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# Blue Gold Portal Draft

From Blue Gold Program Wiki

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Blue Gold Program



Blue Gold Program emblem

<b>Summary</b>	
<b>Program duration</b>	2013-2021
<b>Program area</b>	Districts of Patuakhali, Khulna and Satkhira
<b>Partners</b>	
<b>Donor</b>	Government of the Netherlands (GoN)
<b>Implementation</b>	Ministry of Water Resources, through Bangladesh Water Development Board (BWDB) Department of Agricultural Extension (DAE)
<b>Technical consultants</b>	Euroconsult Mott MacDonald (lead) FEMconsult Socioconsult BETS Consulting; IDE

Welcome to Blue Gold wiki portal! This wiki accumulates information collected over the 7 years of Blue Gold program. The Blue Gold Program is a development project implemented by the Bangladesh Water Development Board (BWDB) and the Department of Agricultural Extension (DAE) over the seven year period from 2013 to 2021. Blue Gold has rehabilitated and improved the main water infrastructure in 22 coastal polders in south-west Bangladesh and built the capacity of Water Management Groups (WMGs) and Water Management Associations (WMAs) to be the drivers of economic development in the polders - through organisational management, adoption of modern crop technologies and the importance of crop selection, collective purchase of inputs and sales of produce to maximise profitability.

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## **Program summary**

[Replace with executive summary] Bangladesh, the largest river delta in the world, depends for its economic growth largely on integrated and sustainable water resources management. The three major river systems of the country mark its physiography and life of its people. Its waters – its “blue gold” – have fundamentally shaped Bangladesh culture. Efficient management of this immense natural resource remains a continuing challenge and offers at the same time tremendous opportunities. Starting from the 1960s, low lying tracts of land in the south-western coastal zone were enclosed by earthen embankments to create polders which protect coastal communities from tidal floods and surges – there are now 139 polders enclosed by embankments of an overall length of nearly 6,000 km.

About 38% of the population in the coastal regions of Bangladesh live below the poverty line and face high vulnerabilities in terms of insecurity of food, income, water and health. However, there are ample opportunities to harness the resources of the coastal areas that can lift the population from poverty, create a sustainable environment and provide security and quality of life to present and future generations.

In addition to suffering from the effects of tidal floods and surges, the people in the coastal polders are vulnerable to the intrusion of saline water, shortage of fresh water in the dry season and the impact of extreme events such as cyclones. In the south-western coastal zone, river siltation hinders drainage and causes prolonged water logging in the polder after monsoon rains, which can persist for extended periods of up to six months. This in turn results in loss of crops and income, reduced food security and explains in part the higher than average poverty levels in the coastal belt. Climate change will only increase the threats posed to coastal livelihoods.

To address this situation, the Governments of Bangladesh and The Netherlands agreed to support the development of the region through participatory water management and agricultural production with a business-orientation.

A number of government agencies implement the program. The Bangladesh Water Development Board (BWDB) is the lead agency, responsible inter alia for protecting the communities from flooding and surges by ensuring the integrity of the embankments and associated structures, and for forming and registering water management organisations (WMOs). The Department of Agricultural Extension (DAE) works alongside farmers to encourage the selection and cultivation of crops and varieties that are well-suited to the coastal environment and which, as part of an interlinked annual cropping system, form the basis for profitable business. In addition, the Department of Livestock Services (DLS) and Department of Fisheries (DoF) provide specialist advice for the development of training modules to farmer field schools, and contribute to other project interventions. Local government institutions (LGIs), especially Union Parishads (UPs), are partners in polder development planning, coordination and maintenance.

# Navigate through this wiki

For easier navigation through the information, this wiki have been organised into multiple parts, chapters, sections and subsections. Also there is a file library to look into the supplementary files. Below you will see multiple navigation boxes, divided and organised for easier use - so that you can browse through the wiki and find meaningful and organised information.

Part A Background and context	Part B BGP Interventions: Water Infrastructure	Part C BGP Interventions: Participatory Water Management
<a href="#">32px</a> <b>Summary</b> 1. Introduction 2. Institutional Setting 3. Social, Physical and Environmental Context 4. Timeline of Key Events 5. Project design	<a href="#">32px</a> <b>Summary</b> 6. Introduction 7. Overall targets 8. Blue Gold investments 9. Preparatory works 10. Construction 11. Reimbursement process	<a href="#">32px</a> <b>Summary</b> 12. Introduction 13. Water management organisations 14. WMO capacity building 15. Operation and Maintenance 16. In-Polder Water Management 17. Consolidating PWM Interventions 18. Maps
Part D BGP Interventions: Production Shift	Part E BGP Interventions: Reinforcing Inclusiveness	Part F Development Outcomes
<a href="#">32px</a> <b>Summary</b> 19. Introduction 20. Commercialising Farmers	<a href="#">32px</a> <b>Summary</b> 21. Introduction 22. Women empowerment 23. Poverty focus	<a href="#">32px</a> <b>Summary</b> 24. Overview M&E 25. Outcomes
Part G Project Management	Part H <a href="#">Innovation Fund</a>	Files and others
<a href="#">32px</a> <b>Summary</b> 26. Project Management Arrangements 27. Technical Assistance 28. Organisational development 29. Training 30. Horizontal Learning 31. Communications 32. Monitoring and evaluation 33. Project database	<a href="#">32px</a> <b>Summary</b> 34. <a href="#">Introduction</a> 35. <a href="#">Projects overview</a> 36. <a href="#">Lesson learnt</a> 37. <a href="#">Appendices</a>	<a href="#">32px</a> <ul style="list-style-type: none"> <li>• <a href="#">File Library</a></li> <li>• Glossary</li> <li>• Acronyms</li> <li>• Key Stakeholders</li> </ul>

