br><br>Heads of family of the area<br><br>At least 55% representation of beneficiary households | Executive Committee<br><br>Annual General Meeting<br><br>Four members from each WMG (incl. at least one woman)<br><br>Union Parishad Chairman as advisor | Executive Committee<br><br>Annual General Meeting<br><br>To be decided by Project Authority |

The PWMR2014 is an important step forward and provides a good basis for programs such as Blue Gold. There are still a number of open ends in the PWMR2014, among others on (1) power and sanctions of WMOs in conflict resolution, in enforcing maintenance or collecting water charges; (2) procedure for transferring responsibilities for infrastructure and specific links and powers between WMOs at different levels and (3) territorial base for WMGs and WMAs (4) and responsibility for handing over the usufruct of assets such as borrow pits, khals and embankments (5) Practicality of the reregistration.

These discussions may also be reflected in the Bye Laws that are being drafted and that involves persons involved in different water programmes in the country, with a large contribution of Blue Gold. ***It is recommended that the TA Team continues to engage with the Water Management Department of the BWDB in addressing the open ends in the PWMR2014, as part of the formulation of the bye-laws.***

***It is also recommended that the BWDB and the TA team with key WMO members develop a clear shared vision on the application of the PWMR2014 for flood control and drainage systems such as covered in Blue Gold and put this in practice in the Blue Gold polders.*** This should cover:

- Responsibilities over different types of infrastructure and engagement (khal deepening, embankment maintenance, sluice operation, sluice maintenance)
- Consolidation of the WMO organization at different levels as well as interlinkages
- Financing or labour-sharing mechanism at different levels

In annex 1 specific suggestions for the local organisation for polder management are given, also in response to questions in the terms-of-reference of the review mission. This would serve as the basis for the discussion above.

Also, the Blue Gold Team in particular under component 1 and 2 should give adequate priority through to strengthening water management at primary level (WMG),

secondary level (WMA) and polder level (WMF) (see 3.2.4) and build strong dynamic organisations (see 3.1.3) in this regard.

### 3.1.2 Water Management Groups and Agricultural Development Co-operatives

An assumption in the Blue Gold Program Document was that WMGs[8] combine to be Cooperative Societies for agricultural development and thus generating income that might even pay for the costs of operation and maintenance.

This assumption[9] of WMGs operating as an agricultural business cooperative, if it ever was, is no longer valid and with the new PWMR 2014 has been overtaken by events[10]. The PWMR 2014 creates a legal basis for WMOs independent of the Department of Cooperatives, where they were registered before. The Department of Cooperatives in fact now has a policy to actively disengage with hybrid Cooperatives such as WMGs/WMAs. It intends to focus on single purpose organizations. It also means that the Department of Cooperatives is no longer a key project partner in component 1 of Blue Gold though in the value chain development under Component 4 cooperative societies still may be formed and can be very useful to improve the negotiation position or joint services of the farmer-members. Also in general the combination of water management and agricultural development as promoted in Blue Gold is very promising but the linkage does not necessarily have to occur at single organizational level, particularly as even the WMGs are quite large and combine a large number of members and a variety of backgrounds and as their mandate under the PWRM2014 does not emphasize this. The WMGs may serve as a very important springboard though for joint business activities and special arrangements as per requirements of WMO members may be formed, making use of the organizational existence of the WMOs. In some cases this made lead to special arrangements, but one should not equate all WMOs with agricultural development societies.

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[8] As a guiding principle the Programme Document states: participation of the rural communities to the extent that they take up the responsibilities, by organising themselves in primary societies (cooperatives), for stepping out of poverty (pg18) and 'a process of mobilisation will start aimed at the creation of viable water management groups (WMG) and their associations (WMA). These cooperatives will take on key roles in all program delivery decisions and sustainable O&M related to the water and the productive (crop including horticulture, fisheries, livestock and forestry) sectors"

[9] For a review of the project assumptions see annex 2.

[10] Additional factors are the more extensive size of for instance the WMGs under the PWMR 2014 with membership size invariable including a large number of landless and land-owning persons and a larger heterogeneity of interests – making functioning as a cooperative society impractical. In addition, though useful in some cases, cooperative societies are not the only form of organization that could promote agricultural development.

### 3.1.3 Build in a self-governing strategy in the WMO mobilisation

A functionality assessment was undertaken for 5 WMAs[11] and 110 WMGs that were developed under the IPSWAM project (see also annex 3). The assessment was done on the basis of focus group discussions. It looked at (a) organizational functioning (b) performance in operation and maintenance (c) functioning as cooperative society (d) role in conflict resolution (see also annex 3).

The outcome of the functionality assessment is important: the larger part of the WMGs are category C and D (84/110) is requiring at least major restructuring. A more detailed review suggested that the performance on operation and maintenance[12] and conflict resolution of the WMA/WMGs was relatively better than the performance of the internal or external organization. This suggests that functional performance (which arguably matters more) has had a large staying power and still many of the WMG classify as satisfactory. On the organizational sustainability an important bottleneck was the requirement to renew the registration as cooperative society, something that was in practice often cumbersome. Annex 4 has the main data from the assessment.

As Blue Gold by and large now follows a similar methodology as IPSWAM in community mobilization and finds itself 'reviving' WMGs five years after IPSWAM closure, this asks the question of institutional sustainability and with this the appropriateness of the community mobility methodology. The fall-out of WMOs after project closure is – so it is understood from interviews by the Review Mission with staff engaged in similar projects as well as with WMG members – a problem that is recurrent in all participatory water management projects. The issue is that in a relatively short period very intense guidance is given in organizational development, training and infrastructural improvement. In this short-term process there is a large reliance on the presence of community organizers and a strong orientation on the incentives provided by the projects (improved structures, training). There is an inevitable strong set-back once the project comes to an end and the important external guidance does not continue, whereas the capacity to self-govern and self-evolve has not developed[13].

There is an urgency to redesign the community mobilization strategy in order to build lasting organization and plan a solid self-governing strategy from the beginning.

There is no organization to firmly anchor the WMOs at different levels after the project comes to an end: the BWDB has very little physical presence locally and its Water Management Department that was most engaged has very limited field staff and is stretched to even do the basic registration. Also the Department of Cooperatives after the PWMR2014 is no longer involved. The nature of the engagement of Department of

[11] WMA under IPSWAM concerned the management of the entire polder (or substantial section of it, whereas at sub-catchment level informal block committees were set in place.

[12] In operation and maintenance most WMG scored satisfactory (score 2 out 3) – though there was no WMG that excelled in operation and maintenance.

[13] The same was raised as a concern in the South West Project for instance, where after the intense engagement during the project period WMG groups may slide away.

Cooperatives moreover was more administrative and regulatory than supportive[14]. In the current setting the WMOs will have to stand firmly on their own feet.

It is rather important to find out ways on how to make the WMOs and the PWM sustainable within the available policy and related mechanisms. The most feasible and most desirable option is to do much better at strengthening the internal organization of WMOs at different interlinked levels so that they are able to develop into strong organizations on their own, able to engage with others, organize their own affairs and develop new activities. As is also implied in the PWRM2014, the WMFs, WMAs and WMGs should develop ideally in development and management bodies for their polders rather than being partners in the bubble of a temporary project. For this self governing capacity should be built in from the start – and the engagement in Blue Gold should be systematically used to strengthen organizations in this direction.

There are several elements to be considered in working towards such self-evolving organizations:

- Consolidate the cooperation and linkage between the WMG, WMAs and WMFs within a polder, creating a consolidated polder-wide organization – with the WMF (as written in the PWMR2014) checking the functioning of the WMGs and WMAs besides coordinating joint activities
- Giving WMF a clear and central role in the planning and coordination of the BGP activities in their polder, in line with the provisions of the PWMR2014
- Giving WMF and WMAs a clear role in monitoring progress, comparing the results of the M&E and organizing discussions on the outcomes with WMGs
- In general giving the WMOs, in particular WMGs, a large role in the actual implementation of the Blue Gold activities – in providing local facilitators, in identifying resource persons for training and field assessment, preparing different activities
- Encourage the WMOs to engage with other programs beyond Blue Gold in the field of agriculture and water management
- Have the communication activities under Blue Gold support internal knowledge generation and horizontal learning (see also under component 3) within the WMOs
- Encourage self financed collective action activities (as in SouthWest project) and use these examples of community mobilization
- Strengthen the link and engagement with the Union Parishad contributing to activities and engaging in coordination
- Orient the training programs in Blue Gold not to delivering skills only but equally on empowering the local organizations to link up with external programmes
- Stimulate WMG to WMG (and WMA to WMA and WMF to WMF) exchanges and organize fairs to create more peer-based learning

[14] Twijnsta and Gudde and Euroconsult Mott MacDonald (2014). The study of cooperatives in the Netherlands and Bangladesh

- Help WMOs identify innovative practices by member farmers themselves and promote these through local competition and fairs
- Consider assuring long-term post project support by engaging a 'foster' organization (such as a well-established NGO[15] or a private business) during the project implementation to be continued after in modest fashion after project closure.
- Make an effort to showcase and expose WMO members to different agro-based business activities e.g. agri-inputs, fishery, processing, collective marketing, so that these ideas can be picked up and an atmosphere of opportunities is created
- Actively promote BWDB/Government of Bangladesh asset transfer e.g. land, borrow pits, water bodies and prepare collective business models by using these resources
- In general strengthening the WMFs with the related WMAs and WMGs to become development organizations for their polder.

***It is proposed that the TA Team working on Component 1 in cooperation with other project units redefines the strategy for community mobilisation, integrating a strategy for self-governing and self-evolving organizations from the beginning, along the elements suggested above.***

It is also important to share experiences with other water management-related social mobilization activities in other programs and use lessons in the Blue Gold activities (see also annex 2). The problem of sustainability and functionality of organization is a challenge to all projects working on participatory water management and a common strategy and the development of a critical mass of support arrangements is overdue. ***It is recommended that there is more learning and exchange of experiences between the different related programs (engaging key WMO members as well) that work on participatory water management – also to explore joint support activities and enabling policies.***

## 3.2 Integrated Water Resources Management (Component 2)

Polder management is also an important driver for productivity, as it facilitates new cropping systems for instance by reducing water logging and protecting against flooding. So far attention has focused on rehabilitation/ fine-tuning and operation and maintenance. Whilst this is very important and needs to be done right, there is also a

[15] Bangladesh is endowed with a number of large NGOs that have effectively contributed to the improvement on most social indicators in the last 20 years. These larger organizations have been less involved in supporting water management organizations, however. They could play an important role long-term here - also as they have access to improved farming practices and marketing – and could nurture the WMOs in the long run, i.e. beyond the short duration of a project. It is understood for instance that BRAC is interested to work on water management and the opportunities for such partnerships need to be explored. This is different from the experience in Southwest Project, where relatively small NGOs were unsuccessfully involved in community mobilization (not in long term support).

need to pay more attention to water management as such. Also on-farm water management deserves more attention than it has received so far, for instance in the FFS.

### 3.2.1 Widen scope of work for fine-tuning and rehabilitation

An important part of the project is the fine-tuning and rehabilitation of basic polder infrastructure – embankments, *khals* and sluice gates. This serves to bring the polder in functional condition again whereas at the same time WMOs are strengthened that will work on more assured operation and maintenance and become active in water resources management.
In the project DPP three types of works were not included in the scope of works that are nevertheless an essential element of polder improvement, i.e. retirement of embankment for fine-tuning polders; erosion protection for both fine-tuning and rehabilitation polders and emergency repairs. This creates a situation where the Blue Gold works on improving local management but cannot address major current threats to the polder embankments. To address this ***it is recommended to include the embankment retirement, emergency repair and basic bank protection items above in the scope of work and to adjust the DPP accordingly.*** This will have financial ramifications – as with the increase of unit costs (see below) – that need to be worked out as part of overall plan for Blue Gold Program (see also 3.2.3).

### 3.2.2 Addressing Emergency Repairs

During field visit the review mission visited a number of polders and observed several examples of river bank erosion that threaten to inundate large parts of the concerned polder and in one case already did (polder 43/2B embankment in Patuakhahi district). At present there is no effective arrangement within the BWDB to quickly respond to such damage and prevent or slow down the development of such fatal breaches. The situation is quite grave and needs to be addressed early and adequately. It is understood that the O&M budgets are meagre and uncertain and that the modest amounts of money can only be spent after time-consuming tender procedures. At the divisional level there is no scope for performing this most basic task. This deficiency makes investment in polder development or WMO strengthening superfluous and jeopardizes food security with loss of agricultural production and other economic activities. Moreover, recently a decision has been taken to approve the quantity of any emergency work by an inter-ministerial committee, which has complicated an unworkable process even further.

***It is recommended <u>strongly</u> that the Blue Gold Team develops efficient ways to address the issue of timely emergency repairs that could serve as a model arrangement for BWDB.*** BWDB and the EKN supported by the TA should jointly discuss with the Ministry of Water Resources and come to agreement and make provisions with the Ministry of Finance. There are procedures in place[16] in theory but in practice they are not effective.

[16] GoB/BWDB procedures allow for emergency repair if such provisions are made in DPP. BWDB also has a provision of O&M during implementation

For emergency repairs, such as repair of embankments threatened from river erosion or other damage, preferably an assured fixed grant should be available at the discretion of the Executive Engineer responsible for the emergency work (using hedgehog structures and others) to enable him/her to award the work directly to pre-qualified contractors, in consultation with the concerned Superintending Engineer and Chief Engineer. This is of utmost importance to safeguard the project infrastructure and derive continuing benefit from the project. The Innovation Fund or other provisions may be used to develop such a rapid response mechanism with the aim of integrating this in the working procedures of BWDB.

***It is also recommended that related to this the TA Team engages with the BWDB and MoWR to discuss overall O&M allocations that appear to be inadequate and small compared to investments for new projects.***

### 3.2.3 Adjust per hectare costs

The per hectare costs as given in the Project Document and the DPP amount to Euro 100 for the fine-tuning work and Euro 300 for rehabilitation work. These costs appear to be far too low. The estimates of the work under the four first fine-tuning polders amount to Euro 188 per ha. If the control of river erosion is added this may increase to Euro 205 not taking into account cost escalations over the years. This is double the estimated cost.

The costs for the rehabilitation polders may be significantly higher if only because embankments will be raised to a height that makes them climate change proof[17]. Apart from the considerable earthworks involved in this, there will be resettlement costs as well.

***It is recommended to modify the current unit costs on investment under refinement and rehabilitation works as given in the DPP and for the time-being use an unit cost of Euro 250/ha for refinement and Euro 500/ha for rehabilitation.*** More work will need to be done in finalizing a reasonable norm, using experience from other past and on-going projects.

Clearly an increase in per ha cost will have implications for the total scope of work with one possibility being that a smaller area is covered, yet ensuring that work is done properly. Another option is that cooperation is sought with other programmes in particular the Coastal Embankment Improvement Project. Work would then be shared between Blue Gold (within the polder) and CEIP (embankment). Current restrictions on two project operating in one and the same polder would need to be relaxed. ***The Blue Gold Team is recommended to investigate the possibility of combining activities with CEIP and make an overall investment plan based on the changed unit costs.***

### 3.2.4 Strengthen water management by WMOs

Component 2 of Blue Gold aims at integrated water resources management. So far the emphasis has been on operation and maintenance There is no doubt that the investments are highly useful, going among others by the evaluation done of the IPSWAM project that was undertaken by BARD[18] as well as other studies. The role of the WMO has focussed on operation and maintenance, but there is a need to go beyond this and have the WMOs at the different levels – but particularly the WMA - engage in water management.[19] Areas in which improved water management could have additional benefits:

- Coping with salinity – storing fresh water in canal, depressions and ponds; using saline tolerant crop varieties

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[17] For overview of all possible climate adaptation measures - see annex 4. There is an argument that increasing embankments that are prone to be damaged by river bank erosion in the short run is not useful and selective spending in climate proofing is imperative.

[18] The evaluation found (a) a doubling of the 'flood-free' area; (b) cropping intensity increase more than 10% and (c) crop production increased up to 50%.

[19] Example is the current pilot project (together with IWM) on community water management (CWM) in Polder 30

- Reducing water borne diseases from standing water
- Separating high and low land
- Constructing side drains
- Balancing water use for different uses – fishery and crop production
- Reducing sedimentation
- Agroforestry on embankments.

