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Executive summary: a call for action

From Blue Gold Program Wiki

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The Executive Summary of the Lessons Learnt Report of the Blue Gold Program (BGP), is written with the aim of assisting its intended readership of policy makers, planners and practitioners to use practical lessons gained from Blue Gold to modify policies, plans, procedures, and to design of

programs, and projects that support water management in the coastal zone. This executive summary is intended to present summary recommendations from Blue Gold's eight year practical experience with 800,000+ farmers in 22 polders as a "call for action" by investment platforms like the government's Delta Plan.



Blue Gold Program



Blue Gold Program emblem

Summary	
Program duration	2013 to 2021
Program area	Districts of Patuakhali, Khulna, Satkhira, and Barguna

Objective	To reduce poverty and to increase household income through appropriately targeted interventions for 185,000 households in the coastal districts of Patuakhali, Khulna, Satkhira, and Barguna; by helping local communities to mitigate impacts of climate change and to develop their local economy through diversified farming practices based on information on input costs and market prices, and supported by participatory management of local water resources.
Partners	
Implementation	Bangladesh Water Development Board (BWDB) Department of Agricultural Extension (DAE) in association with Department of Livestock Services (DLS) Department of Fisheries (DoF)
Donor	Government of the Netherlands (GoN) Government of Bangladesh (GoB)
Consultants	Euroconsult Mott MacDonald in association with FEMconsult, Socioconsult and BETS Consulting

A guide to how to use the Lessons Learnt Report (LLR) is provided [here](#).

In addition to the LLR and the associated file library, there are a number of [slide decks](#), [thematic brochures](#), [case studies](#) and [videos](#) which are aimed at readers with limited time.

There have also been a series of publications (in Bengali) from the Department of Agricultural Extension (DAE), of which '[Sofolotar Satkahon](#)' ('[Successful Initiatives](#)') documents the range of activities achieved through the collaboration between implementing agencies, local government, the private sector, farmers and - not least - WMGs. Many of the success stories, lessons and innovations include voices from the farming communities who themselves have been part of the learning process. The sheer variety of the activities presented in '[Sofolotar Satkahon](#)' provides both inspiration and practical guidance to present and future generations of agricultural extensionists.

You can also download the Executive summary: Call for Action as a standalone PDF file.

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What is the importance of lessons from the Blue Gold Program?[\[edit | edit source\]](#)

Blue Gold Program - a unique cooperation

The relation between water management and agricultural production is obvious, yet BGP is the first investment project that is implemented jointly by the concerned departments, i.e. Bangladesh Water Development Board and Department of Agricultural Extension. Transformation of the smallholder agriculture towards high value products is a driver for better utilisation of the water management potential within areas served by embankments, canals, and sluices.

Bangladesh's impressive economic development has brought the country's imminent identification as a middle-income country as a realistic goal. One precondition for development is that adequate water security sustains lives and livelihoods. This means that adequate protection from the destructive force of water must be in place and that the productive potential of water for the greater good of society is harnessed at the same time. The better a society functions, the higher the level of water security must be. One can see this relation between economic development and water security already: Dhaka City - being the country's main economic hub - is protected against severe floods, whereas lower levels of protection are provided to the country's agricultural rural areas. The next phase of development in these areas must therefore protect investments in economic and social infrastructure from flood-damage, secure communities from the consequences of climate change and also enable the control and regulation of water levels, volumes and qualities to allow high value production of both fisheries and crops.

In particular in south and south-west Bangladesh, the investments by government in transport infrastructure - Padma Bridge, Payra deep-sea port and associated road and rail infrastructure - will provide new opportunities that:

- Increase the demand for agricultural products in local markets as towns and cities expand, due to the increase of employment opportunities
- Reduce transport costs for agricultural products to existing markets, increase the speed of delivery of goods to markets, and reduce losses caused by damage to vulnerable fresh products during transport
- Open up new markets for agricultural products in India and internationally.

The cost of inaction

The prevalence of a vicious cycle of 'build - neglect - rebuild' draws the viability of the Government's strategy to intensify water sector investment into question. To enhance sustainability of investments, water governance must be improved. Blue Gold's lessons on Participatory Water Management could contribute to improving water governance.

The new opportunities for the south and south-west are far-reaching and could stimulate important changes in agriculture.

Bangladesh has adopted the Delta Plan 2100 which provides an investment plan with a long-term perspective for the development of water infrastructure. Whilst infrastructure for water security is being well-addressed, the procedures for managing, operating and maintaining water resources infrastructure to sustain continued and inclusive economic growth still need crucial attention.

