## Aide Memoire Blue Gold Program Annual Review Mission 2018 January 2019

## 1. Introduction

This is the Aide Memoire of the Annual Review Mission (ARM) to the Blue Gold Program (BGP) that took place from 9 November to 20 November 2018<sup>1</sup>. The terms of reference of the ARM are included as annex 1. The aim of the mission was to guide the implementation of the project against its objectives and see if it can be completed within the time and resources available.

The Mission is grateful for the congenial atmosphere and the constructive discussion it could have with many persons involved in the implementation of the project and the opportunities to witness the challenges and successes of the BGP in the field. Adequate documentation, including a comprehensive Position Paper, was made available prior to the ARM.

The main text summarizes the main findings of the reviews and the recommendations. Section 2 brings the highlight on the impact and progress of BGP. Section 3 discusses the main operational areas of the project and the main recommendation in each of these domains. Section 4 summarized the implications.

This mission report also addresses the specific questions asked in the Terms of Reference as well as in the Position Paper prepared for the ARM in annex 2 and 3, whereas an update on the ARM 2017 is presented in Annex 4.

The message from the ARM-2018 can be summarized as follows:

- There is spectacular agricultural growth in the BGP area: the coastal zone is a region of potential.
- Polder water management and agricultural development go together in harnessing this potential.
- Agriculture is increasingly seen as a business
- Agriculture not only increased agricultural production, it also improves family wellbeing
- Given the socio-economic situation, there is still a need for poverty alleviation directly and indirectly
- In BGP the work in the polders needs to be completed properly and uses all resources required, one needs to closely monitor whether this is being done on time
- There is a need for integrated development related to water resource use in the polder areas, in line with current thinking
- For sustainability, the strengthening of WMA in particular is essential. They need to move towards professionalism. This requires attention and time.
- For growth, we need to work towards cooperation between WMAs.

<sup>&</sup>lt;sup>1</sup>The Annual Review Mission consisted of Frank van Steenbergen (mission leader), Jetze Heun, Wais Kabir, Nowsher Sarder, Professor Abul Fazal M. Saleh and Abul Kalam Azad.

## 2. Short assessment of impact and progress

## Impact

The very positive rural transformation that was observed in last years has continued. Several analytical studies have become available, that put numbers to the agricultural change. The Water Management Groups that reported to be free of severe water problems (either water logging, water shortage or flooding) increased from 8 to 55%. This impact may be expected to increase further if the water control infrastructure component will get closer to completion. Based on the data from the Department of Agricultural Extension the crop intensity has increased with 18%. A special validation study was done by one of the mission members, confirming this figure. The impact study undertaken based on a large number of focus group discussion with Water Management Groups puts the increase in crop intensity even higher: at 36%. Besides the increased crop intensity, crop yields have increased as well.

This significant increase in crop coverage is driven by better water management and the introduction of high value crops (HVC) like water melon, mungbean, sesame, brinjal, chili, peanut, bitter gourd, cucumber after the amon rice harvest. Translated in to cost/benefits analysis the payback period for the investments in better drainage/ water storage and WMO capacity building is less than three years. This is remarkable for any water resource and agriculture development investment.

The increase in agricultural production (including poultry and small livestock) has also created much social change. Anecdotal evidence suggested how the increased wealth changed the quality of life. The additional income earned was invested in improved housing, children's education, agricultural assets and better food. These expenditures further boost the local economy: house construction gives rise to more local employment and the purchase of agricultural assets (livestock, seedlings etc.) pushes agricultural development further up. The increased availability of land to cultivate because of multiple cropping and the removal of drainage congestion has changed labour markets, though in some polders more than in others. It has given more opportunity to landless people in leasing land. In the first group of twelve polders improved under BGP the median increase in land being leased is 15%. A second but very important effect has also been the changed family relations with more family stability and respect for women<sup>2</sup>. The BGP has also made much strides in improving gender equity with women now often in formal and informal leadership roles and taking part in project activities, with all targets that were set on women participation being met. The increased intensification of farming however has also added to the time engagement of women in agricultural activities that comes in addition to their Unpaid Care Work. A proposal was made to better understand the current work load of women. It is recommended to pursue the study on Unpaid Care Work of women and add to it an overall assessment of how the changed agricultural dynamics has changed the well being for women in landed and landless household, also taking into account the effect on domestic violence (Recommendation 0.1).

## Progress

Steady progress has been made in the last year. Almost all WMGs originally envisaged are now formed and registered. The different agricultural extension activities have reached almost 25% of farm families in the area directly with a wider group reached through horizontal

<sup>&</sup>lt;sup>2</sup>Particularly where women secured income their status in the family increased reportedly leading to less domestic violence. This is not a trivial issues – according to the Bangladesh Bureau of Statistic domestic violence affects 85% of married women.

learning. Some important points are the operationalization of polder water management and the close cooperation between BWDB and DAE. The mission, however, observed two main areas of concern. The first is the construction progress. Though the volume increased over the previous year, it is far behind from what would be required. The second concern is the WMAs of which 30 now are formed (out of the 39 planned). Despite the signing of the first O&M agreement, the vision and operationalization of what the WMA would look like and how they will operate are not yet crystallized.

## 3. Main observation and recommendations

The observations and recommendation of the ARM 2018 can be summarized under seven headings, that are discussed in more detail in the different section of this chapter:

- (1) Capacity building of WMOs: consolidate and grow
- (2) Infrastructure: complete the polders properly.
- (3) Water management: bringing components together
- (4) Agriculture: keep pace
- (5) LCS: do not loose poverty focus
- (6) Policy and learning: lessons for programming
- (7) Exit and entry strategy: use the project assets for growth.

## 3.1 Capacity building of WMOs: consolidate and grow

In the BGP WMAs are established at polder level and WMGs at community (earlier) and at sub-catchment (Stage 3 polders) level. In larger polders there may be more than one WMA. The progress in a nutshell is given in the table below.

	Target	Formed	Registered	High class (A or B) of performance
WMGs	513	510	494	58%
WMAs	39	30	25	6 O&M agreements

There is a healthy focus on the functionality of the WMOs now. A credible plan for reduced staff deployment over the three 'groups' of polders is in place. Some other observations are:

- The process of WMG formation and registration is now largely completed (>95%) commendable work has been done in the Phase 3 polders in particular;
- The performance of the WMGs is improving. Whereas last year 43% scored in the A or B categories, now 58% does
- There is an increased number of self-initiatives by WMGs- some to improve the water management systems, some concerning regular maintenance
- There is healthy interlinking between WMGs and the development of relations of WMGs with other organizations such as Local Government and NGO programs;
- Withdrawal of CDF support will be completed in Phase 1 polders from 2019 onwards. This offers the opportunity 'to see what happens'. There has been more emphasis on WMGs self-organizing capacity, though it can still progress further: this may need to be clearly planned in the Phase 1 polders prior to largely phasing out the TA support there. The different monitoring systems (WMO tracking and Self-Monitoring) may be used for self-assessment by WMAs and WMGs for instance (see also recommendation 7.2)

- Work in Phase 3 polders has progressed well, but the schedule and the cut-off date is tight
- In previous missions it was recommended to increase the capacity of the OCWM (for instance in ARM-17). Not much has happened – though some CDFs paid by the projects are placed under the command of the OCWM> The capacity of the OCWM has been sliding back even more. This makes it unlikely that the OCWM will be the 'house' of the WMOs within the Government of Bangladesh.
- The use of WMG for local credit system was also reviewed (see TR-25). The conclusion
  is that though it fulfills an important function (locally available, lower interest than all
  alternatives) providing loans by WMGs contains a risk too with default affecting the
  entire organization. This practice is hence better not actively promoted by the project
  and can be left to the wisdom of the WMOs to decide whether or not to continue.

With respect to the development and strengthening of the WMA there is a concern. In October six WMAs signed an O&M arrangement with the BWDB. Six more signings are planned for December. This is a good development. The concern is the following:

- There is no clear vision yet on how the WMAs will function, in particular their relations with WMGs, their ability to enforce decisions, the organization of the O&M work, the funding of their operations, their relationship with the Divisional and Sub-divisional offices of the BWDB, their standing with Local Governments.
- With the O&M agreement the division of tasks have been described, but not for instance the mechanism of reporting and accountability; there is also doubt as to whether the BWDB can do its part of the Agreement, in particular periodic maintenance
- Out of 39 WMAs foreseen 9 are to be formed still. There is a situation where in the project more WMAs than WMGs remain to be formed. Particularly in the Phase 3 polders the time for the WMAs to mature will be limited;
- At present several of the existent 30 WMAs are not very visible in their polders. They have no office space for instance to have meetings and keep documents. They may need a logo and clear name as well;
- In the Phase 1 polder some infrastructure remains to be built, now that the RDPP is approved. The time between commissioning the new sluices and setting in place proper O&M arrangement will be short or may not even exist, even under optimistic construction scenarios
- There are also useful additional tasks that the WMA may perform in particular in disaster risk management (evacuation routes, safe spots), sediment management (using excavation material from the khals to build roads and killa's), polder planning (in particular the planning of new roads and improving their beneficial impact on water levels throughout the polder;
- Yet the WMAs have a large responsibility and there is a tendency to load more responsibility on them, but we need to understand they are relatively fragile. Unlike WMGs they have performed less tasks and they have had a shorter exposure

The overview above leads to the following recommendations:

**Recommendation 1.1. Complete the WMO capacity building program in its current shape by 2020.** Important is in the current stage to pay attention to the phase 3 polders, as the program time-wise is tight, hence there will be little time for after care and on-the-job coaching before the conclusion of the BGP. In the phase 1 and 2 polders special attention should still be paid to the WMAs, which all are comparatively new and not all have really started functioning.

Recommendation 1.2. Post 2020, it is recommended in that a different support is developed for WMO growth and development whereby the WMOs are put in command of their own capacity building. The outline of this should be developed as part of the evaluation of progress by June/July 2019. It is important that GoB acknowledges the WMOs as an important partner for the sustainable functioning of the public water management infrastructure, especially the WMA. Still, the WMOs themselves have to establish their credibility and relevance. Ways should be found to represent the WMOs at different levels of the government and to make them better known to the public and the government. What is required is:

- Elaborate and confirm the position of WMOs within the context of the implementation of the Bangladesh Deltaplan 2100 (BWDB, EKN in consultation with Planning Commission)
- Consider the establishment of a WMO national and regional organization by way
  national and/or regional Federation of WMOs equipped with adequate support
  facilities for its membership (OCWM/BWDB, EKN) as the driving force for a WMO
  Movement
- Link up WMAs and their federations to Local Government institutions at different levels.

Recommendation 1.3. It is recommended that OCWM and TA provide systematic support to the WMAs to develop their vision, plans, programs and work routines in order to strengthen the WMAs and link their development strategy with the overall BG exit plan from the polder. It is envisaged that the WMAs will evolve towards a professional organization, with operational tasks in the coordination and monitoring of polder watermanagement, in responding to emergencies and mediating in conflict, and in the planning of water-management in the polder. WMA should also be involved in emergency preparedness and sediment management. In addition, the WMA will represent the water related interests of the inhabitants and the WMGs in particular towards the organizations concerned, in the first place BWDB and Local Government Institutions. This requires the development of financing mechanisms and set procedures for inspecting embankments and silt levels in the khals and work planning with the WMGs. None of this exists yet and it needs to be addressed with urgency. These visions and management systems need to be developed by the WMA and WMGs with coaching from with the coaching from BGP TA and OCWM. It is also recommended that as part of developing a vision for WMAs, the O&M agreement is looked at, making it more balanced, more operational, multi-year, and with schedules for periodic maintenance. Also the relations with WMGs (formal and relational) should be better spelled out.

**Recommendation 1.4. It is recommended that the WMA's are provided with operational support in particular for the construction or operation of a WMA office.** Already in the current initial stage there are high expectations of the WMA, while its operational facilities are hardly existing. It is recommended to provide a lump sum that is released in different stages of developing the office. In some cases, no new entirely office may be needed (as the WMA for instance may have an office from earlier IPSWAM project). Preferably the office space is linked to the premises of the UP.

A fifth area of attention is that whereas it has been observed that WMAs in many instances have developed good relations with local governments and sometimes NGO programs, the interface with Divisional and Sub-divisional Offices of the BWDB is in many cases not congenial yet. Among WMAs there is concerns of not being taken serious, once the BGP is completed. The capacity to deal with and appreciate the WMAs by the operational staff of the BWDB needs to be strengthened and smooth regular interface need to be developed.

Recommendation 1.5: It is recommended to create a regular and partnership like relation between the Divisional and Sub-divisional Offices of the BWDB and the WMAs by having regular monthly meeting discussing and reporting the condition of the different water works and that the capacity of the BWDB staff (PCD, divisional engineers) is strengthened through short training and an (international) exposure visit.

## 3.2 Infrastructure: complete the polders properly

The RDPP was approved/released later than expected: on 21 June 2018. During debriefing of the Annual Review Mission in December 2017 it was understood that the RDPP was as good as completed, awaiting formal approval by the ECNEC with no delays expected<sup>3</sup>. Contrary to assurances this did not happen and as a result the 2018 pre-monsoon construction season was missed for undertaking the (additional scope of) work, identified in the RDPP.

The volume of work in the 2017/8 season was BDT 318 Million. This is an increase over the previous two years (though not dramatically), respectively BDT 284 Million (2016/7) and BDT 204 (2015/6). The cumulative achievement of rehabilitation works is now 37% (physically) and 31% (financially). According to the Position Paper so far in 19 polders 271 km of embankment, 4.14 km of retired embankment, 177.21 km of canal re-excavation, 64 nos. of sluice repair, 216 nos. of inlet/ outlet repair, 5 nos. of new sluices and 2 new inlets were completed<sup>4</sup>. Some more work (estimated at 10%) has been completed but has not entered the disbursement records, as it needs to be measured still. The volume of works undertaken in ayearhowever may be contrasted with the BDT 2152 M of work still in hand.

The following are the findings of the mission:

- In spite of the pace of the past progress, the field offices are very optimistic about completion of the physical components (as approved in the RDPP) by December, 2020<sup>5</sup>. Many pre-construction work items/formalities (design data collection, initiation of land acquisition etc.) have been expedited to fully utilize the forthcoming work season.
- In spite of such optimism, the actual progress would depend upon many conditions timely availability of design, floating of tenders and work orders and most importantly, the selection of efficient and experienced contractors for the execution of the works. The upcoming national election may also hinder the construction schedule. The field offices are of the opinion that for the tenders to be floated, work orders to be issued and the actual construction to be initiated in the upcoming working seasons, all pending designs must be available to the field offices by the end of December, 2018.
- As the BWDB's in-house foundation/soil investigation process takes a lot of time for the collection of such data, the field offices are of the opinion that such data collection process may be out-sourced for expediting the design of the infrastructure.
- There has been an acute shortage of technical field staff for the implementation of the infrastructure. This is an endemic problem (highlighted in the earlier ARMs) but was never resolved. For example, Patuakhali WD Division has 3 posts of Sub-Divisional Engineers and all are vacant. At present the availability of technical manpower varies from 24 to 52% per Division.

<sup>&</sup>lt;sup>3</sup>For the record the revision of the DPP was first included in the recommendation 16 in the Mid Term Review Mission of September-October 2015.