***It is strongly recommended that special training and regular guidance is given to WMOs – with a focus on WMAs (in coordinating capacity) and WMGs (in on the ground implementation) - to make water management part of their core activities and provide the necessary guidance and support.***

## 3.3 Food Security and Agricultural Development (Component 3)

The impression from the project area is that a transformation from subsistence farming to small-scale commercial farming is ongoing. Opportunities are there to increase small farmers' household income through ensuring efficient services delivery to the farmers. Farmers including small farmers appear receptive to the modern production technologies of high value crops, livestock and fishes. In the field visit the uptake of new techniques even beyond the persons that were part of the FFS was witnessed. It will be useful for the project to have a data-base on current and expected returns from agriculture for different crops and livestock products, so as to inform the different activities that aim at higher return under component 3 and 4, with the latter component assuring that the increased income accrues to the farmers.

### 3.3.1 Integration of DAE component

Under a separate DPP, the Department of Agricultural Extension (DAE) of the Ministry of Agriculture (MoA) is the executing agency for part of this component. As per DPP, operating *Upazillas* amounted to 25, yet this was a miscommunication because the Blue Gold Program covers a smaller number of *upazillas*. As per recommendation of Project Steering Committee (PSC) of MoA, the operating area currently comprises of 10 *Upazila* of Patuakhali, Borguna, Satkhira and Khulna districts, where Blue Gold project activities are implemented.

The major activities of the DAE part of the component include (i) organizing and implementing 1000 farmers field school (FFS) on crop management (focus on rice and other crops); (ii) organizing and implementing 380 demonstration trials with field days in the Blue Gold operating areas/polders; (iii) organizing season long training of FFS facilitators; and (iv) organizing suitable training for FFS Monitors and tagged sub assistant agriculture officers. Project office has been set up at DAE, PD along with other staff has been assigned, and logistics have been procured as per provision of DPP. Activities so far achieved includes (i) completion of field work for baseline survey, the report is yet to be available, (ii) organizing 45 FFS in the assigned project areas, (iii) undertaking 125 demonstration plots/trials with field days in the project *Upazillas*, (iv) completion of season long training for 50 DAE officers (25 AEOs) and staff (25 SAAOs), and (v) organizing training for 2 FFS Monitors and 3 tagged SAAOs.

Under the TA also 400 FFS are organized focusing more on (1) fisheries and (2) livestock, poultry and homestead gardens. In addition, demonstration trials and field days are organized. The latter have a huge effect through horizontal learning. The mission also observed that the first few FFS organized tap into a large potential to increase farm income and also that techniques are quickly replicated. The mission in the field visit to the FFS and demonstration trials also saw the central role of women following the training and actively sharing and using the new methodologies.

There is a need to unite the two agricultural components, the one under DAE and under the TA Team. Currently coordination and partnership building with WMGs is not ensured under the DAE component and also the link to market development may not fully materialize unless there is a closer cooperation. The DAE program also has a separate Project Management Committee. ***It is recommended that this arrangement does not continue and that all activities are discussed under a single PMC, as happens in other projects***. [20]

Beyond this cooperation on module modification and sharing training resources should be developed between the two programs. Currently practiced FFS may further develop knowledge and practices about post-harvest processing[21], marketing, and value addition and linking WMG members with the value chain actors. In developing the programs it is important to emphasize the gender roles – with women being major recipient of the new techniques. This will as planned make a connection to market improvements activities planned under project component 4. Arranging storage of harvested crops (using small silos) and aiming to sell at higher price later can be a good option for instance for farmers producing rice.

### 3.3.2 Increase the number of FFS

The number of FFS planned under the Blue Gold Program as it currently stands is 1400. Assuming 25 persons per FFS in the TA Team FFS and 50 in the DAE FFS the number of persons trained would be 60,000. Given the interest, the aim to help develop 850 FFS and the estimated population in Blue Gold of 267,000, ***it is recommended to increase the number of FFS, particularly those that are relevant to landless persons and women – by implementing 400 more FFS in livestock, poultry and homestead farming***. It is understood that with budget management within the TA component this is possible.

### 3.3.3 Support horizontal learning with ICT

Horizontal learning is an important objective of the FFS and closely related activities such as particular field days. There is also scope to further enhance horizontal learning

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[20] A D.O. letter from Secretary, MoWR may help in revising the DAE DPP

[21] There are good models for small crop storage silos which may be linked to WMG collective activities.

using ICT. It is recommended that the communication specialist in the TA Team actively is engaged in the component 3 program. Opportunities are community radio (already under preparation), farmers good practices videos, using mobile phone memory card to disseminate these and alerting farmers through mobile phone number of WMG members. Local innovations for crop production can also be included in the activities. ***It is recommended that the TA Team and DAE develop a plan of action for ICT-enabled horizontal learning.***

### 3.3.4 Follow up to FFS

The FFS bring groups of relatively like-minded farmers together and this could provide the base for collective action (as in the South West Project) or joint activities in input supply or marketing. Groups may also stay together for social and emotional reasons. Under earlier DANIDA program formal group formation was included but though this was ultimately not uniformly successful, a large number of the concerned farmer clubs still continue and do well. A more demand-driven approach – linked also with the development of self-evolving Water Management Organizations (as in 3.1.4) – may be worthwhile however, including encouraging groups to interlink with one another. This can also be linked to the business and value chain development activities. ***It is recommended that the TA Team and DAE develop a program of encouraging follow-on activities for FFS groups – in joint marketing or production or continued information sharing.***

## 3.4 Business Development and Private Sector Involvement (Component 4)

This component is aimed at increasing income of the WMG members through adding value to the agricultural produce (incl. poultry, livestock and fish). This is done through extending support (training, awareness) for post-harvest processing and marketing (linkage with value chain actors) and involving local and external private sectors in the business development.

In this component support will be given to eight value chains, six of which have been identified. A distinction is made between short value chains and long value chains, the first ones concerning the local market and the long chains extending to national level and beyond. A study for the first value chain – sesame, focussing on Polder 22 where it is an important dry season crop – is under preparation.

The component is still in preparatory stage with no field activities. Training to community organizers, the development of modules and establishing contact with other initiatives has been undertaken. For providing information to farmers contact has been made with 'Farmbook' – that will provide farmers with access to market information. The approach by nature will have to be flexible, making use of opportunities as they come along.

Because of the exploratory stage of activities it is too early to judge the direction of this component. The mission made a few observations:

- It will be useful to establish working relations with other on-going initiatives in value chain development with whom contacts have already been made. It is particularly important to connect with the SAFAL program and bring WMG members in contact with SAFAL and other initiatives such as the ADB funded SCDP, the World Bank funded NATP and the PKSF (Palli Karma Sahayak Foundation) crop storage facility
- It is important to not delay activities on the ground for too long now, also for the entire project to get a better feeling of opportunities and constraints and build a stronger synergy with component 3; ground level initiatives to involve WMG producers group in post-harvest and marketing assistance is required immediately and testing post-harvesting and market oriented FFS may be done quickly
- It may be useful given the size of component 4 and the integrated nature of Blue Gold to lay emphasis on short value chains or the lower part of long value chains, as this is easily within the span of control of the program.

# 4 Project Organization

The findings and recommendation concern on Project Organization concern the following:

1 Improve project coordination
2 Single Project Steering Committee
3 Simplified project organization
4 Implementation of monitoring activities
5 Relocation of project offices to Khulna
6 Management of Innovation Fund
7 Cooperation with other projects.

## 4.1 Improve Project Coordination

At present the office of the BWDB Central Team, BWDB Design Team, the DAE Unit and the TA Team in Dhaka are in different locations. The reason that the BWDB and TA do not share an office is that the current BWDB premises – though conveniently located - do not meet international minimum fire safety standards[22].

There is a plan to make use of an office that could be newly built at the BWDB, 72, Green Road compound and would accommodate the BWDB teams, TA team and preferably also the DAE Unit[23]. There is a clear benefit from sharing the same office whether under this option or under another arrangement. ***It is proposed to plan to have a shared office preferably with all units based in Dhaka within six-twelve months***.

## 4.2 Single Project Steering Committee

The project now has two Project Management Committees (see also 3.3.1) – one for the budget held under the BWDB financial component and one for the DPP of the DAE. ***It is recommended that these two Project Management Committees should become one***, as is practice in for instance the Char Development and Settlement Project that has six implementing organizations and 5 DPPs, yet one PSC.

There is also a general need to increase coordination meetings at field and central level. In the field coordination meetings representatives of the WMOs, BWDB, DAE, Upazila Parishad and TA Team may all be present.

## 4.3 Project monitoring

The M&E system undertakes four activities: (a) base line related to main objectives in the project log-frame (b) base line studies collected within project for instance on

[22] A relocation of all staff – incl BWDB – would for that reason also be recommended

[23] As the two staff in the DAE Unit also have additional responsibilities it may be less practical, this needs to be discussed.

infrastructure (c) output progress against log-frame and (d) outcome mapping milestones in joint activities with WMOs, Union Parishads and of course BWDB and DAE. In addition use is made of regular project reports.

The M&E system is set up to measure more than the direct outcomes of the project. It also aims to assess the impact on other organizations, defined as so-called 'boundary partners'. In developing the M&E systems emphasis was placed on using the results for learning not for justification and sharing these for instance with beneficiaries, in this way introducing a participatory learning. This is a welcome development that can also feed into strengthening self-governing organizations,

At this stage it is too early to assess whether the M&E programs will serve these important goals of learning and sharing, as no results are out yet. At the time of the review the base line was still being processed. Also the base line for the polders that are yet to be selected still needs to be done and hence planning and timing becoming critical factors.

The M&E system is not completely following the original logical framework of the project, as some of the indicators were hard to capture in a base line. Where possible suitable alternative arrangements have been made. Annex 5 gives an overview: most of the answers in the log-fram will be answered in the current set up.

It is proposed that outcomes from these M&E activities are agendized in the coordination meeting and that the results of the M&E system are also timed to co-incide with these coordination meeting and future annual review missions. Future review missions on the basis of the M&E may decide where to focus on and zoom into.

***It is recommended that the M&E activities provide reports for the Management Committee meeting as well as other central and local coordination meetings and in due time meeting with WMGs*.**

## 4.4 Simplified Project Organization

The project consists of five components, with the fifth 'component' being the sum of a number of cross-cutting issues. There is a need to simplify the project structure. This will improve the interaction with the field teams and the WMOs.

***It is recommend to merge the cross-cutting themes under project component 5 with the main project components***, as follows:

| Cross cutting theme | Merge with | Main link |
|---|---|---|
| Environment | Component 2 | Contribute to polder action plans |
| Disaster risk reduction | Component 2 | Implement guidelines for climate risk |
| Governance/ Water Integrity Network | Component 2 | O&M arrangement,<br>Management of LCS and emergency repair |
| Gender | Component 1 | Female FFS<br>Role of women in WMOs |

M&E, Communication and Capacity Building may remain as staff functions.

A second streamlining to consider in the future is to merge component 4 with component 3 as these activities are intimately linked.

## 4.5 Relocation of project staff to Khulna

On the occasion of the ISB assessment the relocation of TA project staff to Khulna, i.e. the main field office, was raised. With the start-up phase over, there is an argument for a larger part of the project staff to be closer to implementation and also to have a senior manager to oversee the field programs.

The practicalities though are that for the time-being several TA staff members' part of the contract agreement was that Dhaka is the duty station. Moreover, for a number of positions Dhaka is the preferred place of work. ***It is proposed that the TA Team Leader together with the BWDB makes an assessment of what relocation is possible and desirable***.

## 4.6 Management of Innovation Fund

The Blue Gold is fortunate to have a substantial in-built Innovation Fund[24] – consisting in fact of two components, i.e. the Water Management Innovation Fund (2.3 M) and Production Support (1.9 M).

The Fund makes it possible to introduce innovations and experiment with new approaches and techniques. The prime criteria is the relevance of the innovations for the population in the Blue Gold area and/or the implementing organizations. Other criteria are the broader relevance in Bangladesh, the opportunity for the Dutch private sector to showcase state-of-the art technology and the possibility that a sustainable support base

[24] The two funds may be combines into a single Productive Sectors Support Fund

is set-up.

So far use of the Innovation Funds has been limited: three activities were supported all costing less than Euro 50,000 so as to avoid tendering under EU Rules. There are, however, important opportunities to be addressed by the Innovation Fund – including activities initiated from within the project area. An example is the pilot on Emergency Repairs[25] described under Component 2 or farmer initiatives in crop diversification or marketing under Component 3 and 4, or drainage pumps operated with renewable energy or the installation of more durable (fibreglass) gates on sluices. ***It is recommended to activate the use of the fund by issuing competitive calls.*** Such competitive calls will avoid a possible conflict with EU tender rules and make it possible to reach more substantial budgets as well as create more openness in tapping into the fund.

***It is also recommended to engage an Innovation Fund Manager*** who could (1) initiate calls for ideas and proposals from parties in the project areas and elsewhere and liaise with potential Dutch suppliers (2) manage the innovation – i.e. making linkages with parties that could contribute to the up-scaling (3) facilitate and manage the embedding of the innovation in the project area. Without a competitive call mechanism and a fund manager, there is a risk of Innovation Fund becoming difficult to manage with a plethora of small initiatives and integrate with the project, thus loosing the potential large contribution the innovation can make.

## 4.7 Coordination with other projects and organizations

The impression of the review mission is that Blue Gold is welcomed by other projects and initiatives who generally see possibilities for more cooperation. Particularly the Innovation Fund is looked at with large interest. The Blue Gold Program maintains cordial and positive working relations with other related organizations, including the Dutch-funded programs such as SAFAL, BRAC-WASH and the WASH programme of the Max Foundation. It is also necessary to have close cooperation/contact with Southwest Area project as it has some good results/systems.

There is scope to move beyond the cordial relations and in due time integrate improved water management with the objectives of value chain development and WASH. From field visit and discussion with these projects the possible complementarity of objectives was confirmed. In shrimp farming (supported by SAFAL) productivity is largely determined by the capacity to flush the ponds. In sanitation (supported by MAX Foundation and BRAC WASH) there is a huge challenge of providing sanitation in high water table areas. This should be addressed in the support to water management (see also Section 3.2). It was also learned by the mission that BRAC is interested to be engaged in water resources management and intends to dedicate its resources to play a

[25] A pilot on emergency repairs would place funds for the emergency repairs for a limited area in the hand of the administrative systems/ field engineers and would test the financial procedures that would achieve speedy response and basic financial accountability.

stronger role in this area. This is promising because so far unlike other fields there is no strong civil society player in water resources management.

There is also scope for the WMGs in particular to work together more closely with the other projects and initiatives mentioned above and the WMGs should be encouraged to this – rather than the relations being primarily arranged at the level of project teams.

# 5 Reflection

As this was the first Annual Review of Blue Gold of its kind, the Review Mission we offer a number of observations that may aide the organizations of future missions.

First is that as the Review Mission is reporting primarily to the Royal Netherlands Embassy and the Bangladesh Water Management Board that these two organizations take a larger role in organizing and briefing the mission. All contacts prior to the Mission were with the TA Team – it would have been better if there is a larger direct engagement of the EKN and BWMB.

Secondly, as this was a first review mission a lot of time went into familiarization. The program that was prepared and the arrangements were excellent. In the future however it may be considered for a Review Mission to plan the visit sites more at random so as to get a cross-section impression of the state of implementation. There is a risk otherwise of similar places being frequently visited and other places not touched at all.

Thirdly, it may be considered for all main project stakeholders (BWDB, DAE, EKN and TA Team, even WMOs) to prepare an agenda of issues to be addressed on the basis of short briefing notes prepared by the concerned stakeholders. The terms-of-reference included some of the important questions by EKN, which was useful. With the briefing notes this can be further elaborated. Now many important issues are raised by different parties as the mission proceeds. As far as these can be consolidated into an agenda prior to the mission it would make things manageable.

Finally, it was observed by the mission that at the sides of the EKN and the TA Team there are set positions on in particular the organizing principle for WMGs – whether on hydrological basis or on the basis of a village unit. The mission also noted that this particular discussion keeps getting undue importance, already in the inception report (which was approved) and extended into the comments on the draft Aide Memoire. This is not constructive and may divert attention from other issues. According the Review Mission there are two issues that are for instance far more important for the impact and sustainability of the Blue Gold Project:

1. The approach to social mobilization that needs to be redesigned so as to have stronger self organized organizations with staying power, something that is not guaranteed in the current methodology and is an issue for all participatory water management programs in various degrees – that all depend on intense engagement for a short time span;
2. The issue of emergency maintenance of embankments – that is potentially undoing any effort at improved water management within the polders and need stronger policy interaction between the Blue Gold Project and the Bangladesh Water Management Board and the Ministry.

# 6 Annexes

1. **Recommended polder management arrangements**
2. **Reassessment of original program assumptions and risks**
3. **Summary of WMA/WMG functionality**
4. **Water safety measures and climate change effects**
5. **Assessment of the Blue Gold M&E system**
6. **Field visit observations**
7. **Program of review mission 23 August – 5 September 2014**

## Annex 1 Recommended polder management arrangements

The terms-of-reference of the Annual Review Mission asked a number of pertinent questions on the organization of water management at polder level and in particular the roles and responsibilities of the WMOs at different levels. These questions are important as they will drive Blue Gold activities under component 1 but also because Blue Gold ideally is a project that sets an example for polder management in other areas in the country. This annex provides the Review Mission's recommendations on the organizational arrangements in polder management.