This Lessons Learnt Report (LLR) aims to contribute towards answering the question 'How should water resources and infrastructure be managed in the coastal polders to enable inclusive development?' This executive summary summarises Blue Gold's practical experiences and presents suggestions for use by water sector planners in devising policies which result in better governance of water resources.

Management of water resources and infrastructure in the context of the experience of Blue Gold[[edit](#) | [edit source](#)]

Using the experience of a single project - in this case the Blue Gold Program - to modify water governance in Bangladesh is not unlike a mouse attempting to move an elephant. The Blue Gold Program is a relatively small and short-lived set of interventions, which can easily be ignored when set against the long history and scope of water resources governance. We must therefore first argue, why the lessons are relevant:

- **Lessons from BGP do not stand on their own:** Investments in water resources management are often made through projects using donor funds. Blue Gold builds on the experiences of many previous projects in the coastal zones. These water sector projects adhered to government policies on Participatory Water Management^[Footnote 1] and attempted to establish organisations through which infrastructure is locally managed and maintained. BGP, like all related projects, has achieved some successes in doing so but - like all other projects -

has also been severely constrained by existing policies and a lack of appropriate governance procedures.

Blue Gold Program

The Blue Gold Program (2013-2021) promotes Participatory Water Management in 22 polders in the southwestern coastal belt by:



Improving water management by community mobilization and infrastructure development



Increasing and diversifying agricultural production



Increasing income and employment through market-led agriculture



Reducing poverty and improving food security



Using a pro-poor, inclusive approach, and enhancing innovations, targeting men and women, to include all polder inhabitants and also to enhance development outcomes

- **Lessons from BGP apply across the coastal zone:** Having worked in 22 of Bangladesh's 139 coastal polders, and having done so in four distinct physical and environmental settings (Khulna, Satkhira, Patuakhali and Barguna) means that at least some of the experiences can be extrapolated across the coastal zone, subject to the following conditions: (i) BGP's focus has been on rural areas and does not provide lessons on water management for urban areas within the polders; (ii) within the 117 coastal polders not addressed by BGP, there may be some polders where physical constraints render improved water management impossible (e.g. due to sedimentation of the river network adjacent to a particular polder) or where farmland has

been converted for commercial and/or residential uses, in which case the lessons of Blue Gold would not be transferable.

- **Lessons from BGP relate to national policies.** The first Government policies on Participatory Water Management were framed around 2000. At that time, these policies were novel and constituted a break with a tradition of top-down water resources management. More recently, the Water Act (2013)^[Footnote 2], was promulgated. This Act, with its Rules and procedures, builds on the spirit of the 1999 National Water Policy by defining structures for devolving central authority to regional and local levels. Implementation of this framework aimed to bridge the gaps between planners and policy makers, local government institutions, the private sector and local, regional and national water stakeholders. Given that local water users would be linked to regional and national water management coordination structures, it is very timely to use the hindsight of 20-years of experience in applying Participatory Water Management (of which BGP covers some eight years), for better overall water governance; especially also in the light of the investments proposed in the Delta Plan 2100.
- **Lessons from BGP expand on the organisational model for local water resource management:** The national policies and regulations for Participatory Water Management describe an organisational structure for local water management. Based on its experience, BGP suggests various improvements to the organisation of the local Water Management Organisations (WMOs). At the same time, the sustainability of local water management remains affected by a very weak linkage to (and support from) local government and national structures for water management decision-making.

Intentions for periodic review

“The National Water Policy will be reviewed periodically and revised as necessary.”

- from the National Water Policy

“In consideration of the changing environment and growing experience, the guidelines will have to be updated regularly.”

- from the Guidelines for Participatory Water Management

- **Lessons from BGP show the significance of Participatory Water Management for local economic development and poverty reduction:** The policy for Participatory Water Management – and especially its subsequent transposition in a legal and regulatory framework – emphasises the need for a systematic approach towards participation of stakeholders ensure operation and routine maintenance of infrastructure. The underlying concept was that the government through project investments would plan for and provide the infrastructure and that subsequently the water users would take care of management. The experience of Blue Gold in Participatory Water Management is that water users, when involved in devising and implementing plans to use opportunities for better local economic development, become motivated to engage in maintenance, operation and even construction of small-scale water resources infrastructure to secure the economic benefits. Harnessing water management for local economic development also requires that: (i) a greater connection is made between

agricultural commercialisation and water management; (ii) that local government institutions are systematically and substantially engaged with the specialised departments, such as BWDB, DAE, DoF and DLS, to develop participatory water resource management from the very onset of an intervention ; and (iii) agricultural extension takes into account the practical experience of aligning commercial production with water management, with due consideration for the economic potential of crops and fisheries as well as the trade-off between them.

