

D.4 Bangladesh- 1975 - Conflict - People displaced

Case study: Shelter upgrades

Project type:

Cyclone-resistant shelters in camps for the displaced

Disaster:

Bangladesh War of Independence, 1971

No. of people displaced:

Hundreds of thousands

Project target population:

Three camps

Occupancy rate on handover:

100%

Shelter size

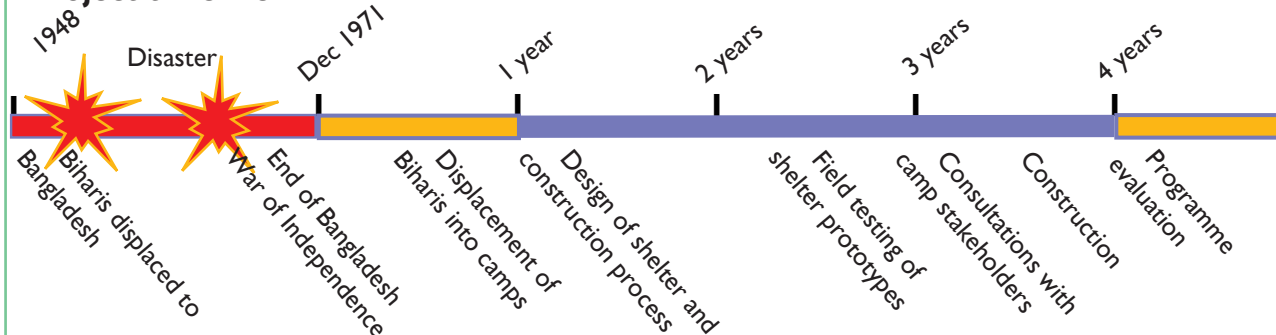
Various



Summary

Long-term camps for displaced stateless populations were upgraded using cyclone-resistant shelter designs made from local materials in order to reorganise and upgrade small camps along community cluster designs.

Project timeline



Strengths and weaknesses

- X Shelters made from local materials were successfully designed to withstand strong winds.
- X Small clusters of shelters allowed for privacy and for community support.
- X Reorganisation of the camp layout gave more personal outdoor space to each family and allowed for better drainage.

- X Implementation was quick, due to use of locally available materials.
- W The A-frame design was structurally sound but reduced indoor space and made extension of shelter difficult.
- W Lack of involvement of the target population in the design process resulted in lower levels of beneficiary satisfaction post-occupancy.

Before the upgrading of the camps

Hundreds of thousands of Urdu-speaking Biharis migrated from eastern India to what was then East Pakistan during the partition period of 1948. During the Bangladesh War of Independence in 1971, the Biharis sided with the Government of Pakistan. After the surrender and evacuation of Pakistani armed forces, the Biharis were left behind, declared to be enemy citizens by the new Bangladesh government, denied the right to resettle in Pakistan by the Pakistan government, and were rendered stateless.

During the 1972-1974 period, the Biharis were displaced into camps, often under force from the Bangladeshi authorities. A number of those camps were scattered on marginal lands on the periphery of Dacca. In 1972, some NGOs had given shelters or shelter materials to the camps, but the camp layouts were often poorly organised, and the shelters themselves had not been upgraded since that point.

In 1974-75, local police forced some of the Biharis into new camp sites. This had the initial effect of making NGOs reluctant to support the camps, in case they were seen as supporting the government policies. This attitude only changed after April 1975, after storms had caused major damage to some camps.

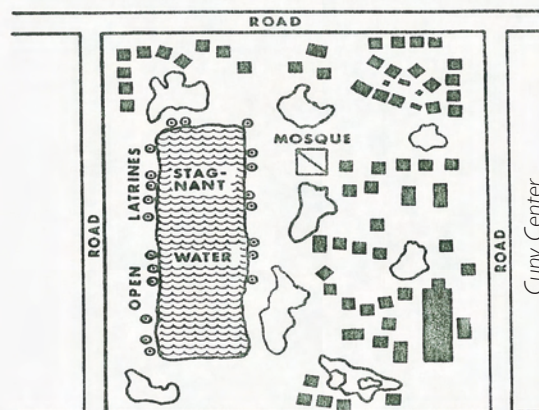
The Intertext consultancy had been working with US university researchers on the development of emergency shelter designs and implementation processes since late 1973. In 1975, they were given donor assistance to deploy shelter prototypes in the field. After that, Intertext persuaded NGOs working in three different camps to use their designs for shelters, camp layout and construction processes.

