



Sutarkhali Union,
Bangladesh // South Asia

LoGIC – Securing water in coastal Bangladesh

Country Information

Population

173.2 Million
(World Population Review, 2023)

UNFCCC National Adaptation Plan

Yes, 2022

Intervention Information

\$17.63 Million
Cost

2016-2025
Timeline

GINI

(Scale of 0-100)



(World Bank, 2017)

ND-GAIN Vulnerability Score

(Scale of 0-1)



(ND-GAIN, 2023)



Rationale for Selection

Cases were selected for review based on general screening criteria, including timeframe of intervention, location of implementation, and evidence-based outcomes, as available. This effort was highlighted for its focus on addressing the crucial barrier of local capacity for management and investment with climate adaptation financing and for facilitating locally-driven investments for adaptation in Least Developed Countries (LDCs).



Outcome Area(s)

Access to Climate Financing, Capacity-Building, Water Security, Coastal Resilience, Income/Livelihoods, and Gender Equality



Funding Partner(s)

Local Government Division of the Ministry of Local Government Rural Development and Cooperatives (Government of Bangladesh), United Nations Development Programme (UNDP), United Nations Capital Development Fund (UNCDF), European Union and Swedish International Development Cooperation Agency (SIDA)



Implementation Partner(s)

Government of Bangladesh, Sutarkhali Union Government, UNDP, UNCDF, the European Union and Swedish International Development Cooperation Agency (SIDA)

Context of Intervention

Bangladesh is ranked in the top ten of countries that are prone to extreme disaster risk. It experiences a broad range of climate-induced threats – from floods and landslides to droughts and extreme-weather events (tornadoes, cyclones). In the coastal areas, Bangladesh is vulnerable to both slow and rapid onset events, including increased salinity, rising sea levels, and cyclones.^{1,2} With its large coastline, salinity is a significant threat; it has increased over 25% in the last 35 years, including into non-coastal areas.³

In the southwest coastal region of Bangladesh, particularly in the Sutarkhali Union, residents confront multiple climate challenges (cyclones, tidal surges, riverbank erosion). Notable among these is the salinity intrusion, which decreases crop yields, disrupts local livelihoods, and intensifies drinking water scarcity.⁴ Due to increasing salinity in groundwater, residents' drinking water options have become limited to either inconsistent monsoonal rains or highly saline, often contaminated, water sources. Over 70% of the people in coastal regions lack access to potable water; traditional solutions to water contamination (reverse osmosis or deep tube wells) are expensive and inaccessible to most.⁵

The resulting health implications, particularly due to heightened salt consumption, are dire. This water scarcity creates detrimental consequences on child and infant mortality, leads to water-borne, heart and kidney diseases, impacts children's school attendance, poses maternity risks, and affects overall well-being. This challenge is particularly severe for local women, who bear the primary responsibility of fetching water, frequently traveling great distances to access non-saline 'sweet water' ponds.⁴

The consequences extend beyond drinking water; researchers note that salinity is critically impacting coastal biodiversity as well as primary production systems. The declining agricultural yields exacerbate the instability of local livelihoods. The number of hectares affected by salinity in 1973 in Bangladesh was 83 million, but in 2009, it was at 105 million hectares and continuing to rise.³

Description of Intervention

The Local Government Initiative on Climate Change (LoGIC) program is the second phase after the UNCDF implementation of Local Climate Adaptive Living Facility (LoCAL) in Bangladesh. LoGIC is a joint project of the United Nations Development Programme (UNDP) and the United Nations Capital Development Fund (UNCDF); in Bangladesh, it was designed as a four-year, nationally-implemented project by the Ministry of Local Government, Rural Development and Cooperatives, Government of Bangladesh (GoB). Initially launched in 2016, implementation was delayed due to challenges reaching consensus with GoB on eligible interventions, but it began in 2018.⁶ Based on the need to institutionalize to ensure sustainability and scaling of the LoGIC, the GoB and development partners agreed to extend the project until 2025⁷ with an aim to assist 500,000 households across ninety-four unions in nine districts of Bangladesh.

