

PROJECT SUMMARY

TITLE OF PROJECT: Intensified transfer of forest genetic technology and information in Central America (CATIE Tree Improvement Project).

R NUMBER: R5399

RNRRS PROGRAMME: Forestry

PROGRAMME MANAGER: OFI

SUB-CONTRACTOR: OFI

RNRRS PROGRAMME PURPOSE: The use of trees within farming systems, including community and farm woodlots, optimised.

RNRRS PRODUCTION SYSTEM: Semi arid

COMMODITY BASE: Tree fodder, fuelwood, charcoal, poles, sawn timber, non-timber forest products.

BENEFICIARIES: Resource poor farmers

TARGET INSTITUTIONS: CATIE, Central American forest departments and seed banks, NGOs

GEOGRAPHIC FOCUS: Costa Rica, Central America

START DATE: 01/11/92 **FINISH DATE:** 31/03/96

TOTAL COST: £208,467

1. Project purpose:

The CATIE (Centro Agronómico Tropical de Investigación y Enseñanza) Tree Improvement Project (TIP) was inaugurated in 1977 to identify and produce superior multipurpose tree species germplasm in response to the consequences of deforestation in Central America. Since that time the TIP has worked with 18 species at various intensities from provenance to clonal selection. The first progeny tests and seed orchards in Central America for a number of native and exotic species have been established, and considerable expertise has been developed in the use of appropriate low-cost cloning techniques.

Although the scientific work of the Programme has succeeded there is a need to transfer the research results to end users, thus **promoting multipurpose tree species with improved performance and their use in agroforestry systems.**

2. Outputs:

The overall project objective was **to increase the speed and efficiency with which multipurpose tree species information and technology are generated and transferred to end-users in Central America.** The specific objectives were:

- 1) to identify key workers in tree improvement, seed banks and reforestation projects in the Central American region, and to set up an extension network to increase the speed and efficiency of transfer of technology and research results;
- 2) to produce twice or thrice-yearly extension bulletins, each one featuring a single theme, usually genetic information on a particular species but also information on general tree improvement techniques;
- 3) to hold 2-3 field days per year based around the trials established by the project, each one directed to a different target group (foresters, technicians, farmers) to increase the impact of the information communicated through the extension network;
- 4) to establish and maintain demonstration plots, pilot plantations and seed production areas on farmers' land, thus reinforcing the process of technology transfer;
- 5) to maintain and evaluate existing trials on a continuous basis, generating useful information of direct interest to smallholder reforestation projects in the region.

3. Contribution of outputs to project goal:

The five objectives set out in 2 above were achieved in full, thus contributing to the **optimisation of the use of trees within farming systems, including community and farm woodlots.**

A computerised database was set up to assist in managing an extensive network of over 200 key workers and farmers. Regular contact with network members was maintained through field days, participation in the Link Group on Native Species and visits to 68 organisations in the Atlantic, Central, Pacific and Southern Zones of Costa Rica (objective 1). Twenty-three publications were produced, most of which were published locally. Six numbers of the extension bulletin *Boletín Mejoramiento Genético y Semillas Forestales* were produced by the project (objective 2). Seven field days and workshops were held (objective 3). Seven demonstration plots were

created, five seed orchards planted and eight progeny tests rogued (objective 4). Fifty-four trial assessments and subsequent data analyses were completed. The results included the first reports on provenance variation in *Alnus acuminata* and *Vochysia guatemalensis*. Large differences were detected (objective 5).

Overall, the project played a major role in raising farmers' and foresters' interest in, and concern about, genetic variation and tree improvement. Consequently, no problems were encountered with the uptake of improved seed, which became available for the first time through the project.

4. Dissemination products:

See PROREC output.

5. Follow-up:

The field management needed to increase the availability of improved seed will be maintained as part of the CATIE-DANIDA (Danish International Development Agency) Forest Seed Project's support to the Costa Rican forestry sector. Continuity in the genetic development of the base populations will be assured with the aid of a compact guide to the trials and orchards prepared by R5399.