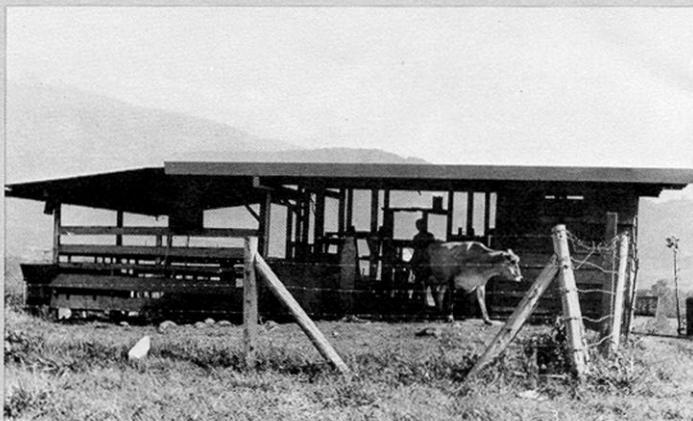


# Understanding the small rancher

Susana Amaya



Eduardo "Lalo" Vega, 33, father of four and a primary school graduate, started off as a ranch hand and farm manager, learned the cattle trade, and proceeded to fall in love with it. On the nine hectares of land he bought in Santacruz, at 1200 metres altitude near Turrialba, Costa Rica, he set up a specialized dairy farm. In three years, dairy farming has enabled him to repay half of his debts (us\$20 000), make many improvements, and recently, buy a small work truck. Although he has only 17 cows, they, like the land, are well-managed. The land is divided into many pastures, which are used on a rotating basis. The cheese he and his wife make from the milk, with the occasional help of a nephew, is sold on the farm to merchants. Eduardo is also the local "veterinarian" and he gives generously of his experience and knowledge to other producers in the region.

The case of Eduardo Vega is rather exceptional and can basically be explained by his hard work, his understanding of dairy farming and management, and his ambition. His success is not the product of technical assistance programs, training courses, or management schemes developed in experimental research programs, although Eduardo does not refuse this type of assistance when it is available — and useful. For instance, his contact with professionals and experts from CATIE — the Centre for Tropical Agricultural Research and Training based in Turrialba, in the Atlantic lowlands of Costa Rica — has given him the opportunity to discuss his problems and improve his cattle management.

Lalo Vega was one of a sample of 230 farmers interviewed by CATIE. The sample was made up of farms of less than 50 hectares or fewer than 25 head of cattle, representative of 60 percent of all Costa Rican farms. The survey was carried out between November 1977 and January 1978 in Turrialba, San Carlos, San Isidro de El General, and Guapiles in order to learn about the different cattle-raising and agricultural production systems in

use on small and medium-sized farms in these regions, and the farmers' resources and constraints. The first survey was of a static nature: to record farm conditions and characteristics at a point in time. In order to obtain a dynamic picture of resource flows and management, a second survey was then undertaken that included the observation and recording of the activities of 40 farmers selected from the original sample over a year. Eduardo Vega was in this group. He is also one of 10 producers with whom CATIE will continue to work during the next year.

Although cattle raising is important in Costa Rica and other Central American countries, little is known about the systems used by small and medium-sized ranchers. CATIE's animal production program is directed at this group, and endeavors to improve their cattle-raising systems. A three-year project to develop integrated crop-livestock production systems began with IDRC assistance in 1977, under the direction of a Peruvian economist, Manuel Ruiz, of the Panamerican School of Agriculture in Honduras. Working with Dr Ruiz on the project are Marcelino Avila, agricultural economist, and Danilo Rezo and Arnoldo Ruiz, nutritionists. Their work is part of the animal production program headed by a Chilean agrostologist (a specialist in grasses), Gustavo Cubillos.

Cubillos explains their study of the role of cattle raising on small farms on the basis of understanding what producers think and do, or could potentially do. This is why the study and its follow-up are so important. The result is a two-way training experience benefiting both farmers and researchers. The experience gained by the researchers is in turn used to generate a methodology for the transfer of technology.

In order to have a direct on-site learning experience, CATIE has built an experimental station known as the "IDRC-CATIE module" in which researchers are studying the dual-purpose form of cattle raising revealed by the survey to be most common in the region. In this type of system, cows are permitted to

nurse their young, and only milked once a day. Milk and meat — the calves — are therefore obtained, illness in calves is reduced, and calf mortality declines. However, it also means that milk production decreases in relation to the reproduction rates. Both of these points are under study.

Built on CATIE-owned land, the experimental farm simulates actual farming conditions. At present it has 14 cows, all of which calved in 1978. Plantain, cassava, and a mixed-crop of corn and beans are grown. Trees, mainly the *poro* (*erytherina preppigiana*) and the *madero negro* (*glinicidie sepium*), are used as live fences.

