Dwindling tree cover dilates storm havoc

Cyclones that traverse the Indian peninsula from the Bay of Bengal to the Arabian Sea are a common enough feature. But over the past few years, the devastation they have caused in Kanniyyakumari district has increased because of deforestation.

R J Ranjit Daniels & A E Dulip Daniels

The cyclone that struck southern India in October-November 1992 caused unusually extensive damage in Kanniyyakumari district. The area was lashed daily by winds of 80 km per hour and 10-15 cm of rain. Landslides occurred and major roads, railway tracks, bridges and houses in the district were washed away. Water in the swollen rivers turned red with silt. Erosion was so great the waters of the Arabian Sea were red for several hundred metres offshore.

Official estimates put the property loss caused by the cyclone at more than Rs 30 crore, of which Rs 7.86 crore were because of losses to crops — 7 lakh banana plants, 1,500 ha of rice and several hectares of coconut, rubber, clove and tapioca estates.

Catalysts of destruction

Ironically, these plantations acted as a catalyst for the devastation. Records of cyclones affecting the district over the past 150 years show the extent of cyclonic damage has increased as a result of the destruction of forest cover. According to The Travancore State Manual (1906), "At the close of November 1845, a cyclonic storm formed over the Bay of Bengal and crossed the southern Indian peninsula to the Arabian Sea. Violent gales and stormy winds lasted for a few hours, accompanied by heavy rains. Travancore (including Kanniyyakumari), however, was not affected by cyclones owing to effective protection it got from the hills. Most of the cyclone winds got dissolved or were counteracted by the vegetation in the hills, the result being only torrential rains."

The Travancore State Manual (1940) reports cyclones pounding the district in 1922-1924 damaged telegraph poles and roads, but there is no mention of any drastic loss in the district.

Depressions form frequently in the Bay of Bengal during the receding monsoon (October-November) and move in a north or north-westerly direction. These depressions occasionally develop into cyclones.

But more worrisome than the occurrence of cyclones during the waning monsoon is the effect of widespread tree-felling on the intensity of cyclonic devastation in Kanniyyakumari district. A century ago, M A Lawson had described the forest cover in the hills as "so dense... it was impenetrable, inaccessible and remote" (Records of the Botanical Survey of India, Vol 1, 1894). As things stand today, Kanniyyakumari, the southernmost district of Tamil Nadu, has only 23 per cent of its land area of about 200,000 ha covered with forests. Most of these forests are thin and secondary.

Persistant deforestation to make way for rubber and tapioca plantations has been the most destructive form of land use in the district because it has ignored the necessity of natural vegetation. The clearing of forests has only intensified cyclonic destruction, as was clearly evident last year.

The deforestation of the hills started early in the 19th century with the arrival of coffee and tea planters from the UK. The ravages of the British were partially offset by teak and rosewood reserves maintained by the Travancore maharajas. After Independence, the Indian elite took over the plantations and tampered considerably with the forests. Till recently, encroachment had always been the norm. A fine example of negligence of private landholders was a major fire in 1970, which destroyed more than 354 ha of forest cover in the Mahendragiri range in 1970.

The most destructive form of land use in the hills came with the introduction of rubber by the forest department in 1957 and the subsequent establishment of a government rubber factory. Vast areas of forests were rapidly destroyed to accommodate this commercial crop and today more than 5,000 ha of forest land are under plantations, most of which grow rubber.

With the growth of rubber plantations, labourers from Kerala also moved in. Unauthorised settlements have been set up along forest roads in the plains for nearly 5 km at a stretch. There are more than 500 thatched huts, with an average of four people living in each hut. Besides, large areas of forests have been cleared to rehabilitate the Kanis, a tribe that used to practise shifting cultivation. There are 47 Kani settlements spread over an area of 1,200 ha in the district's forests. The Kanis are dependent on the natural vegetation around them for firewood, fodder and thatching material.

After the storm: Extensive deforestation intensifies the destruction caused by cyclones.
Primitive cultivation practices such as the planting of tapioca and coconut on cleared hill slopes and the extensive cultivation of tea, rubber and cloves on ground, clean and devoid of weeds, have exposed the top soil considerably. Thus, in a region that receives less than 2,500 mm of evenly distributed rainfall annually, the recent floods and landslides are obviously the fallout of inadequate natural vegetation cover in the hills. The cumulative effect was the extensive — and avoidable — loss of property and human lives.

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Peasant women list their woes to scientists

At a recent conference, women farm workers got a chance to discuss their problems with agricultural experts.

SALINE and degraded soils, inadequate water, poor quality seeds and the lack of means to own land — these are the main problems that Indian peasant women face. And this conclusion was arrived at not by agrarian economists or bureaucrats, but by peasant women from the villages of north India.

A recent conference of peasant women on agriculture and rural development in northern states, held in Delhi late last year and sponsored by the Centre for Women's Development Studies (CWDS) and the International Federation for Women in Agriculture, was unusual in that it brought women farm workers face-to-face with agricultural scientists. Said Veena Mazumdar of the CWDS, "We hope this will start a process of bringing scientific institutions closer to the problems of peasant women. We are trying to promote the bottom-up approach because this is the only way the voices of the completely marginalised can be heard."

Women representing 15 groups from Gujarat, Rajasthan, Uttar Pradesh, Madhya Pradesh, Haryana and Delhi, overcame inhibitions about expressing opinions in the presence of officials and spoke frankly about the circumstances of their lives. Most of the women who participated were landless. The few who owned small holdings spoke of the difficulties entailed in making small patches of stony soil bear crops. Shanti of Raipur zila narrated why women prefer to work for less money in fields owned by big landlords. "This way," she said, "at least we are assured of more work for a longer period."

When the women try and organise themselves for better wages or working conditions, there would invariably be stiff opposition from their own men. One participant revealed, "My husband asks me: Where is your iizzat (honour)? How can you speak to other men?" Another described how her husband prevented her from going to a mahila mandal meeting by insisting her place was in the kitchen. Asked whether women as leaders in the village helped matters, they were cynical. "Women are good when we elect them, but after a while, they become just like the others."

Migration problem

The search for work sometimes has grave social ramifications. For instance, in Dungarpur in Rajasthan, local employment is restricted to one or two seasons in the year. For the rest of the year, families migrate in search of work. This led to questions about how communities can do productive work in the villages during the off-season periods without having to migrate.

One scientist observed, "The peasant women have a very rich store of experience from which we can learn."

The scientific community seemed disheartened by the outcome of the conference. D P Sinha, head of IARI's agricultural extension, felt it was a failure because it provided a common forum for rural women and made them research sensitive to their problems. "The interaction will work only if it is a two-way process. Scientists have the attitude of approving only validated knowledge. Yet these women have a very rich store of experience from which scientists can learn," he observed.

However, Rahain Raman of IARI's genetic division was more critical. "These women are very intelligent, but they are poor and suppressed. The organisers should have called the block development officers and pradhan of the village to the meet because they are the decision-makers," he said.