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Barrier against tsunami

Clockwise: Aziyah (centre) at the launch of the *Status of Mangroves in Peninsular Malaysia* coffeetable book during the *National Seminar on R&D Projects On Coastal Mangroves in Malaysia: R&D Direction and Implementation*. Watching on is director-general of FRIM Datuk Dr Abdul Latif Mohmod (second from right); Example of the Comp-Mat technique for planting mangroves in Sungai Besar; Rizal Rahim, 26, from Kuala Muda trying to salvage fishing nets damaged by tidal waves on Dec 26, 2004; New techniques in planting mangroves being tested at the coastal area of Sungai Haji Dorani.

THE 2004 Indian Ocean tsunami, which was triggered by a massive earthquake off the west coast of Sumatra, sent huge waves crashing against the shores of 18 countries, wreaking havoc on communities and properties, and altering the coastal landscape forever.

In the wake of this catastrophe, which claimed some 230,000 lives, authorities came under fire for failing to adequately warn those living in coastal areas.

They were also blamed for neglecting the coastal ecosystem that could have acted as a protective barrier against the giant killer waves.

Prior to the tsunami, little thought was given to the coastal ecosystem, which was being systematically destroyed by land reclamation work carried out in the name of development.

In fact, such development had gone unchecked until the tsunami brought to bear the unpredictability of nature, and the need to take better care of our natural resources.

Even as the world was recovering from one tsunami, another, on March 11, destroyed parts of the northeastern coast of Japan and caused untold devastation to both people and property. More than 15,000 have been reported dead, and over 8,000 still listed as missing.

The world will continue to see the phenomena of tsunami, yet we remain unprepared for it. Although there is no defence against this catastrophe, there are ways to mitigate its impact.

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COASTAL FOREST, THE BEST BARRIER

Deputy Secretary-General (Natural Resources) in Natural Resources and Environment Ministry, Datuk Aziyah Mohamed agreed that coastal forests are the best barriers against the impact of tsunamis.

She said the R&D to boost the quantity and quality of coastal forests will turn these forests into a formidable barrier against tsunami.

The forests, be it mangrove swamps or the conifers along the coast, reduce the impact of waves and winds that cause erosion.

Mangrove trees can trap sediment and this naturally builds up sand embankments. The mangrove swamps are also the habitat of many of the marine life, and as such the destruction of these jungles severely affects the ecosystem.

This also has a critical impact on the nation's food resources.

SPECIAL ATTENTION TOWARDS CONSERVATION

Special attention is being given by the ministry towards the conservation efforts on coastal forests, particularly the mangrove forest, by initiating a *Programme To Plant Mangrove and Other Suitable Trees* along the nation's coast.

The national programme was launched on April 14, 2005, in the wake of the 2004 tsunami.

"In the 9th Malaysia Plan (9MP), RM8 million from the RM40 million allocated for this programme, had been set aside for R&D activities, while under the 10MP, RM200,000 has been allocated for the programme," Aziyah noted.

In the 9MP, the national project managed to plant 5.87 million mangrove trees and other species of trees on 2,260 hectares of land.

Faced with various challenges such as vandalism, pollution and an uncertain weather, as well as strong waves that destroy the tree saplings, it has been quite difficult to gauge the success of the programme.

Based on observations at 393 locations, 171 locations were reported to be successful in achieving 80% tree growth, while 73 other spots achieved a growth of 51-79%.

R&D INPUT CRUCIAL FOR CULTIVATION

Although the programme has seen a good performance on the whole, other locations could only achieve less than half the growth.

ANWAR FAIZ

"This proves that input from R&D is crucial to help us achieve better tree growth performance," Aziyah said, adding that the planting programme posed a risk in the marshy areas and, hence, a better planting technique was required to improve the success rate.

She remarked that the programme was the result of a close cooperation between the ministry's Technical Planning and Implementation Committee (JTPP), steered by the Forestry Department, and the Committee on Research and Development (JTRD), which is chaired by FRIM.

JTRD, which comprises researchers from FRIM, Universiti Malaya (UM) and Universiti Malaysia Sabah (UMS), undertakes studies on the best methods to revive the coastal forests and negate the impact of erosion, apart from the composition, interest and commercialisation aspects of mangrove forest.

RESEARCH OUTCOME

About 40 R&D research studies have been successfully carried out by the JTRD since 2005. The outcome of these were tabled at the *National Seminar on R&D Projects On Coastal Mangroves in Malaysia: R&D Direction and Implementation*, held at FRIM recently.

Among the research findings are the Comp-Mat and Comp-Pillow techniques for the cultivation of mangrove trees, those on stabilisation of eroded coasts, the planting of mangrove and conifers along the Malaysian coast as well as related issues and solutions.

Aziyah admitted that the work on conserving the coast was intricate and difficult and for this reason the ministry required a better system to pave the way for its scientists and researchers to make more meaningful contributions to the world.

DEVELOPMENT, POPULATION GROWTH

In its efforts to conserve and rehabilitate the nation's coastal forests, the government has also been facing increasing demands as a result of development and population growth.

As such, more coastal land is making way for housing, agriculture and farming projects.

"In the past two decades, some 18% of the mangrove forest along the coast had to make way for development projects to meet the population and economic growth," she said.

However, the nation is still on track to successfully implement sustainable development through environment conservation without compromising the economy, she noted. – Bernama