



Viet Hoang, WWF's coordinator for the Greater Mekong in Vietnam, believes that maintaining natural processes is a low-cost, effective way to minimize the worst impacts of climate change (see box on page 43). "Villages with restored mangrove forests suffered less damage during typhoon Dorian."

Creating bio-shields in the Mekong River Delta

Throughout the world, countries are facing dramatic impacts of extreme weather events. Is the Mekong Delta in Vietnam struggling with similar problems?

"Due to climate change, the Mekong Delta has suffered more typhoons of higher intensity, and the typhoon season has shifted to later in the year. It's easy to recognize that rainfall has increased in rainy seasons. More heavy rainfall causes severe floods, which occur more frequently. On the other hand, precipitation has decreased in the dry season."

Do you have any specific examples of such extreme weather problems?

"In 1997 the typhoon Linda killed at least 208 people in the Mekong Delta, and 10,000 people were displaced. In 2000 the Delta experienced the worst floods in four decades as the waters rose to more than 5 metres, killing nearly 500 people. In 2006 typhoon Dorian struck Ben Tre Province, causing 16 deaths and 470 wounded. Some 86,000 houses lost their roofs and nearly 20,000 houses were destroyed. Altogether, 5,000 hectares of fruit trees and 3,000 hectares of rice fields, vegetables- and aquaculture ponds were damaged. Salt water intrusion is another weather-related issue. In 2009 salt water was found in Vi Thanh, Hau Giang province, more than 70 km from the sea."

Is Vietnam experimenting with green adaptation?

"Within the next two years, WWF and Ben Tre Province will start working together to develop pilot schemes for ecosystem-based adaptation strategies in the province and to restore degraded mangrove ecosystems in coastal areas. The aim is to create a 'bio-shield' for the Mekong Delta by connecting this area to neighbouring mangrove forests. In all these areas connectivity is the key, so that species can move and processes can function appropriately. We have learned from typhoon Dorian. When it hit coastal communes in December 2006, villages where mangrove forests were restored and maintained suffered less damage during the typhoon than areas with no mangroves. In 2005, the

people in Long Hoa islet at the river mouth received technical advice and financial support from Cantho University to replant mangrove forest. "At this time, 123 hectares of mangrove have been restored and designated as the commune's nature reserve. More than 60 bird species were found there, together with juvenile crab, shrimp and fish. Local communities depend on such natural resources."

Can you convince policy makers of the benefits of green adaptation?

"There is sufficient evidence about the relationship between ecosystem integrity and ecosystem services. However, to be able to start persuading policy makers about the benefits of a green approach they need to be given data on costs and cost-effectiveness. This is why we need field demonstrations. Policy makers also need to realize that producing these data will take some time. In the meantime, it would be most prudent to hold off on major infrastructure projects that may foreclose future options or be maladaptive."

How important is international cooperation?

"Extremely important; Vietnam is part of a major economic region with a significant flow of people, goods, and services. The Mekong Delta especially is at the mouth of a major river basin with extraordinary diversity. Sediments from the Mekong settle in the Delta, allowing it to keep pace with sea level rise. Dams planned in Laos and Cambodia will prevent these sediments from arriving and exacerbate the impacts of sea level rise. Major deltas around the world, including the Mekong, are sinking not only due to sea level rise but also because of the extraction of ground water and loss of sediment input. A key adaptation strategy for the Delta is therefore to maintain the free-flowing nature of the Mekong River, which can only be accomplished by international negotiations with the lower Mekong countries that signed to the Mekong River Basin treaty. But another key consideration is to improve coordination and collaboration across sectors and agencies." ■