

From private sector enterprise to improved women's participation, water management projects can be the basis for social and economic development. Rakesh Ramchurn of Mott MacDonald reports on how the Blue Gold program has made a difference in Bangladesh.

# Blue Gold program promotes socio-economic development in Bangladesh

Bangladesh's economy largely depends on its water resources. This South Asian country occupies the largest river delta in the world, where land has been created over thousands of years from silt deposited by the hundreds of waterways that characterize the landscape.

The annual monsoon season – an essential part of the country's ecology and a vital source of water for people, livestock, and crops – also results in flooding from the distributaries of the River Ganges (or the Padma, as the river is known after its confluence with the Brahmaputra River). These floods drain through the south-western coastal region.

Managing these floodwaters and dealing with cyclonic storms passing from the Bay of Bengal brings further pressures to communities in the coastal region. Almost 40 percent of the coastal population live below the poverty line and face food, income, water, and health insecurities, which are exacerbated by climatic factors such as floods, droughts, cyclones, storm surges, salinity intrusion, and river siltation.

Water – which has gained the epithet “Blue Gold” in reference to its crucial importance in development – is the basis for changing people's lives and can trigger socio-economic development if managed properly.

The Blue Gold program is a US\$63.3-million joint initiative funded by the governments of Bangladesh and the Netherlands. The development project – which began in March 2013 and is scheduled to last six years – aims to reduce poverty for 150,000 households in the Bangladesh coastal districts of Patuakhali, Khulna, Satkhira, and part of Barguna. It helps local communities stabilize their environments and pursue sustainable socio-economic development through participatory water management and diversified farming practices with an increased awareness of planning or profit.

## Managing water resources

The 115,000-hectare area covered by the Blue Gold Program consists of 21 polders, or land areas enclosed by dykes to protect the terrain and communities from flooding and sea surges.

At the most basic level, the project consists of water management interventions and follows up on previous development work. Measures to secure the polders and ensure the safety of inhabitants include strengthening perimeter embankments and dykes; rehabilitation of sluices, water intakes, and outlets; and clearance of silt from drainage channels.

Two primary implementing agencies of the Government of Bangladesh are responsible for delivering the project – the Bangladesh Water Development Board (BWDB) and the Department of Agricultural Extension (DAE). Euroconsult Mott MacDonald is providing technical advisory services to BWDB and DAE.

BWDB's Project Coordinating Director, Sujoy Chakma, says: “Coastal areas are susceptible to both river and coastal flooding incidents, which damage the land and cause soil salination, which makes it hard to grow crops. Maintaining the integrity of the polders is the crucial first step to securing the economic development of the site.”

## Empowering the local community

From the outset, one of the key aims of Blue Gold was to eschew the top-down approach of many development projects in favor of giving local people control over the interventions carried out on their behalf. This approach led to water management organizations (WMOs) being set up to represent communities and to agree on priorities.

Currently, 350 groups – each consisting of about 250 households – are being developed with the technical, communication, and project management skills needed to operate and maintain their assets. An integrated approach ensures that the wider project team including BWDB and DAE work together toward the common goals identified by the WMOs.

“Local participation gives people a sense of control over their own livelihoods, and they have jumped at the chance to adopt new crops and farming and water management practices, which offer higher profitability,” says Guy Jones, Euroconsult Mott MacDonald's team leader, adding: “This is also indicative of the ethos of Blue Gold, which aims to make people self-sufficient and to remove dependency on aid projects or handouts.”

One requirement of new community groups is that women must make up at least 30 percent of membership, including at executive committee level. This condition has increased women's participation in the community and makes progress toward the third of the UN's Millennium Development Goals that calls on countries to “promote gender equality and empower women.”

“By allocating almost a third of places to women, we ensure their voices are heard and that they shape the future of their communities,” says Mahfuzur Ahamed, BWDB's chief of the Office of Water Management. “This also has a positive effect in the villages more generally. With visible female leaders, women and especially young girls will feel empowered to take on other roles in the community.”

