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# Main Page

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Things are being set up at the moment. While these are being prepared, you can learn more about the **Blue Gold Program** [here](#).

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*EXECUTIVE SUMMARY - "WATER MANAGEMENT FOR DEVELOPMENT"*



## A BACKGROUND AND CONTEXT

*SUMMARY - BACKGROUND AND CONTEXT*

### 1 Introduction

1.1 Project "headlines" - scope: objectives and goals, geographical area (map), elements, amount of investment, etc

1.2 Purpose of report - to complement PCRs by BWDB, DAE; record lessons learnt for design of future interventions in coastal zone

1.3 Water management for development – importance of PWM in future investment strategies for the coastal zone under the umbrella of the Bangladesh Delta Plan

1.4 Structure of report

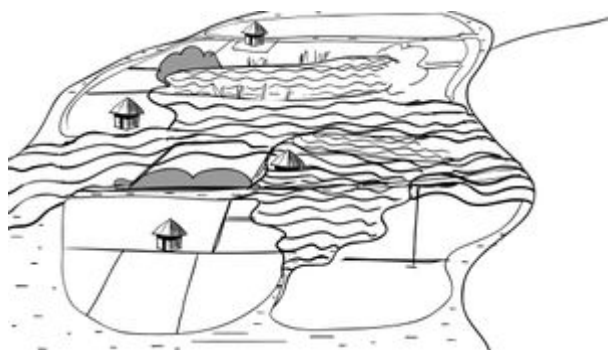
## **2 Institutional Setting**

2.1 Donors/sponsors

2.1.1 EKN

2.1.2 GoB – MoWR, MoA

2.2 Executing organisations and management arrangements



2.2.1 BWDB – catchment-based, not co-located with local government at UP/UZP level

2.2.2 DAE

2.2.3 DLS/DoF

2.3 Local Government Institutions

2.3.1 Union Parishads

2.3.2 Other relevant public sector organisations (BADC, LGED)

2.4 Private Sector – private companies and goods and service providers

## **3 Social, Physical and Environmental Context**

3.1 Geography of the coastal zone – tidal rivers, sedimentation, erosion

3.2 History of polders – development of agriculture, 1960s/1970s empolderisation, expansion of shrimp/prawn production

3.3 Social – population segmentation, hard core poor

3.4 Status of polder physical infrastructure – age, project investments, impact of erosion

3.5 Environmental – water flows, water quality (salinity), sedimentation

## **4 Timeline of Key Events**

## **5 Project Design**

### 5.1 Policy environment

#### 5.1.1 National Water Policy 1999

#### 5.1.2 BWDB Act 2000

#### 5.1.3 Guidelines on Participatory Water Management 2001

#### 5.1.4 Bangladesh Water Act 2013

#### 5.1.5 Participatory Water Management Rules 2014

#### 5.1.6 Water Rules 2018

#### 5.1.7 Bangladesh Delta Plan 2018

### 5.2 Previous history

#### 5.2.1 EIP (1975-1997)

#### 5.2.2 IPSWAM (2003-2011)

#### 5.2.3 WMIP (2008-2015)

#### 5.2.4 SWIWARPMP (2007 to date?)

### 5.3 Project definition – how differs from predecessors eg inclusion of DAE and DLS/DoF, BGIF

#### 5.3.1 EKN – Program Document

#### 5.3.2 BWDB - logframe, DPP and RDPP

#### 5.3.3 DAE - logframe, DPP and RDPP

#### 5.3.4 Theory of change (February 2017?)

##### 5.3.4.1. Helix, interlinked PWM activities, integration and functionality

##### 5.3.4.2. Reinforcing Inclusiveness

### 5.4 **Investments** by EKN, GoB

### 5.5 **Polder selection** – lessons learnt (peri-urban, ...)

### 5.6 **Environmental impact assessments**

## **B BGP Interventions: WATER INFRASTRUCTURE**

### *SUMMARY - WATER INFRASTRUCTURE*

6 **Introduction** - linkages infra - PWM - production shift

## **7 Overall targets/objectives of infrastructure investment**

7.1 History of infrastructure in 22 polders - type, nature

7.2 Achievements against overarching objectives

## **8 Blue Gold investments**

8.1 DPP and RDPP

8.1.1 History (noting that participatory planning is not allowed for in planning commission straitjacket)

8.1.2 Missing budget heads from original DPP - land acquisition, new structures, insufficient allocation for emergencies - and implications