LoGIC prioritizes community-adaptive solutions; for Bangladesh, this ranged from water treatment facilities to sustainable rainwater harvesting. Focusing on 7 climate vulnerable regions in Bangladesh (Kurigram, Sunamganj, Khulna, Bagerhat, Barguna, Patuakhali, and Bhola), LoGIC extends the LoCAL program by promoting long-term capacities for local action on climate change in Bangladesh at scale. To do this, it aims were to: 1) strengthen local government and other stakeholder capacities for effective resilience planning and disaster risk management; 2) enhance access and efficacy of climate financing for investment in climate-resilient infrastructure and adaptive livelihoods; and 3) provide evidence for ongoing improvement in government (rural local government unit to national) on climate financing and intervention.^{6,8} Through strategic investments, capacity-building programs, and innovative tools, LoGIC aims not just to provide immediate assistance but to build a sustainable, resilient future for the region.

The example in Bangladesh shows the value of the LoGIC approach and the importance of locally led adaptation in responding to climate emergencies. Under the guidance of the Local Government Division and as an extension of UNCDF's LoCAL, interventions in Sutarkhali Union included the introduction of rainwater harvesting, re-excavation of a sweet water pond, and a water treatment plant providing 5,000 liters of purified water daily to 1,200 residents in the affected community. For sustainability, an Automated Teller Machine (ATM) was installed at the plant that allowed users to purchase water at a subsidized rate. Over the course of a year, the plant generated \$1,200 in revenue from water sales and managed to save \$120 after covering all expenses.⁴ This allows for the self-sustaining of the intervention, including resources for repairs. LoGIC's investments span beyond Sutarkhali, encompassing broader sections of Bangladesh's coastal region. By establishing water treatment facilities and promoting rainwater harvesting systems, residents have access to purified water at a minimal cost.



Intervention Funding

The Local Government Initiative on Climate Change (LoGIC) project in Bangladesh received financial support from a range of international development actors - with funding support from the United Nations Development Programme (UNDP), the United Nations Capital Development Fund (UNCDF), the European Union, and the Swedish International Development Cooperation Agency (SIDA). Nationally, it is also supported by the Government of Bangladesh. Like other LoGIC interventions, UNCDF provides Performance Based Climate Resilience Grants (PBCRG).⁴ These grants provide supplementary funding to the generalized fund for all Union Parishads from the Government of Bangladesh. For the example intervention, it also provided supplementary funding to the Sutarkhali Union's Engineering Department; the project had a budget of \$19,000 USD, \$17,500 USD from the LoGIC PBCRG.

Outcomes from the Intervention and Dissemination

As a strategy focused on not only reducing the impacts of climate on a region, but capacity-building effort for local engagement and implementation, LoGIC is more likely to seed long-term resilience and have impacts that can be sustained.

Strengthened Local Collaborative and Implementation Capacity

Implementation of the LoGIC model, with locally-led adaptation, has provided proof-of-concept for the Local Government Division (LGD) of the GoB to integrate into their planning and their National Adaptation Plan (NAP). By integrating climate adaptation strategies into local governance and emphasizing community involvement, LoGIC fosters a shift towards localized problem-solving. The LoGIC success was noted in the Government's Mujib Climate Prosperity Report 2030 and presented at COP26. Further, as part of the LoGIC project, local government now has a Climate Vulnerability Index for each region to inform allocating resources for climate adaptation.⁶ By focusing on strengthening local community resilience against climate disruptions, LoGIC is an innovative solution with potential for sustained impacts.

Strengthening Local Resilience

For the example regional implementation, the project addressed the Sutarkhali Union's pressing issues related to salinity intrusion. In practical terms, this meant the re-excavation of a sweet water pond in the Sutarkhali Union, ensuring a sustainable, non-saline water source. Additionally, a water treatment plant with sustainable cost recovery significantly reduced the water-fetching burden that fell on women.

Efficient and Sustainable Resource Allocation

LoGIC offers a systemic approach to deliver climate finance to the most vulnerable people and to local governments with lower transaction costs and higher adaptation benefits.⁶ With local and international collaboration, the approach demonstrates the potential of holistic, multi-agency interventions. Efficient resource allocation, including significant funding for initiatives like the water treatment plant and multi-sectoral co-financing, assures greater likelihood of longevity of the solutions.

Inclusive Development

Importantly, 70% of the LoGIC project's funds are dedicated to enhancing the adaptive capabilities of the most vulnerable groups,⁶ with direct benefits reaching over 1.1 million people, of which 63% are women. This commitment to sustainability, community engagement, local and women empowerment underscores LoGIC's transformative approach in tackling climate change challenges. Similar to the LoGIC project, the LGD of the GoB is setting up a dedicated Climate Resilience Fund (CRF) for the most climate-vulnerable women to build resilience and improve livelihoods through small-scale grants as part of their NAP.

