FAO Regional Office for Asia and the Pacific: Forestry Information Note14

Asia-Pacific forestry focus

ADDRESSING THE FORESTRY NEEDS OF ASIA-PACIFIC COUNTRIES AND SOWING SEEDS FOR SUSTAINABLE FOREST MANAGEMENT.

Forestry and disasters

Forestry has become increasingly important in relation to natural disasters in the Asia-Pacific region over the past decades. As populations have grown, pressure on forests has mounted the role they play in protecting populations and property has become increasingly clear. Additionally, growing population pressure has forced people to live in areas that were previously occupied by forests. With increased exposure of communities to disasters and reduced protection from forests, FAO has taken the lead in disseminating policy-related information and implementing forest rehabilitation efforts in the wake of natural disasters.

FAO has supported forest rehabilitation following disasters for over 20 years. Following flooding in Thailand in 1989, and landslides in the Philippines and Pakistan in 2004 and 2005, FAO worked to support affected populations through afforestation and provision of support for affected communities.

After the devastating Yangtze River floods in 1998, FAO supported efforts to establish tree nurseries and plant trees in areas inundated and scoured by flood waters.

Following the Indian Ocean tsunami o December 2004, which took more than 200,000 lives and destroyed the livelihoods and infrastructure of millions, FAO implemented a regional "Forestry programme for early rehabilitation in Asian tsunami affected countries". Efforts were also made to disseminate information and provide livelihoods and rehabilitation support following Cyclone Nargis in Myanmar in 2008.

Landslides and forestry

FAO has supported forestry-related rehabilitation efforts following landslides and earthquakes in Thailand, the Philippines and Pakistan. Forests and trees have a number of functions relevant to stabilising sloping land:

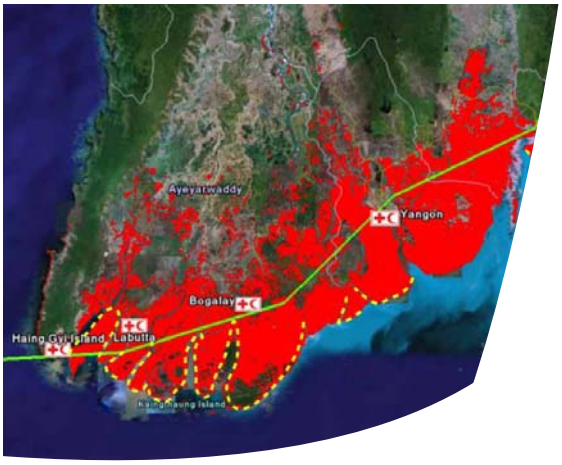
- Soil reinforcement by roots increases slope strength and reduces landslide risk
- Forests protect watersheds from erosion and help maintain water quality by reducing sedimentation
- Transpiration from large tree canopies reduces soil water content and landslide risk

Forests and trees also provide a range of benefits supporting livelihood development and environmental functions. Forests cannot, however, stabilize land on very steep slopes or mitigate deep landslides, slumps or earthflows.

Long-term, integrated participatory approaches yield the most sustainable results by ensuring agreement between all stakeholders and maximising the degree to which various land uses complement one another.

Forests and Cyclone Nargis

Evidence from Myanmar suggests that coastal forests could have reduced damage resulting from the waves and inundation associated with Cyclone Nargis.



Much of Myanmar's coast has been cleared of mangrove forests in past decades. Settlements have been established closer to the sea and the combination of proximity to coastal hazards, including cyclones, and lack of a protective forest buffer has increased the risks to human populations.

Storm surge inundation levels were measured at up to 5m and waves were reported to have been up to 3.5 meters in height during the passage of Cyclone Nargis. Although porous barriers such as coastal trees and forests cannot prevent inland flooding during storm surge events, there is considerable potential for intact and dense coastal vegetation to reduce the impacts of waves and currents associated with the storm surge.

Coastal forests can also act as windbreaks in reducing devastation in coastal communities resulting from cyclones, and provide structures for survivors to cling to until waters calm and subside.

Healthy mangrove forests are particularly effective at reducing the force of waves because of the resistance provided by stilt roots as well as the tree's trunks and branches. Mangroves also trap and stabilize sediment and reduce the risk of shoreline erosion – which brings waves closer to habitations – by dissipating surface wave energy.

During cyclone Sidr that struck southern Bangladesh in November 2007, the Sunderbans forests played a crucial role in the mitigation of the deadly effects of the cyclone.

In the future, rising sea levels and increased frequency and intensity of storms arising from climate change are expected to put coastal areas at greater risk of damage.

Coastal planning to avoid development in vulnerable areas and maintenance of coastal vegetation as buffers are important measures, but will not be enough to protect against all such storms. Early warning systems, evacuation plans, effective communication and transport infrastructure, and storm shelters should be implemented as necessary measures to protect lives in the future from cyclones such as Nargis.

Forests and floods: Drowning in fiction of thriving on facts?

There is a tendency to blame all natural disasters on human abuse of the natural environment. This is evident in the case of devastating floods and landslides that affect millions of people every year. Each disaster is followed by a predictable response. Upland farmers and loggers are blamed for clearing and degrading forests. In many people's minds the use and abuse of forests in upland watersheds represents the main cause of massive lowland floods.

Forests and floods reveals that much of what is in people's minds cannot be substantiated by science. It distinguishes fact from fiction and recommends alternative approaches for effective watershed and floodplain management. Forests and floods aims to better inform policy makers, development agencies and the media to contribute to the development of sound watershed and river-basin management.

FAO disaster-related forestry work

- Thailand 1989 – "Rehabilitation of slopes affected by floods in southern Thailand"
- Indian Ocean 2004 – "Forestry Programme for Early Rehabilitation in Asian Tsunami Affected Countries"
- Thailand 2004 – "Assessment of Mangroves and Coastal Forests Affected by the Tsunami in Southern Thailand"
- China 1998 – Forest rehabilitation following flooding of Yangtze River
- Philippines 2004 – supporting project development following landslides in eastern Luzon
- Pakistan 2005 –"Restoring livelihoods in the earthquake-affected
- areas of Pakistan"
- Myanmar 2008 – information dissemination on the roles of forests in cyclone protection following Cyclone Nargis

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