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grassroots development

JOURNAL of the INTER-AMERICAN FOUNDATION

SOCIAL FORESTRY IN EASTERN BOLIVIA

¿TU ERES ANSELMO CHUMBI? ... SI

CREDITING CAMPESINOS IN PARAGUAY

STAGES IN MICROENTERPRISE

GROWTH IN THE DOMINICAN

INFORMAL SECTOR



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Cover photo: Alejandro Estrada—just back from orange-picking in Phoenix, Arizona—loads a burro with cement for building a water deposit in Guanajuato, Mexico. Philip Decker.

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Volume 9, Number 2, 1985

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**THE AYOREODE-ZAPOCO
COMMUNAL SAWMILL:
A SOCIAL FORESTRY PROJECT
IN EASTERN BOLIVIA**



"We lived contented in the forest. When we were put in a mission village, it was a world we did not understand: houses, clothing, new kinds of food. Everyone felt a great longing for the life we had lost. The missionaries gave us medicine, but more of us died than before. Our teeth fell out, and our women and children withered. There is no return. But where is our road going?"

This is how one Ayoréode Indian described the abrupt transition his clan had to make when their lives as hunter-gatherers ended just 30 years ago. Since then, the number of Ayoréode has decreased by about 60 percent—and rapid boom-bust colonization has laid waste to over 50,000 hectares of forest in the lowland department of Santa Cruz, Bolivia. Recently, anthropologist Shelton Davis visited the remote village of Zapocó to see how one group of Ayoréode are trying to renew their culture—by protecting and selectively harvesting the forest resources around them.

SHELTON H. DAVIS

Tropical forests and the Indians who live within them both suffer when bulldozers plough through virgin lands. The Indians can often do little more than silently witness the forests coming down. But in a remote region of Bolivia, Indians themselves are now running a sawmill.

This rudimentary mill is owned and operated communally by the Ayoréode

Indians* of the village of Zapocó in the province of Ñuflo de Chavez, Department of Santa Cruz. The Ayoréode, who once lived an independent existence as nomadic hunters and gatherers in the forests of the eastern Chaco, today number less than 2,000 people and live a miserable settled existence at scattered mission stations in eastern Bolivia and northern Paraguay. Zapocó is one of these Indian mission stations, founded by the South American Mission in the late 1940s and now the home of approximately 140 Ayoréode and 30 Chiquitano Indians (a neighboring indigenous group). With their long black hair, their decaying teeth, and their ragged clothing, the Ayoréode are easy to recognize as one of the poorest, most culturally depressed indigenous groups in the eastern lowlands of Bolivia.

Since 1982, the Inter-American Foundation has been financing their sawmill development project. Although relatively inexpensive (approximately \$120,000 over a two-year period) and small in scope (reaching a community of less than 200 people), the project takes on special significance for development planners who are interested in creating ecologically sustainable development for the tropical lowlands of South America.

A group called Ayuda Para El Campesino del Oriente Boliviano (APCOB), aiding more than 40 Indian groups of eastern Bolivia, is the actual grantee for the Ayoréode-Zapocó communal sawmill. The project also forms part of a

*The tribe has several names, including Samucoces, Zamucos, Morotocos, Potureros, and Guarañocos. The people of Zapocó call themselves Ayoréode.

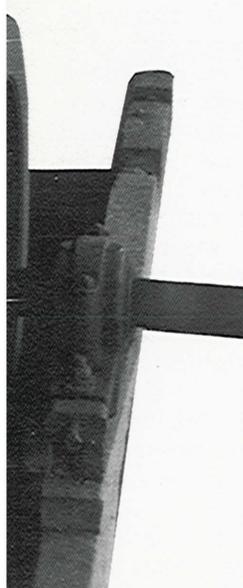
larger program of inter-ethnic economic cooperation and indigenous land-and-resource protection being promoted by the Central de Pueblos y Comunidades Indígenas del Oriente Boliviano (CIDOB), an indigenous federation founded in 1982. Its purpose is to demonstrate that indigenous groups of the tropical lowlands can preserve and protect their natural resources while simultaneously developing self-sustaining and self-managed local economies.

Early in 1985, I spent 16 days assessing the social and economic impact of the Ayoréode-Zapocó communal sawmill. Like so much else in Bolivia, I found that the evolution of this small rural development project was subject to the larger political and economic problems of contemporary Bolivian society (see Kevin Healy's "On the Road in Rural Bolivia" in *Grassroots Development*, vol. 9, no. 1). Yet, there are also some unique features—not the least being that it is operated by a group of forest Indians who, only a few decades ago, were nomadic hunters and gatherers.

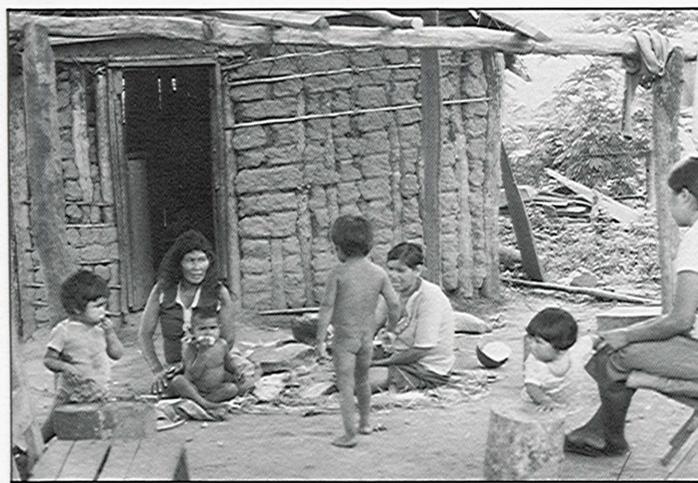
INDIGENOUS PEOPLES AND THE NATIONAL FORESTRY LAW

APCOB was established in 1978 by a small group of anthropologists and linguists who had carried out research in the Bolivian Oriente, and wanted to help the indigenous groups to adapt to national society while respecting their cultural identities. Although their work began with much idealism, they were aware of the difficult problems faced by

Log being planed at Ayoréode-Zapocó communal sawmill.



APCOB



Ayoréode women and children outside "one-room house" in Zapocó.



Commercial logging truck on outskirts of Santa Cruz.

indigenous groups trying to relate to Bolivian society without losing their own identity.

The Indians of the eastern lowlands are scattered over an immense geographic area, do not understand each other's languages, exist in various stages of acculturation or contact with national society, and number over 130,000 people. Most important, the great surge of agricultural, petroleum, and natural gas development that has taken place in Santa Cruz during the past decades has had a dramatic effect on social and inter-ethnic relations in the region.

On the one hand, thousands of Quechua-speaking Indians from Cochabamba and other parts of Bolivia have migrated to Santa Cruz as seasonal or permanent farm workers on new sugar and cotton plantations or as settlers in state-sponsored colonization projects. On the other hand, indigenous tribal groups from the region—such as the Ayoréodes, Guarayos, Chiquitanos, and Chiriguano of Izozog—have found their traditional homelands and ways of life threatened by new roads, cattle ranches, and resource development projects.

In addition to their economic marginalization, these indigenous groups (unlike the larger and more powerful Aymara- and Quechua-speaking Indian groups of the highlands) find their traditional lands and communities without any legal recognition or protection from the Bolivian State. The Bolivian Agrarian Reform Law of 1953, for example, focuses almost exclusively upon land tenure problems of indigenous peasants in the highlands and contains few provi-

sions for protecting the land rights of the more-dispersed indigenous tribal groups in the lowland areas. Those few sections of the law that do refer to the lowland indigenous tribes describe them as jungle-dwelling groups living in a "savage" condition and possessing a "primitive" level of social organization.

"In general," as Jürgen Riester, the founder and current Director of APCOB, writes, "the Bolivian legal system not only does not promote the autonomous development of the lowland Indian groups, but it specifically accepts the tutelage of private institutions and protection by the state. There are no legal mechanisms which permit or encourage the independent development of Indian communities."

The problems that the lowland Indian groups face in controlling their lands and resources, and hence in being ensured some possibility of autonomous and independent development, are clearly reflected both in the General Forestry Law passed in 1974 and a law governing wildlife, national parks, hunting, and fishing passed in the following year. Although these laws contain conservation provisions, they provide only limited recognition of Indian rights to the fish, the wildlife, and to forest resources.

