

# Flooding in Bangladesh

## Teacher's Notes

Imagine what it must be like?



### Imagine what it must be like?

Ask children for their responses. What do they think has happened? If they were a child in this situation, how might they feel?

For many people living in Bangladesh, flooding each year has become normal

Why?



### Flooding in Bangladesh

Most of the country is a floodplain – it is low lying land intersected by 230 rivers. The three main rivers are called the Ganges, the Brahmaputra and the Meghna. Heavy monsoon rainfall means that the rivers cannot carry the volume of water and frequent flooding occurs. Along the coastline, there is a large delta formed by these main rivers and it is low lying. Frequent storm surges (very high tides) sweep in from the tides in the Bay of Bengal.

In 2004, two thirds of the country was flooded



Why do you think that flooding has got worse in recent years?

### Floods in 2004

Due to global warming, the monsoon rainfall has become heavier and more frequent. Rivers cannot manage the increased discharge and flooding is more extreme. With increases in sea levels, storm surges are greater and more frequent leading to increased coastal flooding.

What can be done?



### What can be done?

If you worked for an organisation which tried to help people in Bangladesh, what would you do?

Look for ideas related to homes and food productivity.

The following slides show three projects, floating gardens, fish cages and flood resistant housing.

**Houses that don't flood easily**

- Houses are raised off the ground on a 1m high concrete base.
- Walls made from jute panels, strengthened with bamboo.
- Bamboo and banana trees are planted to soak up the water.




## Flood-resistant housing

This image shows a flood-resistant house built in a village called Wazuddin Fakirer Dangi, a village 3km from the river Podma, Faridpur District. This area is in the Char-lands (Bengali name for 'islands within rivers') and is highly susceptible to severe flooding during the monsoon. Their house was provided by Practical Action, and designed to give them more protection from the floods. The house is built on a raised plinth made from sand, clay and cement (meaning it is less likely to be washed away in floods), and made using

concrete pillars and treated bamboo poles. Practical Action built the house using readily available and affordable materials, so that other families can copy the design and reap the benefits of the improved structures. It is important to work with local communities to choose the best ideas, using local knowledge and local materials, which are affordable.

£31 is enough to mix and finish two solid floor plinths. £62 could build durable walls from bamboo and jute for ten houses. £120 is enough for all the nuts and bolts to hold 20 houses together, through the worst conditions. £172 is the total cost of planning and building a flood resistant house using all these techniques and more

**Floating Gardens**

- Water hyacinth plants are woven to make a raft.
- Natural compost, soil and seeds are put on top.
- During floods, the garden floats.





## Floating gardens

Firstly, a floating raft is built using water hyacinth which is a type of hydro plant (plants which grow in water). The rafts vary in size, depending on the space available and the size of the family. They may be from 15 – 5m long, about 2m wide, and around 1m deep.

Within this, natural compost is added and allowed to decompose. The structure of the floating raft is strengthened with bamboo.

Seeds of vegetables are then planted. In the rainy season, cucumber, egg plant (aubergine) and different types of gourd vegetable are planted as well as herbs such as basil and spices such as tumeric and okra. In the winter season, beans, tomatoes, cauliflower, cabbage, potato, raddish, carrots, onions are grown as well as herbs and spices such as ginger, mustard, and chilli.

A fence can be put round the floating garden to protect the vegetables from rats, ducks and other predators. Once the raft is built it is tied on to a post so that when the flood waters come it doesn't float away. As the land floods the raft will float up and the vegetables will be safe.

**Floating Gardens**

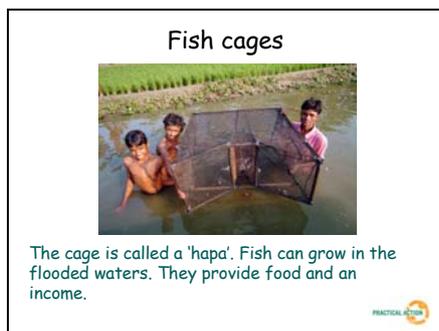


When the rivers flood, the rafts are tied to posts and they float.



This provides food for families who normally went hungry when their crops were washed away.



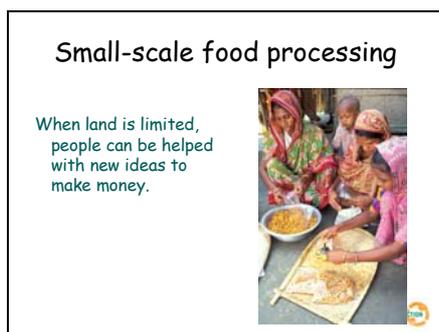


## Fish cages

When land is limited due to floods, people face a constant threat of hunger. Why not try and use flooded land as a resource? These men were trained by Practical Action in how to construct a locally developed fish cage trap, to catch wild fish during the floods.

In Bharar Daha, a village 8 km away from Gaibandha, Practical Action is helping families who have been displaced by flooding and river erosion to rebuild their lives through a community-based fishing scheme. The scheme is benefiting 108 families, all of whom have been forced off their land and are now living on the government flood embankment. Before the scheme, the families relied on the income of men who would work as day labourers or rickshaw pullers. They would struggle to earn enough money during the annual floods when work is harder to find.

Last year Practical Action helped establish a community-based fishing scheme. The community formed a committee to run the scheme, and established a joint bank account. They were granted a lease to use the local government-owned pond for their fishing activities, and this was only granted because of this community-based approach. Practical Action then carried out training in fishing techniques, to help families earn additional income throughout the year, and particularly during the annual floods. The women of the community were trained in 'fish cage culture': using cages which are one cubic metre in size to breed Tilapia for eating and selling in the market. As well as carrying out training, Practical Action also provided technical and financial support, providing T6000 (£50) of 'fingerlings' (juvenile fish about the same size as a finger) to the community. One beneficiary, Kohinoor Begum said: "The unity of the community is increasing day by day, as are the relationships between us".



## Small-scale food production

In Bangladesh more than 60% of the 120 million population do not have access to sufficient land for subsistence due to low rainfall and increasing drought. What was once a predominantly agricultural economy is having to expand and provide alternative means of employment for the increasing labour force. In the search for alternative forms of employment,

food processing provides exciting opportunities. Food processing is one of the most important sources of income and employment in Bangladesh, especially in rural areas where it is the main employer of women. Practical Action developed a training course designed for field workers assisting landless people to establish small-scale food processing businesses. Small-scale food processing is particularly suited to women, and can be carried out in the home concurrent with the other household activities.

Production of snack foods is an important sector in both rural and urban areas, as well as training using surplus vegetables in season to preserve them by making jams and juices for when they are out of season.