The Participatory Water Management Rules were promulgated in Bangladesh Gazette, Additional Issue, Tuesday, February 11, 2014 by the People's Republic of Bangladesh, Ministry of Water Resources. The PWMR2014 provide legal framework for the functioning of WMGs, WMAs and WMFs As part of the review the Bangla version and the unofficial translation were checked. Below the provisions in the PWMR2014 are given (table 1).

Table 1: Current provision in PWMR2014

| PWRM2014 | WMG | WMA | WMF |
|---|---|---|---|
| Functional responsibilities | Primary discussion on water management<br>Annual crop and other production plan<br>O&M plan<br>Dispute resolution<br>Formulate modalities for execution of WMG works<br>Assessing scope for economic activities<br>Formation of LCS<br>Progressively taking over partial/full responsibility of water management<br>In case of irrigation:<br>- land levelling<br>- construction and maintenance of field channel<br>- placing demand for irrigation water<br>- collect irrigation charges | Coordinating between WMGs including dispute resolution<br>Prepare annual crop and production plans Coordinate annual crop plans of WMGs<br>Operate and maintain structures<br>Get external support services and arrange training<br>In case of irrigation:<br>- placing demand for irrigation and provide water within area of jurisdiction<br>- cleaning debris and weeds<br>- collect irrigation charges | Maintain contact with Board and project authority<br>Supervise activities of WMAs<br>Coordination with interest groups on water management<br>Make collective efforts for the implementation of existing rules and regulation to water management<br>Coordination annual crops plan and O&M plans by WMAs<br>Motivate people to collection irrigation charge<br>Get external support services and arrange training |

| | | | |
|---|---|---|---|
| Administrative responsibilities | Award primary membership<br>Prepare budgets and participation in all activities<br>Keeping records and accounts for audit<br>Maintain fund and account<br>Annual report<br>Prepare necessary deeds and documents | Represent project beneficiaries and affected people on water management issues<br>Prepare budgets and participation in all activities<br>Annual report<br>Maintain fund and account<br>Maintain contact with LG, BWDB, NGOs and self help groups<br>Signing implementation arrangement with the BWDB and monitor implementation<br>Execute deeds on behalf of the WMGs with BWDB and LG | Annual report<br>Maintain fund and account<br>Communication with BWDB |
| Organization | Management Committee<br>Annual General Meeting<br>Heads of family of the area<br>At least 55% representation of beneficiary households – this includes farmers, fishermen, landless households etc | Executive Committee<br>Annual General Meeting<br>Four members from each WMG (incl at least one woman)<br>Union Parishad Chairman as advisor | Executive Committee<br>Annual General Meeting<br>To be decided by Project Authority |

The PWMR2014 are more specific on irrigation than on the flood control and drainage systems. Yet they provide a major step forward on the expected roles and responsibilities of the WMG, WMA and WMF as well as on their organizational basis. The organizational basis for the WMOs as to be interpreted according to the Gazette is:

Table 2: Organizational basis of WMOs at different levels

| | WMG | WMA | WMF |
|---|---|---|---|
| Organizational basis | Point of contact with beneficiaries – can be village, part of villages or small hydrological units – in line with Guidelines for Integrated Planning for Sustainable Water Management[26] | Secondary level – can be sub-catchment in polder | Entire project (=polder) |

In polders of 1000- 5000 ha, the roles of WMA and WMF[27] may eclipse and the WMA would cover the entire polder.

It is clear that the central building block in the WMO structure is the WMG, that is the point of contact with the households. Membership of WMF is broad-based and includes not only farmers, but also *'fishermen, small traders, artisans of handicrafts, boatmen, aqua culturists, families who are landless'.* The basis for WMG can be either village or small hydrological unit, in accordance with the Guidelines for Integrated Planning for Sustainable Water Management, that are referred to in the PWMR2014.

The WMG has important roles: operation and maintenance, water management, conflict resolution, crop planning, identifying economic activities. The WMA similarly has these operational roles – but is concerned with the secondary level, i.e. sub-catchments within the polder, and in coordinating and supporting the activities of the WMGs. The WMF is not operational but is overseeing the activities within the polder and coordinating with other stakeholders. The WMF is – together with the WMA – the point of contact with the BWDB. On behalf of the joint WMAs it may also sign agreements with the BWDB for instance. Table 3 gives a proposed schematic overview of responsibilities of organization remaining within the framework of the PWMR2014. Table 4 gives an indicative size of the different WMOs.

[26] Ministry of Water Resources/ Bangladesh Water Development Board (2008), Guidelines for Integrated Planning for Sustainable Water Management – this document is also referred to in the PWMR2014, section 48.

[27] It could be argued that there is a need for a federation of WMOs beyond the level of a single polder, but this has not been foreseen in the documents.

Table 3: Responsibilities of WMOs at different levels proposed by review

| | WMG | WMA | WMF |
|---|---|---|---|
| Operation and maintenance | Operation and maintenance of structures at local level | Operation and maintenance of structures at WMA level<br>Organize the monitoring of WMG performance for instance by WMG inspecting works of other WMGS | Oversee overall implementation of O&M<br>Sign agreement on behalf of the WMAs with the BWDB |
| Water management | Implement water management measures – including promotion of on-farm water management | Initiating water management measures as part of annual crop water management plans and discuss and agree with WMGs | Oversee water management improvement at polder level and synchronize activities of different WMAs |
| Conflict resolution | Resolving local water conflicts | Arbitration/ mediation in water conflicts that cannot be resolved at WMG level<br>Resolving water conflicts at sub-catchment level | Arbitration/ mediation in water conflicts that cannot be resolved at WMA level<br>Resolving conflicts between WMA and WMGs<br>Resolving water conflicts between sub-catchment level<br>Representing polder in conflicts and cases with others |
| Generating resources and water service charges | Generate contributions in kind and cash (water charges) from households | Agree with WMGs on contributions in kind and cash to collective work at sub-catchment level | Coordinate and support responsibilities for different O&M tasks in different areas to WMGs and WMAs - as part of O&M Plan |
| User right of khals, borrow pits and embankments for O&M funding | User right | Implementation of deeds | |
| Engagement in project activities | Implementation of activities and improvements at local level | | Coordination of overall plan, follow up and contact with Project Authorities |

Table 4: Indicative size of WMOs at different levels proposed by review

| | WMG | WMA | WMF |
|---|---|---|---|
| Preferred size – not mandatory | 200 - 250 households approx, assuming 55% membership. The importance of the WMGs comes from its ability to link with households at field level – its size should reflect this – it should not be too large or too small in this regard | Determined by hydrological boundaries – but ideally not more than 10WMGs per WMA | Polder. WMAs as members. |

Though the PWRM2014 is a main step forward there are several issues to be addressed. One concerns the funding of operation and maintenance. Costs for routine maintenance are very modest; for more systematic maintenance they are higher but still manageable. Assessment under IPSWAM[28] - which is five years outdated – established that O&M cost amounts to Euro 3/ha and regular maintenance to Euro 15/ha. Estimate by the component 2 team under Blue Gold come to Euro 16/ha average. The PWMR2014 allows both WMG and WMAs to collect 'irrigation charges'. This should be broadened to water service charges in general. Also the mechanism of implementation – such as sanction for non-payment – need to be clarified. A second source of income highlighted in the PWRM2014 is from (the leasing out of) borrow pits and other infrastructure. The possible income from this will vary from place to place – depending on the availability of khals and borrow pits and their actual ownership by the BWDB[29]. The procedure for handing over these assets need to be developed.

In general so far in Bangladesh, there is no major example of adequate O&M funding. A round of experience is:

- Under IPSWAM funds were collected on voluntary basis
- In the CDSP (earlier stage projects) O&M is funded from project funds placed at the disposal of WMOs
- In SouthWest O&M funds are built up from a margin taken from the work contracted to LCS and TK60 per year contribution per acre
- In the pump lift system developed as part of SouthWest farmers contribute 1 kg rice per decimal (247 decimal = 1 hectare - sufficient to pay the electricity charges but not the maintenance

The PWRM2014 provides the opportunity to gradually introduce water charges. By and large in all systems water service charging is in a very early state. In Blue Gold it should be discussed too as there are obvious needs for it, with the outcomes based on agreement between different members and their organization. It is proposed that WMG

[28] Technical Note 42
[29] Ownership of these structures is not in all cases with the BWDB.

and WMA are coached to make water management and also O&M plans and budgets with provisions for:

- Cost of routine maintenance
- Cost of structural maintenance
- In-kind contribution
- Cash contributions required from the lease of assets
- Cash contribution from user charges
- Decision on basis for charging – proportionally, part of harvest, fixed amount

The PWRM2014/Gazette is published by the Cabinet Division which oversees and coordinates activities of all ministries in Bangladesh. Rules can then be by individual organizations, that should not have any contradiction with the Gazette, but may include additional items for conducting business.

Besides the system of irrigation charges, there are a number of issues or gaps in the PWMR2014 still to be addressed or incorporated in the bye-laws or rules that are under preparation. These are summarized in table 4.

Table 5: Issues and deficiencies to be resolved related to PWMR2014 and byelaws

| | |
|---|---|
| Link and representation of WMAs in WMG | Not described in PWMR yet. There is reference to Project Authorities that will decide on case by case basis, but it is suggested this is changed in a more structured system |
| Legal basis for water charging and labour contributions | The task is assigned to WMA and WMG but not substantiated by minimum rules and sanctions in case of default |
| Legal basis for handing over usufruct of borrow pits etc. to WMGs | Process of allocation, terms and conditions |
| Responsibilities for conflict resolution | Binding powers and arbitration mechanisms to be described including role o[ |
| Irrigation charges | The WMG and WMO are allowed to raise irrigation charges. This may be expanded so as to mean water management charges. |
| Management rights | The formal system of transfer of responsibilities to different WMG and WMAS better described |
| Size of WMGs | An indicative not binding norm on the size of WMGs could be given |
| Period of registration | The reregistration period of six months after issuing of the Gazette is too short – an extension should allowed of this period |

Finally, also be way of recap, the different specific questions asked in the ToR and in two subsequent requests by the EKN are listed below, including the position on these in the PWMR2014 and the suggestions of the review mission,

Table 6: Suggestion by review mission on the queries by EKN

| **Specific questions in ToR** | |
|---|---|
| **PWMR2014** | **Review Mission Suggestions** |
| **Which WMO level participates in different stages of the project cycle?** | |
| The PWMR makes no clear statement on it but:<br>- assumes that WMA and WMF are the contact with BWBD<br>- WMA and WMF have supervisory roles<br>- WMG has strictly implementing role<br>- assumes that WMG actively identifies project activities | It may be good to make the WMF responsible for the water-related development activities in the polder. According to the PWMR2014 it has a clear role in getting external support services, coordinating activities and in serving as contact with BWDB and projects. This would go a long way in genuinely strengthening the WMOs and putting them in charge rather than being dependent on external organizers. This approach could be followed in BGP with the WMF (with representatives of WMAs) also responsible for monitoring and evaluation.<br>The identification of physical works could then also be discussed and agreed with the WMA and WMF.<br>Implementation of activities will often be with the WMG – as training and improvements in many cases will take place at this level. |
| All levels are responsible for making O&M plan with higher tiers coordinating O&M of lower tiers | Procedures for developing a plan to be further developed<br>- responsibilities for O&M assigned to lowest responsible level<br>- maintenance of shared strucutures to be agreed and supervised by WMA<br>- systems of supervision to be introduced |
| **Which WMO level will get/obtain the "management right"?** | |
| Management rights and transfer of responsibilities are not explicitly described in the PWRM2014, but is mentioned that WMGs will 'progressively taking over partial/full responsibility of water management'. The wording is ambiguous as it not clear whether it means the management of water infrastructure or the introduction of water management rules. In both cases de | It is proposed to come to clear structure where responsibilities are defined and endorsed.<br>The procedure for this should be worked out in the detailed rules or bye-laws. |

| | |
|---|---|
| facto there is no role of BWDB on the ground.<br><br>WMF are expected to coordinate and initiate collective | |
| **Which WMO level is expected to progressively take up of full or shared 'water management' responsibilities?** | |
| See above | The responsibilities transferred structure for the WMA in this respect may be better described. |
| **Which WMO level is responsible for mobilization of beneficiary contribution towards operation & routine maintenance cost?** | |
| Both WMG and WMA are given responsibility to collect irrigation fees (not water management fees) and are expected to make budgets | The systems and sanctions should be further developed |
| **Which WMO level is responsible for the operation & routine maintenance of the infrastructures as per agreement with BWDB?** | |
| There is a discrepancy in the PWRM2014:<br><br>Agreement with the BWBD only with WMA and WMF<br><br>Operational responsibilities with WMG and WMA | See above. The responsibilities for transferred structure for the WMA in this respect may be better described |
| **Which level of WMO is responsible for resolving water management (project) related conflicts?** | |
| All three levels play a role and this makes sense as conflicts occur at different levels and arbitration may be necessary from higher levels | The WMG will resolve conflicts at lowest level<br><br>The WMA will resolve conflicts between WMGs and will arbitrate in conflicts within WMGs that can be resolved<br><br>The WMF will resolve conflicts between WMAs and will arbitrate |
| **Is there any provision, in the said Regulation, of the non-registered and informal 'Block Committee' which is given the responsibility of the routine O&M works under IPSWAM?** | |
| The informal block committee coincides with the secondary level now associated with the WMA in the PWRM2014 | In defining the secondary level at which the newly formed WMAs will work hydrological sub-units may be selected. A secondary consideration is that the size of the WMA should be large enough to be meaningful.<br><br>These are consideration for the Office of Water Management to approve the registration. |

| What is the provision for formation of the WMGs, area/location wise? | |
|---|---|
| The PWMR2014 does not specify this nor does it do so for WMAs – yet it makes reference to 2008 document which accepts both village and small hydrological units | There may be more guidance on the size of areas to be covered by the WMG – now this is left open. |

| Which level of WMO is responsible for pursuing economic activities? | |
|---|---|
| The WMGs are expected to 'assess the scope for economic activities'. | Though it is not explicitly mentioned that the WMG will undertake such economic activities, they can serve as spring board and can add economic activities to their scope of work or support other units to do this. It is clear that WMGs can have a catalyst function for economic activities. |

| What are the registration provisions for the existing WMGs registered under Dept. of Cooperatives (DoC)? |
|---|
| This practice is discontinued |

| Can the existing WMGs registered under DoC remain as it is, and function accordingly? | |
|---|---|
| Need to be reregistered within six months after the issuing of the PWRM2014 | This period is too short also given the lack of registring staff. It is proposed to give a waiver and extend the existing registrations. |

| What is the membership size/numbers for the WMGs? | |
|---|---|
| There is no indication for this - | Given importance of direct contact it is proposed to have 200-250 household per WMG. A provision for this may be included in more detailed rules |

| On WMO formation and functioning: what is the level of consistency between the provisions of above Regulation and the implementation arrangements proposed in the inception report? |
|---|
| There is no discrepancy – the arrangements in the inception report (section 3.1) are in line with the Regulation – the only difference are the new registration procedures (directly with the BWDB) |

| How and by whom the process of WMO formation should be undertaken? | |
|---|---|
| Can be supported by anyone, projects are mentioned. The important thing is that WMO register themselves. There | The main challenge is consistency – in a large scale polders WMO will come into place at three levels. There |

| | |
|---|---|
| is also no bar on self development – in fact this should be promoted. | is a need that this done in an integrated consistent way and the PWRM2014 may further elaborate on this. |
| **Whether collective (economic) actions by the WMOs will enhance sustainability of the whole participatory water management cum agri-production cum business system?** | |
| This is not the thrust of the PWRM2014 which unlike the earlier systems of registration of WMO as Cooperative Societies has a more exclusive focus on water management.<br><br>There is a provision that WMG will encourage economic activities. Though this is important it does not prescribe collective economic activities by WMO nor does it create a legal framework for it. This does not mean that these are not useful of course. | Collective economic activities by WMO may contribute to the<br><br>It is hard to see however that this can be a uniform policy. The number of members even of WMG is large and the membership is varied. The idea of making a margin on a collective activity to contribute to maintenance may work in a number of examples but in many cases it will not. It will be useful to use WMO as a launching pad for economic actions |
| **Whether agricultural production and related business development are independent of water management and WMO formation & functioning? How best can these elements be synchronized for achieving the program activities and their longer term sustainability especially O&M of water infrastructures, enhanced agricultural production and related business by the producers?** | |
| See above. | See above. In principle these two activities are independent. There may be good opportunities to promote agriculture business activities and the WMOs, esp the WMG may play a role and provide the point of departure. One can not assume this will happen in all WMGs. As mentioned above using collective business activities to pay for the contribution to the O&M of water infrastructure is not something that is evident, though it can happen. |
| **Additional questions forwarded on 19 August 2014** | |
| **Does the Water Management Committee (for O&M) exist in the IPSWAM WMO's. And if yes, what is your impression regarding their functionality and effectiveness?** | |
| Reference is made to the concerned Technical Report 03 of the BGP. | The functionality of the WMOs has been honestly described and is summarized. In short many of the WMOs need restructuring, especially on the organizational side. This is also due to the complex and not always stimulating position in the past of the Dept of Cooperatives for the annual renewal. In terms of functional sustainability (doing maintenance, solving conflicts) the performance of the WMOs is better (usually satisfactory). |

**Could the way in which O&M organized and functioning in CDSP projects (if it exists) be a good example for Blue Gold Program?**

In CDSP funding for O&M remains with the project and funds are placed at the disposal of the WMO. This may be justified given special nature of these systems, but it is not sustainable.