Dual-purpose cattle raising, very popular in Central America, accounts for 57 percent of livestock production in Costa Rica, 68 percent in Panama, and more than 80 percent in El Salvador. The advantages of this system are above all socioeconomic: the prices for the products mutually compensate each other, thereby minimizing the risks to the producers.

The inclusion of crops in this system and the use of crop residues are also being studied. One area of research deals with the use of tropical crops as animal feed. In experiments with cassava, crop density is varied in order to determine the effect on root and foliage production. Cassava foliage is rich in protein — the scarcest nutrient in tropical areas — and, if managed differently, could be produced to replace alfalfa (which is not grown in the tropics) as a source of fodder.

Another area of research is the use of crop by-products. The bean plants, for example, are pulled out of the ground when the beans are harvested, and after the beans have been removed, the foliage and the roots are burned or discarded. Experiments have shown that cattle will eat these residues, and milk production is increased when they are fed bean straw, supplemented with crude protein and molasses. Corn, sweet potatoes, and sugarcane offer similar possibilities as ingredients in cattle feed.



Photos: F. Solano

*Eduardo Vega (right). Small-scale cattle raising is being studied at CATIE's experimental "module" in Costa Rica (left).*

Within CATIE itself, the project has contributed to strengthening the multidisciplinary approach in the study of the farm as a system, as different disciplines are involved in the study. The project has also enabled students from nine Central and South American countries to undertake postgraduate and in-service training.

Work in the project will continue for another year during which biological research will continue. Eight out of 11 studies have been completed so far: they include topics such as digestibility, nutritive value, voluntary consumption, effects of agronomic practices with beans, cassava, corn and sweet potatoes. The work with the 10 selected farmers will also be continued. This study is intended to document the receptivity and acceptance of these farmers to technology transfer.

On a larger scale, the research has been extended through cooperative efforts with IDIAP — the Agricultural Research Institute of Panama — and, at the national level, the project has involved the Ministry of Agriculture and the Institute of Land and Settlement in different geographical and ecological zones. In many cases, the work is complemented by projects supported by the Interamerican Development Bank and AID's Regional Office for Central America and Panama.

Created five years ago by the Costa Rican government and IICA (the Inter-American Institute of Agricultural Sciences) — which endowed it with a scientific legacy — CATIE aims to support Central American and Caribbean countries in the areas of food production and forest development. Focused on the small farmer and international in outlook, CATIE is well suited to undertake projects such as the Centre-supported animal production project which will benefit low-income rural peoples. □

## Media meets the masses

Susana Amaya



Photo: Jaime Rojas

*A cassette school in the village of Sao Paulo, Brazil, reaches out to isolated populations.*

The road from Sananduva to the tiny village of Sao Paulo — a cluster of houses around a church, parish school and meeting hall — swiftly rises and falls, wraps itself around sharp curves and opens onto deep valleys, dark green mountain landscapes, and fields of soybeans and millet that climb up steep hills.

The village parish hall is large and well-equipped. Divided into two rooms, it has electric lights — a service that only recently reached this community. As it gets dark, farmers and their wives — many of them with children — arrive and are seated. They are serious and quiet, their unmistakably European, particularly Italian, origins reflected in their colourful clothes and fleeting conversations in their mother tongue. The group grows to about 50. Then Selina DalMoro, Director of Municipal Education in Sananduva and local coordinator for the Father Landell de Mouro Educational Foundation (FEPLAM), addresses the gathering to explain the importance of the courses that are beginning, the methodology to be used, and to thank the students for their participation.

The group then divides into two, women in one room, men in the other. Each group has an instructor who begins today's lesson by playing a tape cassette that is frequently stopped and commented on. One course is on fruitgrowing, the other on horticulture. Each is 68 hours long, and classes will meet as often as the student's schedules allow, depending on the work in the fields. In addition to attending classes where they listen to a tape some 25 minutes long and to the instructors' comments, the students receive a text and exercise book. When they finish the course, they will receive an attendance certificate.

The Sao Paulo cassette school is one of hundreds like it in the state of Rio Grande do Sul, each of which has 25 to 35 students led by a monitor or teaching assistant.

Many adult education organizations in Latin America use the mass media. Most of them are directed by religious organizations or are affiliated to churches. FEPLAM may be the only exception, although it bears the name of a priest, Father Landell de Moura, a noted Brazilian scientist who patented a radio transmitter before Marconi. The foundation has borne his name since 1967, two years after its establishment in the town of Porto Alegre. Originally called the Educational Radio and Television Service (SERTE), it was created as a result of an agreement between the Ministry of Education and Culture of the Brazilian government and the Secretariat of State for Rio Grande do Sul state.

The use of "tele-education" originated and developed in Latin America where the mass media, particularly radio, offer the only possibility of reaching isolated rural populations