In other words, Blue Gold's experience shows a way forward for enhanced and inclusive economic development through water resources management in both agriculture and aquaculture in the coastal zone, and suggests directions for more effective management of local water resources and infrastructure.

What, then, are the key lessons from BGP?[\[edit | edit source\]](#)

The principal lesson of BGP is that Participatory Water Management constitutes a strong driver for inclusive local economic development, which can encourage and enable local stakeholders to maintain, operate and to develop small-scale water management infrastructure within their catchment area. This is further underpinned by eight key lessons:^{[Footnote 31](#)}

- **Security from embankment breaches and flooding of farmland is a pre-requisite to investment in new high-value, high-investment crops:** Presently, the fear of flood damage to their land and property discourages farmers from choosing high investment crops. Their understandable aversion to risk, results in conservative crop choices and a lack of planning to optimise the sequencing of planting and harvesting dates of the annual cropping cycle on a specific parcel of land. Better planning helps to avoid periods of expected heavy rainfall during the early germination stages of a crop, or periods of cyclonic winds close to harvest time. Security from breaches and flooding removes an overwhelming threat and stimulates farmers to include more commercial, high-value options into their production cycle. It also safeguards other economic interests and sectors, such as trade and commerce.
- **Participatory Water Management starts with consultation in decision-making:** Developing investment plans centrally, with little to no local consultation, leads to unnecessary friction during implementation and to a lack of commitment or ownership from local government and other local stakeholders; as well as a poor level of community care for new infrastructure. In preference, local economic development priorities and any findings from local consultations should be incorporated into central investment plans.
- **Activation should precede organisation:** When pursuing the development of Water Management Groups as an organisational structure for Participatory Water Management, it is more effective to focus first on activating men and women of the community to improve their agricultural production by improved water management, rather than insisting on the full development of the WMGs right from the start. Agricultural extension, integrating crop production and water management into their messages, plays an important role here. Once people see the benefit of improved water management and the value of cooperation, they are more motivated to develop the organisational structure required for WMGs, needing less technical advice and support.
- **Water management should be driven by a vision for local economic development:** The orientation towards action in the previous lesson can be embedded in a local economic development vision. Such a vision helps to build commitment from all local actors around local economic priorities; helps secure the necessary support from departments and local governments; and enlists private and non-government sector support.

- **Local governments are a logical and indispensable partner in aligning water resources investment to an agenda for local economic development:** The front door for local economic development - and thereby also for investment projects in water infrastructure - is the local government. They are a first stop for consultation, a partner to use in activating their communities, a support in the development of an organisational structure for water resources management at catchment or sub-catchment level, often act as successful mediators in disputes, and provide a safeguard for remedial action if plans need to be changed. If water management organisations are viewed by local government as a local platform to reach out to other community-based organisations, they will recognise the WMO's role and be encouraged to sustain them.
- **Agricultural transformation and commercialisation are key elements for local economic development:** In the context of most, if not all, rural regions of the coastal zone of Bangladesh, agriculture and fisheries are the driver for economic development and any vision for economic development will largely relate to these sectors. Important partners for the commercialisation of agriculture are the private sector and local government line departments. A further integration of water resources management and production support can trigger the next growth spurt for agricultural productivity and profitability. As shown in Blue Gold areas, this can include pro-poor growth through increased demand for agricultural labour combined with intensified homestead production by resource-poor households.

Women's stronger voice

Across all 511 water management groups in the 22 polders supported by BGP, women form 43% of the general membership and 34% of the executive committee members, the latter against a quota of 30%. Women's participation in key roles (president, secretary, treasurer) has gone up from 5 to 9%. Of the 93 WMO executive committee members who won a seat in the 2016 Union Parishad elections, 25 were female.

- **Participatory Water Management revolves around activating a partnership of water users, private sector, departments and local government:** Organisations that work in isolation from the wider civil society are neither effective nor sustainable. Local water management organisations must be part of an active partnership for better management of the local water system, that constitutes concerned technical departments, such as BWDB, DAE, BADC and LGED; that works in synergy with the local government; and that seeks to develop reciprocal relations with the private sector.
- **Joint actions by a network of stakeholders result in more inclusive and more sustainable development outcomes:** When representatives of all different stakeholders and socio-economic groups are involved in making choices for local economic development - such as those related to water management and agricultural production - the resulting actions are more likely to benefit all. Jointly prepared actions, which are widely supported within the community, tend to bring more social equity and a better use of natural resources.

