

Living with floods

char islands



Safer World Communications/Kamal Chawla

The shifting 'char' islands of Assam

Winding its way through the Himalayas, this trans-boundary river enters India as the Brahmaputra. It is a river that constantly rewrites the geography of the Assam region. The yearly cycle of floods erodes away a large amount of land and results in heavy depositions in the middle of the river, creating temporary islands.

Known as 'chars', these river islands become inhabitable in few years time. Nevertheless the natural process of erosion and deposition carries on; eating away existing chars and crafting new ones. This means constant cycles of displacement and livelihood losses.



Moving inland with their house!

Jamal-ud-din (a daily wage labourer) had to shift further inland, as the water crept closer and closer to his house. Built in 2008 with the support of CASA, this house has a portable design. Jamal was able to dismantle and re-erect the entire structure as it was in his new inland location. "We never had a pukka (permenant) house," he comments. "But with CASA's support, we now have one with a raised plinth and a dual-purpose false ceiling."



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The speed and direction of the water is unpredictable. Shifting from one place to other has become a habit! I want to live and cultivate on my land...but that's under water now. I believe that one day my land will re-emerge.

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Life on the Bangi-Khwa Char

Such is the story of people presently dwelling on Bangi-Khwa char in Barpeta District of Assam. 7 years ago, they shifted here from a nearby mainland village. Now, they are once again in search of new lands. The char is eroding @ ½ km per year and has already reduced to 3 x 6 km from its original size of 7 x 6 km.

The Mobile House

This innovative concept uses high platforms (around 3 feet) with bamboo/RCC posts as a structural frame for durability and strength. Split bamboo (woven mats) panels are used for walling which are light and easily portable. Bamboo roof frames with CGI (corrugated galvanized iron) sheets ensure protection from the rain. In case of any emergency, the light weight construction can easily be dismantled in few hours time and shifted to a safer place. Another feature of the house is the bamboo false ceiling, which provides the required insulation and attic/storage space. It can also be brought



LEARNING CURVE

- Spurs are structures constructed transverse to the flow of the river extending from the bank towards the mainstream flow. The spur diverts the water flow away from the bank, preventing the current from striking it and protecting it against erosion and caving. Spurs can be used singly or in series.
- Spurs are used in various forms all over the world to prevent bank erosion. Modern structures are made of concrete, while traditional ones are usually timber based. Similar structures traditionally made in Japan are still in use. There they are known as a 'Grand Ox'!
- Site selection is an important aspect of constructing spurs. They need to be placed so that they slow down the water flow at the most vulnerable points of the bank and yet do not get damaged by the water current.
- The placement of sand bags along the spurs also helps slow down the current and increases the effect of retarding the flow. This supplements the action of the spurs, helps protect the spurs themselves and triggers further sand deposit as additional protection.
- Spurs can also be used in combination with other river-bank stabilisation techniques such as sand bags or geo-tubes (long tubes filled with sand) protection or pitching or paving of the banks.
- The technique of raising the floor of a house when floods come in and lowering it once the water recedes is a widely prevalent local practice in the region. Floors can be raised manually and rested on brackets at varying levels. Otherwise, they can be tied with ropes to a pulley system and simply pulled up as and when needed!
- Houses that can be dismantled and taken away to safer locations during floods is a very innovative concept that can be very useful in all areas prone to frequent flooding. During the period of displacement, the house can be erected on safer ground as a temporary shelter.

Porcupines to save the islands!

The Char Stabilisation Initiative by CASA in Barpeta District of Assam used the technique of bamboo spurs. These were constructed by creating a series of tripods built in the form of 'A' shaped structures using local bamboo. These structures can be built by the village community using local materials. They restrict the water flow, thus reducing island erosion and are known as bamboo porcupines.



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