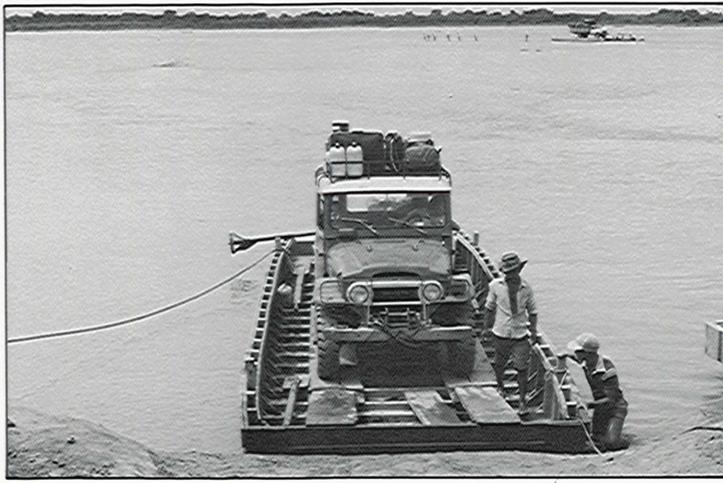
The 1974 General Forestry Law, for example, contains no provisions for indigenous control of timber resources in tribal territories. Nor does the law contain any provisions for indigenous peoples to independently manage and develop their forestry resources. To the contrary, the law merely states that the Center for Forestry Development (which is charged with managing, protecting,

and developing the forest patrimony of the country) will train and hire *individual* Indians as tree cutters and forest guards.

Since the mid-1970s, the Bolivian Center for Forestry Development has been ceding large areas to private companies for forestry development with little concern for the interests of the native inhabitants or the preservation and protection of forest resources. Despite legislation calling for such actions, few private lumber companies have utilized forestry management, selective tree-cutting, or systematic reforestation. The general practice in eastern Bolivia, and throughout most of lowland South America, is for private lumber companies to clearcut the forest as the quickest way to make profits. Many companies also send out hunters to kill game to feed workers, thus destroying the wildlife upon which many indigenous groups depend.

Prior to the establishment of the sawmill, the Ayoréode of Zapocó were working as loggers for private companies and other institutions (e.g., the Vicariate of Ñuflo de Chavez) who were licensed to exploit the rich timber resources on tribal lands. In fact, it was not until APCOB offered to assist the Ayoréode in the establishment of their own communal sawmill that the Indians conceived of processing their own timber for commercial purposes. Although the Ayoréode have a sophisticated knowledge of the environment, they possess no framework to protect, manage, and develop their forests.

A major objective of the communal sawmill is to demonstrate to state agencies, like the Center for Forestry Devel-



Communal sawmill's jeep being ferried across Río Grande during flood stage of rainy season.

opment, that indigenous communities can commercially develop their forest resources without destroying the forest. For this reason, the APCOB staff has directed much effort toward teaching the Ayoreode to conduct forest inventories, to select only mature trees of certain species for cutting, and to initiate a program of integral forest management and reforestation. As Nohaine Picanerai, one of the Ayoreode leaders, told me on my first day in Zapocó, "We are the only Indians in eastern Bolivia who have a sawmill, and we are caring for it so our children and the forest where we live can benefit and thrive."

THE AYOREODE-ZAPOCO COMMUNAL SAWMILL

Two things immediately strike the outside observer about the Ayoreode-Zapocó communal sawmill. The first is its general isolation from the social and commercial centers of Bolivia. Not only is the sawmill located in one of Bolivia's major frontier areas, it is also situated in one of the most isolated parts of this frontier. During the rainy season, it takes from 15 to 18 hours to reach Zapocó by jeep. Only the first hour of this journey is over a paved road—the remainder is over a dirt road through mountains and jungle. At the end of the road stands Zapocó. There one finds a large water tower built by the Mission; a screened-in house that formerly housed a North American missionary family and that now houses the APCOB staff; the Indians' disordered array of small wooden and thatched houses; and the

sawmill and its lumberyard, garages, and workshops.

The second impression one has is the strong commitment of the APCOB staff to the Ayoreode people and the sawmill project. Three APCOB staff members work with the Ayoreode project and live in Zapocó most of the time: project coordinator Guido Vega, project forester Rosas Cuellar, and project mechanic Guillermo Antelo. These three men have an enormous respect for the Ayoreode people and their culture, as well as a desire to protect the endangered forests of Bolivia. As former field employees of the Center for Forestry Development, Guido Vega and Rosas Cuellar have walked through much of eastern Bolivia, spending weeks surveying and measuring protected areas. They have seen the environmental damage caused by the lumber companies and are convinced that the Ayoreode project will provide a model for a socially and environmentally sound forestry development policy.

During the first year after the project's establishment, the APCOB staff worked to provide the Ayoreode with the technical, organizational, and administrative skills needed to operate and manage the communal sawmill. First, Guido Vega and Rosas Cuellar conducted a survey of forestry resources in the area of Zapocó. This survey included an inventory of all commercial tree species on Ayoreode lands, the demarcation of the land area possessed by the Ayoreode community, and an assessment of the scope of previous logging. Once they had this information, the Ayoreode applied to the Center for Forestry Development for a license to develop the forestry resources of the



Guido Vega and Rosas Cuellar (in the back row) and men from the sawmill workforce.

area.

APCOB hired a master sawmill foreman to organize the mill's first two years of operation. The foreman assisted the staff in teaching the Ayoreode all the skills associated with the cutting, transportation, and industrial transformation of timber. The sawmill workforce was organized into two rotating monthly shifts of seven men each. For each shift, there is an Ayoreode man who has been taught to use, manage, and repair the machinery. One Ayoreode youth has learned the skills to administer the sawmill, including how to measure cut timber and processed wood. Two other youths have learned to drive and repair the project tractor and trucks.

Finally, the APCOB staff has conducted a series of training workshops in chainsaw use and maintenance, mill operation and administration, natural resource protection, accounting, adult literacy, and nutrition. The courses on the use and maintenance of chainsaws and the operation and administration of the sawmill have proved so successful that they are now being attended by other lowland indigenous groups. In fact, as a result of their participation in these courses, the neighboring Chiquitano communities of Lomerio are formulating their own plans to establish a sawmill in order to exploit the rich timber resources on their lands.

THE SELF-MANAGEMENT COMMITTEE

From the beginning, APCOB was interested in making the sawmill a self-



Stripping bark from log at communal sawmill. The master foreman is third from right.



Preparing a log for planing.

managed and economically viable enterprise under community control. Initially, APCOB thought that within five years the project could be fully controlled and administered by the Ayoréode. While the project staff remains committed to this goal, they are now more realistic about the difficulties involved in placing the sawmill completely in Ayoréode hands, particularly given the lack of basic accounting, management, and literacy skills among the indigenous population, and the factional rivalries that exist in Zapocó. In the summer of 1984, however, an event occurred that accelerated the process of Ayoréode self-management.

At one of Zapocó's nightly village assemblies, Chinoi Picanerai, a Protestant pastor and one of the village leaders, accused Mario Picanerai, the project tractor driver, of using the tractor for his own needs rather than for the benefit of the community. Chinoi Picanerai also accused Guido Vega, the APCOB project coordinator, of deceiving the community by claiming that "the truck is ours" (i.e., that it actually belonged to the community). Chinoi and one of his allies, a Chiquitano pastor and school teacher, were angry that the project would not let them use the truck to carry corn from neighboring communities.

The dispute raised the issue of how to balance the conflicting demands of the project with the consumer and transportation needs of the local Indian community. Later, in traditional Ayoréode fashion, another meeting was called, and Chinoi apologized to Mario and the APCOB staff for his accusations and asked for their forgiveness. As a result of

this second meeting, the APCOB staff suggested that a formal self-management committee be organized and that an *acto* (a set of bylaws) be drafted to define its functions.

According to the *acto*, drafted in November 1984, the self-management committee signs all contracts concerning the functioning of the sawmill, plans the sawmill's work schedule and activities, resolves problems that arise in the use of sawmill property, makes monthly reports on the sawmill, and sets wages for the opening of roads and the cutting of logs. It is hoped that the self-management committee will eventually take over full management of the sawmill, leaving only technical assistance and training programs in the hands of the APCOB staff.

