

Role for Forest and Trees in Protecting against Cyclones

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On December 26th 2004, a great earthquake and tsunami occurred severely damaging coastal communities in countries along the Indian Ocean. Eight month later a Super Cyclone named Katrina (23-30 August 2005) struck the US-Gulf coast. Although the two natural disasters are completely different in their generation mechanisms they both share massive coastal inundations as primary damage and death cause raising the multi-hazard approach in coastal protection. However in many cases the coasts most vulnerable to cyclone storm surges are the least vulnerable to tsunami runup. Further the duration of the cyclone storm surge is on the order of several hours up to a day. Therefore narrow coastal forest belts and mangroves are inefficient at the storm surge reduction. Several kilometers of coastal wetlands or forests are required to significantly dampen the massive inland inundation due to cyclones. However coastal forests and mangroves to reduce the wind and storm wave impact. Mangroves provide coastal erosion protection and preserve wetlands.