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SCIENCE WORLD

*(a collection of development-oriented science news briefs that may be used as a column, or as separate items)*

FORESTS ARE FRIENDS IN NEED

(approx. 270 words) MAY 20 1982

One-quarter of the world's land surface is now forested, but this is expected to drop to one-fifth by the end of the century, according to IDRC Reports magazine. Although deforestation is not a new problem, the rate of destruction is unprecedented, and has reached alarming proportions in the Third World. For developing countries as a whole, forests are likely to shrink by 40 percent in the next 20 years.

In recognition of this fact, and seeing no viable substitutes for fuelwood in large parts of the world, the United Nations Conference on New and Renewable Sources of Energy last year adopted a resolution calling for the immediate acceleration of reforestation and afforestation programmes. The goal is to achieve a fivefold increase in annual tree planting rates by the year 2000.

Forests are important for much more than being sources of timber and firewood. Forests conserve water and help regulate local climate. According to China Features news agency, researchers have found that the leafy parts of a forested area can retain up to 20 percent of rainfall, and a hectare of forest can hold as much water as a 30,000 cubic metre reservoir. Trees also help in halting wind and sand erosion, purify the air, and may actually improve the climate.

This year, 1982, marks the 10th anniversary of the founding of the United Nations Environment Programme. To celebrate its birthday, UNEP has launched a project called "For Every Child a Tree," which it hopes will result in the planting

of billions of trees through worldwide reforestation programmes and generate global concern for the plight of our dwindling forests.

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BEATING BACK THE DESERT

(approx. 230 words)

The Sahel zone of Africa once had huge areas of natural forest, but today it is virtually a desert. In an effort to halt the creep of the desert sands, the government of Niger in West Africa asked Canada's International Development Research Centre (IDRC) for help in an experimental village woodlot project.

Begun nine years ago, the project has been highly successful, and the villagers are now beginning to harvest firewood and timber from their lots. A total of 165 hectares were planted in 59 villages. All were planted by and for the villagers with the assistance of researchers and extension workers from the Water and Forestry Service of the Ministry of Rural Development.

The innovative project developed simple techniques for clearing and preparing the soil, for producing and transplanting seedlings, and for irrigating and maintaining the plantations. Experiments with growing food crops between the trees also proved successful, and helped increase the villagers' involvement in the project.

In the Matamèye region, where further research is now underway in a second phase of the project, survival rates for the seedlings were better than 90 percent. Now the World Bank and other major donor agencies are studying the project with a view to using the techniques to beat back the deserts in other areas.

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CHINA'S GREAT GREEN WALL

(approx. 230 words)

Sichuan province in southwest China was hit with the worst flooding in a generation last summer. Unusually heavy rains were the direct cause of the calamity, but the real problem is considered to be the serious deforestation on the upper reaches of the Yangtze River, reports the China Features news agency.

The province has suffered repeated deforestations -- first to build imperial palaces in the last century, and later in the steel-making campaign of the 1950s, and the "grain first policy" of the 1960s. Massive indiscriminate tree felling

has left very little tree cover, and as a result the Yangtze now carries away an estimated 6.4 million tonnes of topsoil into the sea every year from Sichuan province alone.

Taking the floods as a warning of worse to come, the government has launched a nationwide tree-planting campaign, under which everyone over the age of 11 (except the elderly and the disabled) must plant three-to-five trees each year. There are plans, too, for a massive tree shelterbelt to run right across the northern part of the country -- China's great green wall. In addition, farmers have been instructed to plant trees instead of crops on steep hillsides to prevent erosion.

Putting it all together, China expects to plant three thousand million trees in 1982.

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PROSOPIS SHOWS PROMISE IN PERU

(approx. 250 words)

One of the foremost weapons in the battle against desert encroachment may be a tree called Prosopis. The tree comes in many varieties, and has many local names -- algarroba, mesquite, kiawi, jandi, and ghaf among them -- and they all have one thing in common: they will grow under very adverse arid conditions, even in salty soils. The leaves and seed pods of many species also make excellent animal feed.

Researchers in Peru, supported by a grant from Canada's International Development Research Centre (IDRC), are studying local varieties of prosopis as part of a project to rehabilitate the arid lowlands in the northern region around Piura. This densely populated region receives only 100 mm of rain each year, and agriculture is entirely dependent on irrigation. The original savannah type woodland has been almost completely destroyed to meet the demand for firewood, charcoal, and timber, and the destruction has been completed by the goats on which the poorest farmers depend.

The Peruvian forest service has already done some experimental plantings with local prosopis varieties, and is now concentrating on the selection and development of those that will best withstand the harsh conditions of the region and will grow on soils not suitable for agriculture. During the three-year project various

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combinations of prosopis trees with crops and animals will also be tried, and there are plans to use windmills to pump wastewater to the prosopis plantations for irrigation.

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