By early 1985, the self-management committee was fully involved in planning the work and production schedule for the sawmill and in processing the papers needed to obtain annual permission from the government to cut timber. Although it is still impossible to predict whether the sawmill will become a totally autonomous enterprise, there is no doubt that establishment of the self-management committee is a positive step in this direction.

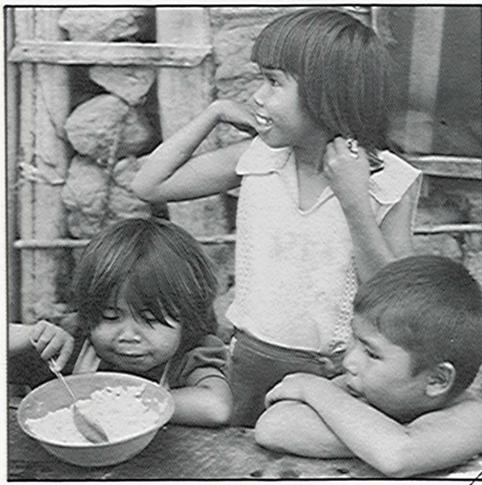
SOCIAL, ECONOMIC, AND CULTURAL IMPACTS OF THE SAWMILL

The Ayoréode have responded positively to the sawmill because of its favorable social, economic, and cultural impacts. Surely, the major impact of the mill

has been upon employment opportunities and income in Zapocó. Prior to the sawmill, the only salaried positions in Zapocó were those of the schoolteacher and the caretaker of a community cattle herd, both of whom were paid by the South American Mission. The only other ways that the Ayoréode could earn money were through seasonal contracting with local ranchers or timber companies or by cutting wood from their own forests for the Vicariate.

Fifty of Zapocó's 52 men earn income from the sawmill and its associated activities (the other two are elderly and receive a stipend). In December 1984, for example, the seven plant workers, the sawmill administrator, tractor driver, and trucker's assistant earned a total of 9,680,000 Bolivian pesos (approximately \$675). Between July and December 1984, those employed in opening roads and in logging earned a total of 6,000,962 pesos (approximately \$420). Although in terms of purchasing power after inflation the total income was not significant, it marked an appreciable contribution to individual household incomes and community welfare.

Of equal importance is the impact the sawmill is having on other aspects of Ayoréode life. In the organization of the sawmill, the APCOB staff decided the forestry project should not compete with food-producing activities (the Ayoréode produce rice, yucca, camote, maize, platanos, papaya, and sugar cane in small family gardens). During the 1983-84 agricultural cycle, 20.4 hectares of garden crops were cultivated in Zapocó. With the technical assistance of APCOB, the community planted 28.5



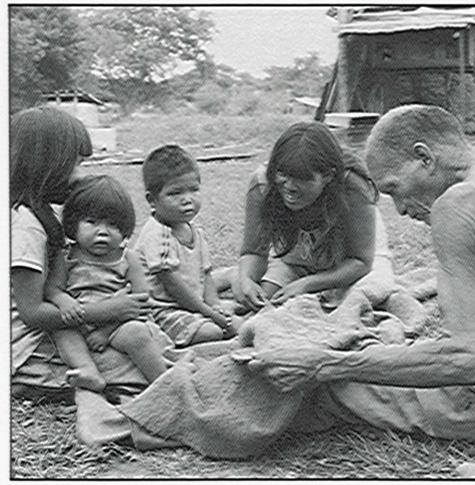
Subsistence farming is encouraged, but the short rainy season limits rice production.

hectares during the 1984–85 agricultural cycle—an increase that should appreciably improve the diet and health of the Ayoróde population.

The APCOB staff has also begun to work with the Ayoróde women. Ayoróde women play a vital role in the domestic economy as producers of traditional baskets, nets, and skirts, as collectors of fruits, palms, and edible and medicinal plants, and as gardeners alongside their husbands. Although the project staff has accepted the traditional division of labor by not employing any women in the sawmill or for related forestry work, it supports them in the production and sale of artisan products by marketing their crafts at a cooperative store in Santa Cruz.

The sawmill has also had a positive impact on Zapocó's housing. A 1983 census found that nearly two-thirds of Zapocó's houses had only one room (usually with a straw roof and dirt floor) that was also used for cooking and served as a chicken coop. With the sawmill, a house-construction and renovation boom is now occurring. Scrap wood is used to build and enlarge houses and for adding on chicken coops, fences, and kitchens. In addition, APCOB brought in a mason to teach the community to make clay bricks and roof tiles in a recently constructed kiln.

Like most rural communities in Latin America that have recently had some access to modern medicine, the Zapocó population is young. More than 50 percent of the population is less than 25 years of age, and the sawmill has provided employment so they can remain in their natal village. The average age of

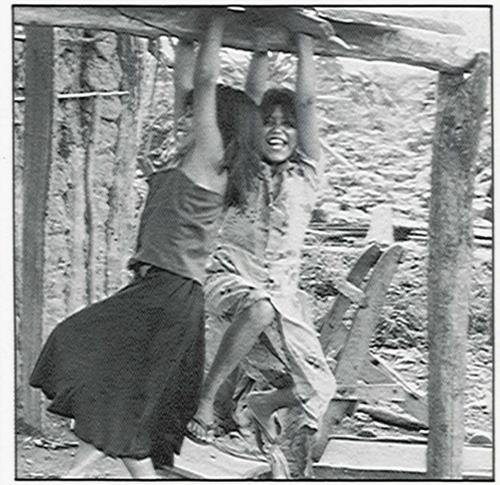


Ayoróde woman and an elder, who receives a stipend from the mill, dressing a hide.

persons employed in the sawmill is 23, and more than 60 percent of those employed in road-work and logging are between 15 and 25 years of age.

For many of these youths, the work in the sawmill and related forestry activities appears to fill a psychological and cultural void left by more than 30 years of mission dependence and the suppression of hunting, warfare, and other traditional Ayoróde male activities. The spirited way in which Ayoróde youth approach their work in the sawmill recalls the independence and pride that characterized young males in the traditional culture. A new Ayoróde male identity may be forming that culturally defines success as one's ability to work in the sawmill, drive a truck or tractor, or operate a chainsaw.

Finally, the short-wave radio used by the project staff is broadening the social and cultural universe of the people of Zapocó. Every morning, a group of Ayoróde gather in front of the short-wave radio at the mission house to communicate with or hear news from the APCOB headquarters in Santa Cruz or from other areas of the department where APCOB has rural development projects. This daily radio communication yields valuable information on such diverse topics as road conditions, commodity prices, training courses and conferences, the condition of a sick child at a hospital, the status of negotiations for credit with a government agency, or any number of other subjects. It is exactly this expanding social network that may, in the long run, determine the economic viability of the Ayoróde's experiment in operating and managing a modern sawmill.



Scrap wood from the mill is used to build and enlarge houses.

THE ECONOMIC PERFORMANCE OF THE SAWMILL

In contrast to the positive effects the sawmill is having on the social and cultural situation of the Ayoróde, the economic performance of the sawmill is more difficult to assess. The 1984 Bolivian inflation rate of 2,000 percent and the continued instability and drastic devaluation of the peso make it almost impossible for any enterprise to be profitable or conduct rational economic planning. These problems are exacerbated by Zapocó's serious transportation and marketing difficulties as well as a general lack of entrepreneurial and managerial experience on the part of the Ayoróde. Given these factors, the Ayoróde-Zapocó communal sawmill should be judged as much by its ability to survive the current economic crisis as by standard economic measures of profitability.

It is instructive to look at the actual economic performance of the sawmill in the 1983 and 1984 production cycles. According to APCOB data, the sawmill not only failed to produce enough transformed wood to cover operating costs, but there was a decline in production and a widening deficit. In 1983, APCOB projected the sawmill would need to produce 105,321 board feet (b.f.) of lumber to break even. In actuality, the sawmill only produced 98,321 b.f.—a deficit of 7,000 b.f. The following year, APCOB projected a production quota of 114,480 b.f. to break even, but the sawmill only produced 65,000 b.f.—a production deficit of 49,480 b.f.