<sup>&</sup>lt;sup>4</sup>New outlets, pumpsheds, pipe supply were not in the last few years program. No new structure could so far be constructed inso called fine tuning polders because of limitations of the DPP. <sup>5</sup>Note that the RDPP runs till June 2020

- The allocation of funds for the emergency repair has been meagre and has already been exhausted during the past monsoon season. The reason for the under-allocation of funds for O&M in the BWDB RDPP is because the Planning Commission reduced the original budget of BDT 21 crore to zero, and then under protest from BWDB agreed to a notional sum of BDT 6 crore. This BDT 6 crore amount has been fully committed to repairs of breaches during 2018/19, leaving no funds to address emergencies during the 2019 monsoon, or pre-emptive measures in advance of the 2019 and 2020 monsoons.
- Transfer of technical field staff during the duration of the project also hampers the progress of work as the incoming staff takes some time to get acquainted with the sites, work items and schedule. The issue was raised in the earlier ARMs, but has not been resolved.
- As the earthwork of the project has been in use for the last 3-4 years, there is a need for maintenance of the already completed work (for example, re-excavation of the canals).
   Otherwise, by the time the project will be completed, many re-excavated canal may again be silted up and would not be functional.
- The same applies for erosion repair. In several parts of the polders damage has occurred that should be addressed for the work on the polders to be said to be completed
- An analysis was done on all the work that is to be completed still. This shows that taking the time to construct as a measure all the earthworks can be done. The work on the larger sluices normally takes more than two years, as sand piling is required for instance. A detailed report is given in Annex 5.
- The ARM also visited the structures that are deemed to take most time (multi-vented sluices) to assess their importance and usefulness. It was found that with one exception these structures are very much required for the improved water management in the polders and that moreover expectations of the farmers in the area are high.
- There is an urgent need for the re-allocation of the budget (both inter and intra) for completion of the work items. For example, money allocated for the construction of some sluices is inadequate for such sluices but as few sluices need not be constructed (or may be repaired instead of re-construction), such intra re-allocation would expedite the construction work.
- For the polders where the earthwork has been declared as completed even though the actual work is incomplete (because of poor quality of work, non-compliance of time schedule etc.), the unfinished work may be completed by re-issuing the work order to competent contractor/LCS.
- For infrastructure development where the beneficiaries are coerced to voluntarily surrender land (because provision for such land acquisition was not made in the RDPP), an all-out effort should be made from alternative sources for compensation/re-settlement so that the policy for land acquisition is both unified and fair.
- For the polders requiring bank protection, a systematic study of river bank erosion with past satellite images, bathymetry, soil investigation, field survey and local knowledge/observation must be carried out before making any stop gap protective work.
- Because of the complexity of repair of sluices with 5 or more vents (need for cross dams, survey of under-water foundation work, de-watering etc.) it is unlikely that the repair work of such sluices would be completed with the duration of the project.

At this juncture it is premature to discuss about the timely completion of the project by 2020 and the need to add time beyond 2020<sup>6</sup>, which in principle is possible as a second RDPP can be requested. There is also optimism and the sincere intention of BWDB to make an all-out effort for the timely completion of the infrastructure rehabilitation by 2020. The ARM is of the opinion that it is not unlikely that the project may over run the time schedule. After threadbare discussions on this issue with the field offices, there was a unanimous decision for a no-cost extension of up to 2-years for the completion of the infrastructure. The field offices opined that a no-cost extension would not incur any additional cost from their side but would require a small allocation in the TA budget for supervision, quality control and hand-over formalities. In order to keep the momentum going on at the field office for the timely completion, the issue of any extension of the project should only be taken into cognizance at this stage and not be decided. A related issue is the cost increases for different items due to changes in the bill of quantities and recent changes in design specifications. With the need for additional work (erosion control and canal excavation) this may require a recalculation of the budget requirements. Against these increases there are a number of savings, as a few structures may not be required (see Annex 5) and because the Euro : BDT exchange rate has changed.

The principle is hence to complete the polders – including erosion control and sluices –, and start with all the work as foreseen. The following is recommended:

Recommendation 2.1. It is recommended that a joint monitoring team of BWDB and EKN follows the progress of works on a quarterly basis, reporting to the SC. A dedicated overview will be prepared by BWDB with the support of BGP TA to identify and make inventory of remaining infrastructural works as per the RDPP and submitted to the JMT by mid-January 2019. On the basis of the findings of this JMT the proposed duration and budget to complete the infrastructure component should be decided in July 2019. This will take into account the need for additional work on bank protection and canal excavation, the work that is not needed and the changed exchange rates.

Recommendation 2.2. In order to decide on the erosion protection works, it is recommended to undertake a quick scan satellite study on bank protection measures to decide on appropriate even if only medium-term measures

Recommendation 2.3. It is recommended that, BWDB elaborate their position to address the O&M issue and handle emergency situation of upcoming monsoons of 2019 and 2020 from the GoB budget. It is recommended that the issue is resolved for instance through reappropriation within the current budget or that other mechanisms are explored in time.

Recommendation 2.4. To speed up the work implementation and to create a proper participatory work environment, it is proposed that the BWDB and WMAs work together on:

- Land acquisition for different structures
- Deposition of silt (preferably where it is of beneficial use to raise land, make roads or killas)
- Implementation of the drainage pipe component which is understood will given to WMGs who will place them

<sup>&</sup>lt;sup>6</sup>With reference to ARM 2017 (Recommendation 3.5): in 2017 the ARM had similar concerns and assumed only a significant increase in throughput would make seem the 2020 cut off date realistic. Such an acceleration however did not take place.

# Recommendation 2.5. It is recommended that the allocation for emergency repairs be increased for instance through re-appropriation in order to adequately handle the emergency repairs of upcoming monsoons of 2019 and 2020

The ARM foresees that with the current staffing constraints in the BWDB Divisional Offices and the larger volume of work additional resources will be required in construction supervision. Actually, deployment of additional staff at the field level by way of crash program was already agreed in 2016 and 2017. Recommendation 2.5 is to deploy from the crash program provision additional construction supervisors and other staff as may be needed. The PCD and the TA Team will make an assessment of the manpower required.

## 3.3 Water management: bringing components together

In the past year BGP progressed considerably in grounding water management at polder level. In the coming two years more has to be done still. Major BGP achievements in the past year have been:

- Preparation of sluice level catchment management plans for all polders in Khulna and for a large number of polders in the other two districts
- Doubling of the number of CAWM and increasing impact further 4 to 6 fold by Horizontal Learning
- Initiating Small Scale Water Investment Fund: setting up procedures, announcing and completing the call for proposals.
- Substantially increasing the number of WMGs receiving almost full coverage

Moreover, at polder level more is happening. During the field visit to polder 55/2A the mission found out that the WMAs with the UP resolved the impeded drainage caused by a subsided sluice by rerouting drainage of the affected areas to other sluice outlets in the polder. With it seems that critical mass is created in the long-overlooked area of in-polder water management. It is encouraging that much of the in-polder water management has happened on the strength of WMO's own initiative:

- Most of the catchment plans were prepared by the WMGs clustered in the sub catchment themselves, following training by BGP
- There have been good follow up of the actions (20% in Khulna, even though plans are only recently completed)
- The uptake of CAWM has increased 4 to 6 fold through Horizontal Learning

These are inspiring examples of WMOs taking charge of their own destination, which is an approach to be more mainstreamed in the BGP in the coming period (see also 3.7). Apart from pursuing larger coverage for catchment management plans and CAWM, the emphasis in the coming period will have to be on better integration of the different water management initiatives. This includes the provision for pipes under the main infrastructure component where there 9000 meter of pipes (probably 1500 units) is foreseen that will be installed by WMGs to improve internal drainage. Many of these drainage pipes may be fitted by the WMGs with a simple gate/ fall board for better water control. Stronger integration of the activities in polder water management, including the provision for the drains and the facilities of the SSWIF, is required. It is recommended that WMGs in the sub catchment committees and CAWM FFS are connected – so as to make a link between the water management activities at different levels of water management and engaging DAE staff in catchment level water management as well (recommendation 3.1). The stronger exposure of the DAE staff in water management is important, as it is conceivable that DAE may play a larger role in water

management at catchment level and several measures (crop synchronization for instance) are close to their core competence. The placement of drainage pipes under the main infrastructure program and even the announced of the second call for the Small Scale Water Investment Fund is to be connected with this as well. It is also still recommended to further develop the repertoire of measures in catchment and polder-level water management by the identification of opportunities to retain fresh water for dry season use within the polder, the management and reuse of water hyacinth, the management of sediment and its reuse for land improvement, local road construction or the development of flood levees, to systematically connect with flood relief and protection and to make a strong connection with other infrastructure development in the polders (recommendation 3,2).

In the past year the procedures for the Small Scale Water Investment Fund was set up and a call was launched to the WMGs in the Phase I and Phase II polders. The procedure developed and the criteria used all makes sense. Approximately 70% of the WMGs submitted. It may be useful to assess the reasons for not submitting – maybe correlate this with WMG performance under the MREL. It is understood that in some cases no submission was made due to overbearing political influence. The recommendation for the SSWIF is three fold: to ensure its speedy implementation as the success of the fund will be in quick disbursement rather than in long careful procedure; to document (on sample basis) the impact and local process and to use the latter for exploring a self standing fund (recommendation 3.3). Another issue that needs to be addressed is the funding level for the second call. There was misunderstanding on the reallocation of funds from WMO offices to the SSWIF – the confusion was that the offices of the WMAs were still to be built from the original provision (see footnote in the concerned section of ARM 2017). As this obviously is very much needed (see section 3.1), there would be far less (Euro 200,000) less financial means for the second round of the call – almost depleting it. It is recommended (recommendation 3.4) that the financial reserves for the second round of the SSWIF is addressed – either by simplifying WMA office designs and reviewing case by case need - or preferably by an additional financial allocation- see also section 4.

## 3.4 Agriculture: keep pace

The program of the DAE in BGP is now oriented to on farm water management – combining the introduction of new salt and submergence tolerant high yielding aman rice varieties with better field level water management. At present 50 CAWM clusters have been directly supported. The DAE has also actively used mechanisms of horizontal learning that have increased the uptake with a factor 4 to 6. As a result, in a relatively short period at least 5% of the project area is covered with this new method of farming. The introduction of the new varieties of T. Aman rice such as BR52, BR49 and BR67 has gone even much beyond this.

In the recommendation of the 2017 ARM it was requested that the Department of Agricultural Extension (DAE) would have a new RDPP which was completed in October 2018. The RDPP concerns mainly a time extension with a relatively modest budget. It is understood that the DAE increased its budget. This RDPP has enabled the continued engagement in BGP in the lower tier of the polder water management. It is understood that at present DAE is considering to formulate new programs from various sources centered around on-farm water management and that mainstreaming the CAWM FFS in other on-going development projects.

With the current budgetary resources, the level of engagement of DAE in the next two years will be lower than the last few years. It is hence recommended to make the necessary budget available for the DAE to continue its program of activities in support of the polder level water management in at least the same level, if not more (Recommendation 4.1).

This will ensure that the DAE team of SAAOs and Farmer Trainers remain engaged at the same level of intensity and the team may even expand. With various new programs being developed this will be an important asset. It is also recommended that where necessary support is given to DAE to develop a program of activities for future program – including an engagement at higher level in polder water management, such as the facilitation of catchment management. This should include an engagement in BGP beyond the current stage.

So far 73 refocused TA FFS with 1575 participants (39 poultry, 10 livestock and 14 vegetable) have been conducted in 2017-18. Participants of poultry FFS started to earn Tk 2000 to 10000/year/family. While participants of beef fattening FFSs able to earned Tk 10000 to 50000/- per season and vegetable FFS members Tk 1000 to 3000/-. These activities are useful and have high relevance for near landless women. It is recommended to continue with these landless FFS using the simplified single topic method and engage in discussion with the Department of Livestock and DAE on how to make this part of other programs (Recommendation 4.2).

Finally it is observed that fortunately there are still many high potential new opportunities in farming in the Blue Gold area. Two were particularly noted, the cultivation (of summer vegetables in ghers of saline areas and inclusion of summer country bean in the gher's dikes.

## 3.5. LCS: maintain the poverty focus

It is important to maintain the poverty focus of the BGP. The objective of BGP is to 'reduce poverty for 199,326 households<sup>7</sup>, living on 119,124 ha of selected coastal polders by creating a healthy living environment and a sustainable socio-economic development.' Data from the Household Income and Expenditure Survey 2017 (Bangladesh Bureau of Statistics) show that poverty is still a serious issue in the BGP districts. Whereas the national poverty level has gone down to 17.1%, the figures for Pathuakali, Shatkira and Khulna are respectively 25.8%, 38.8% and 46.3%. Within this more than half is extreme poverty: respectively14.7%, 21.2% and 29.7% in the three districts. The number of landless and marginal farmers in Pathuakali, Shatkira and Khulna is respectively 61.2, 72.6 and 54.4%<sup>8</sup>. Their graduation of out of poverty is a main concern. Apart from the overall increased economic opportunities (leasing land, increased wages), special activities have been targeted to graduate the extreme poor out of poverty, in particular non-land based FFS and the contracting of earthwork through the Labour Contracting Societies (LCS).

From field discussions it is understood that the LCS within BGP is the instrument to address the ultra poor and help to move up the economic ladder, as it requires no assets apart from labor. The LCS work is moreover highly appreciated locally, for instance among the WMA management and is assessed to be of better quality than that of earthworks contractors. The LCS works provides – in spite of the improving labor market – still an important source of income during the lean session. The target of the work allocated to the LCS in Blue Gold is 50% of all earthworks. In the past season this target has not been fully reached – achievement was nevertheless 37%. Recommendation 5.1: Given the poverty alleviation objective of the project and the still widespread poverty in the three project districts it is requested to the 50% target of earthworks is to be maintained<sup>9</sup>. In that direction, BWDB is requested to

<sup>&</sup>lt;sup>7</sup>Figures adjusted with new BGP targets.

<sup>&</sup>lt;sup>8</sup>Data from BGP Base Line Survey, marginal farmer owning 1-49 decimal of land. <sup>9</sup>See also the ARM-2017 for instance. It is noted with some concern that in spite of the popularity of the LCS work among the beneficiairies and it being the only option to improve

review the existing one pager guideline has been agreed between EKN and BWDB and make necessary adjustments accordingly.

What needs to be improved is the way the work is offered. A study was commissioned into the implementation modalities of the LCS (see Position Paper). This established that one huge bottleneck was seasonality. The best months to undertake the earthwork for LCS are October-November and March-May, as neither monsoon rainfall nor agricultural peak demand interferes with the work. Work orders are however often issued with delays, for instance in May when there is not enough time prior to the monsoon to complete the work and what ever work is done will be damaged by rain and by wave action. Recommendation 5.2: It is hence the recommended that work orders from BWDB to WMGs (who then employ the LCS) are issued in time, i.e. in February, latest March. It is understood that the study in the modalities of the LCS though late is being finalized now and that it addresses relevant issues related to the smooth implementation of the LCS program. Recommendation 5.3: Because of broader policy implications of the study, it is recommended that the EKN organizes a discussion meeting on LCS with several key organizations and development partners on the outcomes of the study.

There is often low interest within the BWDB towards the implementation of the LCS. The tendency is to reduce rather than increase the number of LCS contracts. This is not well understood given the quality and targeting aspects of the LCS component. It is also however a fact that in general the work load of the understaffed BWB divisions is a reality. This has been mitigated in the past with the placement of emergency staff, an arrangement that is recommended for the coming project period too (see section 3.2). Similarly, it is suggested that arrangements are considered to making sure smooth processing of contractual matters and the implementation of good practices (As part of the it is proposed to have one special person entrusted with the task of helping the implementation of LCS activities, to be stationed at the BWDB field offices

A number of such practical measures and good practices were identified before<sup>10</sup>: (1) specifically targeting landless women and men (2) adequate pre- and post-work measurement (3) announcing the works in the open (4) not engaging machinery or outside labour and (5) timely and reliable payment (6) identify activities to be engaged with such as turfing (7) early release of the final security payment obligation, as this is often forgotten and (8) revisiting the practicalities of contracting through WMGs. From the mission field visit (see annex 5 for two case studies) it is understood that there are two threats in particular to the implementation of the LCS program in the proper spirit: the use of earth moving equipment and the engagement of outside labor through informal contractors (saddars). This practices should not be entertained. Recommendation 5.4. It is recommended that it is communicated that LCS-earmarked work undertaken by excavators or outside labor will at best be reimbursed as per the rate of outside labour or excavators or may not even be eligible for reimbursement.