## Part A - Background and context

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1. Introduction	2. Institutional Setting	3. Social, Physical and Environmental Context
<ol style="list-style-type: none"> <li>1. Project headlines</li> <li>2. Purpose of report</li> <li>3. Water management for development</li> <li>4. Structure of report</li> </ol>	<ol style="list-style-type: none"> <li>1. Donors/sponsors</li> <li>2. Executing organisations and management arrangements</li> <li>3. Local Government Institutions</li> <li>4. Private Sector</li> </ol>	<ol style="list-style-type: none"> <li>1. Geography of the coastal zone</li> <li>2. History of polders</li> <li>3. Social - population segmentation, hard core poor</li> <li>4. Status of polder physical infrastructure</li> <li>5. Environmental - water flows, water quality (salinity), sedimentation</li> </ol>
4. Timeline of Key Events		5. Project Design
		<ol style="list-style-type: none"> <li>1. Policy environment</li> <li>2. Previous history</li> <li>3. Project definition</li> <li>4. Investments</li> <li>5. Polder selection</li> <li>6. Environmental impact assessments</li> <li>•</li> </ol>

## Part B - BGP Interventions: Water infrastructure

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6. Introduction	7. Overall targets	8. Blue Gold investments
	<ol style="list-style-type: none"> <li>1. History of infrastructure in 22 polders</li> <li>2. Achievements against overarching objectives</li> </ol>	<ol style="list-style-type: none"> <li>1. DPP and RDPP</li> <li>2. Costs of infrastructure investments</li> </ol>
9. Preparatory Works	10. Construction	11. Reimbursement process
<ol style="list-style-type: none"> <li>1. Survey and Design Data Collection</li> <li>2. Design</li> <li>3. Estimations</li> </ol>	<ol style="list-style-type: none"> <li>1. Contracting modalities</li> <li>2. Terminated contracts</li> <li>3. Construction quality</li> <li>4. Maps and statistics</li> </ol>	

## Part C - BGP Interventions: Participatory Water Management

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<b>12. Introduction</b>	<b>13. Water management organisations</b>	<b>14. WMO capacity building</b>
	<ol style="list-style-type: none"> <li>History</li> <li>Unified approach to PWM</li> <li>WMO and WMAs</li> <li>Role of LGIs</li> <li>Support organisations</li> </ol>	<ol style="list-style-type: none"> <li>From training to evolving &amp; adaptive</li> <li>WMGs - collective actions and networking</li> <li>WMAs</li> <li>O&amp;M Sub-committees</li> <li>Women Economic Empowerment</li> <li>Participatory monitoring</li> </ol>
<b>15. Operation and Maintenance</b>	<b>16. In-Polder Water Management</b>	<b>17. Consolidating PWM interventions</b>
<ol style="list-style-type: none"> <li>Operating infrastructure</li> <li>Maintaining infrastructure</li> </ol>	<ol style="list-style-type: none"> <li>Institutional capacity</li> <li>Evolution</li> <li>CAWM - SSWMI</li> <li>Horizontal learning</li> <li>Catchment planning</li> </ol>	<ol style="list-style-type: none"> <li>National Conference</li> </ol>
<b>18. Maps</b>		

## Part D - BGP Interventions: Production Shift

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<b>19. Introduction</b>	<b>20. Commercialising Farmers</b>
	<ol style="list-style-type: none"> <li>Original approach</li> <li>Farmer Field Schools</li> <li>Demonstrations</li> <li>Horizontal Learning</li> <li>Farmer Organisation</li> <li>Market Systems Development</li> <li>Capacity building</li> </ol>

## Part E - BGP Interventions: Reinforcing Inclusiveness

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<b>21. Introduction</b>	<b>22. Women empowerment</b>	<b>23. Poverty focus</b>
	<ol style="list-style-type: none"> <li>GLD capacity development</li> <li>Feminisation of agriculture</li> <li>BWDB Gender Action Plan</li> </ol>	<ol style="list-style-type: none"> <li>FFS - Food Security</li> <li>LCSs</li> </ol>

## Part F - Development Outcomes

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24. Overview M&E	25. Outcomes
<ol style="list-style-type: none"> <li>1. PM results</li> <li>2. Tracker results</li> </ol>	<ol style="list-style-type: none"> <li>1. Agricultural production changes</li> <li>2. Homestead FFS</li> <li>3. Fisheries - CFWM/CLF</li> <li>4. Socio Economic</li> </ol>

