

BANGLADESH

Climate Adaptation and Livelihood Protection (CALIP) – Scaling Up Best Practice and Testing New Adaptation Interventions in the Haor Infrastructure and Livelihood Improvement Project (HILIP)



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ISSUES

Bangladesh is one of the world's most vulnerable countries affected by climate change. During the monsoon period, the Haor region of Bangladesh becomes completely inundated with 4-8 metres of water for around 6-7 months of the year.

Flash floods are common, and in some years 80-90 per cent of crops are lost because of extreme weather events. The situation is expected to worsen as a climate change-related shift towards pre-monsoon rainfall is coinciding with the paddy rice pre-harvest period. This severely affects food output in the Haor, which provides up to 16 per cent of national rice production.

The lack of a robust weather and flash flood forecasting system is a major drawback for farmers to assess risk accurately. At best, a three-day advance warning is provided through family networks to downstream inhabitants, which is insufficient for rapid rice harvesting and transport to safe ground.

Large-scale deforestation in the Haor region has stripped away the natural barriers that historically have reduced the impact of waves; today the Haor is affected by waves up to 3 metres high during the flood period. This is set to worsen with climate change and make more areas inaccessible.

ACTIONS

CALIP will be embedded in and enhance the following two components of HILIP:

- **Community infrastructure** including village protection works. CALIP will support the protection of village roads and market infrastructure against damaging wave action in the Haor basin. Engineering models for village protection will be tested and the most effective options will be scaled up by the project. In parallel, reforestation at the landscape level will help recreate natural wave barriers. Vegetative solutions such as vetiver grass will be used as an alternative slope stabilizer. These



Investing in rural people

Adaptation for
Smallholder
Agriculture
Programme

ASAP

Launched in 2012, the Adaptation for Smallholder Agriculture Programme (ASAP) channels climate and environmental finance to enable smallholder farmers who participate in IFAD projects to increase their resilience. Through ASAP, IFAD is systematically integrating climate resilience into the overall IFAD portfolio.

PROJECT SUMMARY

Total cost: US\$133.0 million

Approved IFAD loan:
US\$55.0 million

ASAP grant: US\$15.0 million

IFAD grant: US\$1.0 million

Cofinancing:

Spanish Food Security
Cofinancing Facility Trust
Fund US\$30.0 million

Other contributions:

People's Republic of
Bangladesh US\$32.0 million

Project period:

9 years (2012-2020); ASAP
funding: 6 years (2014-2019)

Executing agency:

Local Government Engineering
Department (Ministry of Local
Government Rural Development
and Cooperatives)

ASAP beneficiaries: 240,560

Project objectives:

To strengthen the community
and ecological resilience
to climate change in the
Haor region.

investments will also have significant carbon sequestration potential, which is a side benefit of CALIP assistance. Complementary to the village protection works, CALIP will establish emergency flash flood platforms for temporary storage of rice during flood periods. Community organizations such as market management committees will receive weather and flash flood forecasts.

CALIP will diversify income-generating options for vulnerable smallholders. This includes strengthening of small entrepreneurs and working with indigenous vegetative species and pond fisheries in high ground areas. The project will promote improved handicraft manufacture using local materials and non-farm vocational training relevant to the Haor region such as boat-building, engine-repairing and bamboo-curing.

- **Livelihood protection** will introduce new technologies and linkages between smallholder farmers and local/regional markets; provide hands-on training and practical experience in establishing climate-relevant businesses; and build on the demand for village and road protection works to provide lucrative business opportunities for smallholders.

In addition, CALIP is introducing a specific component on knowledge management:

- **Capacity and knowledge for building resilience.** A number of research activities will help public and private institutions to better understand climate change impacts and the implications for livelihoods in the Haor region. Under this component, a flash flood early warning and weather information system will be established to reduce crop losses. With a longer-term perspective in mind, this component will support climate-sensitive pro-poor policy dialogue which helps to strengthen local access to the control and management of natural resources.

EXPECTED IMPACTS

CALIP will build resilience to climatic hazards in the Haor region and strengthen the natural, physical, social, human and financial capital of over 240,500 smallholder farmers. Working in the same five districts as HILIP, CALIP will achieve the following impacts:

- Participating households are enabled to diversify livelihood and income streams, improve their risk management based on

better access to information, enforce land use rights and achieve greater security from avoidable climatic hazards.

- Women in particular benefit from greater food security during flood periods and access to diversified income-generating activities.
- Low-cost, robust village protection systems that can be replicated using local materials protect exposed villages from intensive wave action and:
 - Decrease by 70 per cent the number of houses destroyed by wave action
 - Protect 224 villages against wave action.
- Four pilot model villages for resettling poor families are developed. These model villages are designed with sound engineering principles, such as low-cost slope stabilization, swamp forests, walkways, communal sanitation and potable water. Villages also have renewable energy technologies and storage facilities.
- Canals and *beels* (lake-like wetlands with static water) are excavated to improve navigation and water-carrying capacity. A major challenge will be to keep the excavated earth from washing back during the monsoon season. CALIP will pilot the use of vegetation to retain excavated soil in situ and test the protection of 20 *killas* (raised earthen platforms) built by excavated earth using vetiver grass and local trees.
 - 20 *killas* and 30 *beel* banks protected using vegetative species.
- CALIP introduces vetiver grass to protect the slopes of all-weather roads built by HILIP.
 - 50 kilometres of road slope protected with vetiver grass.
- Climate-resilient value chains are promoted based on an analysis of potential products.
 - Over 120,000 people diversify their income streams
 - Nearly 140,000 people trained in diversified production technologies.
- Action research addresses current gaps and forms the basis of policy briefs to strengthen climate-sensitive policy frameworks, such as the Bangladesh Climate Change Strategy and Action Plan. Capacities for forecasting flash floods and early warning systems are developed with national partners.

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