## a. Policy and learning: lessons for programming

With the BGP soon entering in its last two years according to its current plan, it is important to use the on the ground experiences of BGP for research, policy and future programming. It is

the livelihood of the very poor, there is a discourse to lower the 50% target that was in the original project document.

<sup>&</sup>lt;sup>10</sup> ARM Mission 2017, Recommendation 5.2.

suggested at this stage to target the learning particularly at future programming and operationalizing policy (rather than revising policy<sup>11</sup> and developing new policy). It is recommended that the EKN takes a lead in this learning and in the reaching out to other parties. All sides are also requested to take an orientation to the Delta Plan that has been approved recently, and is concerned with the coastal region. The relevance of the BGP program is that it represents what it takes to improve water management inside the coastal polders on a large scale and how to organize local institutions to do so.

In earlier missions BGP policy engagement was proposed primarily in the shape of a review of the Participatory Water Management Rules of 2014. It became clear to the mission that the PWMR 2014 is no longer closely embraced by the BWDB. The BWDB sees its priorities more in working on challenges related to the main riverine system. The importance of water management at polder level is endorsed nevertheless, but in discussions senior level in BWDB suggested that this better handled by other organizations, in particular the Local Government and DAE.

It is also recommended that the EKN uses the learning from BGP and other relevant programs in the coastal area like CDSP, South-West Phase I & II for the formulation of the outline of a new program on polder coastal development in line with Bangladesh Deltaplan 2100, at more programmatic level as a follow-up to the current BGP and other projects in the coastal region (Recommendation 6.1). The learning should document the approach to work with socio-economically diverse communities and the most effective way of improving water management for socio-economic change. This is to the fill the niche in current strategic thinking on the hand and practical learning on water management affecting people and agriculture directly on the other hand. The value added of engaging in on the ground activities in water management is that – besides the high impact of BGP on the central objectives of the Dutch Development Program (reduced food insecurity, increased water productivity, even improved SHRR situation) – it brings offers additional ground truthing to the engagement in the Delta Plan and to planned research activities. A future program with a stronger strategic orientation should work more closely with DAE, Local Government and a federation of WMAs.

The ARM was told of clear interest in by DAE to incorporate the experience of BGP. There is genuine interest from DAE to take the on-farm approach further in new programs in the coastal belt This is part of a move of DAE to 'go beyond seed and fertilizer'. It is understood that DAE has already included such a potential on-farm water management roll-out project in its list of new activities, attached to its new budget. This is an important upscaling path, especially as DAE has a large field presence. The interest in on-farm activities follows from the implementation of the year-round FFS and CAWM, including the use of Farmer Trainers and Horizontal Learning. The interest in this was confirmed in meetings in DAE and in a workshop on July 2018 which invited DAE representatives from all coastal districts. It is recommended that the BGP/ EKN support where necessary the development of an on-farm water management roll-out program of the DAE, when requested by DAE, by engaging DAE staff at water management activities in different levels and in sharing all methods used inn **BGP** (Recommendation 6.2). The development of such a roll out may be combined with the activity under recommendation 6.1. A scaled up on-farm water management program could build around central elements of the current activities (year round FFS, CAWM, Farmer Trainers, Horizontal Learning, market linkages), but also include farmer booths, the use of ICT (weather apps or farmer made videos) and would constitute an appropriate uptake of some of the best elements of BGP. It should also consider a role of the DAE in supporting water

management at catchment/ beel level, following the current catchment planning by groups of WMGs (see 3.3). To prepare for a possible larger role of DEA in supporting polder water management, it is also proposed that the SAOOs of DAE are more engaged in the catchment planning activities and the SSWIF.

Secondly, the BGP program also has valuable lessons on how to operate an intense operation aimed at capacity building of WMOs and promoting agricultural development, particularly in the coastal areas that are The information collected in the monitoring systems of the BGP (WMO Tracker, Impact Survey, Participatory Self Monitoring) can – if properly analyzed – provide rich and unique insight in operational question on improving local water management and achieving high (inclusive) water productivity. Examples of parameters are: the cost of WMG formation, the time it takes for a WMO to mature , the correlation between WMG functioning, improved water management and agricultural productivity, the pattern of development and lapses of WMO development; the correlation between economic development, institutional strengthening and improved water management. These are all vital numerical that can help the formulation of new water management programs for the coastal areas of Bangladesh. It is proposed for this reason to continue data collection. It is recommended to draw out quantified lessons on the practicalities and the cost benefits on local institutional development and agricultural development from the data sets that are with the BGP already and now engage with parties interested in these lessons (such as World Bank) – Recommendeation 6.3. So far such analysis has been limited, these can also be an important input for an end of project report

Thirdly, a new policy that has emerged is the creation of District Water Management Committees. These are established under the Deputy Commissioners and bring together a large number of department whose work has a large bearing on water management: not only BWDB (as Secretary), but also LGED, DAE, Roads and Highways, Police and Security. This is a powerful method to integrate the main activities and reverberates with the polder planning that BGP has developed. It is recommended that the TA Team explores the synergy with the committees of Local Government Institutions at the (sub-)district level, **especially where it concerns the integration with the activities of the WMAs (Recommendation 6.4)**.

## b. Exit and entry strategy: use the project assets for growth

It is good to consider the BGP in terms of the assets it has created. These are physical (the infrastructure) and institutional: the network of WMAs and WMGs, the approaches for improving water management, the exchanges and horizontal learning, the farmer trainers, the larger capacity of the SAAOs to be involved in on-farm water management, capable Community Development Facilitators. It is important not only to maintain this asset base and aim at sustainability but also to aim at making things grow. It is therefore recommended for the project partners (BWDB, DAE, TA and EKN) to sit together and formulate a Growth Strategy, describing exit and entry: exit from the project and entry into more autonomous growth and development of the WMAs and WMGs (recommendation 7.1). The worry should not be so much whether the WMAs and WMGs will survive the project completion (and that the disappointment of other similar projects is avoided), but whether the WMAs and WMGs can continue to flourish and take on new meaningful activities with the support from networking agencies – i.e in other words achieve growth. To support this several options are possible: the WMAs can work together in a cluster/zonal federation with the purpose of supporting water management and agriculture in the region and structure internal cooperation and channel external support. The SSWIF can be develop into a facility for WMA water investments. The assessment of the ARM is that such a new step is possible and necessary. Bringing the WMAs and WMGs to a level where they will merely sustain themselves is not sufficient to make them

viable. The table below suggest how different project arrangements can transform themselves into permanent institutions.

WMOs	Federation of WMAs able to coordinate with external
	parties, attract additional support and undertake
	internal networking and benchmarking
Small Scale Water Investment	Autonomous fund to finance small climate smart
Fund	investments and give loans/ grants to WMGs/WMAs –
	soliciting contributions from several sources
Farmer trainers	Service providers in combination with providing agri-
	input services
SAAO of DAE trained in CAWM	Engage as resource in roll-out program for on-farm
	water management by DAE to other districts (see
	recommendation 6.1)
Community development facilitator	Encourage group of CDFs to set up local Federation/
with knowledge of Unified	NGOs to continue providing similar services (possibly
Approach	involving the community facilitators established for the
	catchment planning as well)
Monitoring systems	Use by WMAs as follow-up support and trace
	performance of WMGs; use as internal benchmark/
	performance standard for WMGs and WMAs (linked
	to eligibility for support or receiving loans) (for
	receiving any financial grant/support/loan will require
	some sorts of affiliation from an appropriate
	government agencies like co-operatives/social
	welfare/joint stock department)
Horizontal learning mechanisms	Further innovate (with ICT) and make these part of the
	work of networked WMOs and DAE

To move towards this position of relying on internal strength rather than external facilitation, it is recommended that the TA Team shifts some more of its interventions to WMAs and WMGs, such as organizing horizontal learning events, selection of FFS trainees, verification of participatory monitoring (recommendation 7.2). Having the catchment planning undertaken by WMGs themselves is an excellent example of such self organized development.

In general, it is suggested that if a vision on exit and entry is quickly developed (this can be in the shape of an elaborated version of the table above), the different steps towards can be brought into the capacity building work in the polders.

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## 4. Final observations

Agricultural and rural transformation is underway in the coastal polders of Bangladesh – with rapid spread of multiple cropping and accompanying improvements in local farm water management. This creates a strong economic basis to maintain the polder infrastructure and optimize operation and water management within the polder. The network of WMGs and WMAs created with support of BGP and the infusion of new farming knowledge is a prime

asset and should be consolidated by developing strong peer linkages between the WMGs and WMAs.

The main priority in hand is to complete the current work properly – in terms of infrastructure and in terms of the different WMOs, whereby the development of capable WMAs are the two main challenges.

The different recommendation also have cost implications and it is suggested to consider an up-topping of the TA special services and other budget. First estimates for some of the additional priorities up to 2020 are given in the table below.

More landless FFS	Euro 200.000
More FFS from DAE (215 number)	Euro 200,000
Support to DAE program development	Euro 50,000
Support to policy learning (see section 3.6)	Euro 60,000
Capacity building for BWDB staff in farmer-	Euro 50,000
engineer interface	
Office buildings for the WMA or keeping	Euro 200,000
the SSIDF at the same level	
Additional management from TA	Tbd

The Review Mission also proposes that a short low intensity period of extension is considered (of two years) beyond 2020 to implement the Growth Strategy and to have an autonomous movement of WMOs. In such an extension period external support should be reduced and resources for activities should preferably be put in the hands of the WMOs. This period may also be utilized to see through the last part of the construction activities.

## Annexes

- 1: Terms of Reference Annual Review Mission 2018
- 2: Responses to specific question in Terms of Reference
- 3: Responses to specific questions in Position Paper
- 4: Follow up to ARM 2017 recommendations
- 5: Assessment of the status of the construction program

#### Annex 1: Terms of Reference Annual Review Mission 2018

The Blue Gold Program (BGP) started in March 2013 and covers a  $7\frac{1}{2}$ + year period, up to December 2020. Its operations concentrate on the polders of three districts in the Southwest of Bangladesh: Patuakhali, Khulna and Satkhira, as well as a small part in Barguna District. The Program covers 119,000 ha where an estimated 199,000 households will have direct benefits from the Program. BGP is being implemented by BWDB and DAE with technical and financial support under financing from the Government of the Netherlands (GoN).

The overall objective of the Blue Gold Program is:

"to 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".

The specific objectives of the Blue Gold Program are:

- 1. 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 water management organizations which will be 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 Program 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 WMOs 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 Program 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 on the basis of value chain development.

Further information on BGP objectives, strategy and planned activities is contained in the Program Document, inception report, aide memoire of the 2017 review mission, progress reports, technical reports and working papers.

#### 2 Review Mission 2018

The present document provides the terms of reference (ToR) for the annual review mission 2018.

This mission is aimed to review progress achieved with recommendations from the ARM 2017, and to ensure that the reformulated official project documents (DPP) of the Blue Gold Program by BWDB and DAE will enable the project to deliver the benefits to all 22 polders and particularly in the 10 new polders before end-June 2020. Given the delayed implementation of the water resources infrastructure, there will be a specific emphasis on the plans to complete as much of the infrastructure by end-June 2010.

#### 3 Objectives of the mission

The overall objective of the 2018 ARM is therefore to secure the project's realization of its core objectives within the proposed extended time and budgetary framework. The principal function of the 2018 ARM is to review on the operational dimensions of the project and making further by answering the following principal question:

- To what degree has BGP implemented the recommendations of the ARM 2017?

Specific points of attention in this regard, are as follows:

#### (a) Infrastructure:

Are arrangements in place to ensure the additional GoN/GoB budget available for infrastructure contracts can be awarded, implemented and completed in the two remaining construction seasons ie 2018/19 and 2019/2020? Some points of attention:

- How effective are the arrangements in DP3, Design Circles and Field Offices which have been made with the Emergency Support (made available to BWDB by 2016 ARM).
- What is the status of BWDB staffing and survey and design data collection (SDDC) funded through this mechanism, and what has been the impact on the overall infrastructure program?
- What progress has been made by Design Circles-2 and -5, and what further action is required to deliver completed designs of <u>all</u> structural works by end-December 2018?
- Are the BWDB Field Offices suitably resourced to provide support with survey and design data collection, preparation of estimates, tendering and award of contracts, supervision of construction and processing of payment certificates?
- Is there sufficient contracting capacity to complete the works within two construction seasons, and to achieve the requisite standard of construction?
- What additional measures should be taken to make optimal use of the 2018/19 and 2019/20 seasons?
- For infrastructure implementation and quality control what actions and/or conditionalities can be taken up by GoB and GoN?

#### (b) WMO Capacity Building:

- Taking into account: (i) available services at polder level from BWDB, DAE and TA; (ii) existing deployment of staff; and (iii) logistics etc, review the progress of:
  - + the implementation of the "phasing in" activities is progressing well in the 10 new polders [in accordance with the May 2017 Field Manual]?
  - + the "phasing out" from 8 polders by end-2018 and 6 polders by end-June 2019
  - + the review at national level of the Participatory Water Management Rules 2014 as discussed during the debriefing meeting of the ARM 2017 at the MoWR and the implications of conclusions of this review for the BG project (conclusion)

#### WMGs

- Does the refocus on WMG functionality (agricultural and economic development; operation and maintenance; and WMG and partnerships) continue to be effective?

#### WMAs

With the signing of O&M Agreements between BWDB and the first six WMAs in Khulna on 23<sup>rd</sup>
 September, and the plan to sign agreements with all WMAs in the first batch of phase-out polders
 by end-October, review and comment on the plans for capacity building of WMAs

#### (c) In-Polder Water Management

- DAE takes a leading role with the Community-led Agricultural Water Management (CAWM) demonstrations which bring together water management, annual cropping system planning and market awareness. Investigate DAE's assessment of the value of the CAWM demonstrations and their perception of the value of wider replication.
- Review and comment on the procedures for the upscaling of in-polder water management issued in September 2018 in response to recommendation 2.3 of the 2017 ARM aide memoire.
- Review and comment on the WMG applications received in response to the invitation for funding of small-scale infrastructure, and suggest any improvements to the procedures.
- Assess DAE's response to horizontal learning methods and the response of SAAOs to new participatory training methodologies.

#### (d) Impact

- Review and comment on a report documenting the results of Blue Gold in terms of economic changes and increased income for farmers in the fourteen polders which are to be phased-out in 2018 and 2019 (interim report on two polders issued to ARM on 30 Sep 2018, and final report to be made available at the start of the mission).

#### 4 Scope

The scope of the ARM covers the whole of planned and implemented project activities in all of the project areas.

#### 4.1 Key Areas to be addressed

The ARM is to review and assess progress achieved and challenges encountered, and provide concrete recommendations for adjustments to:

- Implementation strategy particularly pragmatic/workable action plan for the completion of infrastructure investments;
- Institutional arrangements, project organization;
- Objectives, outcomes and outputs;
- Critical assumptions and risks;
- Planned activities;
- Inputs (including budget adjustment and/or reallocation of manpower inputs and/or composition of BWDB/DAE/TA Team).