While absolute figures have little meaning, a similar trend is reflected in comparisons of annual income from lumber sales as a proportion of total project and sawmill costs for 1983 and 1984. Income from lumber sales as a proportion of total project costs dropped from 14.7 to 8.05 percent between 1983 and 1984, while income from lumber sales as a proportion of sawmill costs dropped from 34 to 26.05 percent. In other words, not only did the Ayoréode-Zapocó communal sawmill fail to cover costs, its deficits, in terms of both production and income, actually increased during its first two years of operation.

Yet neither the Ayoréode project staff nor the APCOB accountant are surprised by the sawmill's poor initial performance. They attribute the poor economic performance to the general economic situation of Bolivia; the emphasis on skills training during the first two years of sawmill operation; and the late formation of the self-management committee, which is central to the long-term economic viability of the project. The APCOB staff has analyzed the production problems and believes that the sawmill will soon be able to cover at least 75 percent of its costs.

The APCOB staff also realizes that transportation problems must be resolved if the sawmill is to be a self-sustaining economic enterprise. The project truck, for example, made only five trips with finished lumber to Santa Cruz in 1984, although it was estimated 48 such trips were needed for the sawmill to break even. The project staff responded by using CIDOB's truck to carry lumber from Concepción to Santa Cruz. Private truckers, when available, have also been contracted.

The APCOB staff has tried to help the Ayoréode understand these economic problems by designing a simple, culturally appropriate accounting system. This system converts economic forecasts and production quotas for the enterprise into values expressed in b.f., rather than in pesos. The capital costs of the sawmill in this system, for instance, are estimated to be 117,800 b.f. Given that the Ayoréode have agreed to pay 50 percent of the capital costs (58,900 b.f.) over a 10-year period, it is estimated they would need to produce and sell 5,890 b.f. annually between 1984 and 1994 to cover their share of capital costs.

The APCOB staff has developed a similar system of conversion to describe

the sawmill's production problems. For example, the Ayoréode have been told they would have needed to cut 566 cubic meters of tree trunks or 120,000 b.f. of lumber in order to cover production and other costs during 1984. Actual trunk production (264 cubic meters) was only 46.6 percent of this amount, leaving a production deficit of 53.4 percent.

In terms of smaller production units, the project staff estimates that at least 1,000 b.f. would need to be processed at the sawmill each day or 20,000 b.f. per month for the enterprise to cover production costs. By expressing values in these terms and by setting realistic production quotas, the APCOB staff believes the Ayoréode will gear productive efforts to collective rather than personal or household needs.

Additionally, APCOB hopes to resolve the economic performance problems of the sawmill by gearing marketing efforts to the larger regional commercialization program being developed by CIDOB. Since its founding in 1982, CIDOB has been promoting regional inter-ethnic cooperation to counter the economic marginalization and exploitation Indians face in the Department of Santa Cruz. The key elements of this scheme are the formation of local cooperatives among indigenous ethnic groups, the collective ownership of trucks, the sharing of market information, and an evolving program of inter-ethnic economic planning and technical training to be carried out in collaboration with the APCOB staff.

Currently, CIDOB is planning to extend the scale of its regional commercial concept to the marketing of forestry as well as agricultural products. The regional indigenous federation has recently purchased a parcel of land in Santa Cruz on which it will build a lumber warehouse, a wholesale store for the federation's *centrales* and indigenous communities, and a mechanics workshop for repairing vehicles and giving training courses.

This plan is particularly important for the Ayoréode. It will enable them to store and market their lumber along with other indigenous groups who are contemplating similar social forestry projects. The project will also provide a source of wholesale goods for the local consumer cooperative and provide a partial solution to the sawmill's trucking and transportation problems.



The community education program uses posters to illustrate timber production and marketing. The bottom facsimile is written in Ayoréode.

AN ALTERNATIVE MODEL

Concern about tropical forest management and development has grown in the face of persistent warnings about the dire social and environmental consequences of widespread tropical deforestation. Some sources indicate that as many as 27 million acres of tropical forest—an area about the size of New York State—are being cleared annually for agriculture and other forms of development. In Latin America, which contains more than half of the world's tropical forests, more than 100,000 square kilometers are being converted every year, and in Central America only one-third of the original forest cover remains. Scientists predict that, if these trends continue, the world will lose much of its genetic diversity since tropical forests contain over 50 percent of the earth's animal and plant life. They warn of serious erosion and watershed damage, of significant changes in climate and in the amount of carbon dioxide in the earth's atmosphere.

Last July many of these issues were raised at the World Forestry Congress held in Mexico City. The Congress was attended by 2,200 delegates (more than half Latin Americans) from 105 countries. It focused attention on the urgent need for action to protect and rationally utilize the world's endangered tropical forests.

One of the keynote speakers at the Congress was the president of the Inter-American Development Bank, Antonio Ortiz Mena. He stressed the important contribution that natural resources, like forests, make to the development process in Latin America. Forests, he noted, provide vital raw materials, energy, river basin protection, and many other benefits. Yet, too often in the past, development has damaged the region's natural resources. Mr. Ortiz Mena added that they must be utilized carefully, "not only to prevent their waste but also to ensure development for future generations of Latin Americans."

In line with modern ecological thinking, the IDB president termed as "erroneous" the widespread assumptions that nature's resources are limitless and inexhaustible, that their loss through environmental deterioration is a small price to pay for economic growth and the evolution of society. "We must try to achieve harmony between the human and natural orders," he said, "which will

undoubtedly increase the pace of social progress and enable us to leave an adequate ecological legacy to future generations, which have the same right as we do to use nature's patrimony."

Mr. Ortiz Mena went on to note that Latin America has the largest area of forests per person in the world and that "one of the greatest technological challenges facing humanity today" is the protection and careful utilization of this forest patrimony. The IDB's Forestry and Fisheries Section has already made loans of \$715 million for 35 forestry development projects and is willing to increase its lending to meet this challenge.

Interestingly, indigenous groups throughout the lowlands of South America—many of whom were the victims of previous land clearance and colonization programs—are also searching for development strategies that respect their cultures, conserve natural resources, and provide for the long-term sustainability of human populations and the environment. The terms "ethno-development" and "eco-development" have been coined by anthropologists, environmentalists, and native peoples to describe these culturally and environmentally appropriate models of development.

Although it is still in a demonstration or experimental stage, the Ayoréode-Zapocó communal sawmill provides one of the rare examples of such a model by a lowland indigenous population (see, also, the Panamanian Kuna forestry protection and scientific tourism project described in "Conservation Kuna Style" by Patrick Breslin and Mac Chapin, *Grassroots Development*, vol. 8, no. 2).

In my introduction I suggested that the Ayoréode-Zapocó communal sawmill, despite its relatively small size and limited social impact, may hold wider lessons. Clearly, one of the major lessons of this project is that state agencies and private companies are not the only institutions with the capacity to develop tropical forest resources. With limited capital and adequate technical assistance, local indigenous communities can commercially develop their forestry resources, manage them on a sustained yield basis, and contribute to national goals of social progress and integral rural development.

The Inter-American Foundation will continue to assess the Ayoréode-Zapocó project in future years, especially as a strategy for other indigenous groups

who live in lowland tropical areas of South and Central America. The Foundation, along with institutions such as the Inter-American Development Bank, must try to ensure that the indigenous peoples are more consciously and fully included in national forestry development programs. In a way, it is a question of "self-interest."

Some years ago, the environmental writer Norman Myers addressed the issue of responsibility for tropical deforestation by saying "Everyone's hand is on the chainsaw." The Ayoréode-Zapocó communal sawmill, while an embryonic venture, shows that indigenous populations can teach us much about using chainsaws. In their recent forest inventory, the Ayoréode discovered 30 types of trees, some very exotic. They decided to treat these rare and "expensive" trees as a savings account—to be used only when income was badly needed, and never all at once. By taking a more balanced approach to development and by relying more heavily upon the people who live in these areas, we may still be able to preserve the world's threatened tropical forests and ensure that they remain a bountiful resource for future generations.

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¿TU ERES ANSELMO CHUMBI? SÍ

A fictionalized true story.

CHUCK KLEYMEYER

Anselmo rolled up one pants leg, then the other, and stepped barefoot into the rising water of the freshly dug irrigation ditch. The cold water swept around his calves, soon causing the muscles to ache as if steel spikes were passing through them. Eyeing the rows of potato plants, he swiftly reached out with his short-handled hoe and in three sure motions pulled soil down from the edge of the ditch to dam off the water and send it roiling to the left into another trench.