**The same question is valid for South West project**

In the South West Project WMG are building up a maintenance fund based on a margin on LCS works – which should not be replicated. In the irrigation components service charges are collected to pay for the running costs – not the long-term maintenance costs. Again this is not a fully satisfactory arrangement.

**Should the WMA be given a more clear (and legal or within the legal boundaries) role in responsibility and funding for and implementation of O&M?**

Yes. A start has been made in the PWMR2014 but this should be strengthened by clearer system of sanctions.and legal responsibilities.

**Is the village based WMG the best option for Blue Gold program?**

At the lowest level a cohesive unit is of paramount importance, preferably linked to existing structures. As mentioned both systems (village and hydrological unit) can work in this respect, with village systems being the easier inroad

**How should responsibility, funding and implementation of O&M be organized?**

This is described in annex 1. The WMG is responsible for O&M at primary level – organizing in kind contribution and cash contribution and in the future making use of lease of khals and beels etc. and introducing modestly user fees. The WMA supervises the WMGs and takes care maintenance at secondary level – mobilizing contribution by WMGs in cash and kind and in future user fees.

**Additional questions forwarded 24 August 2014**

**Shouldn't the WMA be made responsible for organizing & coordinating O&M works with the WMGs?**

Yes – this is also foreseen in the legal documents.

**Shouldn't the WMGs be made responsible for generating funds/resources required for the O&M works and actually execute the O&M works?**

Yes – this is also foreseen in the legal documents.

**Shouldn't an O&M plan be devised and the costs of O&M per hectare be established?**

Yes – such O&M plans are part of the responsibilities of the WMGs and WMAs. WMGs and WMAs should be encouraged, coached and trained to make such plans. Much of the work will be done in a non-monetized way (in kind) – so calculating O&M costs per ha is not the only way to facilitate O&M

**Shouldn't a separate bank account be opened for raising O&M funds?**

See above. As part of development of WMOs this may be useful – but not compulsory.

**Shouldn't the primary responsibility for O&M cost lie with the benefitted farmers/fishermen whom should pay as per proportionate land/water holding**

Yes. Developing clear contribution formula is useful, there are several way to do so, proportionality being an important one

**Is it a good idea that portions of income from demonstration activities, provided free of cost by the project; portions of income from collective business activities conducted by the WMOs via their own funds and facilitated by the project; portions of income from other business activities, e.g. agri-machineries supplied free of cost (by FAO); and portions of the business activities done by the producer groups be deposited to O&M fund of the WMGs**

This can be considered and practicality should be checked, but they concern one-off opportunities so may not generate funds in the long run. They may be a lot of work for little long term result.

**What could be the optimal entry point for PWM: the water management unit or village boundary?**

See other points – can be either.

**Is a village based WMG a risk in Blue Gold polder types?**

No – cohesion is of paramount importance and village based organizations may have an advantage

**Could a village based WMG resolve water related conflicts?**

See above

| Could a village based WMG contribute to the stages of project cycle development? | |
|---|---|
| | Yes |
| **Are NGOs effective in water management based community mobilization?** | |
| | Experience from SW shows that small NGOs may be not be able to deliver. Larger NGOS may serve as foster organization. |

## Annex 2 Reassessment of original program assumptions and risks

This annex concerns part of the issues raised during the ISB assessment (internal to the Ministry of Foreign Affairs of the Netherlands), questioning the assumptions used during the formulation of the Blue Gold program. Assumptions underneath the Blue Gold concern:

- Theory of Change
- Risks and Assumptions identified in the Program Logical Framework

### 1. Assumption in the Theory of Change

In the documents provided to the mission no explicitly formulated Theory of Change was included. However from the Program Documents important assumptions can be derived. These are commented upon below:

*(1) 'Communities organized in cooperatives will have to become the driving force for the natural resources based development'*

This assumption, especially the emphasis on 'driving force' of cooperatives should be questioned:

1. Cooperatives are only one out of several options to promote economic development
2. 'Communities' may not be easily organized into cooperatives – producer groups may for instance, but they do not equate with communities
3. Not all cooperatives are successful
4. The bureaucratic nature of the registration and annual auditing of cooperatives can be discouraging.

A new development is that following the PWMR2014 the Department of Cooperatives is withdrawing its engagement from WMOs that were earlier registered as cooperatives.

**The review mission recommends that this assumption is no longer used but is replaced with the assumption that WMOs can in principle become the driving force for the natural resources based development. Furthermore, the overall development of natural-based economic activities can be promoted through a variety of interventions: cooperatives, producer groups or local enterprise and that the enhanced income creates a better basis to pay for routine and in the future structural maintenance.**

(2) *'Water Management Organizations are able to ensure long term routine maintenance of polder areas'*

This assumption needs more discussion and additional study.

1. There are indications that WMOs after closure of the projects that supported their development invariably go into decline - though probably less at functional level than at organizational level. A very likely reasons is that the social mobilization model that depends heavily on external organizing capacity and short term incentives may not help develop strong local organizations.

2. Particularly as Blue Gold is to set an example for participatory polder management it is important that a sustainable organizational model is developed. Recommendations on this are given in Aide Memoire, section 3.1.

***The review mission recommends that the TA Team working on Component 1 with the Water Management Department of BWDB undertakes a quick review including field visits of the current status of WMO established in various projects in Bangladesh over the last twenty years****. The aim of this review is to assess the actual sustainability of WMOs across the board. During the mission anecdotal evidence[30] was collected that in most project there is a rapid decline in the functioning of WMOs, once projects that (intensively) supported them come to an end.*

(3) *'Agricultural development activities will generate additional income that can be partly used for operation and maintenance."*

This assumption is likely to be valid but requires additional study.

1. There has been no analysis of the expected additional income generated from the water management improvements, the agricultural developments or value chain interventions. However, the logfram uses a number of indicators on additional yield that may be used as a starting point
2. Though not all can be studied beforehand, a better understanding of additional income created would be helpful for instance in the discussion on the funding of maintenance activities. Existing estimates from IPSWAM and Blue Gold suggest that the cost of routine maintenance is in the order of Euro 3/ha and regular maintenance of Euro 15/ha.. These amounts are not insurmountable but should be compared with the additional income generated.
3. Similarly it would be helpful to have a better understanding of the distributional effect of the different project interventions in these respects. The distributional effect should also look at the effects of transferring money (for instance through) LCS to money-scarce, undercapitalized economic systems as found in the Blue Gold polders, where this can have a large multiplyer effect..

(1) The above would also guide the project activities and their prioritization.

***The review mission recommends that such an economic analysis be undertaken by the TA Team working on component 3 with the possible engagement of a short term specialist.***

[30] Time was too short for the Review Mission in addition to assess the multicomponent project gather more than anecdotal insights based on interviews with key persons on the other participatory water management projects. Of relevance are particular those projects that have closed down for a number of years to learn on do's and don'ts in sustainability.

## 2. Assumption in the Logical Framework

The Annex 3 of the Program Document[31] contains the Logical Framework, including a number of risk and assumptions with the respect to the intervention logic.

A number of these assumptions are reassessed:

*(1) 'Sufficient allocations for O&M by the Government.'*

There was no analysis of the O&M budget availability. In Technical Note 42 of IPSWAM however the O&M arrangements were assessed including a number of serious constraints – such as availability and planning process. This appears to be only more rather than less valid. During field visits the O&M funds made available to the XEN were estimated to be Euro 1-10/ha. The larger problem however is that they are not available in time, subject to lengthy procedure and can lapse at budget year closure.

As a result of the omission above working with the BWDB on O&M funding and arrangements was not included in the project. The review mission recommends to correct this (Aide Memoire Section 3.2)

*(2) 'Delays due to bureaucratic procedures of BWDB limited'*

This assumption is stated in general terms but for project implementation three work elements are relevant:

- Field assessment
- Design
- Registration of WMO

The delays are however a distinct reality – they are caused not so much by bureaucracy as they are by professional staff availability (see also chapter 2). Measures to address these are discussed in Section 2.

(3) *'Department of Cooperatives is supportive'.*

This assumption is discussed above and is not valid. The main points are: (1) Department of Cooperative is withdrawing from WMOs following PWMR2014 and (2) the audit procedures were a burden on the WMOs – with money having to be paid for approval. This is discussed in Aide Memoire section 3.2. The withdrawal of the Department of Cooperatives from the WMO may be a positive change: the procedures for reregistration of WMGs was cumbersome and also partly contributed to the disappointing organizational performance of WMGs after project termination in IPSWAM for instance. The new arrangements under the PWRM2014 are more conducive – the main worry is the availability of BWDB staff to fulfill the functions.

[31] Government of the Netherlands and Government of Bangladesh (2012) Program for Integrated Sustainable Economic Development by improving the Water and Productive Sectors in selected Polders. Blue Gold Program Document.

## Annex 3 Summary of WMA/WMG functionality

The functionality of the WMOs set up under IPSWAM was assessed by the Blue Gold Assessment. The table below is a summary of the assessment taken from the Technical Note.

There is a high degree of 'fall-out', as apparently in other similar projects. In several cases functional activities (conflict resolution, operation and maintenance) continued at satisfactory level, whereas the formal organizations as such did not continue.

The outcomes of these surveys should prompt reflection on alternative arrangements that secure the long term functionality of water management organizations.

| WMA | A<br>Working well | B<br>Minor adjustment needed | C<br>Major restructuring needed | Dormant |
|---|---|---|---|---|
| Polder 22 | 1 | | | |
| Polder 30 | | 1 | | |
| Polder 43/2D | 1 | | 1 | |
| Polder 43/2F | | | | |
| Total | 2 | 1 | 1 | |

| WMG | A<br>Working well | B<br>Minor adjustment needed | C<br>Major restructuring needed | Dormant |
|---|---|---|---|---|
| Polder 22 | 2 | 5 | 3 | 2 |
| Polder 30 | 2 | 8 | 11 | 20 |
| Polder 43/2D | | 5 | 13 | 12 |
| Polder 43/2F | 3 | 1 | 22 | 1 |
| TOTAL | 7 | 19 | 49 | 35 |

## Annex 4 Water safety measures and climate change effects

This annex is prepared in response to the question in the terms-of-reference of the annual review mission, i.e. *'what strategies could be recommended for enhanced water safety measures including heightening of embankments, in view of climate change effects?'*

### Climate change effects

Climate change effects for the Blue Gold area have been assessed in studies by Institute of Water Modelling. They concern:

1 Coastal Inundation

In a study conducted by IWM for WARPO assessed the effect of sea level rise (SLR) on coastal inundation, salinity intrusion, drainage congestion and storm surge. The results show that, in the year 2100 for a SLR of 88 cm, about 11% area (4,107 $km^2$) more of the coastal zone will be inundated beyond the area inundated in the year 2000 due to upstream stream flow flooding, and the entire Sundarbans will be inundated. Due to 32 cm SLR in 2050, 84% of the Sundarbans will be deeply inundated.

2 Salinity

At a SLR of 32 cm, 10 to 20 ppt salinity level will intrude more in the Sundrabans. The 5 ppt saline front will penetrate about 40 km inland for a SLR of 88 cm which will affect the fresh-water pocket of the Tentulia River in Meghna Estuary.

Groundwater salinity in nine upazilas of southwestern coastal region in the districts of Khulna, Jessore and Sathkhira was investigated based on samples collected from 272 randomly selected tubewells during 11-23 December, 2011. The minimum salinity in shallow aquifer was found in the range of 51 ppm to 338 ppm and the maximum from 294 ppm to3751 ppm. About 18% shallow tubewells and 5.6 % deep tubewells were found to have salinity in excess of 1000 ppm. About 86.7% of the respondents of a household survey reported to use groundwater and 79% of them did not perceive increase in salinity.

3 Drainage Congestion leading to Inundation

Increase of water level in rivers surrounding polders will be about 30 cm and 80 cm, respectively for SLR of 32 cm and 82 cm and this will cause in drainage congestion resulting in inundation as shown below.

Area (ha) experiencing 3-day inundation above 30 cm in October

| Polder | Total area | Inundated Area (3 day) for different SLR | | |
|---|---|---|---|---|
| | | No SLR | 32 | 88 |
| 25 | 17,594 | 600 | 1,600 | 2,800 |
| 36/2 | 13,322 | 3,000 | 5,300 | whole area inundated |
| 37 | 36,539 | 0 | 4,500 | 10,000 |

4 Cyclonic Storm surge

A 10% increase in wind speed above that of 1991 cyclone in combination of 32 cm SLR, will increase the surge height by 1.2-1.7 m near Kutubdia-Cox.s Bazar, eastern coast of Bangladesh. This would cause an increase of coastal inundated from 42% to 51.2% for a 1991 magnitude severe cyclone.

**Safety and adaptation measures**

To provide protection against increased inundation and flooding would require raising heights of embankments, and mitigating drainage congestion and salinity intrusion would require a properly functional sluice gates.

1 Raising of embankments

Embankments may be raised to adjust to the expected sea level rise and also to correct for the corrections of mean sea level. The increase will vary from place to place – but may be 1.2 meter at minimum.

Raising of embankments will cause them to have a wider base. This would require land acquisition where people may not contribute land voluntarily. In several cases borrow belonging to the BWDB may be available. Land acquisition is a lengthy process which may require upto 2 years or more. This may cause delay in implementation. There is a cost factor too: both in case of voluntary land contribution and land acquisition, compensation is necessary.

Further during field visit this Review Mission noticed that LGED has paved the top of some embankments and even it was reported that a portion of embankment top was sliced off to increase the required roadway with. Raising of embankments would require removal road pavement but there is no provision in the budget to re-pave the roads. It is understood that BWDB also has mandate to construct road on top of its embankments which could be useful for coordination between embankment and road works. Future works may look into this possibility.

It should also be noted that raising embankment will not safeguard them against a second menace in the coastal water system, i.e. the threat of river erosion. This river erosion may affect non-climate proof and climate proof embankment easily and it may even be argued that addressing river bank erosion is a higher or at least more immediate priority. It also calls for selective investment in increasing embankment levels.

2 Better water buffering to addressing salinity

To mitigate the impact of salinity, fresh water storage using rain water and otherwise flowing fresh water in the re-excavated canals may be explored where possible. This may require the deepening of non-discharging khals, the deepening of discharging khals below sluice sill level and the promotion of water ponds.

In areas where groundwater is saline, managed aquifer recharge is planned to be experimented by the Blue Gold project involving pumping of fresh water into aquifers or installing boreholes filled with sand at canal beds to facilitate infiltration. Injection

systems such as installed by Geology Departement of Dhaka University and Acacia Water may be considered too, especially for drinking water.

### 3 Promoting more saline tolerant varieties

To deal with increased salinity saline tolerant varieties or crops can be introduced and farmers experience with such salt tolerant crops further disseminated.

### 4 Mitigating drainage congestion

This would require ultimately to no longer rely on surface/ tidal drainage and to shift to the lift system. Preferably these would use renewable energy: for cost reasons but also since there is no power supply in the coastal polders. With rising level in the rivers sluice gates would need to be reinforced and adapted.

