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## [Asia: The ecological, social and political dimension of December 26th tsunamis](#)

The extremely powerful tsunamis caused by the 9.0 earthquake that occurred off the coast of Sumatra on last December 26th, created tremendous havoc and the whole world was submerged in sorrow for such a great loss in human life and suffering.

Also, quite disturbing is the fact that the severity of this disaster could have been greatly lessened had healthy mangrove forests, coral reefs, sea grass beds and peatlands been conserved in a healthy state along these same now devastated coastlines. These natural buffers protect the landward side, sheltering coastal communities and wildlife from the brunt of storms and waves.

There is ample evidence demonstrating, for instance, that a 15 meter tsunami wave's destructive force is greatly dissipated as it passes through intact, healthy coastal zones containing coral, sea grass and mangroves. Mangroves provide double protection against tidal waves: the first layer of red mangroves, with their flexible branches and tangled roots hanging down into the water, absorbs the first shock waves; the second layer of tall black mangroves operates like a wall, withstanding much of the sea's fury. These "coastal greenbelts of protection" play a vital role also in reducing sedimentation and shoreline erosion. But these protective buffers that nature provides against wind and wave had been degraded or removed to make way for unsustainable commercial projects such as industrial shrimp farming and tourism.

According to a press release by Mangrove Action Project (MAP), loss of mangrove forests contributed to greater impact of tsunamis. MAP says that today, over half the world's mangrove forests have been lost. Less than 16 million hectares remain on coastlines that once were predominantly lined with thick stands of resilient mangroves. Since the 1980s, the Asian seacoast has been plundered by large industrial shrimp farms bringing environmentally unfriendly aquaculture to its seashores -the 'rape-and-run' industry, as the United Nations' Food and Agricultural Organisation (FAO) once termed it. Shrimp cultivation, which grew to over 8 billion tonnes a year in 2000, and 72% of which is confined to Asia, had already played havoc with fragile ecosystems. Many tropical mangroves have been cleared for shrimp ponds by entrepreneurs who knew little and cared less as to why the forests should have been saved. Multilateral agencies and local governments have for too long enthusiastically supported shrimp farming and other export earning projects without paying attention to local social and ecological security.

Whatever was left of the mangroves was cut down by the building and hotel industries, as five-star hotels, golf courses, industries and mansions sprung up all along the coastline, converting those coastal regions into fragile and now quite vulnerable areas.

According to a report from India, "When the tsunami struck India's southern state of Tamil Nadu on 26 December... areas in Pichavaram and Muthupet with dense mangroves suffered fewer human casualties and less damage to property compared to areas without mangroves...."

Also, "when a tsunami struck the Bangladesh coast in 1960, not a single life was reported lost. The

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coastline then was lined with mangroves, which were subsequently cut down and replaced with shrimp farms. In 1991, thousands of people were killed when a tsunami of the same magnitude swept the region.”

Many other such reports have verified this same fact that fewer losses of life and property occurred in mangrove zones, which were more intact. In many places where the devastation was greatest, mangroves were gone.

In October 1999, mangrove forests reduced the impact of a 'super-cyclone' that struck Orissa on India's east coast, killing at least 10,000 people and making 7.5 million homeless. Those human settlements located behind healthy mangrove stands suffered little, if any, losses.

According to Indian analyst Devinder Sharma, “Both the Ministry of Environment and Forests and the Ministry of Industries worked overtime to dilute Coastal Regulation Zone (CRZ) norms, allowing hotels to take over the 500-metre buffer to be maintained along beaches. In a prevailing market economy, reflected in the misplaced ‘Shining India’ slogan, bureaucrats are in league with industrialists and big business interests. Much of the responsibility for the huge death toll in the tsunami disaster, therefore, rests with the government and free market apologists. What’s being projected as an indicator of spectacular economic growth hides the enormous environmental costs that these countries have suffered and will continue to suffer in future.”

Devinder Sharma adds that “Myanmar and the Maldives suffered less from the effects of the tsunami, as the tourism industry has not yet spread its tentacles to the virgin mangroves and coral reefs along these coastlines. The large coral reef around the Maldives absorbed much of the impact of the giant waves, restricting human casualties to a little over 100 dead. Likewise, the island chain of Surin, off the west coast of Thailand, escaped heavy destruction. Although the ring of coral reef surrounding the islands received a battering from the powerful waves, they held firm. Coral reefs absorb the sea’s fury by helping break the waves; the tragedy is that over 70% of the world’s coral reefs have already been destroyed.”

Worldwide, commerce has recklessly encroached upon ecosystems disrupting their ecological balance. In turn, national governments have been unable or unwilling to stop the industries that have sprouted up along much of the coastlines replacing nature’s buffer zones with unprotected development projects.

The recent tsunami event has not only tested this fragile development model and proven it to be quite unsound, but has also bitterly highlighted how the handed-down wisdom rooted in a more integrated coexistence with nature and sound observation –despised by modern Western knowledge- proved more efficient to save lives in extreme natural events.

For instance, all 181 members of Morgan Sea Gypsies village on South Surin Island survived the December 26th deadly tsunami. "The elders told us that if the water recedes fast it will come back fast and will reappear in the same quantity in which it disappeared," says 65-year-old Sarmao Kathalay, the village chief. Sarmao hastily led all members to Wat Samakkitham on a hill inland. Some were injured, but they spent days at the temple until all had recovered and were ready to return to their usual abode. The Morgan Sea Gypsies constitute a minority in the Andaman Sea from India to Indonesia. In monsoon season they live in boats, then between December and April in shelters on shore. They survive by catching shrimps and spear-fishing. In May they have a boat-launching festival to ask the sea for forgiveness.

