32

ADVERSE ECOLOGICAL AND SOCIAL IMPACT OF LARGE- SCALE EUCALYPTUS PLANTING IN THE THIRD WORLD

A Report Compiled by the "Third World Network"

PART 1 : MOUNTING PROTESTS AGAINST EUCALYPTUS PLANTING

In recent months and years, there have been serious scientific critiques on the large-scale planting of eucalyptus trees in Third World countries. This eucalyptus planting is a major component of so-called "Social Forestry" projects that are supposed to improve social welfare and the environment. In reality, they have caused disastrous impact on the environment and adversely affected the water, soil and agricultural activities of surrounding poor communities. This has led to protests by farmers in Thailand and India.

The launching of Thailand's eucalyptus tree planting project has met with strong resistance. In June 1988, there were firery protests from angry villagers who stormed a forestry station and burned down eucalyptus nurseries, living quarters and equipment in Northern Thailand. The villagers were protesting against the spread of the commercial planting of eucalyptus, which they claimed would hurt the environment, and the government's attempt to remove them from their land to make room for the plants.

In March 1983, farmers in Karnataka, India demonstrated against new plantations of eucalyptus and destroyed hectares of seedlings. Their action was provoked by the drying up of streams due to the planting of eucalyptus in water-catchment areas. There have been similar protests from villagers in other parts of India which have been planted with eucalyptus. The villagers claim that eucalyptus causes wells to dry up makes the soil infertile and kills nearby plants.

The problem began when planting of eucalyptus in Third World countries was encouraged by the World Bank under its Social Forestry Plan. The plan was supposed to meet the needs of rural people for fuel, fodder and small timber.

In India, forest department officials have further claimed that the eucalyptus is the most suitable species for afforestation, being able to adapt well to dry and infertile ground. It also grows rapidly and is used for the production of pulp for paper and rayon mills. It also provides fuelwood and various types of eucalyptus oils. In Brazil, it has been used to produce charcoal for steel industries as well as timber and firewood. The government of Thailand has embarked on the planting of eucalyptus to ensure adequate firewood supplies.

PART 11: ADVERSE ECOLOGICAL AND SOCIAL IMPACTS

However, scientific evidence that has emerged together with complaints from grass-roots communities has thrown grave doubts on the usefulness of eucalyptus plantations. Large-scale planting of the eucalyptus has generated serious concerns about its ecological impact on essential resources and its implications for the long-term productivity of the land. The major problems caused by eucalyptus planting include:

1. Destruction of Natural Forests to make way for Eucalyptus

Vast amounts of rich natural forest in Karnataka, India, which have provided the basic material needs of villagers for centuries have been cut down to plant the eucalyptus tree under the huge World Bank sponsored social forestry plan.

2. Eucalyptus absorbs a lot of water from the ground, depriving surrounding communities of water for Domestic & Agricultural use

The eucalyptus tree has long roots which suck up too much water, depriving the land of vital moisture. Eucalyptus trees which grow in low rainfall zones have shallow and laterally spread root systems. This vast network of roots just below the soil surface extracts every bit of moisture in the soil, inhibiting other plant growth by creating competition for scarce moisture. It also inhibits recharging of groundwater, thus drying up the surface soil.

Long-term experiments on the impact

of eucalyptus on water resources show that in areas where the rainfall is less than 1000 millimetres, soil moisture and groundwater are badly affected in areas around eucalyptus trees. In the drier regions of countries like India and Thailand where the rainfall is well below 1000 millimetres, groundwater has depleted and the soil has become increasingly dry.

3. Eucalyptus causes soil to lose Nutrients

The nutrient requirement of eucalyptus for fast growth is very high. Compared to its high uptake of nutrients, it returns a very small quantity of nutrients to the soil through leaf litter, causing the soil to lose its nutrients in the long run. This would make it very difficult indeed for other plants to grow around it.

4. Eucalyptus makes soil toxic, affecting nearby crops

The eucalyptus also makes the soil toxic, inhabiting seed germination and plant growth, thereby reducing the yield potential of nearby crops in the vicinity. In some areas, the impact has been so severe that farmers surrounded by eucalyptus plantations had to dig trenches to protect their food crops. Studies carried out at the University of Agricultural Sciences in Bangalore showed that toxic substances added to the soil remain for a long time in low rainfall areas, making it impossible for crops to grow successfully near eucalyptus trees in such areas. The eucalyptus is also toxic to soil orga-

-isms such as earthworms which are responsible for building soil fertility and improving soil structure.

5. Eucalyptus increases threat of desertification

The effects of eucalyptus on soil moisture, groundwater, soil fertility and other plant life also reduces the potential of land for biological production, thus creating the threat of desertification. The destruction of the biological productivity of agricultural ecosystem would result in the destruction of livelihoods leading to forced migration to urban centres. With the displacement of foodcrops, the only employment and livelihood of millions of farmers would be threatened.