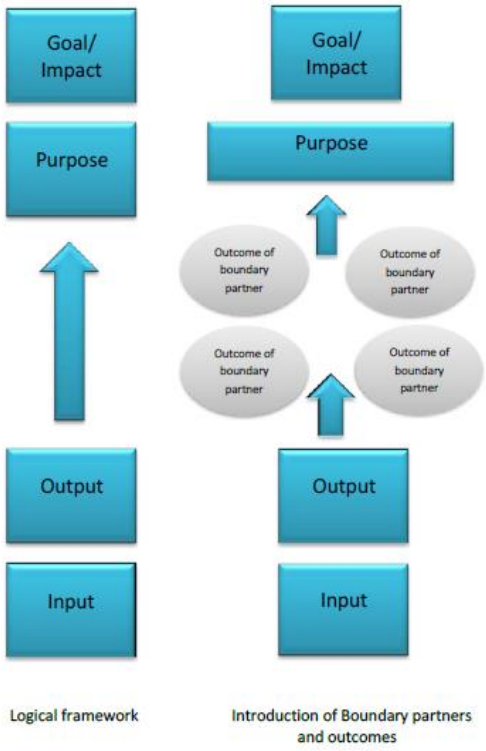
### 5 Flood shelters

Newly constructed buildings may be combined with flood shelter functions, if Blue Gold budget allows.

## Annex 5 Assessment of the Blue Gold M&E system

### Introduction

The Monitoring and Evaluation (M&E) System aims to trace and report on the achievements and results under the Blue Gold Program. The M&E System comprises components that enable the Program Management to generate lessons learned and provide oversight of interventions supported and/or facilitated under Blue Gold. The M&E System also means to establish a framework to enable Blue Gold to involve beneficiary communities and stakeholders in a participatory review of results and to obtain systematic feedback on performance and input from stakeholders towards the design and implementation of development interventions supported and/or facilitated by Blue Gold.




The Blue Gold M&E System is based on a logical framework structure as well as outcome mapping system. Part of the information comes from a special base line whilst others come from using studies undertaken in the project. In the classical logical framework the purposes and goal (impact) are achieved through the intervention logic of inputs, outputs and outcomes, whereas all other factors are classified as risks or assumptions. This is not appropriate for more complex project such as Blue Gold – where a contribution is made to broader social change and the behavior of many players is affected. This broader impact is captured by the outcome mapping. This is illustrated in the figure above.

Key components of the outcome mapping are:

1. Identification of key partners, called *boundary partners*;
2. Description of the *outcome challenge* of these boundary partners, which refers to the ideal future situation in the context of each of these partners;
3. Formulation of a set *progress markers for each boundary partner*, which can be defined as the indicators along the road to the achievement of the outcome challenge. The set of progress markers describes the desired process of social change for each of the identified key stakeholders.

The baseline survey is meant to as the benchmark for comparing and impact measurement. The baseline survey will also assess the existing conditions and issues affecting target communities and beneficiaries and provide the Blue Gold Program with

an in-depth understanding of the socio-economic situation of the households in the targeted polders.

### Comparing logframe indicators with base line survey and outcome monitoring

Though the M&E primarily is oriented towards the Blue Gold indicators given in the project logfram, In the base line survey and outcome monitoring not all 54 (!) indicators of the logfram are included in the M&E system. In most cases this is because the particular indicator does not lent itself to general base line monitoring. Where the original indicators are excluded, alternative arrangements have been made.

An overview of indicators not addressed in M&E system is given below:

**Program goal and purpose**

- Income related indicators such as "30% increase in household assets" and "average annual household incomes in Blue Gold polders have increased with Tk 15,000" **are not included** in the Outcome Monitoring or Baseline Survey anymore but replaced by the PPI index;
- Indicator 2 "846 WMGs (existing and new) of which 30% (250) perform production and economic activities" **is not included** in the outcome monitoring system and baseline survey. A separate study for finding which percentage of WMGs perform production and economic activities is recommended**;**
- Indicator 3b "At least 2250 LCS women (30% of 7500 LCS women) are engaged in production / income earning" **is not included** in the outcome monitoring system and baseline survey.
  A separate study to measure this indicator is recommended**.**

**Component 1: Community Mobilization and Institutional Strengthening**

- The six Logical Framework indicators of component 1 **are included** in the outcome monitoring (progress markers water management groups). Data will be collected using tablets or android phones with e-formats of the progress marker index sheet of WMG. The progress marker form is filled in by the Community Organizer in a meeting with WMG Representatives.

**Component 2 Water Resource Management**

- The indicators 1 and 2 concerning water management infrastructure fine-tuning and polder rehabilitation **are not directly included** in the outcome monitoring and baseline survey. According to the Blue Gold Program Inception Report, monitoring of the fine-tuning works and polder rehabilitation is planned through an initial environmental work plan:

*"For the planned water infrastructure works under Component 2, IEEs and/or EIAs will be required by law. An initial environmental work plan has been detailed in the following table with regard to three different types of polders where Blue Gold program will be implemented." (page 90)*

| Type of Work | Total area in the program (hectares) | No. of polders | Environmental work plan |
|---|---|---|---|
| **Rehabilitation** | 25.000 | 5 | 5 polders planned for rehabilitation program will require environmental studies and scrutinies like Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA). The IEE studies of the 5 polders will be carried out by the team of Environmental Expert and BWDB Environmentalist along with relevant Field Assistants. Preparation of Initial Environmental Examination (IEE) will include the following main issues -<br>• Description of Physical, Biological and Social environment<br>• Project interventions<br>• Anticipated environmental impact<br>• Hazard/Risk and mitigation measures<br>• Economic impact<br>• Environmental Management plan<br>• Environmental Monitoring Plan<br>• Capacity building and training<br>• Audit and follow up<br>• Public consultation and information disclosure<br><br>After formation of WMOs, selected members will be trained on various environmental issues for awareness building and capacity building for sustainable environment in the polder areas depending on requirement.<br><br>If EIA is necessary for environmental approval from Department of Environment (DoE) which will be most likely out sourced. |
| **Fine-tuning** | 90.000 | 12 | • These polders are rehabilitated by ECRRP and CEIP projects and needs to be reviewed in terms of environmental perspectives.<br>• No WMO has been formed yet. After formation of WMO's, awareness and capacity building training will also be provided on environmental issues. |

| | | | |
|---|---|---|---|
| | | | • Formation of SEMP is not already done by ECRRP/CEIP |
| **Fine-tuning IPSWAM** | 45.000 | 9 | • Evaluation of current environmental conditions of the polders and status of IPSWAM's SEMP.<br>• Evaluation of existing status of SEMP<br>• Identify gap and take necessary action to update the SEMP in WMOs through refreshing training on sustainable environmental condition |
| **Total** | **160.000** | **26** | |

- Indicator 3 **is not directly** monitored through outcome monitoring and baseline survey. This Indicator is basically monitored through the development of Polder Development Plans (PDP) and Village Action Plans (VAP) in which Landless/Labor Contracting Societies (LCS) are selected for earthwork. According to the Blue Gold Program Inception Report:

*"The implementation planning, both for fine tuning and rehabilitation polders, is the process of participatory selection & prioritizing, surveying and assessing, budgeting, validating by WMOs, designing, contracting and implementation of the system elements. After completion of the multi-disciplinary planning/assessment and validation by the WMOs, the following activities will be carried out for implementation of the selected works: Selection of contractors/LCS and work award." (page 36)*

**Component 3 Food Security and Agricultural Production**

- Indicator 1.3 **is included** in the Outcome monitoring (WMG level 2 baseline survey in B –Community- (question b5). However it is recommended to add a question on how many FFS farm practices have been adopted by the farmer into the baseline survey**;**
- Indicator 3.2 regarding advanced FFS perform Participatory Action Research is **not included** in the Outcome monitoring. A progress marker in the DAE list for this indicator is recommended.

**Component 4 Business Development**

- The indicators of the program goal "Value chains for selected commodities are strengthened" are included in the baseline survey part E – business & Finances. However indicator 1.1 have to be analysed more in depth in a value chain study;
- Indicator 2.2 is included in the baseline survey (part B – Community – in question B.1). However it is recommended to add a new question in the baseline survey regarding to farmers 'cooperation in a producer group.

**Component 5 Cross-cutting issues**

Indicator 1 ( Annotated Water Integrity Scan (AWIS) adopted and disseminated) is **not included** in the outcome monitoring. An outcome monitoring progress marker for this indicator in the BWDB part is recommended.

Indicator 3 Increased women's leadership is **not included** in the outcome monitoring or baseline survey. A separate study in order to indicate the increase of women leadership during the project is recommended.

Indicator 6 (Environmental conditions in Blue Gold polders improved) concerning sustainable environmental management plans is **not directly included** in the outcome monitoring and baseline survey. According to the Blue Gold Program Inception Report, The SEMPs will cover the following:

- *Environmental management planning and monitoring of Component 2 activities, based on the drafted IEEs and EIAs for the planned water structures construction/fine-tuning;*
- *Plan of environmental actions, based on 'lessons learnt' from previous projects (i.e. IPSWAM, SWAIWRPMP and CDSP etc.) as well as environmental review studies and activities carried out in ECRRP and CEIP polders;*
- *Plan of environmental actions regarding Component 3 activities, based on environmental reviews and outcomes of water and soil quality tests, which are either carried out by Blue Gold staff or readily available from other organisations (i.e. World Fish, BRRI, SRDI);*
- *Plan of other environmental improvements based on needs of WMOs.*

- Indicator 7 concerning Community Based Disaster Risk Management (CBDR) strategies **is not directly** monitored in the outcome monitoring and baseline survey but through the development of the Polder Development Plan (PDP) and Village Action Plan (VAP). According to the Blue Gold Program Inception Report:

"*Developed CBDRR plans will be part of the polder development plan (PDP). From CBDRR, relevant DRR issues will be included in the village action plan (VAP). A DRR expert will help provide and mobilize knowledge, skills and resources required for mainstreaming DRR/CC adaptation into the activities of Blue Gold. S(he) will work closely with the five components to mainstream DRR/CC adaptation into the existing activities." (page 94).*

- Indicator 8 and 9 concerning innovative technologies/solutions in water management and agricultural production are **not directly monitored** through outcome monitoring and baseline survey. Additional supportive studies and innovations may emerge from other projects/programs or organisations in Bangladesh, or from Dutch (knowledge) institutions or enterprises. **Those are not immediately part of the Blue Gold project and its monitoring system.** Two separate Funds are created within Blue Gold: the Water Management Fund under Component 2 (water resources management) and the Production Support Fund under Component-3 (agricultural production and food security). Initiatives can be submitted during the whole Blue Gold period of 6 years.

### Timing of the baseline survey

In every village of a selected polder where WMO's have not yet been formed, existing stakeholder/interest groups will be identified. Especially in green field operations, the stakeholder household survey will be an important tool in identifying the different stakeholder groups in the polder area.

In the inception report, it is proposed that the baseline survey will be conducted in 10-11 polders. Those polders are not part of the 9 IPSWAM polders and exclude the 5 polders in which implementation will be completed only in 2018.
It is proposed that the baseline survey will be done in the 4 polders and 2 new projects during the 1st year (from September 2013 onwards). The schedule for the other 4 will depend on when selection is done. The last baseline survey will be done towards the end of project implementation.

However the Blue Gold Program work schedule is timewise very tight. This can create the situation that implementation in a polder is already starting while participatory multidisciplinary data collection (that includes the baseline survey) has not finished yet.

Critical now is the capacity of to undertake field surveys. The workload moreover will further increase when work starts on polders where major rehabilitation is required and work and expenditures will be more elaborate.

**It is recommended that the overall project planning is updated to see whether with current work process the overall results can be achieved.**

## Annex 6 Field visit observations

### 26 August 2014

In the early morning, the mission travelled by Air to Jessore then by road to Narail to learn and get first hand experiences about operation of ADB funded South West Project.

First the Mission attended a meeting at Water Board Office with Blue Gold Staff, and WB staff. About 30- 35 participates were present. The meeting began with a presentation on South West project that included operation of WMGs, O&M activities, registration process of WMGs, LCS activities, IGA activities, auditing process of WMG accounts and exit strategies.

At present for O&M fund, Tk. 60 per acre per year are being collected from the members and deposited in separate O&M account. For pumped irrigation water, 1 kg paddy per decimal land per year is being collected as charges for irrigation water. Sale proceeds of the collected paddy are being deposited in the O&M account. WMGs and WMAs are stated to be in operation successfully, and they are enthusiastic and becoming ready to take over the pumps including paying of electricity bills, O&M of pumps, O&M of embankments, etc. It appears from the discussions, WMG members are confident that they have improved their livelihoods. Present activities of the WMGs are described as satisfactory and likely to be sustainable.

Next a meeting was held with Falguni WMG members of Chencuri sub-project known as Narail subproject. About 40 male and 30 female members were present. The Mission exchanged views with the members on various aspects of WMG operation, water management and O&M activities, savings/shares, and other IGA activities. The members seem to be happy with the support and assistance they are getting currently.

3rd Meeting was held with the Kolmilata Water Management Cooperative Society within the project area. The Mission interacted with the members freely and got their impression about the South West project and IGA activities of WMG and beneficiary members. It appears that the members are interested enhancing their income via ensuring integrated water management and other IGA activities, but at present their activity is only at the initial demonstration level being guided by one inspiring young leaders who presented himself enthusiastic in seed production, honey processing, and irrigation using two shallow tubewells, doing urea briquette manufacturing etc. These are not IGA activities rather these are 'collective business activities' done by WMG members with their own funds

Then the team travelled to Khulna by road and night halt was at KHULNA.

### 27 August 20144

In the morning, the Mission along with Blue Gold staff and WB officials visited Muchimara khal and observed LCS activities there in Polder 22 in Khulna.

Next the team attended visited FFS and a WMG meeting at Bigordana in Polder 22 within Piakgacha Upazila, Khulna. This polder is in the Blue Gold project area. A total of about 50-60 members participated in the meeting. The Mission interacted with the members freely. This polder was also under IPSWAM project and handed over to WMG in 2008.

After the IPSWAM project and until taken over Blue Gold project, the activities were running but not in full swing. Blue Gold reactivated the WMGs and undertook different activities to reorganize the WMGs. In mean time, WMGs have undertaken canal re-excavating works by forming LCS women group having 84 members. LCS group organizes earth works via subgroups having 10-12 members. The team tried to understand the situation "before and after" IPSWAM and after Blue Gold initiatives, LCS and other component activities, enrollment of EMG members, etc. WMG members mentioned that electricity connection and improvement of internal road communication are among the key requirements for improving their livelihood. Various IGA activities including production of higher income earning crops are on-going. Storage facilities are not present. Post-harvest processing and marketing support are required for the farmers to earn higher income from the crops production. The WMG members expressed satisfaction to know that from now on BWDB will register the WMGs. It appears that women rights improved significantly in the polder area.

The members mentioned that comparing periods of pre-IPSWAM, IPSWAM and Blue Gold project, they are now more organized, more optimistic and determined that they can significantly improve their income in sustainable manner utilizing modern technologies and techniques and updated knowledge. Ensuring fair price for agricultural commodities to the farmers is a big challenge. Value adding post-harvest and marketing support are required for the farmers of WMGs. Water melon, sesame, mungbean and other high earning crops are becoming very potential crops of the area. FAO distributed several agriculture machineries to this group on grant basis. The WMG is on the way to develop agreed guidelines and manuals for the machinery use to ensure equal access to the WMG members.

Polder Development Plan (PDP) has been developed, different capacity development training has been organized, and monitoring of activities, particularly LCS activities and auditing of WMG accounts are on-going.

At around 12:30 PM, the Mission crossed a Bhadra river by boat and observed two river erosion points of Polder 29. Upon discussion with the WMG members it was observed that there are worries and uncertainties among affected members about safety of the polder area. The Mission felt that some provision should be made in Blue Gold Project for emergency repair for protecting a polder endangered by river erosion. Due to absence of timely and regular action on O&M (routine and major) for the embankment this situation arises, which complicates the situation and increases the costs of repair/retirement dramatically in the future. Then a discussion meeting held with about 80-90 members (60% M and 40%F) of Senpara WMG. IPSWAM worked in this polder also. This WMG started and in 2005 and registered in 2008. As reported, the WMG is active and meetings are held regularly. Activities include O&M activities, agriculture production, credit operation by WMG among the members, monthly savings, sluice gate operation and maintenance are in operation. Out of 775, 75 households have been included in WMG and many HHs are showing interest to join the group. Two WMAs, 3 WMGs, LCS sub-groups, fisher sub-groups are in operation. WMA is operating 7 Sluices via gate committees. Scope exits to lease canals and small water bodies and borrow pits to landless and other WMG members. High potentials was found for fish culture, livestock and poultry rearing, FFS groups formation for vegetable gardening promoting high value crops and other potential IGAs. Ground water is not saline and has potential

to increase agriculture production in the dry season via using shallow tube well in polder area.

The members opined that stopping saline water intrusion and integrated use of water for IGA activities particularly for agriculture production are the real key factors for their livelihood improvement. The members mentioned that comparing periods of pre-IPSWAM, IPSWAM and Blue Gold project, they are now more organized, more optimistic and determined that they can significantly improve their livelihood and can sustain utilizing modern technologies and techniques and updated knowledge.