It was Thursday at sunset, and the government water agency would allow his community to irrigate only until Sunday morning. No rain had fallen in seven weeks, and the withered leaves of the young plants hung straight down. Once again, a poor harvest would mean that he and his people would be forced to eat everything they dug, including the seed potatoes for next year, and many men would have to leave for the cities in search of temporary wage labor. There they would spend the nights under bridges and the days carrying loads on their backs with ropes, like farm animals.

Anselmo stepped out of the ditch onto the footpath and watched the water as it surged down the rows, reflecting the red glow of the sky like open arteries laid rhythmically across the fields.

Anselmo Chumbi. Campesino. Descendent of Pumaruna Indians who stood up to the Incas on the rolling grasslands of the high Andes. The first person in the community of Rupanac Libertad to sign his name.

In the past, when a newspaper found its way to Libertad, it was carried to Anselmo to read aloud. This tradition later developed into teaching sessions, until most of the men and some of the younger women could also read.

That was 10 years ago, when Anselmo was young and newly married. Now he taught literacy at night for the government in a nearby village bordered by haciendas. These were among the only large plantations left in Aputambo Province, and the men of the village sold their labor in front of each hacienda house for a daily wage, as their fathers and grandfathers had also done. Before that, the lands had all belonged to the Indians; now they had no choice but to live high up on the mountainsides. Each day the men walked down the eroded gullies to the haciendas' valley lands to work in the fields and pastures of the mestizo landowners. The women and children stayed behind in the villages to tend the dusty garden plots on the hillsides around their adobe houses.

Anselmo had known that life well as a boy. It was a life he had always wished to leave behind. In spite of the relentless efforts of the rich *hacendados* to maintain their grip on Indian land and labor, a few progressive governments and a phalanx of Indian organizations had slowly succeeded in bringing about changes, particularly in education and land reform. Now, evenings at dusk, after working in Libertad's



Robert Borja

community fields since dawn, Anselmo caught a bus to the bridge below Rumipamba and carefully skirted the hacienda lands on foot to teach his class in reading and writing.

Once, while walking along the irrigation ditch that bordered the largest of the haciendas, Anselmo came upon an armed watchman, a mestizo wearing stay-pressed pants fastened by a belt with a silver buckle. He was leaning against a small automobile parked in the pasture.

"Hey, son," the watchman called to him just as he passed.

Anselmo stopped and looked back without turning around.

"An Indian removes his hat for a gentleman."

Anselmo took a breath. "My father told me that was once custom," he said, and he resumed his walking, picking up the pace as the sun sank through the eucalyptus trees. When he reached Rumipamba he was winded and felt slightly ashamed. He took his hat off and wiped the inside of the headband with his handkerchief. When he put the hat back on he was breathing normally again and was ready to begin class.

Rumipamba means "plain of stones" in Quechua. The name refers to the high plateau where community members had constructed the one-room school a few years earlier. There, in the adobe room with its packed earthen floor, Anselmo gathered his group of men and women, lit a kerosene lantern, and for the next two hours shared his cherished skill:

"ma-má"

"pa-pá"

"a-gua"

"re-for-ma a-gra-ri-a"

¿Tú eres Anselmo Chumbi? . . . Sí
(You're Anselmo Chumbi? . . . Yes)

Anselmo had a clear, open face with skin like burnished walnut. His eyes were rounded, never narrowing and always observing steadily what went on about him. He was a quiet man: slow to smile and slow to let the smile fade.

People found it easy to like Anselmo. He had a youthful approach to life and was devoted to his family, and by extension, to his community. He steered clear of politicians, and he kept his distance from missionaries, as well.

Short and broadly built, Anselmo had thick legs and campesino hands, battered and perpetually dusty. He sometimes wore a jacket and always wore shoes, but he was Indian to the core. He was usually the first to ask the young group of traditional musicians in Libertad to play the songs that livened up the long community meetings and the *mingas*.

Anselmo believed that *mingas* were what kept the Indian communities alive and pushing forward, because only by pooling their labor on *minga* days could they accomplish the impossible tasks that faced them.

Where his sister lived, in Tamburco, they built a 12-kilometer feeder road down to the highway with *mingas* of men, women, and children and no heavy machinery. The people of San Francisco Kaypi drove an irrigation tunnel through 400 meters of mountain rock when a landowner cut off their water. Three men lost their lives during that year's work. The government engineer who inspected the tunnel after it was completed said that from a technical standpoint

it was not possible. Then he thrust his hand in the flowing water and swore under his breath. And in Anselmo's own Runapac Libertad, the campesinos had paid for their land, their life force, with the produce resulting from scores of *mingas*.

So Anselmo understood well the power of this tradition that dated from before the arrival of the Europeans and even the Incas. Moreover, he thought that Indians should speak Quechua in the family and in the community; Spanish was for forays into the mestizo world in the cities. He had faith in the cures that the old ones knew about, especially the dried leaves. And he believed that hummingbirds sometimes spoke to men, and that great-winged condors visited shepherd girls on the high grassy *punas*. Many of these things he kept to himself, and that was best. Not everyone respected the Indian ways, not even all the Indians.

Anselmo remembered his days in primary school: he had to walk four kilometers to a neighboring town because the landowners near his home would not allow a local school to be established for Indians. Each morning at school, the mestizo teacher from the city of Plazablanca lined up all the Indian pupils at parade rest on the dirt patio in front of the school. Then she ordered them to repeat after her at the top of their voices:

"I will wash my hands and face every day before school!"

"I WILL WASH MY HANDS AND FACE EVERY DAY BEFORE SCHOOL!"

"I will not fight with my neighbor!"

"I WILL NOT FIGHT WITH MY NEIGHBOR!"

"I will not speak Quechua!"

"I WILL NOT SPEAK QUECHUA!"

During one dry season, the Indian parents organized a *minga* to add a second room to the adobe school. Anselmo and the other schoolchildren, on their own initiative, formed themselves into a long line to carry adobe bricks from the field where they had been baked in the sun, across the stream—stepping carefully on the largest rocks—all the way to the construction site. The schoolteacher emerged from her living quarters at midmorning to discover that the girls as well as the boys were toting the large, straw-caked adobes. This she put an immediate end to, explaining loudly for the benefit of all within earshot: "Females do not carry heavy weights. Let us remember that."

Anselmo remembered the schoolteacher. She taught him a lot, some of which he later found it was necessary to unlearn.

Anselmo and his wife, Cecilia, had six children, five of whom survived. Cecilia was two years younger than he but appeared to be half again as old. She was carrying their seventh.

Like all the other women in Runapac Libertad, Cecilia maintained traditional dress. She wore full skirts of black, hand-woven cloth; and a long shawl of the same material covered her head and shoulders, ending at the waist. Her muslin blouse was embroidered with intertwined flowers, and her long braids fell from under a black felt hat. Forever shoeless, her bare feet were cracked and worn by the paths that doubled back and forth up the eroding mountainsides.

Cecilia spoke only Quechua, which was common among the women of Runapac Libertad, except now for the school-

girls. Her aunt had taught her all she had known about midwifery the year before she died, and Cecilia was called upon frequently. She could talk the birthing women through the hardest moments, and during the lulls she offered them herbal teas and rubbed their shoulders.

The women in the Indian communities were tougher than the men and more tender. Cecilia seemed to absorb the pain of others, and to look at her, it had taken its toll. Her face was as eroded as the nearby hillsides; her hands were all bone and veins. Before she was married, she had worn flowers on her hat each market day, but no longer.

Their firstborn, a boy, was named after his father. He was affectionately called "Anselmito"—little Anselmo—or just "Amito" for short. Now 10 years old, Amito was a replica in miniature of his father. The same clear face and open gaze. The same skin tone and sure stance. Often he went along when Anselmo traveled to market or gave his literacy classes. People smiled when they saw Amito standing silently next to his father. He stood there with shoulders squared under his small poncho, his head held up and covered by an identical felt hat, his eyes steadily taking everything in.