## Equipping locals with new skills

Farmer field schools (FFS) provide market-oriented training on horticulture, aquaculture, and the rearing of livestock. Simple changes can have a big effect. For example, by drying green gram (pulses) on plastic sheets rather than on the ground, the end product is cleaner, reduces work, and gets a better price at market.

The landless are offered employment opportunities to engage in earthwork contracts such as clearing silt from drainage channels or strengthening embankments. They are also provided with training in agriculture and nutrition.

“Although local people know the land and already have well developed farming skills, the training element of the program teaches them how to maximize production and diversify land use,” says DAE's Project Director Tahmina Begum. “Also, increasing the supply of these foods means they can be sold among villagers for lower prices than seen at local markets, giving people more independence and improving food security.”

## Burgeoning business development

One of the key aims of Blue Gold is to produce harvests that are sufficient to allow for private enterprise. Market-oriented farmer field schools (MFS) equip people with skills in water resource management, cultivation technologies, and market orientation.

“Farmers are encouraged to reduce costs through collective actions, such as by organizing group transport and selling at more competitive, higher level markets or by coordinating sales with lead firms,” says DAE's Tahmina Begum. “In one case, this led to the establishment of a collection center for the exchange and selling of produce, which brought extra savings to the farmers by cutting on transportation costs.”

Sesame and mung are among the crops promoted in project polders. By ensuring early drainage of water, the planting dates for sesame and mung can be brought forward so that harvesting is completed before the rainy season begins, opening the way to more intensive farming and higher productivity, which leads to a greater willingness to invest in agriculture.

The MFS program led to the introduction of different crop varieties. In the case of mung bean, Bari-6 was introduced – a more productive and lower priced alternative. And in the case of sesame, a conversion from red/brown sesame to black sesame was introduced, as it commands a 30-35 percent higher price in the market.

MFS also promotes market linkages with producer farmers. Mott MacDonald's Jones says: “Training sessions equip locals with an understanding of market demand, private sector linkages, and new technology. This means the improved crop yields are matched by a greater ability to sell to the market.”

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## A bright future

Blue Gold's greatest legacy will be the self-sufficiency of the area once the program closes. By 2020, all technical assistance, coordination structures, and external financial assistance will be withdrawn, and it will fall upon the permanent organizations left behind to sustain the positive outcomes of the program.

Mahfuzur Rahman, BWDB's Chief of Planning, says: “We are working to build this sustainability through the long-term efficacy of participatory water management. This is more than just a hand-over in the final months. It is a deliberate approach to encourage – and, if needs be, to shape – a permanent and established basis for the use of water management interventions for socio-economic development that continues beyond the scope of the project duration and area. It pursues sustainability from the start.”

## Author's Note

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## Positive results

### Securing homes and livelihoods

Polder 43/2A was in a precarious condition as the Para River, which runs along the north and west of the polder, caused severe damage during the monsoon season, eroding land and even engulfing entire villages over time. This overflow caused problems of homelessness, as people were forced to abandon their homes. Protection of this part of the polder was a key priority for Blue Gold.

A major challenge involved encouraging people to donate their land and voluntarily move their homes to make way for a new embankment. This challenge was met by working with the WMO, which relayed villagers' concerns and needs to the project team. Construction work was completed in time for the monsoon season in 2015, saving hundreds of people from the effects of floods and storm surges and preventing the loss of crops. Now that the polder has been stabilized, villagers can focus on maximizing land yields.

### Improving skill sets raises living standards

Mahinoor Begum lives in Dakshin-Purba Kalbari, in Polder 43/2F. Although she managed to grow vegetables on her land, her yield was barely enough for her own consumption. In December 2013, she participated in a Farmer Field School (FFS), which taught her new horticultural skills and encouraged her to diversify her land use. Begum now cultivates country bean, sweet gourd, bitter melon, papaya, and aubergines, and she uses hand picking and pheromone traps instead of pesticides to improve her crop. She is able to harvest produce each week, which she sells locally, and she has also begun rearing poultry, using skills taught by the FFS.



Photo by Khalid Hossain Ayon



Photo by Kim Janssen



Photo by Khalid Hossain Ayon



Above: Aerial of flooding in Bangladesh during the monsoon season. Photo by CDG