



Knowledge Product

Suchana:

Ending the cycle of undernutrition in Bangladesh

Climate resilience technology: aquaculture



Introduction

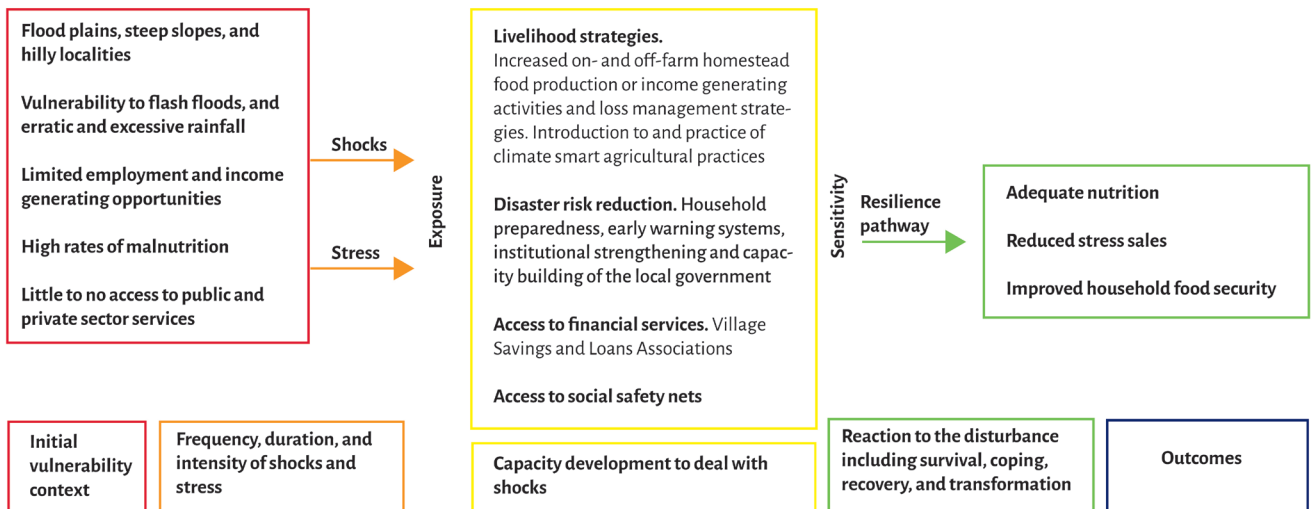
Suchana interventions focus on the reduction of risks to adapt to the impact of climate change on nutrition, in order to improve the resilience of poor communities and households.

Suchana works in areas that are the most vulnerable to flash floods and heavy and erratic rainfalls that exceed 3,000 mm.

The programme works in the reduction and adaptation of the impacts of climate change on nutrition, and to increase the resilience of poor communities and households.

Suchana's disaster risk reduction and climate change adaptation interventions focus on small-scale farming innovation and adaptation. These interventions are based on climate-resilient production technologies that focus on horticulture, poultry and fisheries, and early planting. These are in aid of improved income generation, nutrition education, financial inclusion, and social safety nets.

Suchana resilience framework





Context

Bangladesh has ranked seventh in the Global climate-risk Index 2020 amongst the most affected countries by climate change in the past 20 years. These changes have amplified the risk of undernutrition, and magnified livelihood insecurities. The Sylhet Division suffers from the following instances of rainfall annually:

- Erratic rainfall for 4 to 12 days for 2 or 3 days in the months of October and November
- Early monsoon and flash floods in March. This normally goes on till April and continues till mid-September
- 3 occasions of flash floods annually. The first takes place in March, a second serious one in April, and the third in May or June. These occasions of flash flooding have increased in intensity and numbers over the year
- For the past 5 years, the flooding has lasted an average of 13.3 days a year. 2020, however, had the most flooding, due to 4 flash flood incidents

Climate-resilient production technologies in aquaculture

30% of Suchana beneficiaries have access to ponds and other small water bodies, and were selected to receive support on nutrition-sensitive fish and vegetable production. This focused primarily on carp and tilapia polyculture, mono-sex tilapia as quick-growth alternatives, and the production of small indigenous fish and local vegetables. With climate change impacting even the aquaculture

sector, Suchana introduced the following climate-resilient technologies to aquaculture beneficiaries. These technologies were introduced to beneficiaries through their nutrition groups (Pusti Dol).