The aims of the research project had been to design shelters that:

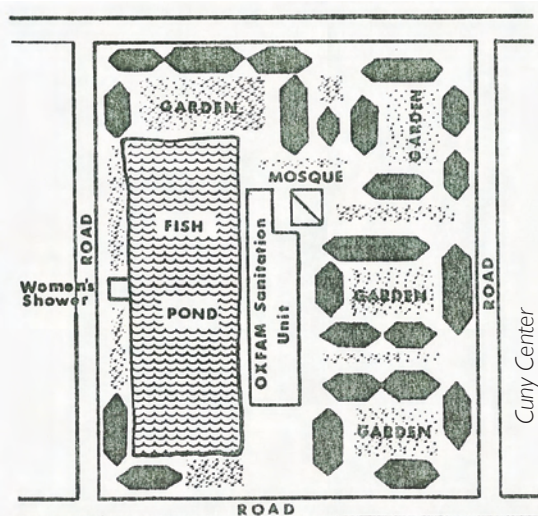
- would be sustainable and resistant to hazard;
- could be constructed by the beneficiaries;
- would instruct the beneficiaries in hazard-resistant design through the construction process; and
- could be made in large numbers, and could be made out of low-cost, local materials.

MIRPUR REDEVELOPMENT PROJECT

Original Conditions



After Reconstruction



A joint project of:

CMU
INTERTEXT
MCC
OXFAM
UNICEF

Site plans before and after upgrade

After the upgrading of the camps

There continued to be very minor technical issues with the structures themselves. These issues, such as the angle and placement of the windows, were easily fixable by the occupants. However, it was noted that the families did little if anything to improve or adapt their shelters.

Later assessments showed that although the beneficiaries were generally satisfied with their new shelters, the A-frame design made it difficult to make extensions or additions. There were also complaints that although the A-frame was highly resistant to high winds, it also reduced the head height.

In general, the lack of beneficiary participation in the design process was seen in the reduced sense of ownership or responsibility after occupancy.

Selection of beneficiaries (and assessment)

People were largely self-selected by arriving at the camp. All families in the camp were eligible for the new shelters. Assessments of beneficiary satisfaction (and the reasons for any dissatisfaction) were included in the project's final report of October 1975. Members of the consultancy team made further assessments in 1977.

Land rights / ownership

The Bihari camp residents continue to be stateless (recent rulings give the option of Bangladeshi citizenship only to later-born generations) and do not own the land.

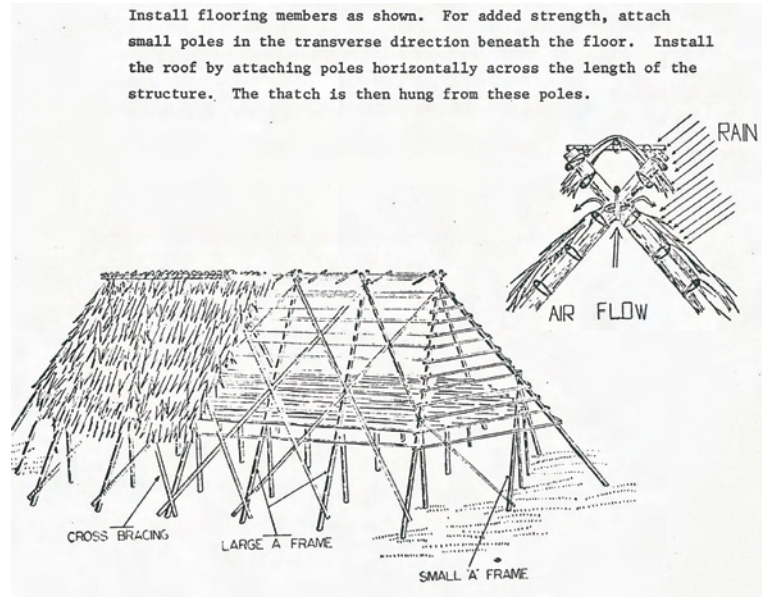
Technical solutions

Multi-family shelters were designed using bamboo poles, palm thatch, matting and jute rope. The design was that of an A-frame with cross-bracing, which had performed best in strong-wind tests back in the US.