While carrying out the ARM, the mission members are expected to identify, assess and take into account any issues or developments, be it internal or external to the project, that may be relevant for and/or may impact on the project design. Those issues and developments will include but may not necessarily be limited to the following topics:

- The work arrangements and relations between the implementing agencies, and between them and the TA.
- Poor progress has been made with the rehabilitation/replacement of polder infrastructure, with consequent adverse impact on polder safety/security and delays to introducing improved internal water management.
- Effectiveness of the organisation structure/HR plan and resources for program delivery and coordination;
- The description of the development process implemented / to be implemented in the polders;
- Steps taken to enhance the effectiveness of the program intervention and the sustainability of its outcomes (status of implementation of ARM 2017 recommendations); and
- Synchronization of DAE activities proposed in RDPP with TA activities in particular to CAWM and FFS

#### 4.2 Outputs

In terms of outputs the ARM 2018 will be accountable to MoWR/BWDB and EKN. Towards the end of the Mission's country presence, it will submit a draft Aide Memoire on the main findings on programme performance and listing its recommendations to MoWR, EKN and the implementing agencies BWDB and DAE. This draft Aide Memoire will be presented at a wrap-up meeting. The mission will submit a draft final report within one month of the end of the mission. A final report will be prepared after incorporation of all the comments on the draft final report made by the relevant agencies/stakeholders within four weeks of receiving the comments.

#### 4.3

#### Execution of the ARM

The fourth annual review mission will take place from 9<sup>th</sup> to 19<sup>th</sup> November 2018. A proposed mission schedule is attached herewith. With regard to the execution of the ARM 2018, the team is itself expected to propose the methodology and approach to be followed. Activities to be carried out by the ARM are expected to include but not necessarily be limited to the following:

- A review of existing documents;
- A briefing meeting with EKN on the program and approach on the first day of the mission;
- Briefing meetings in Dhaka with the implementing agencies BWDB and DAE;
- In advance of the mobilisation of the main 2018 ARM, assign the implementation planner to carry out field visits to establish the state of preparation in BWDB Field Offices for the 2018/19 construction season with respect to survey and design data, tendering and award, and supervision of construction;
- In advance of the mobilisation of the main 2018 ARM, assign the agriculturalist to carry out field visits to verify the findings of the impact study (under preparation by Edward Mallorie and Sharmin Afroz).
- The mission will submit a draft Aide Memoire with its main findings, conclusions and recommendations to EKN, MoWR and the main implementing agencies BWDB and DAE.
- A debriefing meeting with EKN, BWDB and DAE, at which the draft Aide Memoire will be presented and reviewed;

• A formal wrap-up meeting at MoWR in which the draft Aide Memoire will be discussed and agreed between GoB and GoN representatives.

Despite the number of fixed commitments for the mission, specifically the meetings arranged with the key stakeholders at the beginning and end of the mission, the mission leader and other members are free to arrange the locations and venues for field visits and any other visits or meetings with other projects or associated organisations.

#### 4.4 Composition

The mission comprises the following personnel:

Mission Leader	Frank van Steenbergen	
Institutions	Jetze Heun	
Agriculture team	Wais Kabir	
	Nowsher Sarder	Advance field visit
Infrastructure team	Prof Saleh	
	Abul Kalam Azad (ex-BWDB)	Advance field visit

#### 4.5 Budget

The mission will be financed from the Blue Gold TA budget. Logistic support (incl. transportation, accommodation, and office space) will be provided by the TA Team of the Blue Gold Program. The Mission is advised to present its proposals to the BGP TA office manager as soon as possible to ensure that logistics (internal flights, etc) can be arranged to suit.

#### 4.6 Available Documents

The following documents will be available to the mission

- 2018/19 Position Paper (at the beginning of the mission)
- Blue Gold Program Document, 30 August 2012
- Inception Report, November 2013
- Half Yearly Progress Report, January to June 2018
- Annual work plans for 2017/18 and 2018/19
- Aide Memoire of ARM 2017 and the latest status of Joint Action Plan on implementation of ARM recommendations
- All available Progress and Financial Reports
- All Technical Notes, Technical Reports and Working Papers prepared by the TA Team
- All other relevant documents, such as the PWMR 2014 (English and Bangla)
- Revised DPPs for BWDB and DAE.

## Annex 2: Responses to Questions in the Terms of Reference

#### 1 - Infrastructure:

1.1 Are arrangements in place to ensure the additional GoN/GoB budget available for infrastructure contracts can be awarded, implemented and completed in the two remaining construction seasons ie 2018/19 and 2019/2020? Some points of attention:	Review of infrastructure implementation data from the field offices revealed that except for the construction/repair of the sluices, rest of the infrastructure may be completed during the two remaining construction seasons, whereas for some of the embankment retirement the release of land is critical. The status of repair/construction of sluices is given in a separate annex 5. The mission is of the opinion that to be on the safe side a time extension of 2 years is required.
How effective are the arrangements – in DP3, Design Circles and Field Offices – which have been made with the Emergency Support (made available to BWDB by 2016 ARM).	Ine emergency support has been very effective in collection of design data, survey and development of design. But, there is still a lot of designs pending at the Design Circle as the designers are often busy with works not related to design (Task Force duty). There is a shortage of BWDB designers and they are also unwilling to delegate/outsource the design. The PCD is aware of the problem and keeping a close contact with the Design Circle to expedite the design process. There is adequate support at junior level from emergency fund, but hiring of a Junior Engineer is necessary due to resignation of recent recruits.
1.3 What is the status of BWDB staffing and survey and design data collection (SDDC) funded through this mechanism, and what has been the impact on the overall infrastructure program?	Although the SDDC has been very effective in pre-design activities, the actual design is/would be delayed due to pre-occupation of the senior designers. Depending upon the progress, it may be necessary to extend the program till June, 2019.
<sup>1</sup> / <sub>4</sub> What progress has been made by Design Circles-2 and -5, and what further action is required to deliver completed designs of <u>all</u> structural works by end-December 2018?	It is difficult to predict when would all the structural designs be completed (and certainly not by December, 2018) as the foundation/soil data of some sluices (>= 5 vents) are yet to be collected (under water). Moreover, shortage of BWDB design engineers has exacerbated the problem. Hence, outsourcing of the foundation/soil data has been suggested to expedite the process.
1.5 Are the BWDB Field Offices suitably resourced to provide support with survey and design data collection, preparation of estimates, tendering and award of contracts, supervision of construction and processing of payment certificates?	No, and this been an endemic problem with BWDB (also highlighted in the earlier ARMs) but was never resolved. For example, Patuakhali WD Division has 3 posts of Sub-Divisional Engineers and all are vacant. At present the availability of technical manpower varies from about 23% in Patuakhali WD Division to 52% in Khulna-1 O&M Division. But, in spite of the shortage of technical staff, all the field offices were optimistic about issuing of work orders within two months of receiving the designs.
1.6 Is there sufficient contracting capacity to complete the works within two construction seasons, and to achieve the requisite standard of construction?	The contracting capacity with requisite standard exists at the local level but as the selection of contractors is through bidding (following PPR), the timely completion depends upon the experience and efficiency of who is selected.
<ul> <li>1.7</li> <li>What additional measures should be taken to make optimal use of the 2018/19 and 2019/20 seasons?</li> <li>1.8</li> <li>For infrastructure implementation and quality control what actions and/or</li> </ul>	<ol> <li>The additional measures/actions necessary are:         <ol> <li>Allow outsourcing of foundation/soil data collection.</li> <li>Allow Inter and intra re-allocation of the infrastructure budget.</li> <li>Expedite the designs by close monitoring of the Design Office (by the PCD).</li> <li>Not to transfer the BWDB technical staff for the rest of the project period.</li> <li>Follow-up of land acquisition to expedite the construction.</li> <li>Form a Steering Committee to monitor/stock taking of the progress and reformulate work plan (as necessary).</li> </ol> </li> </ol>

### 2 - WMO Capacity Building:

2.1 General	In 2017/2018, BGP has started to facilitate the formation of the WMAs. In the 22 polders a total of 39 WMAs are scheduled to be formed. By October 2018, a total of 31 WMA have been established. Of these, 6 WMAs in 5 polders have signed the O&M Agreement with the BWDB, in a ceremony attended by officials from BWDB, DAE and EKN. Signing of the Agreement is an important milestone in the formation of the WMA.
	In parallel, BGP has started to facilitate the formulation of the Catchment Management Plans (CMP), through the WMA O&M sub-committees (a.k.a. Catchment O&M Committee, COMC), with inputs from the individual WMGs. The CMPs are important building blocks for the O&M Agreement and annexed to it, while the CMPs at the same time represent the agreement between WMGs in one catchment on O&M, with the operation of the main sluice as an important element. In the 22 polders, a total of 215 CMPs will be prepared, of which by October 2018 a total of 61 have been finalized in a total of 8 polders. The CMP is also a means for the WMG to draw the LG (Union Parishad) into consultations on O&M. The 6 O&M Agreements and 60 CMPs are mainly located in the 8 Phase 1 polders , but not all phase 1 polders necessarily avail of a WMA + O&M agreement nor of a CMP.
	With the establishment of the first WMAs <sup>12</sup> , the first CMPs and the first O&M Agreements, the fabric of institutions directly concerned with of participatory water management is being completed: the Water Management Associations (WMA), the Water Management Groups (WMG) and the Catchment O&M Committees (COMC).
	The WMO Capacity building program is multi-facetted and implemented well. Attention is duly paid to (1)operation and maintenance of water management infrastructure, (2) agricultural and economic development and (3) the wider polder water management partnership.
	The WMO organisations (WMA, WMG, CC-OM) established to date, are well aware of their tasks and responsibilities, of the challenges they face and how they could address these. The (self) assessment of the organisations shows a good level of confidence. However, valid for all organisations is that the test of their capacity will only come when they are really taking up their responsibilities after withdrawal of the project. This is especially the case for the WMAs, of which only a few have been established and which have hardly taken up their tasks and responsibilities.
2.2 What is the progress in the "phasing out" from 8 polders by end-2018 and 6 polders by end-June 2019?	Phase 1 is concerned with 8 polders: 4 in Khulna and 4 in Patuakhali. A total of 205 WMGs in 75 catchments has been formed. Of the Phase 1 WMGs, 169 of the 200 are rated in performance category A/B. Of the Phase 2 WMGs, 115 of the 165 are rated in performance category A/B. With respect to the WMAs: 29 out of 30 (Phase 1+2) have been registered; 6 of these have concluded an O&M Agreement. At the time of the ARM, 69 of the 75 Catchment O&M Plans (CMP) of Phase
	1 polders were completed, and only 1 out of 65 in the Phase 2 polders. After phasing out, the intention is that the following support will be in place: (i) a cadre of Farmer Trainers (FTs) who can continue to promote agricultural innovations; (ii) a model for sluice catchment planning, which WMAs can replicate to other polder catchments once infrastructure is complete; (iii)

 $<sup>^{12}</sup>$  Actually, the 9 IPSWAM polders revisited by the BGP already had a dormant form of a WMA, some of which have been re-activated, some have been established more or less as new.

2.3 What is the progress in the implementation of the "phasing in" activities; is it progressing well in the 10 new polders?	O&M agreements between polder-level WMAs and BWDB; (iv) needs- based support to the established WMGs by WMAs; and (v) as part of the handing over process, a TA CDF and an COCWM CDF will remain in the "phasing-out" polders to support WMA capacity building through to effective program completion at end-June 2020. The ARM considers this adequate. The late commissioning of the rehabilitated and new infrastructure has reduced the opportunity for the WMOs to develop their O&M skills and serve as a reality-check on capacity achieved. Aftercare is indicated to monitor achievements and draw lessons. Phase 3 is concerned with 8 polders: 6 in Khulna and 2 in Patuakhali. The capacity building program for WMGs is well defined and implemented with the support of well-placed CDFs.
2.4 Does the refocus on WMG functionality (agricultural and economic development; operation and maintenance; and WMG and partnerships) continue to be effective?	The refocus of capacity building on WMG functionality (agricultural and economic development; operation and maintenance; and WMG and partnerships) is considered highly effective. The program has less formal courses in a fairly strict program and has a better focus on self-evolving WMGs by encouraging WMGs to take control of their own activities using an approach which encourages learning-by-doing. The capacity development program is guided by well-placed experience CDFs. The ARM considers this an appropriate approach; in fact it implies that BGP is gaining self-confidence, is becoming more experienced and is using lessons learnt; it also endorses an earlier shift to focus on the functionality of the WMO's rather than overly concentrating on formation, registration and financial management.
	FFS are an important part of capacity development. Also the FFS delivered through the TA of BGP were modified: (1) the multiple module approach was replaced by a single module approach targeting specific wishes of the target groups. Specially trained FTs are engaged in the facilitation of the FFS. This allowed for more FFSs to be organised and to reach more households. (Cycle 11, the first modified cycle, has just been completed. 74 FTs implemented 166 TA FFS, covering 80 poultry, 25 beef fattening, 38 fish, and 23 vegetable/fruit production modules. Thereby reaching 4,150 HH, 90% of whom were women).The ARM considers the approach successful. For the DAE it is more difficult to adjust their approach to the same modality. Nevertheless, the ARM considers the DAE FFS as highly successful and as an important part of the capacity building program.
2.5 Review and comment on the procedures for the upscaling of in-polder water management issued in September 2018 in response to recommendation 2.3 of the 2017 ARM aide memoire.	The Community-Led Agricultural Water Management (CAWM) is the showcase for In-Polder Water Management within the BGP. The CAWM approach is led by the Department of Agricultural Extension (DAE). CAWM brings together water management, annual cropping system planning and market awareness to achieve higher profits. In 2018, the following were organized for CAWM purposes: (i) 80 DAE-led CAWM Farmer Field Schools (FFS), (ii) 3 training of facilitator (ToF) sessions for DAE SAAOs, (iii) 6 CAWM Aman and Rabi crop and water management planning workshops, (iv) 65 Batches of horizontal learning visits, multiple Farmer Field Days and a crop cutting festival, (v) DAE National Workshop on CAWM and In-Polder Water Management and (vi) Establishment of a fund for small-scale water management interventions
2.6	The CAWM approach has gradually been scaled up from 10 schemes during the 2016-2017 season, 15 in 2017-2018 to 25 for the 2018-2019 season. Horizontal learning takes place in many ways, and is reported to have lead to a multiplier of 5 for CAWM activities. Indicative estimates suggest that modern variety practices from CAWM are quickly adopted by neighbouring farmers – causing a larger scale indirect impact of the CAWM approach. The Small Scale Water Management Infrastructure Fund (SSWIF), was
Review and comment on the WMG applications received in response to the invitation for	announced only in September 2018. The call for proposals was very successful: by October 2018 a total of 356 applications were received (Khulna with 116 proposals, with an average cost of 285,000BDT and