- **Time adjustment in production cycles in both flood-prone and non-flood-prone areas.** Sylhet has suffered from above-average levels of rainfall and flooding in 2019 and 2020. Excessively high water levels have meant that fish farmers suffered from fish swimming away with the rainwater. Suchana is thus working with fish farmers to adjust their production cycles in order to ensure fish are cultured and sold or consumed before they swim away
- **Introduction of quick-growth species like mono-sex tilapia.** Quick-growth species like mono-sex tilapia are nutritious, and require lower investments in terms of time and labour. The farming of this species is also ideal for women who might not have much in the way of support in fish cultivation, and are eager to earn livelihoods through fish sales
- **Net enclosure to protect fish from flood water.** Net enclosures are an artificially enclosed area in the ponds, that protect the fish from being washed away in flood waters. These enclosures are made using cheap raw materials, and are suitable for use for several consecutive seasons. The production of fish in these enclosures, as well as their quick and simple harvest render this method suitable for continuous supplies, both for homestead consumption and for commercial fishing

- **Raised pond dykes** that keep fish safe from swimming away in flood waters. These dykes are sometimes constructed with the support of sandbags, thereby ensuring their stability and resistance to external water pressures
- **Demo ponds** act as resource centers to showcase different steps of improved fish farming, and the subsequent results arising from the usage of improved technologies and practices related to aquaculture and horticulture. These ponds support both non-beneficiary and beneficiary groups in the region

Results of climate resilience technology in aquaculture

- 81% of Suchana's HFP aquaculture beneficiaries have adopted more than one climate-resilient technology in fish cultivation
- 82% of Phase 2 beneficiaries have adopted at least one climate-resilient technology
- Beneficiaries of Suchana's homestead food production (HFP) in aquaculture were more eager to adopt climate-resilient technologies than those involved in aquaculture as an income generating activity (IGA)
- 76% of HFP beneficiaries adopted climate-resilient technologies, in comparison to 73% of their IGA counterparts
- 70,984 beneficiary households were introduced to climate resilience technologies in horticulture, aquaculture, and poultry rearing
- Aquaculture beneficiaries having adopted climate-smart technologies now sell and consume 67 kgs of fish on average per season now, in comparison to 40 kgs to 45 kgs produced prior to their engagement in the intervention
- 76.6% of IGA aquaculture beneficiaries from 2019 to 2020 have reported increased profits due to their adoption of improved technologies
- Increased access to fish for HFP aquaculture beneficiaries have resulted in improved dietary diversity for the beneficiary households (BHHs). These BHHs have reported to consuming 4 to 5 different types of food groups in a single day

- 158,228 BHHs from Suchana's Phases 1 to 3 are practicing climate-resilient livelihood options in aquaculture, horticulture, and poultry rearing. Phase 2 and 3 beneficiaries were more eager to adopt these technologies, as they were more aware of the need to adopt climate smart production technologies
- 2,235 training sessions on climate-resilient technologies were conducted for Suchana's nutrition groups from 2019 - 2020

About Suchana

Suchana: Ending the cycle of undernutrition in Bangladesh is a multisectoral nutrition programme that aims to reduce chronic undernutrition leading to stunting among children under two years of age living within 235,500 poor and very poor households in the Sylhet and Moulvibazar districts of Bangladesh. The programme involves an integrated approach to nutrition-specific and nutrition-sensitive interventions, and is a sustainable and replicable model that can be scaled to other regions.

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