



IMPACT BRIEF

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Bangladesh

Coastal Climate Resilient Infrastructure Project (CCRIP)

About the project

Objective. The Coastal Climate Resilient Infrastructure Project (CCRIP) aims to improve the connectivity of remote, poor households in southwest Bangladesh by making community markets more resilient to flooding, improving their facilities and management, and constructing flood-resistant roads connecting these markets. The project also aims to empower women by providing employment and training through labour contracting societies.

Financing. The project, with a total cost of US\$150 million, is jointly funded by IFAD (which contributed US\$40.5 million), the Asian Development Bank (ADB), the German Development Bank (KfW), and the Government of Bangladesh.

Timing. The project started in 2013 and is expected to be completed by the end of 2019. The executing agency is the Local Government Engineering Department. The IFAD part of the project is being implemented in 12 districts across 3 divisions of the country.

The project's theory of change

CCRIP aims to increase the incomes of beneficiaries by improving their **access to markets** for selling their goods and purchasing inputs. In the project areas, market access is poor, especially during the monsoon season, when markets and roads become flooded and unusable. To address this challenge, the project improves community markets by installing raised areas and drainage systems to prevent flooding, provides facilities such as toilets and river docks, and provides training to market management committees. In addition, the project constructs flood-resilient roads that are raised and lined with vetiver grass. It trains and employs members of labour contracting societies (LCS), whose members are mainly destitute women, to complete the construction work. The project also provides women's market sections (WMSs) in some markets.

Through these activities, CCRIP is expected to **reduce transport time and costs** for buying and selling, create higher local demand for produce, and promote local employment and business opportunities. In improving access to agricultural inputs, the project is also expected to **improve agricultural productivity**. These effects are expected to increase household income and to smooth income across seasons. With improved market access, households could also diversify their income sources, further increasing their **livelihood resilience**. With increased incomes, it is also expected that food security, education and asset ownership will improve. Through the project's LCS and WMS activities, CCRIP is expected to increase women's empowerment by improving their income-generating capacity.

Project outreach and outputs

Determining the overall impact of the project requires first understanding whom the project reached and what outputs it generated.

Total beneficiaries (expected by completion): **3.5 million**

Markets improved (expected by completion): **178**

Roads constructed or strengthened (expected by completion): **355 km**

LCS members trained and employed (expected by completion): **5,000**

Project impact

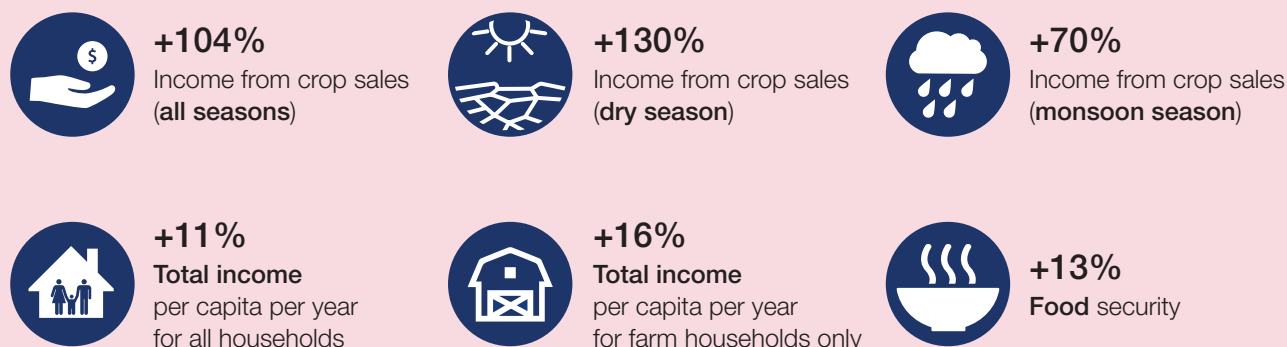
As part of IFAD's Development Effectiveness Framework, CCRIP has been subject to a rigorous impact assessment.

Data and methods

CCRIP's impact was estimated using a combination of quantitative and qualitative surveys. A reliable counterfactual group was created using market-level data, GIS data, and consultations with experts including project staff.

Suitable treatment and control markets were first selected from the three project divisions, and then households were randomly selected from two catchment areas: (1) those within 2 km of the market and 1 km of the connecting road, and (2) those within 2 km of the market but not 1 km of the road. In addition, household-level statistical matching was performed to improve the quality of the counterfactual. This process resulted in a final dataset, which covers 1,118 treatment and 1,552 control households.

Key impact estimates



CCRIP had a positive impact on total household income and on income from crop sales in both the dry and monsoon seasons. Results show that although beneficiaries' agricultural productivity did not increase, thanks to improved market access they were 11 per cent more likely to sell at market than at home or the farm gate, sold 5 per cent more of their harvest, and were 8 per cent more likely to cultivate high-value crops, and thus increased their on-farm income. For the full sample, the impact on crop sale income was **104 per cent**, which increased to 108 per cent for households located within 1 km of the market. Qualitative interviews pointed to the greatly improved accessibility and functioning of markets as a key factor in this impact. Better-managed markets with more participants now collect higher rents that are used to operate and maintain the markets in a sustainable manner.

The project improved total household income by **11 per cent**. When the sample is split between farm and non-farm households, the income effect for farm households rises to **16 per cent** while it is not significant for non-farm households, suggesting that CCRIP's market and road improvements did not improve off-farm income-generating opportunities for these households. The impact on income was higher for households located farther from the connecting roads, which are poorer than those located closer to the roads.

In addition, the project reduced the likelihood that households had experienced food insecurity in the past year by **13 per cent**, but it did not improve dietary diversity. This finding may reflect the pro-poor focus of the project, which helped the poorest households meet their basic food needs but had less impact on richer, food-secure households for whom dietary diversity is a greater concern.

The project was not found to have improved women's autonomous income generation or their involvement in household decision making on the whole. For non-Muslim households, however, the project was found to have an impact on those indicators, suggesting that the broader social context that constrains women may have played a role in the lack of impact on women in Muslim households.

About the brief

This brief draws upon the findings of an IFAD-funded impact assessment of CCRIP in Bangladesh, which was prepared by Aslihan Arslan, Daniel Higgins and Saiful Islam.

The impact assessment report on CCRIP is available upon request.

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Lessons learned

- **Focused infrastructure projects** that improve the climate resilience and accessibility of local markets can **greatly increase income** from crop sales, leading to increased total income.
- This type of support can prove especially beneficial for the **most remote, poorest households** in terms of increasing their income and food security.
- Agricultural productivity does not necessarily increase with improved access to output markets. **Further support should be provided to improve agricultural productivity and encourage crop diversification**, which can be achieved by providing farmers with training, improved technology, and better access to and more affordable inputs.
- Additional interventions are needed to extend the effects of improved market access to other important livelihood sources, such as livestock and fish production and sales, as well as off-farm income generation. **Activities that are better adapted to local contexts** may be an effective way to achieve this. Qualitative interviews reveal that solving local barriers to credit access and skills acquisition are key to stimulating off-farm income generation.
- Providing complementary capacity-building support to the institutions that manage the markets, as CCRIP did, can improve the operation and maintenance of markets, thus bolstering the **sustainability of project impacts**.
- **The barriers faced by women in traditionally conservative contexts deserve special attention.** In the case of CCRIP, results on women's empowerment were mixed due to remaining constraints on their mobility and participation in the economy. Based on the success of such initiatives in countries including Egypt and Uganda, future projects could provide multifaceted support to improve women's hard and soft skills, provided within a safe space environment, and involve the wider society to ensure the sustainability of impacts.