Night halt was at KHULNA.

### 28 August 2014

The Mission visited a SAFAL project area in Polder 17/1 at Atlia in Dumuria upazila, Khulna. A meeting was held witht wo shrimp grower groups. Solidaridad and Uttaran are involved in the project which started in May 2014.

As this is saline area most people are engaged in commercial shrimp culture. SNA and UTTARAN (an NGO) are working on the development of Shrimp value chain development involving small and other farmers. The implementers are providing various training for capacity development and institution building. Various staff from Uttaran are working there. Emphasis is on business development and value chain development. As expressed, currently the shrimp culture is not very profitable and biggest challenge is saline water intrusion and water logging. Virus infection in the shrimp culture is the biggest threat. SAFAL is introducing latest technologies and protective measures for organic value development of shrimp. With good management measures potential scope exits for higher income from the shrimp cultivation. They expressed the need for sluice gate for drainage polluted water from shrimp fields and intake of suitable water. Also internal road construction is required to develop communication and carriage of produce. Not much scope exits for crops other than rice in the area. Fish culture is about three time profitable than rice cultivation. The inhabitants of the polder are mostly very poor and landless.

In the afternoon, the Mission visited project office of the Blue Gold Project at Khulna. First a video presentation on some IPSWAM activities was given followed by discussion with Blue Gold project staff about their activities. Blue Gold project has started various activities in the selected polders. More close cooperation and coordination among the components are required. Scope exits for more close coordination between Blue Gold staff and DAE field staff for FFS activities integrating suitable high value crops and post harvest and marketing assistance as well as other IGAs particularly short value chain establishment for such items as vegetables, scavenging chicken, etc at local level initially.

Night halt was at KHULNA

### 29 August 2014

The Mission left Khulna for Patuakhali in early morning and reached Patuakhalli BWDB office around 11:30 am road. First had discussion was held the Suoerintending Engineer and Executive Engineer to have overview about their activities, especially O&M budget and activities. Patuakhali BWDB Circle headed by a SE having Executive Engineers for 3

BWDB divisions. A total of 18 polders are in operation in the area and as reported about Taka 70-100 crore is required annually but very little fund provisions are made in the budget allocation for O&M, for example last year only Tk 4 crore allocated for O&M.

In the afternoon the Mission visited a breached portion of Polder 43/2B due to severe river erosion. Water is entering the polder are continuously causing damage and livelihood activities to crops. Another reach in the vicinity is also under threat of being braeched any time.The name of the river is Dharandi river and nearby river is the Golachipa river. The embankment is 42 km long. Then the Mission had open discussion with WMG members and UP Chairman on the issue of the protecting the damaged embankment. Combined action by the WMG and UP Chairman was not enough to save the embankment. The WMG is running by an Ad hoc Committee as per latest circular. This polder is also the Blue Gold project area. Total number of HHs is 260. WMG is in process of registration and has fulfilled minimum required criteria. The area experienced heavy damage on Aus rice, fish culture and animal feed during last and on-going season due to intrusion of water in the polder area. The urgent support and assistance for emergency repair is necessary to prevent production damage and to improvelivelihood.

Later the Mission witnessed FFS field day at Choto Auliapur South village on homestead gardening including IPM practices, poultry rearing, cow rearing and beef fattening and nutrition aspects. The FFS group having 24 farmers was organized, which included 8 sessions for homestead gardening, 8 sessions for nutrition and 8 sessions for livestock rearing. After completing FFS, the group organizes a demonstration and field day for other members of the WMG and community to disseminate the learned production technologies and share experiences gained. This event was one of the field days planned under FFS. It appears that it is a visible and noteworthy activity.

## Annex 7 Programme 1st Annual Review Mission

| Date | Time | Activity | Persons/met |
|---|---|---|---|
| **Saturday 23 August** | 10:00 am – 17:00 pm | Kick-off Seminar with presentations of all components (BWDB + DAE + TA team) | See list of participants |
| **Sunday 24 August** | 09:00 – 10:30 am | Initial meeting and Briefing at EKN | HE Ambassador G. de Jong<br>Martin Bos<br>Carel de Groot<br>ATM Khaleduzzaman |
| | 12:00 - 19:30 pm | Component-wise discussions with Blue Gold TA Team | |
| **Monday 25 August** | 10:00 am – 20:00 pm | Component –wise discussions<br>Discussion with Chief Water Management BWDB<br>Discussion at DAE/ DANIDA Team<br>Discussion at LGED<br>Participatory Small Scale Water Resource Sector Project<br>Discussion with J van de Wal, Team Leader Char Development | Dhaka<br>Rilal Norslund and team<br>Shahidul Haque<br>James Peter Grindey |
| | Evening | Dinner party | Gulshan |
| **Tuesday 26 August** | Morning 08:00 am | Travel by plane to Jessore, discussion with PMO, Consultant & field visit to Southwest Project, Narail<br>Chencuri Irrigation Sub-project and had meeting with WMG<br>Kalmilata Water Management Cooperative Society | Tavelled by car to Khulna night halt at Hotel City Inn, Khulna |
| | | | |
| **Wednesday 27 August** | All day | Field visit<br>Polder 22, Piakgacha and had meeting with WMG members<br>Polder 29 visited River erosion area, Dumuria, Khulna. Met Senpara WM members. | WMG members seem to be happy |

| | | | |
|---|---|---|---|
| **Thursday 28 August** | All day | Field visit<br>Dumuria, Satkhira, Polder under SAFAL and had discussion meeting to have free exchange of views.<br>Market place (collection and processing of shrimp)<br>Blue Gold Office, Khulna<br>Discussion with XEN Subdivision 2 and Team | Water logging and intrusion of saline water are the key constraints |
| **Friday 29 August** | Morning (06:00 am)<br>ETA Patuakhali: 13:00 | Travel to Patuakhali by car<br>Discussion with SE and XEN | SE Office, Patuakhali<br>Blue Gold Office Patuakhali |
| | 14:00 – 18:30 pm | Field visit<br>Polder 43/2B river erosion point and had discussion meeting with WMG members and Chairman, UP<br>Witnessed FFS field day at Choto Auliapur South | 42 Km long polder<br>Very impressive demonstration by FFS women participants<br>Patuakhali to Jhlokathi by car |
| **Saturday 30 August** | Morning (08:00 am) | Arrival Dhaka Saturday morning around 08:00 am | Travelled by Boat |
| **Sunday 31 August** | Morning | Studying project reports | |
| | Afternoon | Discussion meeting among members and studying reports at Blue Gold Office<br>Discussion with MAX Team<br>Discussion with Andrew Jenkins, BRAC | Imam Mahmud Riad<br>Ahidul Islam Kazal<br>Niels van den Berge |
| **Monday 01 September** | Morning (9:00 AM) | Feedback discussion with PCD BWDB<br>Meeting with Department of Cooperatives | Mr. Assaaduzzaman, Additional Registrar, DOC<br>Mr. Abul Hussain, Joint Chief and Head, Water Cell<br>Mr. Nityananda Chakravorty, Consultant, were present |

| | | | |
|---|---|---|---|
| | Afternoon | Meeting with EKN at the Embassy<br>Discussion with J. de Heer, Team Leader Delta Plan | Concerned personnel of the Embassy attended the meeting. |
| **Tuesday 2 September** | Morning (8:30 am) | Department of Agriculture Extension | Mr. Abbas Ali, DG, Mr. Pijosh Kanti Sarker, Director, Field, Ms. Tahmina Begum, PD, DAE Component and Mr. Saharuddin, Consultant were present |
| | Afternoon (2:30 pm) | Meeting with Solidaridad Network, Asia<br>Agriculture Master Plan for South West Coastal Region | Selim Reza, Country Manager<br>Dr Z Karim<br>Dr M Shamsul Alam |
| **Wednesday 03 September** | Morning (9:30 am) | Bangladesh Water Development Board (BWDB)<br>De-briefing with DG, BWDB | Concerned BWDB concerned with Blue Gold Project were present |
| | Afternoon | Discussion at Blue Gold Office and preparation of the draft Aide Memoire | |
| **Thursday 04 September** | Morning 9:00 AM to 11:45 AM | De-briefing at the Dutch Embassy | Honourable Ambassador, First Secretaries and other experts and staff attended the presentation |
| | Afternoon 2: 00 PM to 3:00 PM | De- briefing at the Ministry of Water Resources | Secretary, Additional Secretary, Joint Chief (Planning) and concerned BWDB personnel including DG, BWDB participated. |
| **Friday 05 September** | Whole day | Draft Aide Memoire completion and submission | Mission completed. |

**Mission Members:**

Dr. Frank van Steenbergen (mission leader)
Dr. Fazlul Bari
Dr. Arun Kumar Saha

Persons met – on 23 August and later:

BWDB

Masud Ahmed
Saidur Rahman
G. S. Sutradhar
Abul Kausar
Kamruzzaman Khan
Shafiqul Islam

DAE

Tahmina Begum
Abbas Ali
Pijosh Kanti Sarker
Saharuddin

TA Team

Dirk Smits
Hero Heering
Alamgir Chowdhury
Vicky Pineda
John Marandy
Shorab Hossain
Mofazzal Ahmed
Mahmudur Rahman Aveek
Farzana Rahman Moury
Hein Bijlmakers
Ashraful Islam
Tanvir Islam
Shahidul Haque
Kabil Hossain
Abul Kashem
Aowlad Hossain
Shawkat Ara
Chital Chandra Das
Anis Pervez
Khairul Islam
Md Jasim Uddin
Umme Kulsum Khanam

## Appendix 1

Terms of Reference First Annual Review Blue Gold Program

### Background

The Blue Gold Program started in March 2013 and extends over a 6 years period, until March 2019. Its operations concentrate on the polders of three districts in the Southwest of Bangladesh: Patuakhali, Khulna and Satkhira. The Program covers 160,000 ha (gross) where an estimated 150,000 household will have direct benefits from the Program.

The overall objective of the Blue Gold Program is:

*"to reduce poverty for 150,000 households living on160,000 ha of selected coastal polders by creating a healthy living environment and a sustainable socio-economic development".*

The specific objectives of Blue Gold are:

I. *To protect the communities and their land located in polders against floods from river and sea (climate change adaptation) and to optimize the use of water resources for their productive sectors.*

II. *To organize the communities in cooperatives which will have to become the driving force for the natural resources based development (agriculture, fisheries and livestock), whereby environment, gender and good governance are effectively addressed.*

III. *To increase the household income derived from the productive sectors.*

IV. *To strengthen the institutional framework for sustained water resources development and related development services in the SW/SC coastal zones*

The essence of Blue Gold is:

i) to establish and empower community organizations/water management organizations (WMOs) to sustainably manage their water resources and to make these resources more productive;
ii) The Program aims to create strong cooperatives that will interact with public and private organizations that play a role in the development of the area;
iii) Participatory water resources management is the entry point and the initial driver of the community organization process; and
iv) The explicit objective of Blue Gold is to reduce poverty of the people in the coastal areas by enhanced productivity of crops, fisheries and livestock and increasing incomes by improved processing and marketing of agricultural products including value chain development.

Further information on Blue Gold objectives, strategy and planned activities is contained in project document, inception report and a number of technical and field mission reports.

### Review Missions

Six review missions are planned:

| | |
|---|---|
| Annual review: | end of year 1 |
| Mid-term review-1: | end of year 2 |
| Annual review: | end of year 3 |
| Mid-term review-2: | end of year 4 |
| Annual review: | end of year 5 |
| Final evaluation: | end of year 6. |

Flexibility in budget allocation to the different components, sub-components and activities to be included in the Blue Gold Program is part of its design. The two intermediate reviews (at the end of year 2 and year 4 respectively) are appropriate moments to decide on possible reallocation of resources.

The present document offers the terms of reference for the first annual review (end of year 1).

### Objective

The aim of the review mission is to assess whether the program progress made so far, and the programmatic and operational aspects of the implementation approach proposed in the inception report, are sufficient and/or appropriate in reaching the program objectives and to provide evidence-based recommendations and lessons learnt to improve the programmatic and operational design, approach and implementation strategies in a sustainable manner. General questions to be addressed include the following:

- To what extent are the program outputs contributing to the objectives?
- How relevant is the program regarded by the institutional environment?
- How relevant is the program regarded by the intended beneficiaries?
- To what extent the GoB approved (Gazetted) Participatory Water Management (PWM) Regulation, 2014 will have impact on the program design and its implementation arrangements as proposed in the inception report?

### Scope

Blue Gold consists of five components:

| | |
|---|---|
| Component 1: | Community Mobilization and Institutional Strengthening |
| Component 2: | Water Resources Management |
| Component 3: | Food Security and Agricultural Production |
| Component 4: | Business Development and Private Sector Involvement |
| Component 5: | Cross Cutting Issues |

The review pertains to all five components' effectiveness and efficiency in the period from the start of the Program to the date of the first annual review mission. The mission may visit other Dutch funded PWM projects for obtaining lessons.

### Additional issues identified / to be addressed

The mission will itself, in the course of the assignment, identify, and where possible recommend concrete measures/solutions for any issue that may present a problem or a potential impediment for efficient and effective program implementation.

Further the issues/questions to be addressed by the mission will also include:

- Under the PWM Regulation 2014/GPWM 2000 what are the provisions for;
  - i) Which WMO level participates in all stages of the project cycle?
  - ii) Which WMO level is responsible for preparing the O&M plan;
  - iii) Which WMO level will get/obtain the "management right" of the project and/or water infrastructures?
  - iv) Which WMO level is expected to progressively take up of full or shared 'water management' responsibilities?
  - v) Which WMO level is responsible for mobilization of beneficiary contribution towards operation & routine maintenance cost?
  - vi) Which WMO level is responsible for the operation & routine maintenance of the infrastructures as per agreement with BWDB?
  - vii) Which level of WMO is responsible for resolving water management (project) related conflicts?
  - viii) Above Regulation stipulates that the routine O&M works will be done via cash and contributory labour) is there any provision, in the said Regulation, of the non-registered and informal 'Block Committee' which is given the responsibility of the routine O&M works under IPSWAM?:
  - ix) What is the provision for formation of the WMGs, area/location wise;
  - x) Which level of WMO is responsible for pursuing economic activities;
  - xi) What are the registration provisions for the existing WMGs registered under Dept. of Cooperatives (DoC);
  - xii) Can the existing WMGs registered under DoC remain as it is, and function accordingly?;
  - xiii) What is the membership size/numbers for the WMGs?
- On WMO formation and functioning: what is the level of consistency between the provisions of above Regulation and the implementation arrangements proposed in the inception report? In case of inconsistency, if any, recommend possible mitigation measures (in reference to the successful examples available in the country).
- How and by whom the process of WMO formation should be undertaken?

- Whether collective (economic) actions by the WMOs will enhance sustainability of the whole participatory water management cum agri-production cum business system?
- Whether agricultural production and related business development are independent of water management and WMO formation & functioning? How best can these elements be synchronized for achieving the program activities and their longer term sustainability especially O&M of water infrastructures, enhanced agricultural production and related business by the producers?
- Would any additional in-depth analyses be required to support the assumptions of the Program Document regarding logical and sequential linkages of the different components of Blue Gold?
- How can the program better systematize its strategic direction/theory of change? How can the most critical assumptions and conditions for success be better defined and monitored (with particular attention for capacity and taking into account the political economy).
- Is the current location of program offices and (expatriate) staff sufficiently favourable for the TA and program staff to play their role in an optimal way?
- What strategies could be recommended for enhanced water safety measures including heightening of embankments, in view of climate change effects?

### Inputs

The following documents will be available to the mission:

- Blue Gold Program Document, 30 August 2012
- Inception Report, November 2013
- EKN observations on the Inception report (letter of 17 February 2014)
- Annual work plan 2014
- All available Progress and Financial Reports
- All relevant Technical Reports prepared by the TA Team
- All other relevant documents upon request by the mission
- The example of 'theory of change' on food security aspect of Blue Gold program prepared by IOB mission.

### Outputs

The mission should produce the following outputs:

- A clear statement on the effectiveness and efficiency of the project implementation to date, as regards the specific issues identified;
- If necessary, recommendations for adjustments that would improve project implementation including WMO formation process; WMG membership size, location; O&M responsibility and means for organizing O&M funds etc.

- A draft mission report will be presented to GoB and EKN. The subsequent comments and suggestions, if any, will be incorporated in the final report.

The mission will submit a draft report (Aide Memoire) of the main findings, conclusions and recommendations upon completion of the mission to EKN. This will be presented during a wrap-up meeting. The mission will subsequently submit a (draft) final report within one month of the end of the mission.