Improving productivity of land in coastal Bangladesh - BGP outcomes

Water management problems before BGP



Waterlogging during the aman season in Patuakhali and Satkhira



Scarcity of the water for irrigation in rabi season in Patuakhali, Khulna, Satkhira and Barguna



Salinity problems in some areas of Khulna, Satkhira and Barguna



Large-scale shrimp farming, resulting in obstructions to the drainage system in Satkhira

Improvements brought about by Participatory Water Management



Improved drainage system



Increased supply of water for irrigation



Salinity no longer a significant problem



While water management problems still exist, they are now less severe

**Changes in cropping patterns:
profitability of land and investment return**

Net farm incomes have almost doubled since the start of BGP due to:

- More land being utilised and less left fallow, and higher yields
- Significant move from LV to HYV paddy for aman and aus, and from HYV to hybrid for boro
- Expansion of high value crops (vegetables and watermelons) in Khulna
- A large expansion of mung bean in Patuakhali
- Significant increase of seasonal fish gher in Khulna (40% increase) and Satkhira (more than double) - with much of the increase coming from the more intensive use of gher for fish, with consequent reductions in seasonal fallow and paddy
- The overall annual increase in net farm income can cover total BGP expenditures in two years.

Changes in land tenure

- Land farmed by the owner has reduced slightly from a pre-project position of slightly more than half to a little less than half

- Reduction in sharecropping in all seasons

- Significant increase in other lease arrangements (mainly annual cash rentals)

Farm employment: changing roles of women (feminisation of agriculture)

- For the increased cropped area, 57% of all labour is hired as compared with 46% pre-project
 - Much male labour has been absorbed in the non-farm sector, so more women now being hired
 - Women are now hired for almost all farm operations in Khulna and Satkhira, and still mostly hired for non-rice crops in Patuakhali
 - Women are almost always paid less than men (in many cases only 50% to 65% of the men's wages), but in some locations the differential has narrowed and has risen from around 60% to 80% of men's wages
 - Increased participation in the workforce has also increased the overall workload of women, but overall, women consider themselves better off - with additional own income, leading to greater say in household decision-making

From ‘experience gained’ to ‘lessons learnt’ to ‘learning applied’ [[edit](#) | [edit source](#)]

The process from gaining experience to drawing lessons to applying lessons is not a simple process. The Blue Gold Program cannot just document its experiences and then leave it to sector agencies and time for these lessons to be adopted. Just copying Blue Gold’s lessons learnt is often not possible: (i) the sector’s policy makers have to consider a wider set of arguments applying to situations which are very different from those of Blue Gold areas; and (ii) just the analysis of BGP lessons – however well prepared and considered – does not provide a course of action but requires further consideration about the implications, pilot testing a number of options and a careful roll-out.

The documentation of lessons learnt can raise questions and provide relevant experiences and thereby form a source of inspiration, but not enough to enable sector reform. Therefore, this Executive Summary calls upon policy makers to lead the way towards a modernisation of water governance, using BGP’s and other experiences and insights.

In view of this call for action, it is very promising that, parallel to the preparation of this report, the Bangladesh Delta Plan has launched a policy-level review of water governance, for which Participatory Water Management is an important building block. A National Conference on Participatory Water Management is to be held in 2021 before closure of the Blue Gold Program, when recommendations will be made by an independent panel of senior national experts in the fields of rural development, agriculture, water resource management, local government and economy. This group of eminent experts has reviewed the BGP experience, and other experiences, to make a head start in answering how water resources and infrastructure can be managed better in future: more effective, more efficient, more sustainable and geared towards not leaving anyone behind.

Governance questions arising from BGP’s experience



Participatory Water Management (infrastructural, institutional and agricultural development) must be initiated and supported. But where is the institutional capacity to do so at a nationwide scale?



Water Management Groups and Associations flourish when working closely with Local Government Institutions and line agencies. How can this partnership be extended to the whole country?



Water Management Groups and Associations develop small-scale infrastructure but also are stakeholders in main infrastructure. How can the planning of small- and large-scale infrastructure be optimised to complement each other?



New legislation establishes local and regional water resource committees. How can such bodies enhance the synergy between national, regional and local interest?