8.1.3 Crash program (?)

8.1.4 Lessons learnt

8.2 Costs of infrastructure investments

## **9 Preparatory Works**

9.1 Survey and Design Data Collection

9.2 Design

9.3 Estimations

## **10 Construction**

10.1 Contracting modalities

10.1.1 Contractors

10.1.2 Labour Contracting Societies

10.1.3 BWDB Mechanical Engineering

10.2 Terminated contracts

10.3 Construction quality

10.3.1 Context - tidal conditions, salinity, land availability (eg for retired embankments, borrow

pits)

10.3.2 Nature of contractors – availability of equipment

10.4 Maps and statistics (in annex)

## **11 Reimbursement process**

## **C BGP Interventions: PARTICIPATORY WATER MANAGEMENT**

### *SUMMARY – PARTICIPATORY WATER MANAGEMENT*

12 **Introduction** – linkages infra-PWM-production shift

## **13 Water management organisations**

13.1 History – WMGs initially established under Dept of Cooperatives, from 2014 transferred to BWDB in accordance with PWMR 2014 - explain differences between DoC and PWMR, implications (repeat of formation and registration causing set-back)

13.2 Unified/integrated approach to PWM (Field Manual, May 2017)

13.3 Focus on functionality

13.3.1 Core function – water resource management

13.3.2 Role of WMO supporting local economic development

13.4 WMGs and WMAs – data plus discussion on criteria for boundaries (community or catchment) and size (one or more WMAs per polder)

13.5 Role of LGIs – partnerships

13.6 Support organisations – OCWM and constraints

14 **WMO capacity building** (refer to related but separate sections on FFS/MFS, women's economic empowerment)

14.1 From training to evolving & adaptive

14.2 WMGs – collective actions and networking

14.3 WMAs

14.4 O&M Sub-committees (maybe include under WMA's)

14.5 Women Economic Empowerment

14.6 Participatory monitoring

## **15 Operation and Maintenance**

15.1 Operating infrastructure (sluice, and small scale)

15.2 Maintaining infrastructure

15.2.1 O&M Agreements

15.2.2 Major and Emergency repairs – including case study of P29

## **16 In-Polder Water Management**

16.1 Institutional capacity – little technical knowledge/experience in DAE/BWDB, no joined-up thinking between WMG and sluice

16.2 Evolution – WMGs-> sluice catchments -> role of WMA..

16.3 CAWM – SSWMI

16.4 Horizontal learning – exchange visits

16.5 Catchment planning

## **17 Consolidating PWM interventions**

17.1 National Conference

18 **Maps** – spatial representation of interventions (Annex)

## **D BGP Interventions: PRODUCTION SHIFT**

*SUMMARY – PRODUCTION SHIFT*

19 **Introduction** – linkages infra-PWM-production shift/ twin livelihood improvement strategies