### Composition

GoN and GoB will each nominate two members of the mission. Candidates should be knowledgeable and experienced professionals, and the team should cover expertise in the fields of (a) sustainable water resources management, (b) food security, agricultural production and value chain development, (c) gender and (d) community mobilization. Candidates should be mutually acceptable.

### Duration

The total duration of the mission will be 15 working days. A brief on the review mission works/ approach will be organized on the 1st day at EKN with GoB participation. Of this review period, the mission will spend a maximum of 3 days in Dhaka for preparation and consultation and 9 days in the field. In the project area, the mission (facilitated by the TA team) will have working sessions with relevant local institutions (local government, field level institutions) and (representatives of) the project target groups. The remaining 3 days may be used for producing and presenting the Aide Memoire, and reworking it into a draft final report.

The Annual Review mission will preferably take place in August 2014.

### Budget

The mission will be financed from the Blue Gold TA budget. Logistical support (incl. transportation, accommodation and office space) will be provided by Blue Gold.

**V1: 12 April 2014**

**V2: 14 May 2014**

**V3: 28 May – Martin Bos**

**V4: 05 June- Khaled**

## Appendix 2: Responses to comments on Draft Aide Memoire

### (A) Response to BWDB Comments on Draft Aide Memoire of 1st Annual Review Mission

| Sl. No. | Items | Reference | As mentioned in draft Aide Memoire | Comments | Response |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | |
| 01 | Target households | Section 1: 2nd para (page 1) | Extrapolating …. target population to 267,000 households | BG targeted poverty reduction to 150,000 HH who are under poverty level not covering all HH in the targeted area | Figure on number of landless added to put in perspective |
| 02 | Female LCS | Top para (page 2) | women LCS tend to deliver higher quality work and the income usually directly feeds into the family income | It is not always true, needs revision | Wording adjusted |
| 03 | LCS money distribution-SW project | 2nd para (page 2) | a margin is taken from the LCS contract and used to replenish a maintenance fund (for 40%) and redistributed among WMG members partly for the cost of contract management (60%) | SW project instance is an un-official practice that beyond the rule; it should not be mentioned here. | Moved to footnote |
| 04 | Foot-note | Note 2 (page 2) | The investment budget is Euro 15,750 M and approximately 45% of this consists of earthworks (Euro 7,875M). If 50% of this is undertaken by LCS Euro 3,94 M (8% of Netherland contribution)… | Cost figure to be checked and corrected. E.g. Euro 7,875M to be 7,087.5M.. | Corrected |
| 06 | Progress affected | Top para (page 3) | Progress was also affected by frequent *hartals* | *hartals* may be replaced by *political unrest* | Corrected |
| 07 | Water Management Department | Section 2: (1) (page 3)<br>Other location of the report | Across the board the overall staff strength of BWDB is below requirements, but even more so in the Water Management Department. | 'Water Management Department' to be replaced by 'Office of the Chief Water Management'. | Corrected |
| 08 | Motivation of BWDB staff | Section 2: (4) (page 3) | Currently a 20% project allowance is made available from the | This 20% is not the project allowance. It is rather deputation allowance and | Corrected |

| Sl. No. | Items | Reference | As mentioned in draft Aide Memoire | Comments | Response |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | |
| | | | Government of Bangladesh budget | independent of having a project. Discussed motivation for BWDB staff working in the project should be from project itself which is a fact in case of 30% as mentioned here. | |
| 09 | Clarification | Clause under Section 3.1<br>(page 4) | Achieving result under component 1 is important, as it would be an example and lesson for (integrated) polder management in other areas. | 'other areas' doesn't make sense fully whether it is within the project itself or in other project areas. Please clarify. | Clarified: other areas in Bangladesh |
| 10 | WMOs at different level | Section 3.1.1<br>(page 4) | According to the PWMR2014, for polders of more than 1000 ha:<br>- A Water Management Federation (WMF) will be involved in the management of the entire polder;<br>- Water Management Associations (WMAs) will be involved in managing sub-catchments within the polder<br>- Water Management Groups (WMGs) will connect to individual families within the polder. | According to the PWMR2014 there are two types of projects not polders actually based on area more than 1000ha. 1) Medium project whose area is in between 1000ha and 5000ha, 2) large project whose area is more than 5000ha. For large project all three tier/level WMOs (WMG, WMA & WMF) are mandatory but for medium project top level WMO i.e. WMF is optional, which is not reflected here.<br>Jurisdiction of different tier/level of WMO's (WMG, WMA or WMF) is not defined in the PWMR2014 based on the extent mentioned/presented here (entire polder/sub-catchment/individual family). Instead, it specifies only the responsibilities and function of WMO's. | Corrected |
| 11 | Foot-note | Note 3<br>(page 4) | Smaller polders are transferred to the Local Government Department. | It needs specific reference. According to National Water Policy (NWPo 1999) small projects (not polder) with area up to 1000ha. | Corrected |

| Sl. No. | Items | Reference | As mentioned in draft Aide Memoire | Comments | Response |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | |
| | | | | belong to Local Authority/ Local Government Institutions (LGI) and O&M of these projects would handed over to WMOs. | |
| 12 | Existence of Innovation fund | Recommendation under section 3.2.2 (Top para on page 10) | Innovation Fund or current maintenance provisions in the Project Agreement between the EKN and the Government of Bangladesh | Innovation fund is under the TA budget. There is no 'current maintenance provisions' either in the Project Agreement or in the DPP. | Section on 'current maintenance provisions' removed |
| 13 | Unit cost | 1st Recommendation under section 3.2.3 (page 10) | ***It is recommended to remove the current upper limit on investment under refinement and rehabilitation works as given in the DPP and for the time-being use an upper limit of Euro 250/ha for refinement and Euro 500/ha for rehabilitation*** | 'upper limit' term is confusing here. It can be replaced by 'unit cost'. | Corrected |
| 14 | Exit strategy | Relating to FFS (3.3.4 page 13) | - | Exit strategy may also be considered for FFS as recommended for WMOs. | Already there – suggestion for follow up clubs |
| 15 | No. of Value Chains | Bottom para of section 3.4 (page 13) | support will be given to eight value chains, six of which has been identified | What is the basis of 'eight' value chains? This number may be revised and clarified in consultation with PCD. | This is beyond RM – suggest that this is discussied in PCD |
| 16 | Field activities of Component 4 | Top para (page 14) | The component is still in preparatory stage with no field activities | Some field activities of this component (4) have been presented/reported before the Mission focusing on the first value chain 'sesame' in Polder 22. So this statement may be revised. | During mission no field activities on sesame were visited. Only study was done. |
| 17 | Section No. | Section: Project Organization (page 14) | 2. Project Organization | May be problem in number formatting. Section number should be 4 instead of 2. | Corrected |

| Sl. No. | Items | Reference | As mentioned in draft Aide Memoire | Comments | Response |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | |
| 18 | Safety standards of BWDB premises | 1st para of section 4.1 (page 14) | BWDB and TA do not share an office is that the current BWDB premises do not meet international minimum fire safety standards. | TA team shifted from current BWDB premises with the excuse of not meeting minimum international fire safety standards without recommending anything for the counterpart officials of BWDB having PCD leaving them unsafe as per their findings. Rather they have no objection conducting different activities of their team time to time and making regular visit of TA delegation to PCD at the same premises. In fact, current location offers numerous benefit maintaining effective liaise with the higher authority of BWDB easily. Moreover, the same premises had been used by the IPSWAM program during last 8 years since 2005. | Valuable explanation – partly incorporated |
| 19 | Coordination meeting representative | 2nd para of section 4.2 (page 15) | In the field coordination meetings representatives of the WMFs, BWDB, DAE, Upazila Parishad and TA Team may all be present. | 'WMFs' may be replaced by 'WMOs' | Corrected |
| 20 | M&E activities | 3rd para of section 4.2 (page 15) | (d) outcome milestones in joint activities with WMFs, Union Parishads and of course BWDB and DAE. | 'WMFs' may be replaced by 'WMOs' | Corrected |
| 21 | Merging cross-cutting theme | Table under section 4.3 (page 15) | 'Communication' to merge with 'component 3' | As earlier stated 'communication' theme may focus on component 3 but it should remain as a staff function like 'capacity building' as mentioned here. | Corrected |
| 22 | Table heading | Table 3 of Annex 1 | - | Confusing table without heading | Corrected |
| 23 | ICB assessment | Section 4.4 and Annex 2 | - | Elaboration required. | Done |

| Sl. No. | Items | Reference | As mentioned in draft Aide Memoire | Comments | Response |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | |
| 24 | Quick review of current status of WMO | Recommendation of Annex 2 (2) | ***...undertakes a quick review including field visits of the current status of WMO established in various projects..*** | Aim of this quick review should be mentioned here. | Done |
| 25 | Flood shelters | Annex 4: safety and adaptation measures (5) | Newly constructed buildings may be combined with flood shelter functions. | 'Newly constructed buildings' refers whose authority? Is it manageable under Blue Gold? | Proviso added |
| 26 | ToR of Review Mission | - | - | ToR of the Mission may be attached with the Aide Memoire as an Annex. | |

(B) Response to comments by DAE

| Comment | Response |
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| and other field crops, and homestead vegetables and fruits, nutrition and also on post harvest technologies including storage.<br><br>Note that the DAE FFS have 50 participants (one man and one woman from 25 households). Part of the FFS sessions (usually attended by the women) focus on homestead vegetables and fruits, and nutrition. So the DAE FFS already have (just like the TA FFS) an important "homestead garden" element.<br><br>To work on rice and field crops we need to work with farmers who have land. May be some landless HH having only homestead can be addressed but not possible for DAE to select all the participants from the Landless group. So, it should take into account. | Corrected |
| It cannot be agreed upon. T.aman yields are between 2 and 3 tons per hectare. It is not to be expected that in the entire project area these can be increased (Only perhaps for few individual farmers who can switch from local variety to HYV or Hybrid). | The concerned section has been removed. It begs the question though of the increased productivity which was one of the assumption underneath the formulation of BGP |
| he DAE FFSs deal with rice or another field crop, but also include sessions on homestead vegetables and fruits, nutrition and also on post harvest technologies including storage. | Corrected |
| It is not necessary. The Ministry of Agriculture (MOA) has already approved the Project Steering Committee for DAE Component and a PSC meeting has already been held. The PSC is formed with personnel dealing in agriculture sector and the impression of 1st meeting is quite good. The problems that have been experienced by DAE from inception have been overcome | Well taken. The recommendation is now to unify the Project Management Committees. |
| Actually, the DAE FFS have 50 participants, one man and one woman from the same household. So, DAE alone will cover 50,000 persons and the rest will be covered by TA Part. So, the total participants addressed would be higher | Corrected and adjusted |
| The facts are not so as mentioned here and this cannot be stated like this.<br>Many farmer clubs were and are still very successful. It was only realized that not every FFS can be used to form a club. In `SPPS (II) Project' some 25-30 percent | Valuable point – included |

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| of the FFS turning into Famer clubs were and are still considerably successful. | |
| The Two official assigned for DAE Component are on additional responsibilities. PD has her own office in DAE as Deputy Director (Water management). She is performing this project activities from her office.<br><br>So, proposal for shifting the DAE Component office is unrealistic. | Point well understood and incorporated in the text. |

(C) Response to comments by Laurent Umans (EKN)

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| Good to focus on the landless and poorest but a clearer distinction could be made between social safety net activities for the poorest and development activities for the poor with potential | Agreed. Distinction is now made. The effect of cast transfer under safety net programs (such as LCS) on local economy should be taken into account too. |
| Report is rather gender-blind in its analysis and recommendations. Apart from involving women LCS and other occasional remarks on women, there is no gender-sensitive or gender-transformative perspective. The poor, groups, FFSs, households are taken as units while in fact they are often not | Agreed. This was beyond the quite stretched terms of reference and may be looked at in more detail in future reviews. Some points have been added on gender in relation to the FFS and extension days – where a strong women to women learning on productive activities was evident in the field visits |
| The report raises the issue of WMG, WMA, WMF in very important ways. Yet, it seems to me that the project reflections should not be limited to such organizational and structural perspectives. Maybe the poor are organizing themselves in other ways, e.g. in networks, in communities-of-interest, in movements or in 'coordinated fragments'. For the sustainability of organizing (and not organisations) it is important to find out more about self-organizing practices. | Agreed – the emphasis on organizing rather than organizations is a valuable point, but fact finding on self-organizing practices was beyond the time/terms of reference of the mission. In the recommendation the mission has suggested a move away from a rigid structural perspective towards more self-governing organizations and adjusting the approach in this regard and this can be taken further. |
| In several parts the report raises the issue of institutions (the rules of the game and incentives). These seem an important area for further work. Inhabitants of the polders apparently do not receive the appropriate incentives for O&M, BWDB staff not for job performance and the farmers not for broader market participation. This topic is hardly translated into recommendations and could be taken up by the project. To my humble opinion the crux of the issue is 'ownership' and the taking of responsibility. The organizational and institutional settings are not yet appropriate to promote self-governance and ownership. To turn around the famous US slogan 'no taxation without representation' in a positive way would give something like 'we pay for our own polder'. This feeling of responsibility, citizenry and ownership is what will drive sustainability. How to get this right? It is not enough to increase agricultural production so that | This is indeed an important area of work – the ownership picture however may not be so bleak :<br>- there is a good interest among the polder residents in maintenance (even when formal WMG weaned away);<br>- understaffing rather than lack of incentives is the largest challenge for BWDB<br>- farmers are accessing markets increasingly (but this can be further improved).<br>There is large scope of improvement in ownership and self-governance - the recommendation under component 1 are in this direction. Other recommendations is to see the FFS not as a one-off training but see it as start of new activities. |

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| farmers can pay for O&M. The Innovation Fund could pick up the challenge to facilitate the self-design of financial institutions (local savings, taxes, cash transfer programmes, etc.). | |
| The report is not critical about the 'transfer of technology' model. It assumes that demonstration will lead to adoption. This assumption needs to be checked! Farmers are not (always) passive, receptive adopters but active, innovative agents. | In our opinion this point is not fair. The (innovating) uptake following the FFS could be witnessed and is also mentioned. Moreover, the Aide Memoire advocates the point of horizontal learning.<br>In a future stage more attention could be given to farmer-generated innovations |
| Outsourcing by BWDB: is it politically feasible (2) | It seems that this is feasible (it was checked)– especially within the context of a project like BGP |
| Not only BWDB and TA should develop a clear vision, the WMF's need to be involved or even take the lead (3.1.1) | Very useful point – and relevant for several BGP activities – included in the AM. |
| The Dept. of Cooperatives might remain a key partner (3.1.3) | Indeed – but only in component 4. The Dept of Cooperatives was clear on not being involved in the organization of WMOs |
| Do not only think in terms of an exit strategy but of a self-governing process (3.1.4) | Useful point – mainstreamed in the text |
| Before recommending the inclusion of additional works, let us think about 'how to do it' and what it will imply (3.2.1) | The proposed additional works are important to the functioning of the polder and only organizing WMO and providing training would be an impaired approach |
| If the project appoints an Innovation Fund Manager, then at least this person should be sensitive to user-driven or farmer-driven agendas (4.6) | Agreed |

(D) Response to comments by Carel de Groot and Khaled Khaled.Khaleduzzaman (EKN)

| | Remarks | Responses |
|---|---|---|
| **1** | An implementation approach derived from other successful Dutch funded projects which is appropriate for attaining BGP objectives is not recommended by the Review Mission | This is misreading. The RM recommends on the basis of earlier projects that a serious rethink of the social mobilization strategy is required, as sustainability of WMOs is an issue all around. |
| **2** | Table of contents, list of abbreviations to be added | Done |
| **3** | TA Team need to adjust community mobilization and other relevant activities taking note of this increased HH numbers. | Agreed |
| **4** | Too much emphasis is given on LCS which is a 'safety net' type ad-hoc 'poverty reduction' instrument. Whereas, the structural 'poverty alleviation' measures via collective actions, agri-production, market access and business opportunities are not highlighted. It may be noted that IPSWAM used 100% earthworks by LCS and still could not attain adequate sustainability. RM seems to have been influenced by IPSWAM approach. | The overall poverty impact of the project is also derived from the general activities and this has been added to the text. The RM is of the opinion that however if poverty alleviation is mentioned prominently in the objectives that more than generality is required.<br>On the earthworks – the non-sustainability of WMGs and the implementation of 100% earth works is not logically connected.<br>The proposal to increase the amount of work contracted to LCS comes from the RM based on the field visit. The suggestive remark on IPSWAM is not at all understood (none of the RM members was involved in IPSWAM) ) and questions the capacity to judge of the RM. Such remarks are not appropriate, not in the least from EKN. |
| **5** | PWM Rule 2014 stipulates minimum 25% earthworks by LCS. Blue Gold made provision of 50% which seems Ok in line with other projects & technical issues related to earthworks. | From discussion during the field visit a much larger proportion appeared feasible. A 75% proportion is recommended by the RM. |
| **6** | This should not be the practice of LCS works. Is it the case for all the Southwest WMGs or for some of them? However, this needs to be verified and rectified for Southwest project activities. | Agreed. It was understood that this was the methods of fund raising for WMGs used by SW project. |
| **7** | Good observation on the need for FFS by Landless farmers which was | Agreed |