funding of small-scale infrastructure, and suggest any improvements to the procedures.	acreage of 150ha; Patuakhali with 187 proposals from 138 WMG; Satkhira with 53 proposals from 63 WMGs). The far majority of the proposals includes the (re-)excavation of khals, while 288 also include a gated drainage pipe or boxculvert. BGP has just started to come to selection and decide on exact implementation modalities. BGP has issued an extensive guideline on applications to and management of the SSWIF. The guideline adequately covers all relevant aspects, but is probably over-cautious on the management of finances and quality considering the size of each individual investment. Considering the high number of applications, this becomes a burden to the TA. The plan is also to implement a number of pilots before moving forward. The ARM acknowledges that it is not always easy to judge a proposal, but it also has seen several good examples of similar investments in BGP (linked to CAWM) implemented by farmers under guidance of the WMG. It is recommended that management of the Fund is better adjusted to the spirit of the fund, that supervision is embedded in regular activities in the polder, and that implicitly trust is placed in the established organisations. It is strongly recommended to start implementation. The important evaluation criteria of success of the fund is the fact that the new infrastructure is (sustainably) functioning.
2.7 With the signing of O&M Agreements between BWDB and the first six WMAs in Khulna on 23 <sup>rd</sup> September, and the plan to sign agreements with all WMAs in the first batch of phase-out polders by end-October,	The process of formulating a Catchment O&M Plan (CMP), was well guided by the BGP, and proved to be a very valuable exercise for the WMGs and the WMA O&M sub-committees (a.k.a. Catchment O&M Committees, COMC), as they brought all stakeholders around the table on very concrete issues; the Catchment O&M Plans serve as appendix to the WMA-BWDB O&M Agreement and are as such part and parcel of the Agreement; the UP is an observer and is regularly informed; the catchment plans are a good basis for seeking involvement of LGI's.
review and comment on the plans for capacity building of WMAs?	The WMAs are being formed and facilitated only in the very last phase of the project, which means that little insight is gained as yet in their capacity and effectiveness. The CB strategy is rather open-ended, facilitating when a need is felt. This is not illogical as there is little experience on how the way a WMA will function, how it interprets its responsibilities, how it will be effective and how it will develop itself. Nevertheless, there is as yet little vision on how it all will work. In hindsight, it would have been better to instigate the WMA's earlier, and involving them for example in the further development of the WMG's. Practically this may be difficult as the WMA are essentially a representation of the WMG's. It is indicated that the WMA would highly benefit from different forms of care after the phasing-out and final withdrawal of BGP.
	It is unfortunate, that the CB has focused on tasks and responsibilities and on skills, but did not pay attention to the operational facilities for the WMA: an office, transportation, record keeping, communication, etc. The average WMA oversees 13 WMGs in 6 Catchments on 3000 ha, with 22 km of main khals, 22 km of main embankment and 6 main sluices. The PWMR lists 13 tasks and responsibilities of the WMA. The CB program of the BGP considers 23 type of tasks/responsibilities, under 7 headings; (1) O&M of WM infrastructure, (2) Monitoring of WM infrastructure implementation activities, (3) Creation of O&M fund and utilization, (4) In-polder water management, (5) Conflict mitigation, (6) Networking and partnerships, and (7) Monitoring of activities of WMGs.
	The tasks of the WMA are manifold and tend to increase as other organisations tend to withdraw, notably the OCWM of BWDB. The WMA is then seen as a panacea for all challenges that surface in the polder. It is clear that this still has to sort itself out, in which the role of BWDB and especially the LGIs have to considered. It is clear that the WMA organisational facilities are needed not only for their functioning, but also for acquiring credibility, sufficient status and opportunities for contacts / communication on which they so much depend. It is likely that over-time the WMA will develop into a professional organisation, which plays an

	important role in water-management in Bangladesh and would be
	recognized by GoB as such.
	The most tangible handle for the operations of the WMA is the O&M Agreement with the BWDB. The Agreement reads a bit one-sided as the text implies that the WMA is serving the BWDB, rather than that the BWDB is also serving the WMA. However, the Agreement gives enough opportunity to define the different responsibilities adequately, provided that the appendices containing the Catchment O&M Plans are given sufficiently recognition: it is advised that the main text refers to these appendices explicitly, as it only indicates responsibilities in general.
	The strong aspect of the Agreement is that the operation of the infrastructure is now firmly in the hands of the WMOs.
	The main text of the Agreement is particularly too general with respect to the periodic maintenance activities expected from the BWDB in a particular year. Also the Catchment O&M Plans tend still to be too general in this respect. The background to this is that the BWDB cannot easily plan its periodic maintenance: (1) the budget is scarce, (2) and the budget is known only late in the year. Consequently, priorities at zonal level are decided late and are subject to different forms of influence. In addition, the BWDB is frequently occupied with emergency maintenance with a budget that is larger than the budget for periodic maintenance. This situation my lead to disappointments with the WMOs in the future.
	It has been suggested that this situation may be addressed to a certain extent by: (1) institutionalizing a regular meeting between BWBD and WMA, (2) the Chief OCWM of the BWDB acknowledging the Agreement and (3) the LGI (e.g. UP) witnessing the Agreement.
	Both the WMG and the WMA indicate that they are uncertain about "where do we belong" after the withdrawal of the BGP. Evaluations of other PWM projects indicate also that it would be good if the WMO's have a "house" somewhere, or a custodian. The leading concept is that the WMOs will ascertain themselves and find their place by being viable and strong, well connected organisations.
	For the WMG's the alliance with the LG (UP) seems a logical place; this could be institutionalized to some extent by making the WMG the "water sub-committee" of the UP, as one of the other sub-committees established by law under the UP.
	For the WMA's the alliance with the BWDB, in particular the OCWM, seems indicated. However the role of OCWM is under debate. For a number of tasks, the DAE may be well positioned to facilitate and stimulate the WMA. A more recent development is that GoB is establishing District Water Resources Management Committees under the District Commissioner, which will encompass all WR related sectors. This would give the WMAs recognition and an important platform at higher level in the government. In
	such a case a National Federation of WMAs with regional chapters may be considered.
	At the local level, relevance could be enhanced by making the WMA a
	member of the Thana Development Committee.
2.8	The review of the PWMR2014 has not taken place as envisaged by the
What is the progress in the	AKM2014. In March 2018, the Southwest Area Water Resources Integrated
Participatory Water	of the PWMR(2014) and the GPWM(2001) chaired by the Chief Planning
Management Rules 2014 as	of the BWDB. Other projects on PWM were not included in the committee
discussed during the	and BGP has not participated in any discussion. The Committee was
debriefing meeting of the	scheduled to report by the 31 <sup>st</sup> of August 2018, but it has not yet submitted
AKM 2017 at the MoWR and	a report. Informal information indicates that the committee is manly
	concerned with the cupacity of the bryob Addit Department and the

of this review for the BG project?	capacity of the OCWM. SWAI wishes to strengthen the auditing capacity of the BWDB and the financial regulations of the PWMR, as this is needed to
	allow WMOs to collect finances and engage in contracts. This does not
	address the larger issue of polder water management or effective
	maintenance and seems to be an infertile track.

## 3 - In-Polder Water Management:

3.1 DAE takes a leading role with the Community-led Agricultural Water Management (CAWM) demonstrations which bring together water management, annual cropping system planning and market awareness. Investigate DAE's assessment of the value of the CAWM demonstrations and their perception of the value of wider replication.	There Is much interest in DAE is CAWM and in in polder water management in general. This can be assessed from several facts: (1) the publication and dissemination of the training material on the year-long FFS (2) Placing on farm water management projects in the list of future project in the DAE budget (3) Reference to On Farm Water Management in the Extension Strategy that is under formulation (4) Integrating CAWM in new FFS programs (5) Positive and thoughtful discussions with the ARM of the highest management in DAE.
3.2 Assess DAE's response to	DAE has adopted Horizontal Learning methods in its programs and this in its own assessment has quadrupled uptake. Horizontal learning has always
the response of SAAOs to new	farmer led exchanges
participatory training	
methodologies	

## 4 - Impact

4.1	There is now ample documentation on the economic changes triggered by
Review and comment on a	Blue Gold. This is very welcome.
report documenting the results of	
Blue Gold in terms of economic	There are three data sets:
changes and increased income	<ul> <li>The impact based on DAE data (TR 22)</li> </ul>
for farmers in the fourteen	- The impact based on focus groups discussion in polders (TR 25)
polders which are to be phased-	- Baseline of Satintelligence
out in 2018 and 2019 (interim	
report on two polders issued to	In pre-mission work an independent assessment was done. The results of
ARM on 30 Sep 2018, and final	these are closest to the outcome of TR 22. It is proposed that the MRL in
report to be made available at	charge in TA consolidates these findings and also answers the question of
the start of the mission).	control groups – the non-Blue Gold polders – to what degree did change
	happen in these areas too (due to new rice varieties for instance). Also a
	better understanding of the impact in the different polders may be
	generated by the MRL team based on the data above.

# Annex 3: Blue Gold Program Progress in Implementation of ARM 2017 Recommendations

Ref	Recommendation	Progress as reported in Position Paper, Annex 1.1	Comments by ARM 2018
0 Prog	ress and impact	·	
0.1	Documentation of changes based on the various data in BGP on the on-going transformation in farming systems and the contribution of improved in-polder water management (at tertiary block and sluice command level) and improved water control infrastructure (khals and sluices) – including the collection of visual material. This study should also look at the impact on labour demand, labour wages and tenure arrangements. This will support the understanding and upscaling of the improved practices as initiated under BGP. The TA team is requested propose an approach on how to integrate the data and records compiled by the project.	<ul> <li>(a) TR24 "Improving and Stabilizing Agriculture and Crop Productivity in the Coastal Bangladesh: The Impacts of Blue Gold Program Interventions" led by M&amp;E Specialist Edward Mallorie working with BGP reported on the changes in the farming systems, the contribution of in-polder water management and the impact on labour demand, labour wages and tenure arrangements in 14 polders</li> <li>(b) TR22 "Agricultural changes from 2012/13 to 2016/17" provides an analysis of the changes in crops, yields and cropping intensity for 12 "old" polders</li> <li>(c) Six monthly reports link the outputs of activities and interventions recorded in the WMG tracker to the Blue Gold outcomes, impact and goal (eg WP9D "WMG Tracker Report to June 2018")</li> <li>(d) Participatory monitoring reports (eg WP8D "Participatory Monitoring April/May 2018") are based on WMGs assessments of their performance against potential targets at outcome level.</li> <li>(e) Visual material is included in quarterly "BARTA" newsletters (in Bangla), seasonal "Trend Watcher" bulletins (in English), and in videos (various)</li> </ul>	Appreciable progress
1 WM	A/WMG performance		
1.1	The roles in O&M at polder and sluice catchment level (including in- polder water management) should be agreed and communicated. Here it is proposed (for discussion) that WMAs and WMGs take care of the surveillance and minor repairs of embankments, the operations of sluices and the cleaning of khals. The BWDB is responsible for the periodic maintenance and rehabilitation. The WMA is in charge of water management at polder level, coordination with the UP, ensuring (self) assessment of WMGs continues under support of WMA-UP and networking of WMGs within the polder including the organization for instance of	<ul> <li>(a) O&amp;M Agreements have been developed setting out respective responsibilities of WMAs and BWDB. The content of the O&amp;M Agreements builds on agreements used by IPSWAM and the SW Project, and has been discussed and agreed within BWDB and with WMAs. With respect to Priority has been given to the first batch of eight polders.</li> <li>(b) WMA O&amp;M Subcommittees (also known as Catchment Committees) have been established in the batch-1 polders. A process of catchment O&amp;M planning has been completed for 30 catchments. Selected Catchment Committee members, trained by BGP.</li> </ul>	The progress made is appreciated but wireference to section of the main Aide Memoire, . It is strongly recommended to operationalize the O&M Agreement and introduce better management practice wir the WMAs. This remains an area of considerable concern.

Ref	Recommendation	Progress as reported in Position Paper, Annex 1.1	Comments by ARM 2018
	annual conventions and competitions. Sluice committees of WMGs ensure operation of sluices and water management at sub catchment level. The OCWM provides regulatory and supervisory support to the WMOs, monitors whether WMG are functioning, interfacing in particular with the WMAs and the UPs. DAE supports the WMOs in agricultural development and (sub) catchment water management.	<ul> <li>facilitate a large part of this process. The process results in resource maps and priority actions for O&amp;M at the catchment level, including sluice command. These plans can be seen as the practical elaboration of the O&amp;M Agreements. Local DAE and OCWM staff are invited to take part in this process.</li> <li>(c) The partnership between UPs and WMAs/WMGs is in many cases taking place through cooperation on priority activities (emergency works, removal of illegal obstructions in khals, construction of field canals and other small infrastructure. The UP legislation combined with the PWMR provide a legal basis for this; but the value of establishing a separate MoU between LGIs and WMAs needs to be assessed. One joint planning workshop between the WMA of polder 22 and the LGIs has been successfully held to address the priority actions of the catchment plans of polder 22.</li> <li>(d) OCWM has been, and is, providing support with the re- organisation and registration of WMAs.</li> <li>(e) DAE is supporting WMOs for agriculture development by organizing FFSs, participating in planning process and implementing CAWM and Horizontal Learning events.</li> </ul>	
1.2	Efforts should be focussed on sustained WMA/WMG capacity using the principle of self-sustaining organizations and giving explicit attention to O&M plans. In particular, this would mean that: - WMA are supported to have the lead role in in- polder water management and O&M as described above. [refer 1.1 (a), (b) and (c) above] - Constant peer networking will be developed among WMG within a polder area through horizontal learning, conventions and competitions in order to come to self-sustaining organizations – this should cover agricultural	<ul> <li>(a) WMA O&amp;M Agreements between WMA and BWDB have been developed setting out respective responsibilities. Priority has been given to the first batch of eight polders, and support is being provided to WMAs by Zonal Coordinators, Polder coordinators and senior CDFs. Failure on part of some WMAs to timely organise their executive committees' re- election has delayed the signing of O&amp;M Agreements in 4 polders.</li> <li>(b) The use of HL for promoting good organisational practices among WMGs and WMAs is infrequent. More attention will be directed to this.</li> <li>(c) Sluice catchment action plans have been developed by O&amp;M committee members in the eight batch-1 polders. The</li> </ul>	Reference is made to recommendation ,, the Aide Memoire of the ARM 2018. The networking between WMAs and WMGs should be taken to a new level. The withdrawal of most CDF staff underlines the needs and provides the opportunity t structure the networking and self- organizations. This needs to be systematically planned (as also mentione in (b)). The approach to organizing the sluice catchment action plans may serve of a source of learning. Silt level management should move up higher in the system than the CAQM.

Ref	Recommendation	Progress as reported in Position Paper, Annex 1.1	Comments by ARM 2018
	<ul> <li>improvement, marketing and water management. [refer 1.1 (c) above]</li> <li>In each polder, support will be given to the preparation and implementation of O&amp;M plans</li> <li>The capacity of the WMA/WMG will be strengthened, especially in the maintenance of khals through work planning, measuring and reporting silt levels: khal cleaning being the weak spot in O&amp;M</li> <li>Given the leading role of the WMAs the CDFs will work directly with/ under WMAs in the phase out polders under management of the TA Team and in close cooperation with the OCWM.</li> <li>To further support WMAs and WMGs, Water Management Federations may be created in Khulna and Patuakhali.</li> </ul>	<ul> <li>implementation of the agreed action plans is to be monitored by CDFs</li> <li>(d) Practical skills in estimating volumes of silt are being developed in selected WMGs through the CAWM initiative. All WMGs are challenged to identify minor works for improvement of their water management and to compete for matching funds from BGP for the realisation of this small-scale water management infrastructure;</li> <li>(e) From January 2019, the BGP staffing to the batch-1 polders will comprise of a skeleton crew comprising one CDF (OCWM), one TA CDF (who may cover more than one polder, where there is good access) and one polder coordinator</li> <li>(f) The establishment of WMFs will has not been addressed as WMA strengthening is a priority</li> </ul>	
1.3	A plan and schedule for the CDF support in the light of the above will be completed and shared. A first draft of this has been made. The schedule will precisely assess CDF capacity required in the phase out and phase in polders, based on the steps described in the PWM field manual. Annex 5 of this ARM report is prepared as a contribution. An 'reality check' assessment and update of CDF requirements will be done in the third quarter of 2018 – to see whether the current budgeted resources are adequate.	<ul> <li>(a) The withdrawal of the BGP TA team will be gradual and staggered from the batch 1, 2 and 3 polders; in such a way that in each polder there will be a programme presence up to completion in mid-2020. In the batch-1 polders the skeleton staff will comprise of a OCWM CDF, a TA CDF (sometimes time-shared) and a polder coordinator</li> <li>(b) For all polders the same set of 10 polder targets will apply, which are monitored through a polder dashboard. Efforts will be undertaken to adapt the dashboard to the needs of the WMAs so that it can continue post-project as a management tool of the WMAs.</li> </ul>	Agreed, however more clarity might be created on role of WMA in the light of th multiple task expected from tem.
1.4	Regulatory and supervisory arrangements by OCWM will be strengthened. The engagement of the OCWM to the BGP has been very positive, yet has been affected by resource constraints. The deployment of Assistant Extension Officers in Khulna and Patuakhali is	<ul> <li>(a) Because of OCWM resource limitations, OCWM had to restrict its support to the formal aspect of registration of WMGs and WMAs. With TA funds, however, another 10 CDFs have been recruited and have been placed for the duration of the project under the control of OCWM;</li> </ul>	Agreed. During the missing it became cle that the policy of BWDB towards polder operations and OCWM may change or may have changed.

