

DIGITAL DEVELOPMENT DEBATES

The Floating Gardens Abbie Upton, Practical Action

In countries like Bangladesh people have to cope with heavy rainfall and floods. The families affected can adapt to these challenges – often intensified by climate change – by using floating gardens. The British NGO "Practical Action" teaches them how to build rafts using water hyacinths.

Poverty remains a reality for people in poor countries. It is still as extreme as ever and many people are now facing a new enemy: climate change, which is already having a devastating impact on developing nations.

When it comes to the effects of climate change, the poorest people are hit first and worst and they know all too well how it feels to have their environment change beyond their ability to cope. These communities have not contributed to climate change but will have to adapt their lives dramatically just to survive.

Countries such as Bangladesh are rich in many resources and by focusing on small scale solutions, families on the front line can learn how to adapt to and thrive in their changing climate. The Practical Action's innovative use of technology helps provide people with the skills, confidence and opportunity for dealing with the challenges that climate change brings.

However, any technique or technology has its limits. If climate change is not adequately addressed internationally, adaptation will cease to be a viable option, with devastating results for communities around the world.

Adapting to the effects of climate change

Heavy rains displace thousands of people every year during the monsoon season in Bangladesh. The Practical Action development charity is working with communities to build floating gardens to help them adapt to the effects of climate change and survive the floods.

A floating garden is built using water hyacinths collected as building material for a raft. This foundation is then covered with soil and cow dung into which vegetables such as gourds, okra, red onions and sweet pumpkins are planted. A new raft must be built each year but, in the spirit of sustainability, the old one is used as fertiliser for the land during the dry season.

A typical raft measures eight by one metres and will provide both enough food for a family to live on throughout the monsoons and a source of income when surplus is sold at the market.

The rafts are particularly useful to farmers who need to diversify from traditional land use during the floods and, as the rafts can easily be moved from place to place, are perfect for those that have temporarily or permanently lost their homes.

Flooding occurs every year

80 per cent of Bangladesh's rain falls during the monsoon season. Given the country's location in the foothills of the Himalayas and its low-lying position, flooding occurs every year and many areas remain underwater for the entire monsoon season. This makes growing crops impossible for rural communities.

The frequency and length of the floods are increasing as a result of climate change and the floating-garden technology helps people adapt, allowing them to grow food on flooded land and ensuring that they can feed themselves and their families throughout the rainy season.

Practical Action is campaigning to ensure that the impact of climate change on poor people in developing countries is at the centre of the debate on the subject in the UK and abroad. The organisation pushes for increased urgency and action by decision-makers before it's too late.

Orpita's story

A floating garden provides food for people during the annual monga (the lean season, a period of famine caused by flooding) and also ensures a much-needed source of income through the sale of any surplus at the market.

31-year-old Orpita Shagata was born into poverty, and as she got older and had a family of her own, things became harder and harder. No food, clothing, shelter or medical provision meant that the future looked bleak for Orpita.

When Practical Action first met Orpita she had no way to feed her children, and every year when the monsoons arrived, the dirty water would leave their land desolated and the family home completely destroyed.

Orpita is like thousands of other people all over Bangladesh who face the same plight.

Practical Action showed Orpita that by laying a bamboo frame over a base of water hyacinth, then adding cow dung, dirt, compost and more water hyacinth, she can make her own floating garden.

Growing food while the farmland is under water

The buoyancy of this floating garden allows it to rise with the water levels – giving Orpita the perfect place to grown enough food for her family to eat while the little farmland they have is under water.

Since working with the charity Orpita has become so proficient at harvesting her floating gardens, that this year she had extra vegetables to sell to her neighbours. There's great demand for her food from the community and Orpita has started to earn a modest but regular income. So far she has made a total of 4,000 taka (£35), which she's spent on more floating garden materials, as well as another food source – a duck. This means that her family will have plenty of fresh vegetables and eggs to eat every day of this monga season.

Orpita has passed on her Practical Action training to the rest of her village – who are now producing floating gardens of their own. Thanks to the introduction of this practical solution, the people of Bangladesh are beginning to find a way out of poverty.