## Part G - Project Management

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26. Project Management Arrangements	27. Technical Assistance	28. Organisational development
<ol style="list-style-type: none"> <li>1. Implementing modalities</li> <li>2. PSCs/PMCs</li> <li>3. MoWR/MoA collaboration</li> <li>4. Review Missions</li> <li>5. EKN/BWDB/DAE/TA Coordination Meetings</li> <li>6. Progress reporting</li> <li>7. Annual Work Plans</li> <li>8. Polder Development Plans</li> </ol>	<ol style="list-style-type: none"> <li>1. Team</li> <li>2. TA Services</li> </ol>	<ol style="list-style-type: none"> <li>1. Drafting ToC</li> <li>2. Decentralisation</li> <li>3. Exit strategy</li> </ol>
29. Training	30. Horizontal Learning	31. Communications
<ol style="list-style-type: none"> <li>1. Large-scale training</li> <li>2. Customised training</li> </ol>	<ol style="list-style-type: none"> <li>1. Methodology and approach</li> <li>2. Evaluation by Access Agriculture</li> <li>3. Evolution of strategy</li> </ol>	<ol style="list-style-type: none"> <li>1. Communications</li> </ol>
32. Monitoring and evaluation	33. Project database	34. Environmental Impact Assessments
<ol style="list-style-type: none"> <li>1. Data sources</li> <li>2. Polder dashboard and health checks</li> <li>3. Trend watcher</li> </ol>	<ol style="list-style-type: none"> <li>1. WMG tracker</li> <li>2. Trend Watcher</li> </ol>	<ol style="list-style-type: none"> <li>1. Overview and issues</li> <li>2. Modalities</li> </ol>

## Part H - Innovation Fund

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### Innovation fund

The Blue Gold Innovation Fund (BGIF) aimed to contribute to the objectives of the Blue Gold Program in terms of more equitable water management and strengthened value chains. Between 2013 and 2020, the fund went through several phases where the approach went from a needs-based approach to a supply driven approach, and back. With EUR 2.45 million the BGIF funded 42 projects, averaging EUR 48 thousand on average per project. The first few years saw mostly small feasibility studies funded, as well as pilot projects. Especially from 2017 onwards, integrated projects as well as pilot projects were mostly funded.

[Read more . .](#)

35. Introduction	36. Project Overview	37. Lessons learnt
1. <a href="#">Evolution of the Blue Gold Innovation Fund</a>	1. <a href="#">Project types and the innovation tunnel</a> 2. <a href="#">Projects in the Water Management Fund and Productive Sector Fund</a> 3. <a href="#">Fairs by GoB departments</a>	1. <a href="#">Fund management &amp; procurement</a> 2. <a href="#">Interphases BGIF with BGP and local stakeholders</a>
38. Appendices		
1. <a href="#">List of BGIF projects</a> 2. <a href="#">List of rejected project concepts and proposals</a> 3. <a href="#">FS, Pilot and Integrated projects by sector</a> 4. <a href="#">Call for Proposals evaluation</a> 5. <a href="#">BGIF procedure manual</a> 6. <a href="#">Format and Criteria for Short-listing of Training Service Providers</a> 7. <a href="#">BGIF project locations</a> 8. <a href="#">BGIF project locations (Pilot and Integrated)</a>		

## Files and others

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<a href="#">File library</a>	Glossary
Acronyms	Key Stakeholders

Government of the Netherlands; a donor to the Blue Gold Program

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.

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.

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.

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

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

Increase in the capacity of a country or an economic region to produce goods and services. It also refers to the increase in market value of the goods and services produced by an economy. It is usually calculated using inflation adjusted figures, in order to discount the effect of inflation on the price of the goods and services produced

management actions required to address the changing demands on water resource systems both in the present and the long-term future so as to avoid system degradation

Typically undesirable increase in concentration and deposition of water-borne silt particles in a body of water.

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 livelihood is a way of making a living. It comprises capabilities, skills, assets (including material and social resources), and activities that households put together to produce food, meet basic needs, earn income, or establish a means of living in any other way.

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.

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

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

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

Local Government Institutions - Union Parishad, Upazila Parishad etc

actions taken to prevent or repair the deterioration of water management infrastructure and to keep the physical components of a water management system in such a state that they can serve their intended function.

### Blue Gold Program

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.

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

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.

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.

### Monitoring and Evaluation

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

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.

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

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.

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

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.

## 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.

Progress Marker

Participatory Monitoring

Community-led Fisheries and Water Management

Community-led Fisheries

Ministry of Water Resources

Ministry of Agriculture

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

Technical Assistance

Theory of Change, planning tool

Blue Gold Innovation Fund

A feasibility study is an analysis that takes all of a project's relevant factors into account—including economic, technical, legal, and scheduling considerations—to ascertain the likelihood of completing the project successfully.

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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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