The shelters built in the camps also had raised floors to protect the families from flooding. A small number of alternative models were made with varying lengths and for varying numbers of families.

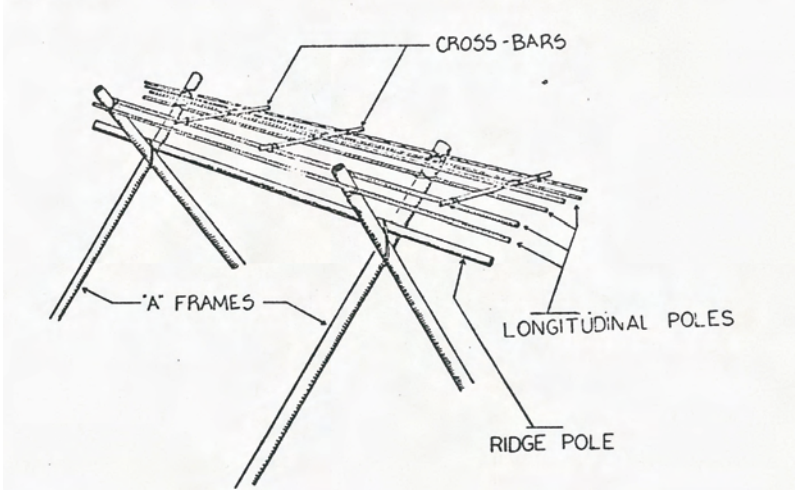
The consultant recognised that most post-natural disaster situations generally required single-family shelters that could be built on each family's plot. But it was felt that in the planned camps for the Biharis, with very limited amounts of space, the multiple-family shelters were appropriate. The same basic design principles could be used for single-family shelters if required.

The layout of the camps was based upon small U-shaped clusters of shelters. These were later simplified to square clusters in some camps. Space within the U was intended for the use of women, particularly those observing purdah. The areas outside the U shape, along the access routes through the camp, were intended for use by the men. In this way, the public men's area was also intended to be made available for workshops or other livelihoods activities, and also gave each community more control over the public space nearest their shelter cluster. Washing and cooking areas were contained within each cluster.



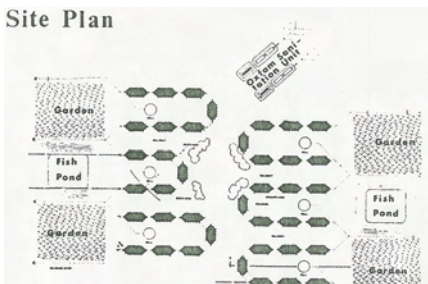
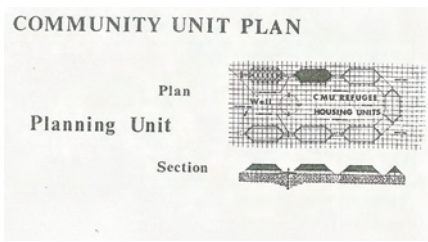
Cuny Center

At the top of the shelter, longitudinal poles should be attached as shown.



Cuny Center

Shelter design details



U-shaped community block plans

Implementation

Two prototypes of the shelter were built in the field under the supervision of the university/consultant team and were occupied by refugee families. Based on observations of environmental issues, minor changes in structure were made. After further consultations with camp stakeholders (local government officials, NGOs, camp residents), the upgrading was started in phases, with sections of the camp being upgraded in rotation.

It was estimated that it would take a multi-person team two days to build one shelter, with different small teams assembled to take charge of different simultaneous tasks. However, problems were encountered in instructing the work teams in both the design and the construction techniques. The manuals

previously designed in the US were too cumbersome and too detailed.

The work teams preferred to be trained verbally, but this slowed down the rate of construction. This meant that large-scale production of the shelters would be impossible or would have to rely on large numbers of trainers and supervisors. Eventually, flip charts with simplified graphics were also developed for use in the project.

Logistics and materials

The basic materials were provided to the refugees by the humanitarian organisations. All materials were available locally.