Ref	Recommendation	Progress as reported in Position Paper, Annex 1.1	Comments by ARM 2018
	essential to perform the minimum regulatory and supervisory.	(b) AEOs have yet to be deployed in either Khulna or Patuakhali.	
1.5	Following also the recommendation of the ARM 2016 a review of the PWMR 2014 is to be undertaken, reviewing audit requirements and the deregistration of WMG in case of fraudulent behaviour (for instance with LCS), better defining some of the functionalities and roles (e.g. water management functions describe "irrigation" rather than FCD conditions; role of LG and role of BWDB in locations where there is no development project, but WMG do exist; review of definitions; reference to O&M Manual; etc). Besides that the PWMR focuses much on fund collection as a panacea for sustained maintenance by the WMG; there is no evidence that this suffices. Such a review is to be undertaken with all engaged projects and programs – so as to also come to a shared approach. This could take the shape of good experience sharing workshop mandate to identify the possible improvements.	<ul> <li>(a) Whilst this recommendation has the sweeping ambition of reviewing PWMR 2014, ARM 2016 had recommended a more limited review of identifying the practical bottlenecks with LCSs and making recommendations for implementation. The LCS review committee was chaired by CWM but was ineffective and didn't have the support of BWDB management.</li> <li>(b) A study into the poverty impact of LCSs especially on poor women has been commissioned and a draft final report is in preparation;</li> <li>(c) Contributions are made to the enabling framework for WMAs and catchment committees; most notably an O&amp;M manual for WMAs;</li> <li>(d) For the recommendation directed at a review of PWMR 2014 to achieve an outcome, we believe the interest and support of DG BWDB is required since the scope is includes "all engaged projects and programs" (ie not Blue Gold alone). EKN agreed to be the prime mover with TA team assisting at an operational level</li> <li>(e) Proposals for a workshop to identify good practices to bolster the national enabling framework for PWM were proposed to EKN in April 2018. There has been insufficient momentum, but it may be possible to hold a workshop in 2019 provided the wider interests of PWM can be represented (ie including ADB, IFAD, WB and BWDB, DAE, BADC, LGED as well as other BWDB projects – SW Project, CDSP etc).</li> </ul>	Agreed. A policy initiative is still necessar convened by EKN.
2 Upso	ale water management at in-polder	r level	
2.1	Continue and further strengthen in- polder water management through the special sluice command workshops, year-long FFS of DAE and horizontal learning events and to upscale sluice catchment water management in all polders, engaging the WMAs in the latter and connecting with the UP and other programs for small infrastructure.	<ul> <li>(a) Capacity building of sluice catchment committees is described under R1.1 and R1.2.</li> <li>(b) Previous strategies to upscale catchment water management for O&amp;M aimed at one catchment planning workshop per polder. It was expected that WMAs will engage WMGs of other catchments of their polders in horizontal learning to develop their catchment plans. However, this one workshop per polder was resource intensive</li> </ul>	Agreed: substantial progress made and t approach described under (b) is very mu in line with the recommended principles o self-organization. The follow up plans are very much appreciated – both for sub- catchment management and for year long FFS.

Ref	Recommendation	Progress as reported in Position	Comments by ARM 2018
		Paper, Annex 1.1	
		for TA-staff. Secondly horizontal	
		learning seemed unlikely due to the	
		nature of the activities. An	
		optimized approach was	
		developed by March 2018 in which	
		one or two members of the	
		catchment level WMA-O&M	
		Subcommittees are trained in	
		polder wise batches. These	
		members facilitate the process of	
		catchment planning for O&M and	
		engage WMGs, WMA, DAE, BWDB	
		and LGI's. An O&M Manual in	
		Bangla has been developed for	
		these committees, based on O&M	
		Manual of previous projects but	
		adapted to Blue Gold practices.	
		(c) Iraining of these WMA O&M sub-	
		committee members started in	
		Khulna in May 2018 for 30	
		catchments in 4 polders (Batch I	
		polaers). Other U&M catchments	
		planning processes of polders in Khulpa Satisfica and Dataslikali	
		Knuina, Satknira ana Patuakhali are	
		eitner almost completed (Patuakhali Batah 1. nolders, Satkhirg Bolder 2)	
		batch I polders, Satkhird Polder 2)	
		or about to start (rest of batch 2 and Patch 2 maldare) After completion	
		of the OSM catchment planning	
		process WMAs have been	
		requested for their approval One	
		igint LIP W/MA mosting has been	
		organized to engage LIP with the	
		O&M catchment plans	
		(d) Year-long FES of DAE is supplied	
		through the Community-led	
		Agricultural Water Management	
		(CAWM), CAWM brings together	
		water management annual	
		cropping system planning and	
		market awareness to achieve higher	
		profits. This approach has aradually	
		been scaled up from 10 locations in	
		2016, 15 in 2017 to 25 by July	
		2018, These 50 locations are	
		distributed across 19 out of 22	
		polders. In 25 of these in-polder	
		water management show-case	
		schemes, horizontal learning events	
		have been organized and for the	
		remaining 25 this is scheduled for	
		end of 2018 and second auarter of	
		2019.	
2.2	It is also recommended to further	(a) Broadening the range of measures	Agreed – progress made. More scope in
	develop the repertoire of measures	has been achieved through the Blue	engaging WMOs in silt management and
	in catchment and polder-level water	Gold Innovation Fund (BGIF) with:	disaster preparedness. This would add to
	management by the identification of	- "Roads for Flood Protection	their portfolio and added value.
	opportunities to retain fresh water	and Water Management"	

Ref	Recommendation	Progress as reported in Position	Comments by ARM 2018
		Paper, Annex 1.1	
	for dry season use within the polder, the management and reuse of water hyacinth, the management of sediment and its reuse for land improvement, local road construction or the development of flood levees, to systematically connect with flood relief and protection and to make a strong connection with other infrastructure development in the polders, especially roads.	<ul> <li>addressing the integration of roads, flood protection and water management.</li> <li>A special request by the BGIF to address the (re-) use of water hyacinth, resulting in the application "producing ecological paper for handicraft products from water hyacinth "</li> <li>Adaptation in seasonal logged areas with aquaculture, where fish was grown under a variety of cultures, such as pen culture.</li> <li>(b) Within the CAWM approach, sediment and water hyacinth has been composted and used as fertilizer. This practice has yet to be scaled up.</li> </ul>	
2.3	It is recommended that the unutilized funds for the construction of WMG offices <sup>13</sup> , amounting to Euro 500,000 approximately, are reallocated to small in-polder water management investment, to cover investments that are beyond immediate farmers investment, particularly at catchment and polder level. This would need to be a fast track program with the engagement of the UP and WMA in recommending the work and funds released from the TA. It is recommended that the fast track procedures are develop by February 2018 - including minimum and maximum amounts, criteria, standard measures and approval procedures. The measures should follow WMG preferences, and should not need special design efforts. Other sources too – such as the BADC, different road programs under LGED and the component dedicated for pipes under the RDPP may be approached to support the relatively small and low design options. The works identified and developed may be developed locally not through heavily engineered solutions. By placing such funds close to the UP and WMA a model maybe created to spread in-polder water management beyond the BGP.	<ul> <li>(a) Procedures have been developed in English and Bangla in August 2018 to disburse the funds under a 'hands-off' approach – reducing the involvement of the TA-team. Similarly a Guideline and Application Form for WMGs have been developed and distributed among all WMGs. WMGs are asked to apply for small-scale infrastructure, make a co- contribution (labour and/or cash) and largely implement the infrastructure themselves with small design efforts from TA. WMAs are asked to recommend good applications and oversee the activities.</li> <li>(b) The application deadline for WMGs in Batch 1 polders and Batch 2 polders is 1<sup>st</sup> November 2018. This ensures that the pre- monsoon construction season of 2019 can be fully used. WMGs from Batch 3 polders may also apply, however their application deadline is set at the Monsoon of 2019.</li> </ul>	Agreed. It was hoped that the Fund wou have become operational earlier, but go progress is made. One issues to resolve it the funding of the office of the WMAs th were supposed to go from the same budget – see recommendations
2.4	I management beyond the BGP.	(a) With the CAWM-strateay	Proposed that this given much emphasis i
	different management experiences,	document, the documentation of	the communication programs and that CI
	measures and impacts are properly	results of CAWM has started.	are trained to do small communication a
	documented – to better understand	Impacts and lessons learnt of	documentation

<sup>&</sup>lt;sup>13</sup>At best retaining a small provision of WMA offices where these do not exist nor can be arranged from existing provision.

Ret	Kecommendation	Progress as reported in Position Paper, Annex 1.1	Comments by ARM 2018
	the range of opportunities, to support horizontal learning and internal understanding but also to develop the possibility of a future in-polder water management program that can be out-scaled.	CAWM are also regularly published in Half-Yearly Progress Report. Secondly, a media company has been commissioned to shoot a video of the CAWM activities to be used for horizontal learning and outreach. DAE has developed a CAWM booklet. This booklet explains the importance of various in-polder water management practices for agricultural production. The booklet aims to further mainstream the approach in the DAE organization. (b) The monitoring and reflection team provides information on the value of O&M activities and estimated O&M funds of WMGs. The impact of O&M activities organized by BGP (such as catchment planning) bas yet to determined	
3 Safe	eguard progress of construction	has yet to determined.	
3.1	All efforts to be made to have the RDPP cleared not later than January 2018 and the design work completed by February 2018 in order to make use of the 2018 pre-monsoon construction period.	(a) RDPP was finally approved by ECNEC on 21 June 2018 (see chronological list of events in 2018 in Position paper Section 6.5.	The delay in approval RDPP would delay the completion of the infrastructure by 2020. As such, monitoring/stock taking of the progress by a Steering Committee during the ensuing working season is necessary to assess any further time etension for the completion of the project
3.2	deploy from the Crash Program provision two additional construction supervisors and one mechanical engineer, the latter in view of the larger number of gated sluices and regulators that will be constructed.	<ul> <li>(a) Two construction supervisers were appointed under the crash program: a Field QCE in Patuakhali from 4 Mar 2018, and an SAE in Khulna-1 from 20 Mar 2018.</li> <li>(b) One mechanical QCE was appointed to Patuakhali from 4 March 2018</li> <li>(c) See Position Paper Annex 6.16 for a list of current staff appointed under the crash program.</li> </ul>	The Crash Program has been very effecti and may have to be extended dependin upon the review by the Steering Committee.
3.3	the BWDB is requested to undertake formally not to transfer senior staff involved in BGP implementation and to fill the unoccupied staff positions. In addition, the large amount of unfulfilled staff positions in the O&M divisions covering the BGP should be systematically followed up.	<ul> <li>(a) During September/October 2018, three XENs were transferred (Kalapara, Khulna-2 and Satkhira) and one XEN (Barguna) was promoted.</li> <li>(b) A number of experienced SDEs/SOs have been transferred out of divisions in the Blue Gold area and replaced by less experienced equivalents.</li> </ul>	The issue was discussed with PCD and DC BWDB and in the meeting with the MoWI In spite of assurances about looking into t issue, it is unfortuinate that it has not been followed up. Such transfers would deter t progress of implementatin and timely completion of the project.
3.4	is to identify and introduce cost efficient designs as much as possible in all the planned work, in particular the use of geotextile bags for embankment protection.	After the 2017 ARM, some initiatives were taken to introduce cost effective designs in designing protective aprons of existing sluices and protection of river banks and embankment toes. Previously most these types of works used concrete blocks. But later after the ARM 2017, designs for many of the repair sluices and embankment	Field reports/studies have shown that a combnation of geo-bags and blocks (above the LWL) works better than only geo-bags (degradation due to wetting a drying). Although this would increase the cost, it may be followed for the durability of the protection.

Ref	Recommendation	Progress as reported in Position Paper, Annex 1.1	Comments by ARM 2018
		protection works have recommended sand-filled geo-bags and sand-cement filled gunny bags. A list of such initiatives is given in the Position Paper Annex 6.14.	
3.5	it is recommended that by July 2018 stock is taken of the actual progress and that an assessment is made of a realistic scenario at that time for works completion and the implications be discussed.	During July 2018 a stock of the actual progress was taken and an assessment of the realistic implementation scenario has been made. The actual progress and payment during 2017-18 as well as actual progress and payments during 2013-14, 2014-15, 2015-16, 2016-17 and 2017-18 were used in a trend analysis during the last implementation years and a realistic investment prediction was made for 2018-19 and onwards. The trend analysis along with the realistic investment scenario is given in the Position Paper Annexes 6.4 and 6.11.	Apart from backlog of earthwork and ne earthwork during the ensuing working season, there would also be many work orders on construction of sluices. Hence, it may be expected that the financial expenditure trend would take a leap. The Field Offices were also very optimistic about realising their expenditure targets. As suggested earlier, the prgress should reviewed by a Steering Comittee (every three months) to expedite both the physic and financial progresses.
4 Ensu	ure continued DAE engagement		
4.1	It is strongly recommended that the DAE DPP is extended till December 2020, or that alternatively a Phase 2 of the DAE program is conceptualized.	<ul> <li>(α) On 16<sup>th</sup> October 2018, the Pre- ECNEC Committee (PEC) meeting in the Planning Commission approved the extension of the DAE RDPP to end-December 2020.</li> </ul>	Agreed. It is a welcome development tha DPP of DAE is extended till December 2020, wheras it is unfortunate that the RDPP of BWDB is upto June 2020 only.
4.2	It is also recommended that as part of the continued engagement more effort is dedicated to develop capacity and mainstream good experiences from the BGP into the regular program of the DAE, following the integration of water management and marketing in the FFS as started under BG this year; consider the incorporation of additional economic activities (gher, diversified crops); and with DLS the development of short duration FFS on poultry and livestock geared to landless people and the connection with different forms of horizontal learning.	<ul> <li>(α) On 26<sup>th</sup> June 2018, a DAE Experience-Sharing Workshop was held for districts in the coastal zone to share the experience from Blue Gold (refer ARM References Section 3 for invitation in Bangla).</li> </ul>	Agreed. The 26 June workshop was very important. Similar such activiities organize should be undertaken with the implementing organizations in the.
ii			
5.1	It is strongly recommended that the figure of 50% of earthworks undertaken under BGP to be carried out by LCS's is maintained and that all efforts are made by all parties involved in this component (BWDB and TA) to attain this.	<ul> <li>(a) The overall percentage of contracts awarded to LCSs up to June 2018 was 37% (refer Position Paper Section 8.1).</li> </ul>	Indeed. It was noted during the ARM that there is reluctance among the Divisional and Sub Divisional Office of the BWDB the engage with LCS which is a concern. It is recommended to relief some of the
5.2	it is strongly recommended that measures are taken to ensure the rules and good practices for LCS activities are followed with respect	(a) Refer to Position Paper Section 8.2 and Annex 8.3.	The need for these improved measures st stands. A study was commisioned into this which conform the need for these measur – plus the need to issue work orders early

