

Community Acceptance

Acceptance of these floating shelters by the community was overwhelmingly positive with the community expressing high enthusiasm toward the innovation. Many people within the surrounding area regularly visit the innovative shelters and ask various questions concerning cost and compatibility with regard to increasingly variable climatic events. Discussions with the community reveal that they do appreciate the innovation.

Models of the floating shelters have been displayed in a local fair in order to demonstrate the benefits of the innovation in adapting to climate change. Visitors in the fair including the government officials enquired about the floating shelters and showed keen interest in those.

The Experiment Continues! In order to make the shelters affordable, alternative materials have been used particularly in the area of designing, roofing and lighting. Also, new designs are being considered for dry land. Detailed results including sustainability and replicability of the floating shelters will be generated over time to see whether these have widespread acceptance, or the communities themselves have constructed their own shelters and are reaping the benefits in times of enhanced climatic disasters including: flood, river erosion, and water logging.



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Floating Shelter for Vulnerable Families

An Innovative Adaptation Approach to Reducing Climate Change Risks and Vulnerabilities in Bangladesh



A research project of
Bangladesh Centre for Advanced Studies (BCAS)

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Background

In Bangladesh, every year thousands of families are affected by flooding, river erosion, and water logging which make their dwellings unsuitable to occupy. These natural disasters partially or completely damage thousands of homes belonging to the poor. Scientists predict that both frequency and intensity of these disasters will increase over time. Whenever climatic disasters occur, vulnerable people are forced to leave their homes and migrate temporarily to safe locations. This affects their livelihoods. It is widely known that existing flood shelters do not attract the flood victims to take refuge as the shelters often lack basic facilities such as cooking arrangements and cattle sheds for example. Also, they do not want to go to the shelters leaving behind their assets in their flooded homes. To mitigate this temporary migration and sustain the livelihoods of both flood and water logging victims, floating shelter as an innovative solution was developed by the Wetland Research and Training Centre (WRTC) of the Bangladesh Centre for Advanced Studies (BCAS) in 2010 with support from Norwegian Church Aid (NCA).

In general the poor live in vulnerable locations with their homesteads exposed to river erosion, flooding, and water logging that precipitate the causes of their displacement. Having kept this objective in mind the floating shelter was chosen and experimented with as an adaptation action. The objective was to discover whether this innovation can deliver pro-poor benefits by reducing their vulnerability to these potential disasters.

Purpose

By experimenting with floating shelters the main purpose was to ensure that people stay in their dwellings during flood events, river erosion, and water logging whilst simultaneously allowing them to carry on normal activities such as education and income generating activities.



Genesis

At the beginning of the experiment, relevant questions were asked by the researchers, principally whether it is possible to build a low cost floating shelter affordable to the poor. Apart from the cost, design, size, types and availability of the materials required to construct the floating shelter was considered beforehand. Another question asked was whether these shelters are compatible during all seasons and they can withstand extreme climatic events such as flood, water logging, storm etc. Other considerations taken into account were whether the beneficiary families were comfortable in using the floating shelters. Research ideas and key questions were shared with the local community for the purpose of getting their views and acceptance of the experiment.

* The idea of researching and constructing the floating shelters for the poor was first conceived by Sarder Shafiqul Alam, a Fellow of Bangladesh Centre for Advanced Studies (BCAS) though gypsies in Bangladesh have traditionally been living on boats and move from one place to another.

Features

Following stakeholder consultations with the local community on three different designs, a total of 12 floating shelters each with a capacity to accommodate a 5-6 members family was built for use during the disaster period (approximately 3-4 months). The floating shelters were furnished with all essential facilities, including accommodation, kitchen, lights, drinking water, toilets, and arrangement for Income Generating Activities (IGA) specially for women members. Apart from the basic facilities and opportunity for IGA, rainwater harvesting system was installed inside the shelters to ensure safe drinking water during the monsoon and other turbulent periods.

The floating shelters are easy to construct and dismantle. Building and dismantling can be easily done with minimum time and labour. Solar lights were installed helping the students to study and adult members to carry on IGA during night time.

To protect the shelters from the detrimental effects of high wind speed during storms, extra precautions were taken; by tying the shelters to bamboo poles with rope. Anecdotal evidence suggests that the shelters are climate-proof even during extreme weather anomalies; not incurring any visible damage.



Major materials required to build a floating shelter include: bamboo, tents, SHS (solar home system) steel frame, plastic drums, plastic ropes, PVC pipes, portable stoves, toilet pans etc.

Costs

Total costs to construct a floating shelter stand at BDT 32613 equivalent to USD 470. However, without the provision of SHS the cost reduces significantly to BDT 20,000 equivalent to USD 285. Costs can further be reduced if polythene and jute sticks are used as roof materials instead of ready made tents.



Challenges

Major challenges faced in the experimentation and construction of the floating shelter include an absence of skilled labour, unavailability of raw materials and technical equipment such as the SHS in the local markets.