## **20 Commercialising Farmers**

20.1 Original approach

20.2 Farmer Field Schools

20.2.1 Technology transfer (+ linked to wrm)

20.2.2 Market Orientation/FAAB/farmer decision making

20.3 Demonstrations (DAE demo, CII, private sector...)

20.4 Horizontal Learning

20.5 Farmer Organisation

## 20.6 Market Systems Development

### 20.6.1 other actors (including WMO)

### 20.6.2 Local Resource Network (link with role of WMO chapter C)

### 20.6.3 Agricultural Innovation System

## 20.7 Capacity building

# **E BGP Interventions: REINFORCING INCLUSIVENESS**

## *SUMMARY - REINFORCING INCLUSIVENESS*

## **21 Introduction**

## **22 Women empowerment**

### 22.1 GLD capacity development

### 22.2 Feminisation of agriculture

### 22.3 BWDB Gender Action Plan

## **23 Poverty focus** - outcome of elements specifically targeting the poor (ie FFSs, labour opportunities, LCSs etc)

### 23.1 FFS - Food Security

#### 23.1.1 Original Approach

#### 23.1.2 Refocused FFS

#### 23.1.3 DAE, DLS, DoF

##### 23.1.3.1. Involvement

##### 23.1.3.2. Access to animal health

#### 23.1.4 Capacity building

### 23.2 LCSs

#### 23.2.1 Development objectives

#### 23.2.2 Scope of construction work

#### 23.2.3 Guidance note - focus on selection of LCS members

#### 23.2.4 Outcome from LCS study



## **F DEVELOPMENT OUTCOMES**

### **SUMMARY - DEVELOPMENT OUTCOMES**

#### **24 Overview M&E**

24.1 PM results

24.2 Tracker results

#### **25 Outcomes**

25.1 Agricultural production changes

25.2 Homestead FFS

25.3 Fisheries - CFWM/CLF

25.4 Socio Economic

## **G PROJECT MANAGEMENT**

### **SUMMARY PROJECT MANAGEMENT**

#### **26 Project Management Arrangements**

26.1 Implementing modalities

26.2 PSCs/PMCs

26.3 MoWR/MoA collaboration not served by separate RDPPs and PMCs, no single PSC

26.4 Review Missions - 2014, 2015, 2016, 2017, 2018 (refinement of project scope - removal of vocational training, reduction in BGIF budget and allocation to WMKIP)

26.5 EKN/BWDB/DAE/TA Coordination Meetings

26.6 Progress reporting - BWDB, DAE, TA

26.7 Annual Work Plans

26.8 Polder Development Plans

#### **27 Technical Assistance**

27.1 Team

27.1.1 Organisational structure

27.1.2 Internal management

## 27.2 TA Services

### 27.2.1 Operations

### 27.2.2 TA contracted services – studies etc

### 27.2.3 DoF/DLS FFS

## **28 Organisational development**

### 28.1 (re)-drafting ToC

### 28.2 Decentralisation

### 28.3 Exit strategy

## 29 **Training** (approach shift and internal – capacity building covered in both PWM/Production legs)

### 29.1 Large-scale training

### 29.2 Customised training

## 30 **Horizontal Learning** (as approach – HL to be covered in both PWM/Production legs)

### 30.1 Methodology and approach

### 30.2 Evaluation by Access Agriculture

### 30.3 Evolution of strategy

## **31 Communications**

### 31.1 Communications

#### 31.1.1 Barta

#### 31.1.2 Drama

#### 31.1.3 Factsheets

#### 31.1.4 Videos

#### 31.1.5

## **32 Monitoring and evaluation**

### 32.1 Data sources

#### 32.1.1 Baseline and end-line household surveys

32.1.2 WMG outcome surveys 2018, 2019 and 2020

32.1.3 Specific impact surveys

32.1.4 DAE data

32.1.5 Satelligence

32.1.6 WMG tracker (see also Section 27.1)

32.2 Polder dashboard and health checks

32.2.1 Project modalities

32.2.2 Post-project data management

32.3 Trend watcher

### **33 Project database**

33.1 WMG tracker

33.2 Trend Watcher

### **34 Environmental Impact Assessments**

34.1 Overview and issues

34.2 Modalities

34.2.1 CEGIS

34.2.2 BWDB

## **H INNOVATION FUND**

*SUMMARY - INNOVATION FUND*

### **35 Objectives**

35.1 little guidance given in Project Document, supplemented during ARM 2016?, partial reallocation of budget to WMKIP

35.2 Water management

35.3 Productive sectors

### **36 BGIF Procedure Manual**

### **37 Range of projects and implementing agencies**

### **38 Contracting modalities**

## **39 Lessons learnt**

## **40 Achievements**

Bangladesh Water Development Board, government agency which is responsible for surface water and groundwater management in Bangladesh, and lead implementing agency for the Blue Gold Program

Department of Agricultural Extension, a department of the Ministry of Agriculture responsible for disseminating scientific research and new knowledge on agricultural practices through communication and learning activities for farmers in agriculture, agricultural marketing, nutrition and business studies.

A defined set of temporary activities through which facilitators seek to effect change

A process by which the local stakeholders are directly and actively involved in identification, planning, design, implementation, operation & maintenance and evaluation of a water management project.

Embassy of the Kingdom of the Netherlands, the contractual representative of the Minister of Foreign Trade and Development Cooperation of the Netherlands and signatory to the agreement for the Blue Gold Program with the External Resources Division of the Ministry of Finance as the signatory for the Government of Bangladesh

Government of Bangladesh; a donor to the Blue Gold Program

Ministry of Water Resources

Ministry of Agriculture

an idealised hydrologically independent drainage unit within a polder - comprising a network of inter-connected khals draining to a regulator from where water is discharged to a peripheral river. Because the land levels in a polder vary within a small range (typically up to a maximum of 1.5 m), water flows can be affected by downstream water conditions and eventually drain through more than one regulator at different times of year. .