What Amito most liked to do with his father, though, was to watch him play volleyball. After working in the fields all day, Anselmo and the other men loved to meet at the schoolyard across the highway from his house. There they would play their wild brand of country "volley," a cross between soccer, basketball, and refined volleyball. Defying all common notions regarding the limitations of the human body, Anselmo and the others leapt, swung, sprawled, and exploded at the battered ball. There were no restrictions on how the ball could be fielded and then catapulted back over the thin rope that stretched between two eucalyptus poles buried upright in the ground. Players used hands, elbows, feet, knees, closed fists, foreheads, and chests. This they did while standing still, springing in any direction, crashing together, dropping to their knees, or rolling on their backs. All in the thin air at 9,000 feet above the sea. Scoring was entirely informal, and the conventional concept of grace had no place in these games. Only one thing was uniform and required—laughter. Hardly ever did any of the players become angry. And all of them shouted throughout the whole game. It was their one time of total abandon.

Sometimes, after volleyball, Anselmo heard of meetings in other communities, and he would go. He would sit in the back, rarely speaking except to introduce himself, saying only that he came from Runapac Libertad to demonstrate his community's solidarity with them. Everyone in the valley knew that Libertad had bought their lands and paid off the debt.

Often he stayed afterwards, talking late into the night with the leaders. They talked about bank loans and mastitis. And the community bread oven in Pumawasi and book-keeping problems. And communities that were faced with losing the lands they had been deeded years before by the agrarian reform agency. Some people had heard of threats voiced publicly against campesinos. One of those threatened was Anselmo Chumbi.

Anselmo would say, "My community is a thousand years old. It is eternal. They can kill a leader, but they cannot kill an organization. We all have too many brothers and cousins!" And he would laugh.

"Besides," he would add, "this is still a peaceful country. There are laws. Indians have rights too. And campesinos. This is not like in other countries. Not yet anyway."

Many of those present would echo, "You're right. Not yet."

Later, Anselmo would walk home alone in the moonlight.

**¿Tú eres Anselmo Chumbi? . . . Sí.
(That would be all there was to his trial.)**

When visitors came to Runapac Libertad, Anselmo greeted them in the dusty schoolyard next to the Pan American Highway. During the rainy season, if asked about the latest plantings, he would raise his eyes to the hills behind the thatch-roofed schoolhouse and point silently from field to field until he completed the circle.

The fields on the hillsides were green against green—a dozen shades of green squares of wheat and barley. And the wind made waves across them as if they were pools of water. Anselmo never tired of looking at that. He had been the one who first talked to the other villagers about buying those fields. Many were reticent, unsure it could be done. Anselmo had said, "I'll find out."

The following Sunday, he awoke, took out his white shirt from the wooden trunk against the wall, dressed carefully, and drank his coffee in the doorway. The air was light, and the Andes were dusted with white frost that had formed overnight.

Anselmo emptied the cup and handed it to Cecilia. He stepped outside. Mama Q'iyá, the moon, was still up, like a pale sliver of dawn ice pressed against the morning sky. She hung high above the clouds that were piled on top of Apu-tambo Volcano. It was good having the moon around in the daytime.

Walking down to the road, he sang softly:

*El sol es mi padre,
La luna mi madre.
El sol es mi padre,
La luna mi madre.*

*Y las estrellitas
Son mis hermanitas.
Y las estrellitas
Son mis hermanitas.*

(The sun is my father,
The moon, my mother.

And the tiny stars
Are my little sisters.)

Cecilia followed him down to the highway, carrying his felt hat and poncho. He took the hat but told her he had decided not to wear his poncho.

"You should not be ashamed to wear a poncho."

"I am not ashamed," he answered. "It's better like this. The man owns a hotel."

A bus was approaching. He waved at it, shouting "Plaza-blancas!" but it did not stop. A quarter of an hour later, a second bus came by, and it slowed for him. He ran and caught it, leaping onto the lower step and grabbing the shiny verti-

cal handrail. The bus accelerated again.

Sliding into the front seat next to a window that was missing its glass, he stared at the brown hills sweeping by with their steep cultivated patches of green cut deep by landslides and run-off. For one long stretch, the highway ran beside the train tracks, but that day there was no smoking train to race, only the thin silver ribbons of empty tracks reaching straight down the endless valley. No train because the great rains of El Niño had silenced the black locomotives, perhaps forever, when entire mountainsides roared down into the rivers. The Devil's Nose, where the trains switchbacked down to the coast, had been realigned permanently by a baby's blow.

el sol es mi padre, la luna mi madre

Anselmo next studied the shallow waters of Yawar Cocha as the bus streaked by. "Blood Lake" had been the site of a slaughter of Indian villagers by the Spaniards more than four centuries ago. Some day, the advancing totora reeds would turn the lake into a great rich pampa. He wondered if the same families that had blocked off plots of reeds for weaving into mats would be successful at claiming the humus underneath. Probably not, but his great grandchildren would have to live long lives in order to know the answer to that question. He watched three tall white egrets lift slowly off the water and sail across the surface of the lake on a gust of wind.

When Anselmo arrived at the landowner's house in the city of Plazablanca, he knocked on the massive wooden door with its deeply carved designs. While inspecting the door, he took off his hat and held it in front of him with both hands.

A young boy in a blue and grey warm-up suit swung open the door. "What do you want?"

"I wish to speak to Don Nestor," Anselmo said.

The boy turned toward the interior of the house. "Papá!" he shouted, "An Indian wants to talk to you!" And the boy left.

Anselmo waited. The sun shone brightly on the white-washed walls of the house. He stared into the dark hole which led inside. As his eyes adjusted, he could make out large silver dishes and pots on a wooden table against one wall, and a television all the way in the back. He heard noises inside. Soft music played that reminded him vaguely of mass in the cathedral.

Anselmo shifted his feet. His broken leather shoes groaned softly. He looked down at his shirt. A button was missing just above his belt. Hadn't it been there when he left home this morning? He could feel the sun burning on the back of his head. He looked up again. Don Nestor stood in front of him.

"Yes, son?" he said. "What is it you want?"

Don Nestor was a large man with thin hands that had dense tufts of black hair along the fingers between each set of knuckles. He wore a velvet robe the color of bull's blood. His hairline was receding, leaving him with a forehead that stretched to the top of his skull.

Anselmo looked straight into his face. "My name is Anselmo Chumbi. I am from the community of Runapac Libertad. My people want to know if you wish to sell your land."

Don Nestor squinted slightly. "Who told you I wish to sell my land?"

"No one," answered Anselmo. "We need more fields to feed our families. Many of us men must spend nine months of the year on the coast carrying bananas and cutting cane. Or we go to the cities and haul bricks and cement for the construction bosses." He shifted his weight but continued to look Don Nestor in the face. "Our women and children are left alone to farm. If we had more land, we would have more work and we wouldn't have to leave our homes to survive. We will pay what you ask."

"How will you pay?"

"At the end of every three months."

"Cash or check?"

Anselmo paused to clear his throat. "Cash."

"How will you raise the money?"

"Harvests and day labor."

"What if you don't pay?"

"We'll pay," Anselmo nodded his head forcefully a single time. "But you keep the title in case we fail to hold to our agreement."

"The truth is I know nothing about this land business. My father handled all that. Perhaps what you say isn't even legal."

"It is so stipulated in Law 27, Section 5, Paragraph 16."

Don Nestor's eyebrows rose. "You know the Land Law?"

"All of it, sir."

"Have you been to school?"

"Five years—until I was 12—walking to El Porvenir."

"And how do you know the Land Law?"

"One night they read it over the Bishop's radio station. My brother has a cassette recorder. He taped the program."

Nestor looked at Anselmo for a long time. Then he smiled and said, "I'll send my lawyer out on Saturday to talk. Wait for him on the road."

"Thank you, your honor," Anselmo said with a short nod. Then he turned and put his hat back on. His head felt instantly cooler.

As Don Nestor swung the door shut he thought, "These Indians pay their debts better than the mestizos. And I'd rather have money than dirt." The fact was that he wanted out of the land problem. Let these Indians run the risks of droughts and freezes; the money was in marketing in any case. And let the Indians and the other mestizos deal with the endless conflicts over land.