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To Sarmao and his people the sea has always been kind. It does not mean to hurt anybody, he says, but "we need to know when to be on it and when not".

Despite much hype about huge advances in sophisticated technologies, which the recent tragedy showed had not reached Third World countries, it has been age old "warning systems" what sent the first alarm signals to members of six aborigines tribes. The Andaman Islands are home to four 'Negrito' tribes -the Great Andamanese, Onge, Jarawa and Sentinelese- who are believed to have arrived in the islands from Africa up to 60,000 years ago. All are nomadic hunter-gatherers, hunting wild pig and monitor lizard, catching fish with bows and arrows, and collecting honey, roots and berries from the forest. The Nicobar Islands are home to two 'Mongoloid' tribes -the Shompen and Nicobarese- that are primarily agriculturists and who probably came to the islands from the Malay-Burma coast several thousand years ago.

It is believed that isolation -and ancient knowledge of signals in the wind and sea- combined to save the six indigenous tribes on the Indian archipelago of Andaman and Nicobar islands from the tsunami. Though some casualties were reported among the Nicobarese tribe who inhabit 12 islands including the devastated Car Nicobar, Charwa and Teressa isles, anthropologists speculate ancient knowledge of wind movement and the flight of birds may have saved many tribespeople, who seem to have fled the shores well before the waves could hit the coast, where they would typically be fishing at this time of the year.

"The tribals get wind of impending danger from biological warning signals like the cry of birds and change in the behavioural patterns of marine animals. They must have run to the forests for safety", explained Anthropological Survey of India (ASI) Director Dr V R Rao.

"They can smell the wind. They can gauge the depth of the sea with the sound of their oars. They have a sixth sense which we don't possess," said Ashish Roy, a local environmentalist and lawyer who has urged the courts to protect the tribes by preventing their contact with the outside world.

Two days after the tsunami thrashed the island where his ancestors have lived for tens of thousands of years, a lone tribesman stood naked on the beach of a 23 square mile island in the chain's lower reaches and looked up at a hovering coast guard helicopter. He then calmly took out his bow and shot an arrow towards the rescue chopper. It was a signal the Sentinelese have sent out to the world for millennia: they want to be left alone.

Another outstanding -though not surprising- phenomenon had to do with animals, which moved to safer ground, presumably having sensed vibrations or changes in air pressure in advance of the waves' arrival. According to a related BBC Online news story, wildlife officials in Sri Lanka reported that despite the large loss of human life, there were no reported animal deaths.

On Khao Lak Merlin Resort, one of a line of hotels strung along the Thai 10 km beach, there are stories of agitated elephants that felt the tsunami coming, and their sensitivity saved about a dozen foreign tourists from the fate of thousands killed by the giant waves. The elephants started trumpeting -in a way that could only be described as crying- at first light, about the time an earthquake measured at a magnitude of 9.0 cracked open the sea bed off Indonesia's Sumatra island. "The elephants just kept running for the hill," said Wit Aniwat (24), who takes the money from tourists and helps them on to the back of elephants from a sturdy wooden platform. Those with tourists aboard headed for the jungle-clad hill behind the resort beach where at least 3800 people later died. The elephants that were not working broke their hefty chains. Around a dozen tourists were also running towards the hill and the mahouts (elephant keepers and drivers) managed to turn the elephants to lift the tourists

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onto their backs. The elephants charged up the hill through the jungle, then stopped. The tsunami drove up to 1 km inshore from the beach but it stopped short of where the elephants stood.

Maybe beyond the tragedy, Humanity should learn, for the sake of our survival, that we have to recover those simple paths that integrate us with nature. Otherwise, as Devinder Sharma reflects: "Does there have to be a heavy human toll before we realise the follies of blindly following the market economy mantra? How many more people have to die, and how many millions have to be rendered homeless before we realise the futility of pushing the market economy?"

Article based on information from: "Loss Of Mangrove Forests Contributed To Greater Impact Of Tsunamis!", press release by Mangrove Action Project, E-mail: mangroveap@olympus.net, <http://www.earthisland.org/map> ; "Age old early warning systems saved Andaman tribes", Central Chronicle, at Forest Conservation Portal, <http://forests.org/articles/reader.asp?linkid=37845>; "Elephants saved tourists from tsunami, Reuters, <http://www.stuff.co.nz/stuff/0,2106,3145501a4560,00.html>; "Background for newsdesks on the tribes of the Andaman and Nicobar islands", Survival International Briefing, sent by Miriam Ross, e-mail: [mr@survival-international.org](mailto:mr@survival-international.org); "Saved by old wisdom: Gypsies know their sea", Thawechai Jaowattana, The Nation; and "Reading the Waves, Smelling the Winds May Have Saved Tribes", Scotsman.com, both articles sent by Maurizio Ferrari, Forest Peoples Program (FPP), e-mail: [maurizio@forestpeoples.org](mailto:maurizio@forestpeoples.org); "The tsunami as a man-made disaster", Devinder Sharma, <http://www.infochangeindia.org/features234.jsp>, sent by Infochange India, e-mail: [infochangeindia@dishnetdsl.net](mailto:infochangeindia@dishnetdsl.net)