Union Parishad - Union Council chaired by an elected Union Chairman

Upazila Parishad or Upazila Council: Middle tier of local government, between Union and District, chaired by an elected Upazila Chairman. The civil administration at this level is headed by the UNO

Department of Livestock Services, a government department under the Ministry of Fisheries and Livestock responsible for the livestock industry in Bangladesh

Department of Fisheries, a government department under the Ministry of Fisheries and Livestock responsible for regulating the fisheries industry in Bangladesh

Bangladesh Agricultural Development Corporation

Local Government Engineering Department

river whose flow and level are influenced by tides

Sedimentation is the process by which fine particles of silt and clay suspended in river water settle out, for example when there is a drop in velocity.

An area of low-lying land surrounded by an earthen embankment to prevent flooding by river or seawater, with associated structures which are provided to either drain excess rainwater within the polder or to admit freshwater to be stored in a khal for subsequent use for irrigation.

A process by which the local stakeholders are directly and actively involved in identification, planning, design, implementation, operation & maintenance and evaluation of a water management project.

Early Implementation Project

Integrated Planning for Sustainable Water Management

Water Management Improvement Project (WB-funded)

Blue Gold Innovation Fund

Development Project Proforma: a formal document which sets out the intention of a GoB organisation to invest in a development project, seeking approval for the investment and, if successful, a budget allocation. The DPP follows a prescribed format, including the project's financial and physical scope, benefits, and proposals for monitoring and internal and external audits. The approval of a development project proposal follows a number of stages: formation with preliminary studies, formulation to develop greater detail and with additional information to make the economic case for the project, scrutiny by the executing agencies and concerned ministries, appraisal by the Planning Commission, recommendation for approval by Project Evaluation Committee (PEC), Minister/ECNEC approval, and inclusion of a budgetary allocation in the Annual Development Plan (ADP).

## Revised Development Project Proforma

### Blue Gold Program

Labour Contracting Societies - Groups of usually landless people who are contracted by an agency to carry out a certain type and volume of earthwork within a given time period. For BWDB, the rules for engagement of an LCS are set down in PWMR 2014 Chapter 6

Water Management Group - The basic organizational unit in Blue Gold representing local stakeholders from a hydrological or social unit (para/village). Through Blue Gold, 511 WMGs have been formed and registered. The average WMG covers an area of around 230 ha has 365 households or a population of just over 1,500.

### Participatory Water Management Rules (2014)

### Department of Cooperatives

Water Management Organizations - The common name of organizations of the local stakeholders of a water resource project/sub-project/scheme. The concept WMO typically refers to WMGs and WMAs (and/or WMFs) together

Water Management Association - In Blue Gold, the polder-level representative of WMGs, and signatory to an O&M Agreement with BWDB

Local Government Institutions - Union Parishad, Upazila Parishad etc

Office of the Chief of Water Management (in BWDB) responsible for the 'establishment of water user organizations, their training and participation, in project planning, implementation, operation and maintenance and cost recovery'

Farmer Field School - A group-based learning process through which farmers carry out experiential learning activities that help them to understand the ecology of their fields, based on simple experiments, regular field observations and group analysis. The knowledge gained from these activities enables participants to make their own locally specific decisions about crop management practices. This approach represents a radical departure from earlier agricultural extension programmes, in which farmers were expected to adopt generalized recommendations that are formulated by specialists from outside the community.

Market-oriented Farmer Field School - Farmer Field Schools dealing with cash crops or other commercial production, such as aquaculture, integrating market orientation. Specific MFS were conducted in the first years of BGP; later all FFS included market orientation.

empowerment is a process, enabling people to make choices and convert these into desired actions

and results. In doing so, people take control of their own lives, improve their own position, set their own agenda, gain skills, develop self-confidence, solve problems, and develop self-sufficiency. Empowerment leads to genuine participation of all actors as it is a process of gaining self-confidence for individual development as well as to contribute towards development of others.