**¿Tú eres Anselmo Chumbi? . . . Sí.
(There would be no charges. No defense.)**

That was five years ago. After endless haggling, the deal was closed. Then the payments began, and the anxieties as each quarterly installment came due. Three plantings of potatoes were burned by frost. One season was too dry for the wheat and barley, and the next season unrelenting rains rotted crops in the fields. Many of the men went to work on the coast for half a year or more at a stretch. When they returned, their wives threw firewood at them after they sold off the harvests to pay their part of the debt, and then came

home with only a pound of salt and a bottle of *aguardiente*. Many were told to go back to the coast and find the same woman, if they could, who washed and cooked for them there.

After the land was finally paid for, the people of Libertad next pooled their funds to make a downpayment on a tractor. The rich mestizos could have their private cars, and middlemen could buy trucks. But a campesino village could buy a tractor and ride higher than them all.

Libertad's tractor had great yellow lights on the front, and the men drove it on 24-hour shifts to plow the community lands. Whenever it was Anselmo's turn, he arrived at dawn with a bottle of water and a plastic sack of boiled potatoes. And he plowed until dawn of the next day. He especially liked driving the tractor at night, looking up at the stars on the long runs. On clear nights at that altitude, it seemed as if the sky held as much starlight as darkness, and he watched the constellations revolve slowly across the great dome above him. If Mama Q'uya rose and the clouds lifted, then the snow-capped volcanoes glowed with a blue light that seemed to come from somewhere behind them.

Even so, the plowing shift always seemed endless to Anselmo, and by dark the rumble of the tractor motor felt like great hands cupped over his ears. The dust penetrated and covered his entire body, and the smell of scorched oil filled his nose. When his shift was finally over, his hands tingled for hours afterwards and his shoulders carried a dull ache for days. But it was done, and he was free to tend his family plot of onions and corn and quinoa for the rest of the month.

Anselmo regularly worked six-day weeks in the fields and at the literacy classes in Rumipamba. On Sundays he often went to the market in Tambo—where many people still used barter—taking a sack of potatoes or flat beans to sell or trade when there was surplus.

The Tambo market had been held every Sunday for centuries, always changing and always remaining the same. There Anselmo stocked up on supplies: salt, sugar, rice, noodles, and coffee, each wrapped in a half sheet of newspaper. When there was money left over, he got a haircut and bought hard candy for the children. Occasionally he joined in a pick-up game of soccer in the schoolyard or wandered

and began pedaling slowly off. The bike wobbled, and he had to weave back and forth until he could gain speed. Just as he turned onto the highway, a bus roared by, blaring its horn and drifting only slightly toward the center of the road. Amito waved good-bye to his mother.

Together they rode nearly two kilometers in the direction of the city of Plazablanco. Neither of them spoke. On the handlebars, Amito basked in the warmth of his father's arms and chest. He stared at the parched hills and the tall, curving eucalyptus trees that bordered the fields.

At the side of the road, a swallow-tailed hummingbird made rapid lateral flights from cactus flower to cactus flower. "Qinde!" he whispered her Quechua name and smiled.

Flowers on the lobe-like cactus leaves meant that soon the red-orange prickly pears would be ripe. Amito would come back and pry them off with a forked stick. Then he would roll them on the ground to rub off the fine, needle-like prickles so that he could turn the fruits inside out with his bare fingers and eat the succulent pulp.

By now Amito could feel his father's breath on the rear brim of his hat and down the back of his neck. The highway was nearly deserted, and not a single cloud was in the sky. Aputambo Volcano—the resting place of the gods—shone brilliantly in front of them, its glaciers streaked with a hint of icy blue. The eucalyptus trees leaned gently over in the breeze.

Anselmo swerved around a dead dog on the road. Its legs stretched stiffly towards the sun. Run down by heavy wheels in the night, it seemed to be pushing the sky away. The vultures had already begun their work. Amito shut his eyes and silently chided himself for looking.

When they arrived at the *chichería*, Anselmo was perspiring. Drops of sweat slid from under his hatband, down his forehead, and fell onto his cheekbones. Dark patches of dampness marked his chest and back, and he pulled his shirt away from his body as he headed inside.

He ducked to enter the small, crooked doorway. Cecilia always said he went there to talk, but only with the lip of a *chicha* bowl. He nodded to the owner and to the other men who sat on benches around the walls.

ma-má , pa-pá, agua, reforma agraria

over and watched the hawkers sell aluminum pots and handkerchiefs and nylon clothing from the North.

Some Sundays there was work to do at home, fixing a machete handle or replacing a strap on one of the children's rubber-tire sandals. Other times, Anselmo felt like going nowhere; he just passed the time talking to his neighbors and gazing at the mountains.

One Sunday morning very early, Anselmo said to Amito, "There's someone I want to talk to. Come with me."

Amito jumped up from the stone he was sitting on by the fire and grabbed his hat. Anselmo was already pushing his bicycle out the door.

"Where are you going?" asked Cecilia.

"Just to the *chichería* down the road."

She stood watching, one hand cupped against the side of her face, as Anselmo boosted Amito up on the handlebars

The *chicha* was good today, made from new corn. He drank deeply, his eyes closed. Just sweet enough, and thick. By evening it would have passed his favorite stage. Amito drank a coke. Anselmo asked for a second bowl.

At home, breast-feeding the baby, Cecilia heard the shrill honk of a horn. She stepped through the doorway to see a bright-red Volkswagen approaching the house. It squealed to a stop. Inside there were four mestizos, all well-dressed. One of them, wearing sunglasses, rolled down the car window.

"Is this the house of Anselmo Chumbi?" the man asked in Spanish.

Cecilia nodded at the sound of her husband's name.

"Is he here? Tell him to come out."

Uncertain of what they were asking, she shook her head,

shifting the baby on her breast. Five-year-old Rosalía, carrying her younger brother wrapped in a shawl on her back, peered out from behind her mother's long, black skirts.

"Where is this Anselmo Chumbi?" insisted the man. "It's important."

Cecilia stared at the speaker. She could see her reflection in his dark glasses. She averted her eyes and looked at the sloping red hood of the car. It had a shiny silver handle at the nose. The car looked like a crypt for a corpulent bishop.

"Talk!" the man ordered her.

Her eyes leapt back to his glasses. "Chaypi chichería," she said, motioning down the valley with her free hand.

The car swung back around to the highway, accelerating as it climbed onto the pavement.

Anselmo and Amito saw the red Volkswagen as it sped by and pulled into the yard in front of the *chichería*. The two of them had left a quarter of an hour earlier and were walking the bicycle back home. Anselmo did not feel steady enough to pedal them both on the highway with its slight, uphill grade.

Upon crossing the pavement, Amito had heard scores of frogs incessantly calling from the reeds in the drainage ditch by the roadside. The frogs made sounds like small stones knocking against one another in a mountain stream. He flopped on his belly on the short, thick grass, trying to catch sight of even one frog, but he could not. Anselmo lowered himself down beside the boy, and they both searched for a moment.

"Papá," said Amito. "Do the little frogs go to school to learn to sing?"

"Of course!" answered Anselmo. "And the old ones teach them how to read and write too: 'ma-má' . . . 'pa-pá' . . . 'a-gua' . . . 're-for-ma a-gra-ri-a'."

They both laughed and then climbed back to their feet and headed home. They walked for awhile, taking turns pushing the bicycle along the edge of the highway. It was then that they heard the Volkswagen approaching from behind. It went past them by 20 meters and pulled off the road. Two men got out and came toward them without hesitation. Both wore pressed suits made of synthetic fabric. They were looking at Anselmo. The one with sunglasses spoke abruptly.

"¿Tú eres Anselmo Chumbi?"

Anselmo looked from one face to the other. "Sí."

The two men stepped forward and shoved him to the road on his back.

Anselmo threw a quick glance at Amito. "Wasíyman!" he ordered. "Home!" But Amito's gaze locked on his father's, and he made no move to leave him there.

The men stood over Anselmo and drew guns from inside their suit jackets.

Anselmo stared up at the two figures. The guns seemed like silver fingers pointing at the center of him. He began to move his lips silently.

"Indio de mierda!" one of the men spat out, and both of them began firing. Their thin faces jerked as the silver guns exploded sharply over and over. Then they stopped.

Anselmo felt as if hot knives were pinning him to the earth. The pain surged from his midriff to the far reaches of his body and back again.

A car door slammed, and the Volkswagen pulled off.