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| | misunderstood by the TA Team. However, FFS by Landless farmers should be extended to normal crop also. | |
| **8** | Why a concrete suggestion was not given by the RM? | A normative figure (25%) is now included |
| **9** | PWM Rule 2014 stipulates that BWDB Internal Audit dept. will conduct WMO Auditing. BWDB's recent need-based set up is expected to be approved soon which will give more staff for WM directorate. | Added to the text. This has to be very closely monitored. From the discussions it was understood that a proposal to add staff strength in the Internal Audit Dept of BWDB is under discussion for some time now, but no hard assurances good be given |
| **10** | Build on existing successful examples and PWM Rules e.g. Southwest Area project, small scale projects etc | Interviews were held during the mission with several projects that encourage the development of WMOs. It appears that the sustainability of WMOs is problematic in all projects were a very short intense approach of social mobilization is practiced – including SW. During the field visit this concern was voiced by SW as well. The non-functionality of WMOs of IPSWAM as far as could be gathered is not unusual – other projects have the same challenge. See also the recommendations in Annex 2. Hence a rethink of the methodology of organizing WMOs is high priority in BGP (as well as in other projects). |
| **11** | DP funded project can provide up to 30% e.g. BDP 2100 project and other WB funded projects provide such allowances. | Agreed and added. |
| **12** | This observation is most important that the sustainability of the whole WM as well as production systems depend on creation of functional and sustainable WMOs. | Agreed. See also remark 10. |
| **13** | In the Apex level | According to the PWRM2014 the WMF are formed on the basis of a water management units/ system – where they form the apex. |
| **14** | Nowhere sub-catchment is mentioned for WMAs rather it refers to secondary level of organization. | Agreed. For larger polders (>5000 ha) the secondary level is best interpreted as sub-catchments. |
| **15** | Primary level-based on water management and relates to 55% of WM beneficiary HHs, not just ordinary HHs living in any area e.g. | There is no basis for a particular definition of 'beneficiary' households in the PWMR2014, or to make a link to hydrological basis for WMGs. WMG Membership is open to all (section 9, 1 of PWMR2014): |

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| | village. So it follows a small hydrological unit. | *"farmers of the project area, fishermen, small traders, artisans of handicrafts, boatmen, aqua culturists, families who are landless, distressed, affected by the project directly or indirectly, positively or negatively*"<br><br>The RM referred to other documents where WMG can be formed on hydrological or village basis. The RM mission notes with concern that this discussion receives undue importance and has become a sticking point between EKN and TA Team, whereas in the view of the RM the main issue is the limited long-term sustainability of WMOs that is rooted in a short intense hand-holding approach of WMO formation, with little attention for the capacity of the WMGs and other WMOs to self organize. |
| **16** | As discussed also in the BG coordination meeting of 25/9, there is a need (a) to check once more whether this division of responsibilities is indeed correct and (b) if not, to address the issue with BWDDB. The first the review team may still be able to do, the second would have to be done by the project | Done – the original Bangla Gazette text has been checked and the translation according to the concerned RM member was correct. |
| **17** | This step should be placed at the top because everything starts with the formation of the WMGs in the first place. | Agreed. |
| **18** | The most important answer/advice which was expected from RM was on this issue. So RM should provide its specific recommendation on this issue. | Annex 1 has been further elaborated, including detailed answer to the question on this topic in the ToR. |
| **19** | Most of the questions are not answered directly. The partial answers could not yield an effective set of recommendations which can be applied for Blue gold. The good practices of PWM of last 20 years are not compiled. Any unclarity in the recent PWM Rules should not undermine existing good examples rather the unclarities can be removed via Administrative orders by concerned organizations. | See annex 1 – including the response to the specific questions in the ToR<br><br>It is unrealistic to expect the RM collect all good practices of all PWM projects, but interview have been held with key persons involved in these projects.<br><br>Agreed that the unclarities in the PWM can be resolved whilst progress is made on other fronts. |
| **20** | . From the above responsibility matrix, it is evident that the basic function of O&M lies with WMGs | No disagreement. |

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| | formed at a smaller water unit which can even be a sub-catchment. The member representative structure (from WMGs), financing modality and responsibility of the WMAs are more suited to coordination, monitoring and facilitation role for O&M works. However, O&M of bigger and distant structures may be organized by WMAs with assistance from WMGs. The WMF is not supposed to take up O&M responsibility although they do compile O&M plans. WMF is more related to apex level policy issues. | WMF indeed is not expected to have operational responsibilities here. |
| **21** | It seems that the hierarchical functional relations and responsibilities of WMOs (at WMG, WMA & WMF level) are not fully understood by the RM. This is probably due to short time of the review mission. | This remark on hierarchical relations is not understood. The additions made in the table do not make a difference. |
| **22** | So what is the recommendation then? | Added now |
| **23** | This assumption is based on the fact that for overall sustainability of WM & production systems, the WMO member farmers need better income, may be via market access, value chain, business linkage etc. And for doing businesses the WMOs need a legal status for which 'Cooperative' model was identified, through an earlier study, as the best option. However, since the new PWM Rules provides that legal status to deal in financial/ business activities by the WMO members, the above assumption is still valid, and it may require an adjustment. The RM should have given specific recommendation on that adjustments/modifications. | The recommendation of the RM is that WMO, esp WMGs can play a role in supporting such income generating activities and that there may be (even many) examples where the WMO can be involved.<br>It is incorrect that in the PWRM2014 a legal basis is created for the WMOs to engage in business activities. Nor is it desirable to have this as a compulsion – this has been explained clearly in the Aide Memoire. So there is no need and reason for the last remark. |
| **24** | Not agreed. The WM & production activities are more effective, if done under WMO structure. However, for business linkages, an adjusted structure may be adopted as per | There is no reasonable basis for this. |

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| | requirement and decisions of the WMO members. Whereas the WMO farmer members should have a priority in collective business activities. | |
| **25** | Since about 75% of IPSWAM WMGs are non-functional more analysis should have been provided. | See main text, annex 3 and the BGP report on this. |
| **26** | Are these conflicts social (village issues) or water management related, in nature? Since the IPSWAM WMGs are not formed around WM activities, there is no evidence that they are good at resolving water use related conflicts | This is highly speculative and is a remark that has no evidence base. |
| **27** | One of the main task of the RM was to advice on whether the IPSWAM approach of community mobilization will serve in attaining Blue Gold objectives. Is the RM assumed that the IPSWAM Approach is ok to follow? | The RM recommends a very different approach from IPSWAM – based less on intense hand-holding. It has given a number of recommendations and has recommended the TA Team to develop a new strategy based on these recommendations |
| **28** | Good point. As per PWM Rules BWDB WM Directorate is responsible and its shortage of manpower may be resolved with the approval of need-based set-up of BWDB. | The RM however recommends that this is closely followed. |
| **29** | The gamut of PWM is hinged to local WM projects, implementing agency and LGIs. There is no short cut to this at least under the present policy framework of the government which has come into being after many years of experimenting. Therefore, instead of inventing new wheels it is rather important to find out ways on how to make the WMOs and the PWM sustainable within the available policy and related mechanisms | This remark is not understood |
| **30** | Please specify on Giving the WMOs a large role in the actual implementation of the Blue Gold activities | More has been added. |

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| **31** | Appointing local facilitators and identifying farmer training resource persons): These are rather WMG/WMA functions and are being tried in various projects | Taken notice of this comment – already integrated in the text |
| **32** | Southwest experience showed that to make the WMGs sustainable, the collective actions (businesses) by the WMGs members with their own funds should be the starting point for community mobilization. | There is a risk indeed in creating many external incentives. In the view of the RM the WMG are likely to suffer from the same problems of sustainability as other projects.<br>It is agreed though that self-financed collective action activities are very useful and should be part of the improved community mobilization approach. |
| **33** | NGO involvement in PWM is a total failure. For financial sustainability it is rather much more effective to have strong ties with private sector for doing business. | What is recommended is not in mobilization but in serving as a support/ fostering organization at the higher level/apex level. This is explained |
| **34** | Why not RM advise on this? However, the exit strategy should be carefully defined as well as designed. Because, in one hand we need exit strategy to ensure O&M done by the WMO members, whereas on the other we need a hand-holding approach to guide the WMO members in enhanced production and business activities. This distinction in designing the exit strategy be carefully made. | A better reading of the report show that 8-10 important elements of the approach are described in the text. This remark is not understood.<br>The RM is also of the opinion that it is in the end the TA Team that needs to formulate the approach based on the accepted recommendations of the RM.<br>The balance between self-organization and hand-holding is important. In the opinion of the RM the tilt is too much to handholding in BGP as well as in other projects interviewed/ visited. |
| **35** | Southwest area project experiences should be utilized. | In the RM opinion the Southwest Project is facing exactly similar challenges on WMO sustainability when the intensive engagement comes to an end. It is too simple to suggest SW=good and IPSWAM=not good.<br>The self financed collective action activities and irrigation charge collection(though modest) are good practices from SW that can be used. |
| **36** | Good point. In addition, on-farm water management should be given the maximum priority. | Agreed |
| **37** | How much additional funds will be required? How that can be arranged? It would require DPP revision. | It is recommended the BWDB/TAteam will make the calculation |
| **38** | GoB/BWDB procedures allow for emergency repair if such | From interviews in the field it is obvious that whatever procedures are in place they are not able to address |

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| | provisions are made in DPP. BWDB also has a provision of O&M during implementation. | this issue. It is a matter of priority to address this. For the RM it was a 'shock' that with a project the magnitude of BGP this was not on the radar screen: it concerns a serious design flaw. |
| **39** | I do not myself consider this a good idea, at least not if the fund would be used for actual investments/rehabilitation work.<br>Higher level (MoWR) policy dialogue will be required for resolving this issue. | The RM considers this a high priority that would need to be resolved either through higher level policy dialogue but preferably accelerated through a pilot activity. See also above. |
| **40** | Is this really relevant if the assumption is that the embankments will serve for a limited number of years only? | The mission was asked to look into this. The point of strengthening embankments that are then undermined by river erosion is very valid (and underlines the importance of working on river bank erosion as well). A selective approach may make sense – though it will be sensitive. This discussion however useful is beyond the ToR of the RM. |
| **41** | It is understood that without having sufficient safety against water borne hazards at least high tides, the farmers are not going to take risk of practicing high yielding variety crops.<br>How much additional fund will be required for this? How this funds will be made available? | This point though valid is beyond the remit of the RM |
| **42** | I personally consider the arrangement in which WMGs do maintenance and WMAs do operation (and management?) to be a logical one. More importantly than my personaly view is however what the authorities (have) decide(d) on this. As noted earlier, there seems to be a need to clarify further. | See Annex 1 for an updated discussion on this. |
| **43** | Of course, on many fronts WMA strengthening is required and should be done. And WMGs are the primary units responsible for WM and O&M, and these functions cannot be replaced by WMAs. In that case the whole PWM system will become ineffective as seen in IPSWAM case. WMAs do not have the organizational structure and | There has been no suggestion in the report that WMA are strengthened in isolation of the WMGs.<br>The remark on IPSWAM is out of context. |

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| | financing available to do these work independently. Whereas, WMAs can contribute and take lead in coordinating these important activities in partnership with WMGs. | |
| **44** | | |
| **45** | Farmers get only a small part of the incremental market price whereas, a major portion is taken by the middlemen. Blue gold has this challenge to facilitate better price for farmers via processing, storage, market access. | Agreed. It probably requires a focus on lower part of the value chain. |
| **46** | A D.O. letter from Secretary, MoWR may help in revising the DAE DPP | Included in the report. |
| **47** | Innovation funds may used after the WMGs are well organized and functional | There is good sense in this remark but there may be issues addressed under the Innovation Funds at this stage already too. |
| **48** | PKSF has a good model for small crop storage silos which may be linked to WMG collective activities. | Included |
| **49** | | |
| **50** | Good point. This is practiced under Small scale-II project. WMG offices are to be used for such horizontal learning sessions | Agreed. |
| **51** | Not very clear | Further elaborated |
| **52** | What is RM's suggestions? FFS should be treated as a means for technology transfer to all the interested WMG members. | Agreed. |
| **53** | Very important assumption made under BGP and we should design our activities as such. | Agreed. |
| **54** | Abbreviations? | List included |
| **55** | Did the review not also look at monitoring? Given all the discussion/remarkas, also from the side of ISB and IOB, I would have expected this element to have | Separate para and annex on monitoring is included |

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| | received more attention. Would appreciate if in the final draft something would be said about monitoring. | |
| 56 | Good point. Under IPSWAM one office for all parties proved to be very effective. | Agreed. |
| **57** | I agree, but what does the review have to say about the current M&E, the way it is designed, the way it is set-up and the way it is actually functioning and performing? | See above. |
| **58** | Lets see how these components develop? | Agreed. |
| **59** | Check EKN Contract? | Beyond the RM |
| **60** | Requirement of project work is the first priority. | |
| **61** | Together with BWDB | Agreed |
| **62** | In what way???? To finance the system or the actual work? | See earlier remark. It is possible to envisage a special pilot where even funds are placed at disposal – but only for a limited area |
| **63** | Stick to below 50.000 Euro contracts for the time being. | See below |
| **64** | This is not an immediate priority. | In the RM opinion with the limited time left (project being at 75%) of time the Innovation Fund will not develop unless it is managed. Esp. if grants of below Euro 50000 are given there will be a plethora of small activities that will make the management and imbedding difficult. |
| **65** | | |
| **66** | To be verified/confirmed as remarked earlier | Checked – a RM member checked the entire translation of the Gazette. The table 1 in Annex is the reflection. The checking also found no major discrepancies in the translation |
| **67** | This table does not show all the tasks of the WMOs (Pl see comments provided in Section 3.1.1 WMO Responsibility matrix) | Table updated based on new translation of the Gazette |
| **68** | Can also be at polder level. | For medium-sized polders. Added. |

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| **69** | Av. membership size for Small Scale is 500 and Southwest area project is about 280. | Useful information. Included in table 4 |
| **70** | Not understood what is meant by this? WMG linkage is with water management related beneficiary HHs within a water unit. | See earlier point on basis for WMGs |
| **71** | Table has no row with headings | Added |
| 72 | Responsibilities of all WMO tiers are not fully reflected here (refer to comments given in Section 3.1.1) | Table updated based on new translation of the Gazette |
| **73** | This is not in line of PWM Rules 2014 | Corrected. |
| **74** | This is the crux of the problem, and specific recommendations are expected from the RM. | They are given and added in list. |
| **75** | **:** Good, but is this list complete? And would it be useful to indicate who should propose, discuss, decide on these matters? | BGP should have a role here, |
| **76** | The word 'cooperatives' may be replaced by "WMOs" | The RM had to look at the original Theory of Change. The point on WMO as catalyst is added. |
| **77** | Why? Because we all (GoB, DPs, Communities) want the WMOs to become the driving force in WM, production and business activities for overall sustainability of the WM as well as production systems. | Reworded. |
| **78** | Why it happens? Analysis? Way forward? | See text |
| **79** | Why no specific recommendations given by RM? Were all the relevant documents provided to RM? Was the time too short for making good analysis and share field experiences of various PWM projects? | Specific recommendations given. |
| **80** | Is that really correct? | Yes |
| **81** | Different figures used in other section. | In other section more figures are used |

| | | |
|---|---|---|
| **82** | What does these mean? | Clarified |
| **83** | Apart from stating whether or not an assumption is valid it would be useful to then also know whether we should consider it a problem or not | Added. |
| **84** | In most of the cases BWDB has borrow pits which can be used for widening embankments. | Added. Ownership to be checked of borrow pits etc |
| **85** | BWDB also has mandate to construct road on top of its embankments which could be useful for coordination between embankment and road works. Future works may look into this possibility | Added |
| **86** | These are not IGA activities rather these are 'collective business activities' done by WMG members with their own funds. This WMG has clearly shown that how a good leadership can enhance community-based economic activities. This is a good example to replicate in other WMGs. | Agreed and added.<br><br>The RM wants to make a point of concern though. It is understood that visitors to SW are often taken to this encouraging example, as visitors to BG are often taken to Polder 22. How representative those experience are or whether they concerns exceptional good practices is hard to establish. See also section 5 of the main report – a more randomized visit for a future review team may be desirable. |