Scaling and Replicability

Beginning with their LoCAL initiative in Bangladesh and extending to the LoGIC project, this intervention strategy has a design for scaling inside of a country and replication elsewhere by integrating the work into the governance structures. Nationally, the proof-of concept provided evidence for scaling nationally. As a joint project of the UNDCF and the UND, the evidence also provides rationale for highlighting the approach as a global best practice model.⁶

Considerations

Community-Centered Approach

Critical to the efficacy of an approach like LoGIC is having the focus of the adaptation centered on community-identified challenges and the unique context of the intervention. For example, understanding the unique challenges faced by the community in Sutarkhali Union, such as women's daily arduous trips to fetch water, was critical to tailoring the intervention to meet specific needs. Although what form this takes may vary by a number of factors, including cultural influences and governance, such a community-centric approach ensures that the proposed solutions are relevant, sustainable, and have immediate impact.

Integration with Local Government

Also critical to the efficacy of the strategy is the capacity building for implementation, integration for sustainability, and leveraging local government as a disseminator. Not only does this harness local knowledge and insights and ensure that solutions were aptly contextualized, but it also fosters ownership and responsibility for the initiatives.

Empowering Women

Given the role of women in the well-being of families, especially in low-income communities, capacity building and financing that focus on the empowerment of women has become a key strategy. To that end, LoGIC project funds target women, and the GoB national fund is slated to also target women, as it identified in its NAP. For example intervention, there was clear recognition of the gendered division of labor in securing water. Since women are most impacted by limited water access (care-taking, cooking, etc.), the project was designed with the intention of empowering women.

Multi-Stakeholder Collaboration and Coordination

Many successful interventions that are also scalable have a common thread of coordinated efforts for greater impact. As an example for LoGIC, the project was a confluence of efforts from the Government of Bangladesh, UN bodies, and European partners. Such a broad coalition meant a pooling of resources, knowledge, and technologies, ensuring that the project was both well-funded and technically sound. The co-financing model diversified the sources of investment and broadened accountability.

Citations

¹ United Nations Development Programme (2023). Draft Climate Vulnerability Index (CVI): Local Government Initiative on Climate Change (LoGIC) Project.

² Ministry of Local Government, Rural Development and Cooperatives, Government of People's Republic of Bangladesh (2018). Local Government Initiative on Climate Change (LoGIC) Project - Baseline Survey Report. Retrieved from https://info.unep.org/docs/pdc/Documents/BGD/LoGIC%20Baseline%20Final%2028%20July%202019_Final.pdf

³ Inter Press Service (2019). Climate Change-Induced Salinity Affecting Soil Across Coastal Bangladesh. Retrieved http://www.ipsnews.net/2019/01/climate-change-induced-salinity-affecting-soil-across-coastal-bangladesh/?utm_source=rss&utm_medium=rss&utm_campaign=climate-change-induced-salinity-affecting-soil-across-coastal-bangladesh

⁴ Hasan, J., & Ariba, T. C. (2021). Every Drop Counts: Increasing Water Security in Coastal Areas of Bangladesh. UN Capital Development Fund (UNCDF) Retrieved <https://www.uncdf.org/article/6799/every-drop-counts-increasing-water-security-in-coastal-areas-of-bangladesh>

⁵ Biswas, K. (2023). Drinking Water for coastal people in Bangladesh. Bangladesh Environment and Development Society (BEDS). GlobalGiving. Retrieved <https://www.globalgiving.org/projects/support-drinking-water-to-the-poor-coastal-people/>

⁶ Slater, R., Das, S., Iyer, S. S., ul Huq, S., Khatun, F., Mishra, P. K., & Srivastava, N. (2022). Mid-Term Evaluation of the Local Government Initiative on Climate Change (LoGIC). UNDP Independent Evaluation Office

⁷ United Nations Development Programme (2023). Local Government Initiatives on Climate Change. Retrieved from: <https://www.unep.org/bangladesh/projects/local-government-initiatives-climate-change-logic>

⁸ United Nations Development Programme Independent Evaluation Office (2018). Terms of Reference. Mid-Term Evaluation of the Local Government Initiative on Climate Change (LoGIC)