The year 2020 brought two major disasters that could negate some of the achievements of the preceding period of development support through Blue Gold: the Covid-19 pandemic, which continues to be a threat; and Cyclone Amphan, which hit several polders on May 20 and 21.

The Covid-19 measures stopped almost all transport. Shops and markets closed; and many migrant workers returned home. Farm gate prices fell and vegetables rotted due to lack of buyers. Fish prices dropped as there was no export. The supply of inputs was negatively affected. Construction work slowed down as skilled labour returned home.

On top of this, Cyclone Amphan damaged or breached embankments, destroyed crops, made fish ponds overflow, and flooded homesteads.

Due to this double disaster, many households saw their incomes dwindle, impacting their food intake. This especially affected already marginal households. The incidence of domestic violence and early marriage increased.

But communities in the project area also showed resilience: Several WMGs - often hand-in hands with Union Parishads - helped raise awareness about Covid-19 and issued warnings for the upcoming cyclone. They helped mobilise labour to repair damaged embankments, thereby minimising losses. Their closer association with government officials enabled farmers and communities to obtain support. Households that had diversified and improved their homestead production appear to be more self-reliant.

Footnotes[[edit](#) | [edit source](#)]

1. [↑](#) Reference is made inter alia to: Government of Bangladesh, Ministry of Water Resources, National Water Policy, January 1999; Government of the People's Republic of Bangladesh, Ministry of Water Resources, Guidelines for Participatory Water Management, Dhaka, 2000; and: Government of the People's Republic of Bangladesh, Participatory Water Management Rules, 2014, Circular 20 Magh 1420 Bangla Year/2 February 2014 AD, published in Bangladesh Gazette, Additional Issue, February 11, 2014
2. [↑](#) Government of Bangladesh, Bangladesh Water Act 2013, Act 14 of 2013; Government of Bangladesh, Water Rules 2018, Bangladesh Gazette, August 2018
3. [↑](#) Thematic brochures and case studies accessible through the Lessons Learnt Report wiki site

provide more explanations and illustrations for these eight lessons.

See more[\[edit](#) | [edit source\]](#)

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[Chapter 01: Overview, Purpose and Structure of Report](#)

Blue Gold Program

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

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.

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

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

Government of Bangladesh; a donor to the Blue Gold Program

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.

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.

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

Community mobilization is a process that brings together different societal factions to undertake development activities. Within BGP this especially refers to organizing the community members into Water Management Groups

Any formal or informal structure (not necessarily a physical place) in which buyers and sellers exchange goods, labour, or services for cash or other goods. The word 'market' can simply mean the place in which goods or services are exchanged. Essentially, markets are defined by forces of supply and demand, rather than geographical location

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.

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.

human intervention in the capture, conveyance, utilisation and drainage of surface and/or ground water in a certain area: a process of social interaction between stakeholders around the issue of water control.

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 through which stakeholders influence and share control over development initiatives and the decisions and resources which affect them.

the adjustment of gates in water management infrastructure to control hydraulic conditions (water levels and discharges) in a water management system.

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.

Earthen dyke or bundh raised above surrounding ground level, for example so that roads or railway lines are above highest flood levels, or so that an area is empoldered to protect it from external floods and saline waters.

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.

Part of the catchment which is not directly connected to the regulator, and is hydrologically independent from other parts of the catchment.

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

Union Parishad - Union Council chaired by an elected Union Chairman

Bangladesh Agricultural Development Corporation

Local Government Engineering Department

a rice crop usually planted in March/April under dryland conditions, but in areas liable to deep flooding. Also known as deepwater rice. Harvested from October to December. All varieties are highly sensitive to daylength.

The dry season (typically mid-October to mid-March) with low or minimal rainfall, high evapotranspiration rates, low temperatures and clear skies with bright sunshine. Crops grown are boro, pulses, sunflower, sesame and mungbean.

low value crop(s)

High Yielding Variety - Introduced varieties developed through formal breeding programs. HYVs have a higher yield potential than local varieties but require correspondingly high inputs of fertiliser and irrigation to achieve high yields.

a rice crop planted in March/April under dryland conditions. Matures during pre-monsoonal showers and is harvested in June/July. Insensitive to daylength.

A rice crop planted under irrigation during the dry season from December to March and harvested between April and June. Local boro varieties are more tolerant of cool temperatures and are usually planted in areas which are subject to early flooding. Improved varieties, less tolerant of cool conditions, are usually transplanted from February onwards. All varieties are insensitive to daylength.

An area enclosed by low embankments to store either freshwater or brackish water for the production of fish, shrimps or prawns.

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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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