Ref	Recommendation	Progress as reported in Position Paper, Annex 1.1	Comments by ARM 2018
	to (1) targeting landless women and men (2) adequate pre- and post- work measurement (3) announcing the works in the open (4) not engaging machinery or outside labour and (5) timely and reliable payment (6) identify activities to be engaged with such as turfing, (7) early release of the final security payment obligation, as this is often forgotten and (8) revisiting the practicalities of contracting through WMGs.		in February or March, so that the pre- monsoon period can be used effectively.
5.3	It is recommended that this time the TA Team with a senior BWDB employee undertake a fact finding in possible bottlenecks in the LCS component in the past year with a view to resolving these. This may involve the deregistration of WMG involved in malpractice.	<ul> <li>(a) A study on the impact of LCS work on poverty reduction and women's empowerment was initially awarded to Matrix on 16<sup>th</sup> March 2017. However, during the early stages of Matrix's appointment, they were advised of our serious reservations, inter alia, concerning the questionnaire for field data collection and the poor quality of the inception report. Matrix was given the opportunity to address these concerns, but their response was inadequate and so a letter of termination was issued on 27<sup>th</sup> July 2017.</li> <li>(b) From 4<sup>th</sup> June 2018, Prof Sharmind Neelormi was contracted to carry out a study on the impact of LCS work on poverty reduction and women's empowerment. Her study inter alia was to: (i) assess the approach and procedures of LCS activities before and after the PWMR 2014 focusing on the new role of WMGs and the changed role of BWDB; (ii) develop insight in the targeting and selection process of especially women LCS members, including what categories of women are selected and their reasons to join LCS groups; (iii) describe the functioning of the LCS groups, including the conditions and constraints of LCS work, the dynamics within LCS groups, the payment system and the relationships with WMGs and BWDB; (iv) identify insight in the achieved short-term and longer- term benefits and impact of LCS work on individual LCS group members, their families and the communities, including the income and welfare derived from LCS work, the use of LCS income, any savings and/or investments in productive activities (IGAs), and</li> </ul>	At the time of the ARM 2018 the study w only completed in draft The draft is base on extensive fieldwork and is very thorough. It emphasize among others the need for (1) timely issuing of work orders (2) transparant payment (3) more clear assessment between pre and post work assessment. See also recommendation: Apart from introducing the recommended measures immediately in BWDB, it is also recommeded that a policy exchange on LCSs is initiated by the EKN. It is observed that contrary to the recommendation in ARM 2017 the study was undertaken by a consultant. Whilst the selected consultant is very knowledgeable it also causes delay. The recommendation earlier was to have the work done internally. This would have speeded up the activity and would have led to the earlier implementation of measures. It is a matter of concern that ARM recommendations ar not followed up in a manner that allows fast results.

the impact on the position and (social and economic) empowerment of women LCS members; (v) compare (i) the BWDB modalities of LCS work for especially women with modalities of similar work in other projects	
5.4       It is recommended that the specific       (a) The core principles of FFSs were recommendation and the cost-effectiveness of using LCS vis-à-vis contractors.       There has be incorporated into The specific to the future need for such temporary employment, the use of mechanization and the cost-effectiveness of using LCS vis-à-vis contractors.         5.4       It is recommended that the specific FFS on poultry and livestock continue – even in shortened versions – and where possible are updated with new elements, such as developed under the Innovation Fund. These FFS activities should be complemented by Horizontal Learning engaging landless people too.       (a) The core principles of FFSs were revised approach was incorporated into TA Cycle 11 for homestead FFSs (April to October 2017).       There has be incorporated into TA Cycle 12.	een no integration of new the FFS – such as cage fisher) omise and was part of the tream. ed FFS has been successfull in arger outreach which is ole. There was no additional rizontal Learning. The TR 25 I the uptake of non-FFS i different measures.
5.5       (a) it is proposed that the TA team with the OCWM undertakes a sample survey of the small lending       (a) Edward Mallorie carried out a review of WMG credit activities, and published his findings in the       The study activities, raised.	dequately answers the issues
operations of 10 WMGs to have better understanding the credit activities and the relevance for poor and landless communityinterim report (dated 16 June 2018) in which he stated: "Savings and loans schemes are operated by a limited number of WMGs.The discussion study in the and liability was asked of was asked of	on on credit however in the end related tot he capacity of the WMGs rahter than as on the poverty impact of the

Ref	Recommendation	Progress as reported in Position	Comments by ARM 2018
		Paper, Annex 1.1	
	recommended good practices that	operate them successfully in terms	
	can be shared and widely	of maintaining records and	
	promoted through the network of	recovering loans, although one had	
	WMGs.	not been able to recover loans	
		after a crop failure. However,	
	(b) The rapid proliferation of	WMGs lack the resources in terms	
	multiple cropping is of immediate	of capital and the time of volunteer	
	benefit to those that own land. Yet	members to provide loans to all of	
	anecdotal evidence gathered	their members, and loans are quite	
	during the ARM suggest that in	small – and so of limited value in	
	particular the increased labour	funding investments. Lending to a	
	opportunities have improved	group enterprise can result in	
	sharecropping arrangements as	conflict of interest within the WMG.	
	well as opportunities to access land	These activities also divert WMG	
	through tenancy. It has also caused	management and financial	
	a rise in daily wages. This suggests	resources away from water	
	that the benefit of the rapid	management issues – which should	
	agricultural transformation serves	be the focal point for WMG".	
	non-land owning families too. To		
	better understand this it is		
	recommended that the TA team		
	undertakes an assessment to	(b) Edward Mallorie's report of June	
	describe and quantify the impacts	2018 reported inter alia that:	
	of the agricultural intensification in	"Land tenure is an important factor	
	five WMGs. This may be combined	in determining who benefits and to	
	with recommendation 0.1. This	what extent. In polder 2, which	
	should also look at the extent to	seems to be predominately in the	
	which the increased labour demand	hands of larger landowners, most	
	results in (1) labour shortages and	of the aman now being grown	
	(2) the deployment of outside	thanks to improved drainage is	
	labour or mechanized farm	being sharecropped out to	
	equipment	relatively poor households.	
		Income from sharecropping has	
		increased by more than overall	
		crop income – although on a per	
		hectare basis, this generates	
		considerably less income than	
		owner-cultivation. For this reason,	
		homestead-based income	
		generation may offer a better	
		option for households which do not	
		own much land. In polder $43/2B$	
		land ownership is less skewed, but	
		the changes to cropping patterns	
		bought about with support from	
		Blue Gold have not resulted in	
		significant new opportunities for	
		tenant farmers from poorer	
		households. Sharecropping is less	
		common, and leasing is more likely	
		to be on a cash basis tor high	
		value commercial crops like	
		watermelon grown by	
		entrepreneurial tarmers with access	
		to the required investment. <u>Hired</u>	
		<u>Iabour</u> have benefited from a	
		significant increase in demand for	
		abour with increased areas of	
		crops along with more	
		Deal wages have rises and farmers	
		find it increasingly difficult to find	
1		Tind it increasingly difficult to find	1

Ref	Recommendation	Progress as reported in Position Paper, Annex 1.1	Comments by ARM 2018
		workers. <u>Women</u> are taking an increasing role in farming and the wage differential between male and female labour may have slightly narrowed. Although increased options for earning income will have benefited women, it is less clear whether such work actually empowers them."	
6 Poli	cy and innovation		
6.1	<ul> <li>It is recommended to undertake a number of special activities to consolidate the polder-level water management activities at policy level. In particular:</li> <li>(a) Finalizing polder water management Agreed Good Practices and preferably having them endorsed by both Ministries</li> <li>(b) Assess the economic benefit of in-polder water management</li> <li>(c) Organize a policy event meeting by Ministry of Water and Ministry of Agriculture (and possibly also Ministry of Local Government) with all donors and interested parties</li> <li>(d) Engage with interested parties including development partners on the approaches</li> <li>(e) Give international exposure by presentation on the program by directly those involved BWDB and DAE staff at an international event.</li> </ul>	With the increased profile of PWM, and the large number of active water sector projects in BWDB, LGED and DAE funded by EKN, ADB, WB, IFAD with a mandate which includes PWM, now seems to be a better time to press for consolidation of lessons learnt at policy level. However, collaboration between ministries and donors will require a higher level of involvement. EKN would be the prime mover with TA team assisting at a working level. A concept paper "PWM: learning from experience" was suggested to EKN as a format for the discussions.	Agreed. It is unfortunate that no follow u took place in the past year with respect this recommendation, but the points removalid. See also recommendation – it is proposed that the EKN initiates a policy event. If BG TA Team would be the inviti party, it could come across as too promotional. The need for more discussic and exchange is important, hence also the recommendation on quantifying some the BG approaches.
6.2	to use the remaining resources in the Innovation Fund judiciously, it is proposed. to close the unsolicited calls from mid-2018 and develop another short gestation solicited call during 2018. Of the topics identified earlier marketing and post harvest management so far received relatively little attention and this may be considered as the theme for the solicited call, building on the important mainstreamed work in this in the BGP.	From Nov 2017, the BGIF received a good flow of unsolicited concept notes from both Dutch and Bangladeshi organisations. Probably because of BGIF's investments in promotion and communication activities over the last years. Just before mid-2018, most of the remaining BGIF budget was already awarded to suitable organisations. It was forecasted that only a remainder of EUR 250k needed to be usefully spend. Therefore, the unsolicited call deadline closed on 15 July 2018. In May 2018 a special email went out to more than 150 relevant Dutch and Bangladeshi organisations (who have no running project under BGIF) to submit one or more concept note(s) focussed on identified BGP priority issues or other issues of relevance to BGP. The selected prioirity issues were: 1) climate smart agricultural technologies and 2)	Agreed. A point of attention remains the mainstreaming of the innovations into the main programs of BWDB and others.

Ref	Recommendation	Progress as reported in Position	Comments by ARM 2018		
		Paper, Annex 1.1 removal of excessive water hyacinth from polder water bodies. These two prioirity issues have been identified after consultation with zonal level BGP staff, BWDB and DAE. Post harvest management was in the end not selected as priority theme, since the BGP felt that it would have too little technical expertise to select the right interventions and to monitor this type of innovation. The final call was a great success with 38 applications of which 21 focussed on the two identified priority issues. After the assessment by the evaluation committee for BGIF Final Call it was concluded that remaining budget can be spend fully and judiciously. For this reason, the BGIF foresees no reason to launch still on solicited call for proposals in late 2018.			
6.3	It is proposed that from the IF budget resources are also freed up to engage a national expert for at least 18 months, who would have the following responsibility: processing the applications; looking after embedding in BGP and beyond; actively promoting them to other activities; packaging and interlinking innovations; managing the interface with WKMIP.	Though this recommendation would likely strengthen embedding of innovation fund projects in BGP and beyond, and create linkages between organisations in a more sustainable fashion, EKN was not in favour to follow up this recommendation. BGIF management costs were considered as already substantial. It may be noted that the current Innovation Fund Managers have been able to cope with the processing of many applicants (>50 since Nov 2017), work on BGIF promotion activities and managed to keep the interface with WMKIP within the forecasted management budget required.	Agreed		

# Annex 4 - Answers to Questions in the BGP Position Paper

Question + Reference section in PP	Answer
2/4.7/12.3 How to ensure lessons learnt from BGP (on cooperation with production services and LGIs, but also on WMG lending activities (section 12.3) are delivered to policy makers for the development of	Refer to recommendations 1.5 and 6.1 of the ARM2017. Refer to Section 3.6 of the Main Report Refer to recommendations 7.1. and 7.2 of the Main Report
PWM in Bangladesh? 2.2/4.5 WMA capacity building – comment on methodologies and proposed approaches to capacity building	Refer to Question 2.7 in Annex 2 – Answers to ToR Refer to Recommendations 1.1, 1.2, 1.3, 1.4 and 1.5 of the Main Report
2.2/6.8 The O&M budget allocation in the RDPP has been exhausted. What measures can be provided to deal with the inevitable emergencies during monsoon 2019 and, preferably, to carry out pro-active pre- monsoon repairs to avoid most emergencies? What is the longer- term (ie post-project) solution to address the regular cycle of erosion and failure of polder embankments in the coastal zone?	It is recommended to undertake a reappropriation within the current budget – making use of the budget freefall on some items that may not be necessary. This should feed into of a larger budget exercise – which takes into account the changed exchange rates, the actual scope of work – including the need to do more flood protection at critical points/
4.2 How can the participatory monitoring self-assessment by the WMOs be extended beyond the BGP period?	Refer to recommendations 7.1 and 7.2 of the Main Report Refer to recommendations 1.1 and 1.2 of the Main report
4.3 Not all infrastructure is in operational condition, reducing the opportunity for WMOs to develop their O&M skills and build relationships with BWDB. How to ensure that WMOs are stimulated to build relationships with BWDB and take part in O&M activities after rehabilitation of infrastructure and phasing out?	It is noted that at present the communication between BWDB and WMAs is often non existent. A first step would be to improve this. It will be a fact that the infrastructure is imperfect and that possibly BWDB will be challenged to undertake its part of O&M – what is essential is that there is partnership and dialogue. It is proposed to introduce this immediately and not defer it to a phasing out stage.
4.4 Phasing-out of TA support: Beyond Blue Gold, how can FTs, presently engaged through DAE and TA, be more strongly linked with DAE, DoF and DLS?	Refer to recommendations 4.1 of the Main Report Refer to Recommendations 7.1 and 7.2 of the Main Report
4.6 How can OCWM be effectively engaged for fostering PWM during and beyond the program period? What is the role of and resourcing plan for OCWM beyond June 2020 in the Blue Gold area? How should OCWM share responsibilities with water management partners (eg DoC, DAE, LGIs, LGED, DoF, DLS, BWDB O&M Divisions, NGOs etc) to implement PWMR beyond the end of Blue Gold? Can OCWM capacity be enhanced on the short-run to inter alia supervise OCWM CDFs, and to witness and advise on the phasing-out and phasing-in processes in Blue Gold? Does the BWDB Audit Department have the capacity to continue auditing	Refer to Question 2.7 in Annex 2 – Answers to the ToR Refer to recommendation 1.5 of the Main Report It is unlikely that OCWM will play a significant role. Indirect solutions: refer to recommendations on capacity development (recommendations 1.1-1.5), on water management (recommendations 3.1–3.4) and on exit strategy (recommendations 7.1-7.2).