6. Eucalyptus reduces Biological diversity

Biologists in Brazil, where eucalyptus plantations abound, say that the densely planted eucalyptus shelter few indigenous animals or plants, therefore reducing the biological diversity of the region. The small holdings of villagers in Brazil have shrunk as huge areas of land are given over to agroforestry and cash crops for export. Eucalyptus also increase soil erosion, and are unsuitable for steeply sloped areas in the mountain ranges of Eastern Brazil.

PART 111: SOURCE OF PROBLEM: WORLD BANK AND OTHER FINANCING OF EUCALYPTUS PROJECTS

Wherein lies the problem? The Social Forestry Project of Karnataka, one of several social forestry plans, is funded by the World Bank and the Overseas Development Administration of the United Kingdom. Under the plan, large-scale plantation of eucalyptus on private rainfed farmlands is encouraged. Although the plan is stated as serving the needs of the rural people, it has not benefited the rural community at all. Eucalyptus produces insufficient fuel and fodder. (Local cattle cannot browse on eucalyptus leaves). Worse still, farmlands which previously produced foodcrops have been rendered infertile and therefore useless, much to the dismay of local farmers.

The principal interest in the massive planting of eucalyptus is in ensuring large supplies of wood and pulp for industrial use. The social forestry plan serves no social purpose, it is merely the conversion of foodcrop lands into massive tree farming for industrial interests — at the expense of the rural poor.

Dr. Vandana Shiva, coordinator of the Research Foundation for Science, Technology and Natural Resources Policy at Dehra Dun, India, said that eucalyptus has failed to provide for the basic material needs of Indian farmers. She further criticized the project for failing to address the problems of the communitie's poorest people. She also lamented the rocketing of fuelwood prices in India as a result of the widespread planting of eucalyptus as a cash crop.

In addition to the social forestry plan, the World Bank and several of its related organizations have started a Tropical Forests Action Plan. It is actually an expansion of on-going World Bank forestry projects supposed to have been set to "save tropical forests". In fact, it prescribes reforestation of natural forests with commercial planting of industrial wood. Again, it focuses exclusively on the economics of production of commercial wood and ignores the indigenous people of the forests.

PART IV: CONCLUSION: EUCALYPTUS PROJECTS SHOULD BE REVIEWED AND HALTED

In view of its negative social and ecological effects, further eucalyptus planting projects should be cancelled, and the World Bank should halt all projects. Third World Governments should learn a lesson from India's eucalyptus planting project, and not embark on eucalyptus planting.

We hope that Third World countries will heed repeated warnings from environmentalists as well as indigenous villagers who have cultivated agricultural land for centuries. The indiscriminate planting of eucalyptus would render their agricultural land useless. Village farmers would lose precious land and livelihood through this unwise plan.

Swift action is necessary in order to urge respective governments not to carry on this project which would ruin the lives of thousands of indigenous farmers.

(Report on Adverse Ecological and Social Impacts of large-scale Eucalyptus planting in the Third World).

Courtesy: *Third World Network.*

SOURCES

The following are among the most important studies on the impact of eucalyptus planting.

1. Vandana Shiva and Jeyanto Bandyopadhyay, Ecological Audit of Eucalyptus Cultivation, Research Foundation for Science & Ecology: Dehra Dun 1987.
2. D.M. Chandrashekar, B V Krishna Murti, S R Ramaswamy, 1987. Social Forestry in Karnataka: An Impact Analysis (mimeograph).
3. Vandana Shiva, Forestry Crisis and Forestry Myths: A Critical Review of Tropical Forests: A Call for Action, World Rainforest Movement: Penang 1987.
4. 'Villagers want log charges dropped', Bangkok Post, 3 June 1988.
5. 'Eucalyptus bonfire to protect against arrests', Bangkok Post, 4 June 1988.
6. 'Villagers mark nature event by planting trees', Bangkok Post, 6 June 1988.
7. 'Eucalyptus planting sparks fiery protest' The Nation (Thailand), 14 June 1988.
8. 'The "real bad guys" in deforestation', Bangkok Post, 4 June 1988.
9. 'Some second thoughts on Eucalyptus planting', The Nation (Thailand), 15 June 1988.
10. 'Eucalyptus: Serious study on pros and cons needed', The Nation (Thailand), 16 June 1988.
11. 'The Eucalyptus Tree: World's Saviour or Menance?', International Herald Tribune, 18 May 1988.
12. 'Social Costs of Social Forestry by S R Ramaswamy', Economic & Political Weekly, 25 June 1988.