

ICRAF: A DECADE OF AGROFORESTRY

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Photo: David Spurgeon



Tree nursery at Got-Osumbo Primary School in western Kenya where students learn about agroforestry. Top, a nursery operator with tree seedlings, in Machakos, a semi-arid area of Kenya.

In 1975 a study team led by the late John G. Bene, then senior advisor to the president of IDRC, published *Trees, Food and People*, which called for a new approach to agricultural and forestry problems of the Third World.

Thus began a chain of events that led to the formation, in 1977, of the International Council for Research in Agroforestry (ICRAF). In September, with the holding of a two-day conference in Nairobi featuring addresses by world leaders in agroforestry and attended by representatives of more than 100 organizations, ICRAF celebrated its 10th anniversary.

The conference, held in ICRAF's new headquarters building adjacent to the United Nations complex in Gigiri, just outside Nairobi, marked the coming of age of a new scientific discipline with prehistoric roots.

Agroforestry is the term used to describe agricultural systems in which shrubs and trees are grown together with food or plantation crops on the same piece of land, sometimes in association with livestock. Such systems can be highly productive and sustainable. They offer one solution to the problem posed by a recent report of the UN Food and Agriculture Organization which predicted that by 2000 A.D., assuming present levels of agricultural inputs, the developing world will contain 500 million

more persons than its land resources can support.

Shifting agriculture, perhaps the earliest form of agroforestry, is believed to have originated as early as the neolithic period, around 7000 B.C. In this practice, still found in many parts of the world, farmers clear forest areas to plant food crops, then after some time move on to repeat the process, leaving the forest to regenerate behind them. Yet, apart from research by some colonial governments in the tropics, it is only within the past decade or so that agroforestry has become the object of concentrated scientific study.

ICRAF has played a major role in this regard. It is, in fact, the only international research body devoted entirely to the field. Since its establishment, interest in agroforestry and support for it by international funding agencies and aid-giving countries has increased markedly. From 1977 to 1986, for example, lending for agroforestry projects by the four multilateral development banks increased from 6 percent to 37 percent of their total forestry investments.

ICRAF's funding comes from 15 donors, including governments, foundations, and development agencies. Canada has been among them from ICRAF's inception, both through IDRC and the Canadian International Development Agency. IDRC also served as the execu-

ting agency in establishing ICRAF.

ICRAF is an autonomous, nonprofit research council governed by an international board of trustees with equal representation from developed and developing countries. With the exception of a representative of the host country, Kenya, trustees are elected on individual merit, not as official delegates from countries or organizations.

What are the advantages of agroforestry for Third World farmers? Besides producing food crops, it supplies them with tree products such as fuelwood, fruits, and fodder. Trees can also be used to supply poles for fencing, while their leaves can be used for mulch. Their roots pump up nutrients from deep in the soil and, if they are leguminous, the trees themselves provide a source of soil nitrogen to fertilize the food crops.

Trees provide shade for animals while ground cover crops provide the animals with fodder. Meanwhile, the animals' droppings fertilize the fields they graze. Trees also may serve as windbreaks, and shrubs as living fences.

Numerous examples can be found of successful agroforestry practices in a variety of countries. Food crops such as cocoa in Malaysia, cassava in India, banana in Jamaica, and pineapple in the Philippines are intercropped with coconut trees. In arid and semi-arid areas, food crops such as millet are grown in association with leguminous trees.

In Malaysia, sheep, poultry, and bees are integrated into the rubber plantations of small landholders, in order to make use of surplus family labour and of the land spaces between the rubber trees. The practice also provides shade and cheap feed for the animals, which eat the weeds in the interspaces, while the sheep manure benefits the rubber trees.

ICRAF acts as a resource for countries wishing to improve their farmers' lot through the use of agroforestry techniques. It has developed a method dubbed "D & D" (diagnosis and design) to identify agroforestry potential in a given set of circumstances. It has also set up computerized banks containing information about multipurpose tree species.

The trial-and-error approach of farmers has taken centuries to bring agroforestry practices to their present state. ICRAF has existed for only one decade but in that short time has established an independent set of agroforestry principles and a specialized body of knowledge. These continue to develop and are bringing to more and more Third World farmers the concrete benefits of cultivating trees and crops together. ■

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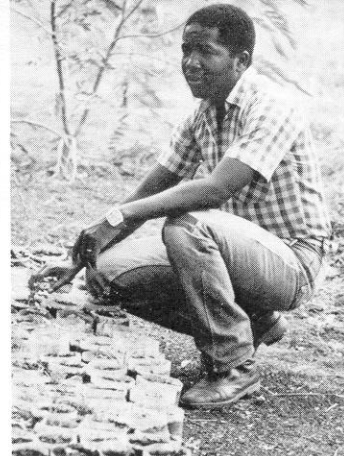


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