

Climate Witness

Climate change in Keti Bunder, Pakistan



A boy plants mangroves to restore the degraded lands of his village on the Indus delta. Lack of freshwater and deforestation have devastated what was once a thriving mangrove ecosystem. Communities traditionally move to dense patches of mangrove forest to protect themselves from cyclones which are now increasing in number and intensity along the Pakistan coastline.

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A woman from the Dablo community in the village of Tippun on the delta of the Indus river, Pakistan bids us goodbye. In the time we have spent in a village house talking, the tide has come in surrounding small islands of houses. This precarious situation will only worsen as sea levels rise. The people of the Indus delta are receiving little freshwater, and are increasingly vulnerable to cyclones which occur almost every year now. Behind you can see a house still being rebuilt after the cyclone which hit in 2007.

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Communities living on the Indus delta live on now saline and waterlogged mudflats, due to a dramatic reduction in freshwater flow from the Indus. They have few resources and are now vulnerable to cyclones which have increased in number and intensity in the last 30 years. They expect a large storm to hit every year now.

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People from the Jat tribe in the village of Bhoori on the delta of the Indus river, Pakistan. Communities in this area are experiencing more cyclones of greater intensity attributed to climate change. Jats are traditionally camel herders and pastoralists, forced into fishing due to barrages built upstream on the Indus which have dramatically reduced freshwater flows at the delta. They have few resources to cope with climate events.

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Emily Woodhouse spent 2 weeks in the small coastal community of Keti Bunder, Pakistan talking to the locals about the impacts of climate change on their home.

Approaching the coastal community of Keti Bunder on the Indus river delta in Pakistan, it is hard to imagine that this area was once a thriving mangrove ecosystem, rich with agriculture, and boasting a busy port. The landscape now appears barren, thatched houses dotted precariously on mudflats, waterlogged and saline from the intruding sea which has swallowed whole villages in recent years.

Safaran, an elderly local woman reminisced: "When I was a child, my family were so fortunate. We had all the natural resources...cultivated lands, livestock and fishing too. Now we can only fish, the sea is coming into our lands and the water is all around us."

On top of all these changes, the community of Keti Bunder is now faced with the escalating threat of storms and cyclones associated with global climate change.

Reports show that the frequency and intensity of these cyclones have increased significantly in the last 30 years along the Sindh coastline of Pakistan, and this is supported by community experiences in Keti Bunder.

Another local man described the current situation: "Nowadays we are experiencing more and more cyclones and storms, each and every year and within each year, the number and intensity has increased."

Coastal areas are especially vulnerable to climate change with rising sea surface temperatures and atmospheric water vapour causing an increase in cyclone intensity and rainfall.

In Sindh, there appears to be a particular increase in the last 10 to 15 years, with the largest cyclones occurring in 1999, and 2007. These caused extensive damage to houses and boats, in addition to a number of deaths, injuries, and health problems. The impacts are proving to be long term and many families report that they are still feeling the effects of the cyclone of 2007, as they do not have the resources to cope with the damages.

The prospect of global warming raises particular concern in delta regions, many of which are already experiencing severe environmental strain as the result of human activity.

For Keti Bunder environmental problems originate further upstream of the Indus. Beginning in the mid 19th century a huge irrigation infrastructure was developed drawing water from the river and its tributaries, and since then a series of barrages and dams have been built leading to over-extraction of water for agriculture, leaving very small and irregular flows at the mouth. The result is a lack of nutrient rich silt that the water brings with it, and growing sea intrusion destroying mangrove ecosystems and causing land erosion. Community have experienced a dramatic decline in agriculture, extreme shortages of drinking water and thousands have been forced to migrate away. As the natural resource base has declined, there are few livelihood options and the community is now almost entirely dependent on fishing.

These environmental changes have only served to increase the vulnerability of Keti Bunder to extreme weather events.

Due to lack of freshwater and human deforestation, mangrove forest cover in the Indus delta has reduced from 260,000 hectares to only 80,000. But evidence suggests that mangrove forests provide the best natural protection against the effects of extreme events. The community of Keti Bunder describe how they used to move into the thick patches of mangroves when a storm threatened as they know that these could withstand the pressure. In most villages, these patches no longer exist.

Other traditional protective measures are also breaking down. As many of the tribal groups of Keti Bunder have historically inhabited the coastal belt, they can read the environment to predict storms. A man named Haji Hamza Jat explained: "...our forefathers always predicted the storms correctly. Now we cannot - it is beyond our knowledge and understanding". The community understandably feel that the rapid changes associated with global climate change are beyond their comprehension and control.

There is often a sense of powerlessness in the face of these devastating events. The community are using local coping strategies, like communication to warn neighbouring villages, and temporary migration, but lack of resources and alternative livelihoods limit these efforts. These methods need to be strengthened to increase the resilience of the community to environmental threats through restoration of the natural ecosystem and community development work.

As in other communities already facing the effects of climate change, there is vital and urgent for the people of Keti Bunder to adapt effectively.

Outside institutions are beginning to work in Keti Bunder, and the area is one of the four prioritised sites of WWF-Pakistan's Indus for All Programme which is working to address poverty and natural resource degradation in the Indus Ecoregion.

The project in Keti Bunder aims to restore the degraded mangrove ecosystem and provide sustainable livelihoods for the community, helping the community and ecosystem of Keti Bunder thrive once again. Despite the difficulties and environmental threats, Keti Bunder remains the home to approximately 2000 families, connected to their ancestral lands. As one local women said: "In the safe times and during storms, we will stay here. Under every condition, better or worse we will always live here."

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