Collective action - by a producer group is one way to partially overcome constraints such as in weak markets, where inputs and services essential to production innovations, are generally scarce, costly to access and/or to obtain. Collective action is working in group instead of individually in order to gain economic or social benefit. Through collective action, farmers can address constraints in their market linkages, organise their activities jointly and use their collective bargaining power to reduce input costs through bulk purchase, or to obtain services from buyers such as farm-level collection of produce

Water Management Association - In Blue Gold, the polder-level representative of WMGs, and signatory to an O&M Agreement with BWDB

A vertical gate to control the flow of water; also referred to as 'regulator'

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Community-led Agricultural Water Management - with DAE, Blue Gold established a network of schemes for demonstration purposes where locally-applicable annual cropping patterns are introduced along with water level control facilitated by small-scale water infrastructure, and the development of value chain skills in farmers

Small-scale water management structure: an initiative to improve in-polder drainage and irrigation conditions in Blue Gold polders which was started in 2018. The improvement of secondary and tertiary infrastructure across the coastal zone will involve a large number of small-scale structures and huge volumes of earthwork. The planning, design, contracting, supervising and monitoring of this small-scale infrastructure would be highly resource-intensive if provided with the same level of involvement as is provided by government engineering departments in large-scale infrastructure. Building on the success of the CAWM schemes, a pilot fund was made available so that WMOs could plan and implement small-scale water management infrastructure (SSWMI) with a relatively low-level of supervision from government or TA staff.

Farmer Field School - A group-based learning process through which farmers carry out experiential learning activities that help them to understand the ecology of their fields, based on simple experiments, regular field observations and group analysis. The knowledge gained from these activities enables participants to make their own locally specific decisions about crop management practices. This approach represents a radical departure from earlier agricultural extension programmes, in which farmers were expected to adopt generalized recommendations that are formulated by specialists from outside the community.

Cropping Intensity Initiative: Year-long demonstrations with farmers on increasing cropping intensity related to improved water management, also involving market actors, and by organising demand driven sessions and workshops

Learning from peers; and in the context of Blue Gold, farmer-to-farmer learning in which a host WMG invites representatives from visiting WMGs to witness an event - such as the harvesting of a new variety of rice - to pass on the knowledge and lessons gained from their experience

Gender and Leadership Development (training)

Farmer Field School - A group-based learning process through which farmers carry out experiential learning activities that help them to understand the ecology of their fields, based on simple experiments, regular field observations and group analysis. The knowledge gained from these activities enables participants to make their own locally specific decisions about crop management practices. This approach represents a radical departure from earlier agricultural extension programmes, in which farmers were expected to adopt generalized recommendations that are formulated by specialists from outside the community.

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Groups of usually landless people who are contracted by an agency to carry out a certain type and volume of earthwork within a given time period. For BWDB, the rules for engagement of an LCS are set down in PWMR 2014 Chapter 6

Monitoring and Evaluation

Progress Marker

Participatory Monitoring

Community-led Fisheries and Water Management

Community-led Fisheries

Program Steering Committee

Water Management Knowledge and Innovation Program - starting in December 2017 and led by Deltares and the Institute of Water Modelling (IWM) with the aim of contributing to the long term development goals for the Southern Coastal Region as well as to objectives of the Blue Gold Program through tested and sustainable water management innovations, knowledge development and participatory action research.



<https://www.deltares.nl/en/news/developing-water-management-innovations-local-communities-bangladesh/>

Technical Assistance

Theory of Change, planning tool

Learning from peers; and in the context of Blue Gold, farmer-to-farmer learning in which a host WMG invites representatives from visiting WMGs to witness an event - such as the harvesting of a new variety of rice - to pass on the knowledge and lessons gained from their experience

Center for Environmental and Geographic Information Services

Annual Review Mission, the broad objective of which was to secure and where possible further enhance the relevance, efficiency, effectiveness and sustainability of the project. ARM members were individuals who were appointed by, and reported directly to, EKN and BWDB/DAE

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## Variants

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# Blue Gold Program Wiki

The wiki version of the Lessons Learnt Report of the Blue Gold program, documents the experiences of a technical assistance (TA) team working in a development project implemented by the Bangladesh Water Development Board (BWDB) and the Department of Agricultural Extension (DAE) over an eight+ year period from March 2013 to December 2021. The wiki lessons learnt report (LLR) is intended to complement the BWDB and DAE project completion reports (PCRs), with the aim of recording lessons learnt for use in the design and implementation of future interventions in the coastal zone.

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