Question + Reference section in	Answer
PP	
WMGs beyond the end of Blue Gold?	
5.4 Comment on how the project has scaled-up its outreach and	Refer to Questions 2.3, 2.4 and 2.5 in Annex 2 – Answers to the ToR
impact using horizontal learning,	
and what can be done to drive	
6.3 What is a realistic projection	Although the Field Offices are very antimistic about the completion of infrastructure by
of infrastructure expenditure by end-June 2020? What is a realistic aggregate target value for award of contracts before	December 2020, it is unrealistic considering the pending designs and problems of land acquisition. A realistic proposition would be – expect for construction/repair of sluices ( $\geq$ 5 vents), rest of the infrastructure would be completed. Under such a scenario, the realistic projection of expenditure by June 2020 would be about 74.5% of the
end-June 2019?	infrastructure budget (80% of repair and 60% of construction of sluices completed). The PCD is of the opinion that the expenditure would be 80% by June, 2020.
6.6 How should the remaining funds in the BWDB crash program be allocated? - In survey and design data collection? - In the design office? - What more is needed in BWDB Field Offices?	Firstly, the funds may be increased and secondly, the time period extended till June, 2019. The Field Offices would require funds to complete the remaining data collection and the design office would need it for assisting the BWDB designers (recruit at least one more Junior Engineer). Moreover, the field offices requested for replacement of some survey equipment (as they are not working).
6.7 If contracts are terminated, what action can be taken to ensure functionality	The issue was discussed in detail with the Field Offices and it has been ascertained that new contracts may be awarded for the incomplete works as the contacts were terminated and bills have been paid for the works completed. There would not be any litigation for such new contracts.
6.8 Emergency repairs to embankment breaches often fail because the cause of failure is not addressed by the repairs and/or the design concept is not appropriate. This results in repeated repairs being made to the same length of embankment. This suggests that greater effort should be given to correctly identifying causes of failure and for legal provisions to be made to protect those who authorise repeat repairs.	The measures required for pre-emptive action have been discussed as above. For LGIs to contribute to DRM, a link is necessary between the LGIs (Union Parishads) and the WMG/WMA. To facilitate such interaction, it has been suggested by ARM-18 to include the WMG/WMA as the sub-committee on Water Management by the Union Parishads. The legalities and formalities of such institutional linkage should be explored. At the same the emergency procedures within BWDB need to be reconsidered – this has been raised in several ARMs – to create more autonomy at Divisional level to spend on quick response to emerging damage.
<ul> <li>6.8 What measures are required to ensure pre-emptive action against embankment failure from erosion? Can LGIs contribute to early action against embankment failure, given their role in disaster risk management?</li> <li>7.2 The scaling-up of CAWM schemes is dependent on DAE support for CAWM-FFSs. Other measures to spread IPWM examples include the fund for small-scale water management infrastructure (SSWMI) and horizontal learning events around existing CAWM schemes. To ensure continuation of the CAWM practices beyond the BGP, could DAE use CAWM showcases without continuing FFS support?</li> </ul>	This is indeed a serious issue. It is proposed to include these works in the July 2019 review, but more structural solutions are required such as mentioned above. It is an issue of concerns that since it was first raised in the ARM-2014 there has been no movement at all on this issue. Instead there is a strange and unwarranted emphasis within some levels of the BWDB to make the polders totally 2041 compliant – with heavy infrastructure. This appears a 'flight forward' – as the current challenge of emergency repair is not resolved nor even addressed. Refer to Recommendations 3.1, 3.2, 3.3, 3.4 and 4.1 of the Main Report
7.4 Signatories to the current O&M Agreements are WMAs and the BWDB XEN, with UPs identified as advisors. Given the UPs vital role with khal excavation, road construction and emergency repair of embankments, there is good	Refer to Question 2.7 in Annex 2 - Answers to ToR Refer to recommendations 1.1, 1.2, 1.3, 1.4 and 1.5 of the Main Report

Question + Reference section in PP	Answer
reason to include the UP as a	
party to the Agreement. 740 & M Agreements are the	Refer to Question 2.7 in Annex 2. Answers to ToR
first step in developing the	Refer to recommendations 1.1, 1.2, 1.3, 1.4 and 1.5 of the Main Report
working relationship between	
WMOs and BWDB. What now	
needs to happen is that the roles	
and responsibilities of each party	
realistic number of meetings	
should be planned – at minimum	
pre- and post-monsoon to	
identify and mitigate threats	
before monsoon, and to identify	
and prioritise repairs of damage	
7.4 The O&M Agreements	Refer to Question 2.7 in Annex 2 – Answers to ToR
provide an opportunity for	Refer to recommendations 1.1, 1.2, 1.3, 1.4 and 1.5 of the Main Report
WMAs to build relationships for	
water management. Resolving	
conflicts between fisheries	
UPs will involve building a wider	
coalition between the WMA and	
UP, BWDB, DAE and DoF to	
assure benefits from drainage	
are sustained in the long term.	There is a need for improvement in the implementation of the LCS procurement and
should be developed to more	cuidance, as comes out from the study commissioned
closely alian with the spirit of	goldance, as comes our from me study commissioned.
PWMR 2014 Chapter 6.	
8.3 Other projects should be	Refer to Question 2.8 in Annex 2 – Answers to the ToR
included in the current review by	
BWDB of PWMR 2014 -	
8.4 What process should lead to	It is recommended that the FKN initiates a policy discussion on this.
broader adoption of the LCS	
study recommendations, ie	
required improvements of the	
LCS system modality (to secure	
10.5 Upscaling pilots from the	It appears there is more scope for rapid uptake than is now utilized – for instance in
BGIF may take at least 2.5 years	making stronger link between BGIP pilots and FFS or polder planning and sub
- how should results from	catchment planning. It is also useful for BG TA Team to do a systematic round to all IP
successful innovations be shared	to assess their plans for follow up.
so that successful innovations	
have an enabling environment to	
11.9 The agricultural	See recommendation 0.1 in the Aide Memoire. It is suggested to link the proposed
transformation in the polders, to	UCW study to to understanding well-being of women, including improved family
which Blue Gold has contributed,	relations and reduced domestic abuse, in different types of houseee.
has resulted in more women	
taking on economic roles in	
work There is therefore a case	
for a study of how to mitigate	
the impact on women's lives, and	
to redistribute responsibilities in	
the home, a case which is	
feminisation of agriculture	
13.3 Is the polder dashboard a	Yes – it is proposed to test it with the WMAs.
helpful tool for WMAs? How can	
it be developed to fulfil its	
requirement?	
13.4 How to streamline MRL	This is addressed in the exist-entry strategy (section 3.7)
to suit the post-project situation?	

## <u>Annex 5</u> <u>Report on Infrastructural Development (by Abus Kalam Azad)</u>

Blue Gold Program (BGP) spread over 22 BWDB polders in the coastal area of Khulna, Satkhira and Patuakhali area. Blue Gold Program (BGP) starts from 2013-14. The project revised with inclusion of some infra-structural development activities and revised DPP approved in June, 2018. It takes about 20 months for approval of RDPP. The physical infrastructural development was supposed to be be completed by June, 2020 as per RDPP, but the late approval has compromised this planning.. Implementation of newly included infrastructure under the Blue Gold Program (BGD) has been delayed and only two working seasons are available for completion of those works.

Pre-ARM assessment conducted before the arrival of the 2018 Annual Review Mission(ARM) team and findings of the assessment are as follows:

Category	Unit	Target as	Completed	Remaining	Remarks
		per RDPP	/On-going		
R/S Embankment	Km	331.00	312.72	17.28	
Retired Embankment	Km	20.58	5.95	14.63	
R/E Khals	Km	545.00	265.30	279.70	
Sluice construction	No	31	8	23	
Sluice Repair	No	186	80	106	
Inlet/outlet construction	No	25	3	22	
Inlet/outlet repair	No	235	216	19	
Culvert construction	No	32	0	32	

1)It was observed that the project could not attained significant progress up to June, 2018. The present status of the rehabilitation works are as follows;

For completion of the remaining works pre-construction activities such as data collection & submission for design, preparation of design, preparation of estimate & vetting, tendering and award etc. will have to complete ahead and then construction implementation will start. But a lot of those activities are yet being completed. The present status of pre-construction activities for the remaining major works is as follows:

Category	Remaining Works	Impl.plan for 2018/19 & 2019/20	Data submitted.	Design compl.	Estimate prepared	Estmate vetted	Tender invited
Retired Embkt, Km	14.63	14.63	7.68	7.68	7.68	4.96	1.28
R/E Khals,Km	279.70	279.70	168.34	165.24	147.74	130.56	40.81
Sluice const. No	23	23	20	14	7	6	3
Sluice Repair, No	106	106	78	47	33	23	23
Inlet/outlet const. No	22	22	15	11	9	9	6
Inlet/outlet repair,No	19	19	3	-	-	-	-
Culvert const. No	32	32	14	5	5	5	-

2) Discussion was made with PCD/BGP, SE & XEN's of Design Circle – 2 & Design circle - 5,BWDB, TA team staff of Dhaka office & field office, BWDB field officials for assessment of the present status of pre-construction & construction activities . Conducted field visit and discuss with WMO members, Local UP chairman & Members and also visited some of the infrastructures both completed/on-going & proposed works.

a)From the above table it is observed that a significant quantity of Design are still pending with the design office (Design -2 & Design -5), but most of them are in the Design circle -5. During discussion, it is understood that design office has shortage of manpower, though design office supported by four junior Engineers from the TA team (Two of them already left as they get job in BWDB). Moreover, the junior Engineers of Design office are involved with works other than design, causing delay in design preparation. They have the opinion that it may take six months to complete the pending design, even though some data are still pending. It implies that more than six month will needed for design, though only two working seasons are available for completion of all physical works. Working seasons for this year already started but tender are pending for non-availability of approved design.

b)From the discussion, field visit & interaction with stakeholders it is understood that significant progress attained in R/S of Embankment and repair of Inlet/outlet work, and progress of work in R/E of Khals & repair of sluice are also good but progress of work in construction of Sluice, construction of Inlet/outlet & Construction of Culvert are very low. These are perhaps due to delay in approval of RDPP & design.

The details of the findings regarding remaining infrastructural works assessed in consultation with BWDB Design Engineers & field officials, TA team, field visit and discussion with project beneficiaries. are shown in **Appendix – A**.

Field offices are also having shortage of manpower, causing delay in survey & data collection activities, though some support are provided from the TA team for field divisions. Field office has only 45%- 50% technical staff. They requested for more manpower from BWDB regular set up for expediting implementation of infra-structure.

Most of the Tender not yet invited, though full working seasons has already started. The details of the sluice construction works including per-construction status are shown in **Annex-1**. 3) The total no. of new sluice construction work as per approved RDPP is 31 nos. The brief information is as follows:

Total New sluice -31 nos; Completed/on-going -8 nos; Remaining -23 nos; Design completed -14 nos; Tender invited -3 nos & out of which 2 nos awarded. Design pending -5 nos; Sluice not needed -4 nos; Tender under process -11 nos.

Under the circumstances, completion of construction of all the sluices within the project period i.e. June, 2020 is very difficult & may not be possible. The finding regarding sluice construction is shown in **Annex – 1**, based on discussion with stakeholders & prevailing trend of construction work.

The remaining 23 sluice can be categorised as follows:

- a) **1 Vent sluice**: 9 nos; Awarded 1 no, Tender under process 7, Not needed 1 no, as the out fall river silted up.
- b) **2 Vent sluice**: 6 nos; Tender invited –2 nos, Design pending-3 nos, Not needed -1 no, as the existing sluice(2-vent) is functional & sufficient.
- c) 3 Vent sluice : 7 nos; Tender invitation under process-3 nos, Design pending-2 nos, Not needed – 2 nos, as one existing sluice is functional & only repair work needed and another one also functional but not sufficient. In this case the bed level of outfall river is higher than the inside khal, causing non-approval of design. In the situation, two new sluice in nearby location will be constructed under BGP, which will drain out part of the water, causing reduction of pressure on this sluice.
- d) **4-Vent sluice**: 1 no; Tender invitation under process 1 no.

4) The implantation status of the 19 new sluice And repair work of sluices are as follow: <u>New Sluice</u>

i)The construction work of all the 8 nos. sluices (1-vent) will be completed within the project period if work started this year and probable contractor be efficient & capable .

ii) The construction of 2 nos. sluice (2-vent), where tender already invited, will be completed within the project period if work started this year and probable contractor be efficient & capable.

The construction works of rest 3 nos. sluice (2-vent) may be difficult to complete by June/2020, details are:

a) Thakrunbari sluice (P-34/2(P)), may be complete within project period if design available & work started by Jan./2019;

b) Bujbunia, sluice (P-34/2(P)) needs LA & if LA and construction work run simultaneously then work completion may be possible by June, 2021;

c) Badnakhali sluice (P-28/2) needs LA but no provision in RDPP, if land could arrange then work completion may be possible by June, 2020. Land is the main challenge.

iii) The construction of 5 nos. sluice (3-vent) , difficult to complete by June/2020. It may be need one additional working season.

This is an assumption based on present construction trend and discussion out come with BWDB field officials & TA team. It is understood from the discussion, if the probable contractor will not efficient & capable, then more time may be needed.

## **Repair sluice**

Repair work for a large quantity of sluices are still not yet started, but it may be completed within the project period, if design are available and tender finalised by January/2019 except 4 sluices. This 4 sluice are larger. The details of those 4 sluices are follows:

i) Polder - 25: a) Solua sluice (7- vent), Design pending;

b) Amvita sluice (9 - vent), Design pending;

c) Thukrasluice (5- vent), Design pending;

ii) Polder - 28/2: a) Ramdia sluice (9 -vent), Estimate under process;

For the repair works of above 4 sluices, closure/X-dam needed, which can be started after contractor selection. After X- dam construction & bailing out of water actual repair works will be identified.

From the findings as describe above, it is implies that earth work both for embankment & khals, repair of sluice, lnlet/outlet construction & repair, and culvert construction may be mostly completed with an exception of a few sluice repair works. But construction of all the new sluices will be difficult to complete within the project period as tender also not yet finalized. Specially 3-vent sluice and some of 2-vent sluice, where land acquisition involved & design not yet complete. Thus out of 23 nos. remaining new sluice, 11/12 sluice may be completed within the project. The detail status of each sluice is included in **Annex – 1**. In that case, the objectives of the project may not be fulfilled, the polder will not be fully functional and the commitment with the beneficiaries also failed.

5) Thus, in spite of the optimism and all-out effort entrusted for the timely completion of the project by 2020, it is not unlikely that the project may over run the time schedule. After threadbare discussions on this issue with the field offices, it is understood that some modalities may have to be find out for completion of incomplete works. Several options may be considered such as no-cost extension, implementation of incomplete works by GoB fund if possible or any other way. But any way incomplete works must have to complete for making the polder fully functional and handed over the responsibility to WMA/WMG with full satisfaction.

6) A number of earthwork contracts have been terminated before completion in 2014-15 due to some reasons. These are as follows:

a) In Barguna Division; LCS contract – 14 nos, Contractor contract – 9 nos; Progress of work as observed from the joint report (Jointly by BWDB & TA Team) shows that progress of the work for 8 contract is 92% - 95%, for 13 contract 82%-88% and

rest 2 contract 73%-76%. The work was terminated with penalty. The work is substantially completed and embankment is in functional as per the report. As the works completed in 2015, some maintenance work needed. The field XEN informed that if about 25-30 lacs fund arranged, then maintenance work for above contract may be done, which make it more functional.

b) In Khulna Division – 1; 2 nos. contracts terminated.
i)At Baro Aria; Total length-660 m, 416 m complete & 244 m could not complete due to land problem. The field XEN informed that LA provision was kept in the RDPP & LA is under process and work will be implemented by new contract;
ii) At Chadghar; Total length – 1075m. The field XEN informed that the embankment was constructed but protective work was done less than the contract quantity. Manufacturing of CC Block as per contract – 7893 nos, but manufactured quantity – 3731 nos. The R/S side has already been silted up & further work is not needed. The embankment is in function.

7) Emergency Work: The provision for emergency work has already exhausted during the past monsoon season. It is imperative that this allocation be increased to handle the emergency repairs of upcoming monsoons of 2019 and 2020.

8) The following points to be taken care for expediting the progress of works:

i) BWDB's in-house foundation/soil investigation process takes a lot of time for the collection of such data, the field offices are of the opinion that such data collection process may be outsourced for expediting the design of the infrastructure;

ii) Support for Design office & BWDB field office from TA team should be continued;

iii) Design should be available by December, 2018 for expediting the work;

iv) Re-allocation of the budget (both between the polders & item of works) for completion of the work urgently needed, which may be possible by re-appropriation.