Anselmo stared at the sky. The blues pulsated slowly like cooling ash in a hearth. The sky seemed deeper than it had ever been before. Amito's face appeared over his, and the boy's tears fell into his eyes.

"Papá!" Amito said. "I'll go for mamá."

He could hear the boy's rubber sandals slap against the pavement as he ran.

As he lay on his back on the side of the highway, Anselmo could feel the heat of the pavement on his legs, his shoulders, and the rear of his head. His feet were pointed north, towards Plazablancas, and his head south towards Libertad. To his left he could hear the frogs in the drainage ditch. He felt unable to move.

He continued to stare up at the morning sky. High above him, a white egret floated on motionless wings, its legs trailing out behind.

Anselmo's hands lay on his chest. They grasped his shirt, and they felt warm and wet. The pain in his stomach was ebbing now.

Then all of a sudden, the sun set, and the sky above him turned a deep red.

In another moment it was night.

There were no stars.

No moon.

And the frogs had fallen silent.

CHUCK KLEYMEYER is a graduate of the Stanford University Creative Writing Program and holds a doctorate in development studies from the University of Wisconsin. He has lived and traveled extensively in Latin America, and since 1979 has worked as a field representative in the Andes for the Inter-American Foundation. He has published fiction elsewhere, as well as a book on interaction between Indians and non-Indians, and numerous articles on socioeconomic development and applied sociology.

Council member Eulogio Velásquez and accountant Daniella Riculmos at CPCC offices in Caacupé.

This article by anthropologist Richard Reed—and the next, by economist Ken Jameson (page 25)—analyze the experiences of four rural Paraguayan projects (see box, page 18). Here, Reed examines how the economy and social organization of rural Paraguay have dramatically changed in the past two decades and how, in response, networks of village *comités* are being organized to improve subsistence production and cash-crop marketing by building upon the tradition of mutual help among neighbors.

Felipe Díaz, president of Comité Potrero de Angelito I.



Paul Griffin



MAKING PARAGUAY'S AGRICULTURAL "MIRACLE" WORK

RICHARD REED

During the last 20 years Paraguay's agricultural sector has been transformed. Before 1965, small-scale subsistence farming was the rule, and only limited quantities of cotton, wood, and range-fed cattle were exported. Since then over 500,000 hectares of forest have been cleared for intensive cultivation. Roads have been hacked into even the most isolated forests, and cotton and soybeans have become the mainsprings for a burgeoning export economy. The amount of land in wheat production nearly tripled between 1966 and 1968 from 7,000 to 20,000 hectares. By 1977, 360,000 hectares were planted in soybeans—a jump of 3,000 percent in eight years. Agriculture accounted for 95 percent of Paraguay's export income during the 1970s.

Despite these dramatic statistics, Paraguay's agricultural "miracle" bypassed the country's small producers. Lacking access to credit, machinery, technical knowledge, and large enough landholdings for economies of scale, peasants could not compete with export-oriented agro-industries. In fact, the standard of living in the countryside has dropped as subsistence farmers have lost their land and have survived by working as day laborers.

This phenomenon has produced squalid slums, swelling with rural migrants, around many Latin American cities. The process has only begun in Paraguay, however, and preventive measures are still possible. Four Paraguayan agencies (see box on p. 18)—the Centro Paraguayo de Cooperativistas (CPC), the Centro de Promoción Campesina de Cordillera (CPCC), the Programa de

Ayuda Cristiana (PAC), and the Proyecto de Ayuda Rural de Iglesias de Itapúa (PARII)—are implementing projects to arrest that process by providing a new model for rural economic development.

The model rests on an understanding of the linkages between the rural economy and rural society. As recently as 1956, 68 percent of Paraguay's population cultivated parcels of land under 10 hectares in size. Peasant families generally lived in close-knit hamlets, grew most of what they needed, and were relatively isolated from the national economy and society. Since local families all faced periods of crisis and scarcity, they tended to share goods and labor. Communal pastures for dairy cattle and draft animals were maintained, and men pooled their labor for the arduous tasks of clearing fields, tilling the soil, and gathering harvests. This "safety net" of mutual assistance reduced the risk that any single family would become destitute. And, even if the soil grew depleted, families could move and clear new plots from the huge tracts of wilderness that remained open for settlement.

Since the mid-1960s, this system has eroded steadily. National policy began to emphasize commercial agriculture, and the land base available to peasants began to shrink. Huge chunks of settled and unsettled public lands were sold to large growers for intensive cultivation. Small farmers often were evicted. As the pressure and pace of change increased, peasants began planting cash crops to meet new needs, such as registering deeds to secure their holdings.

Although the cash crop of choice—

cotton—was well suited to small-scale farming, its cultivation proved self-defeating. To pay for seeds and insecticides, peasants were forced to look for day labor or to borrow on unfavorable terms, usually by promising their future crop to a middleman. Those lucky enough to obtain seed then encountered an even thornier problem. Planting cotton meant reducing the land available for growing food, while working for wages cut back the time available for farming at all. Subsistence production fell, and families that were once self-sufficient now had to buy basic necessities. The local community no longer produced the resources needed to complete the agricultural cycle, and traditional patterns of mutual assistance began to dissolve. Peasants became financially dependent on rural elites and structurally dependent on national and international markets.

CPC, CPCC, PAC, and PARII are trying to attack this debilitating cycle. Their Paraguayan agronomists and social workers are organizing neighborhood *comités* (committees) to counteract *la descomposición campesina* (the disintegration of peasant society). In most cases these *comités* formalize and reinforce pre-existing ties of friendship and kinship. Sometimes the *comités* even arise spontaneously. In the community of Aguaity, for example, 13 small farmers who needed access to more land sent a representative to Asunción to seek assistance. The group later incorporated itself as a *comité* of CPCC and is now helping to organize other *comités*.

In trying to resolve the rural crisis, each of the groups recognizes that the

THE PROJECTS

Centro Paraguayo de Cooperativistas (CPC), in the Guairá-Caazapá region of Eastern Paraguay, was founded in 1963 to train rural leaders in cooperative skills. With IAF funding, CPC launched a much broader program in 1976.

This program set up a clear-cut administrative structure. Its basic building blocks were local *comités* (committees). Comprised of 10 to 20 member-families, the size of each comité was kept small, and villages often contained more than one. Each committee divided among its members the responsibility for its credit, production, accounting, and supply activities; and each group received wide latitude in choosing its agenda, though the provision of credit and the improvement of agricultural production were always involved.

Contiguous comités were then grouped into zones, often with elected staffs. These zonal administrators took responsibility for forming new comités, for coordinating technical assistance, and for pooling purchases or sales by member committees.

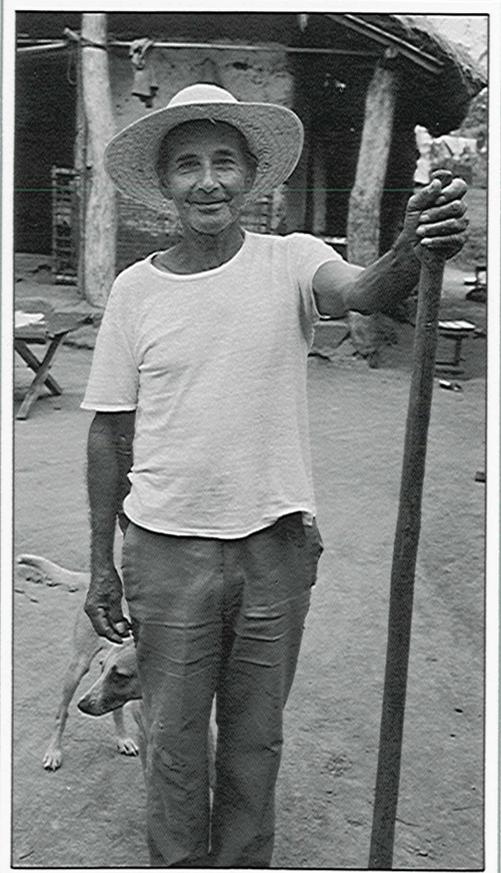
Overall coordination of the project was exercised at the "regional" level by a technical staff that also provided training and assistance in accounting, agriculture, and social services to the zones and their local affiliates. General policy decisions were made by a board of directors, which included both participants and outsiders (e.g., lawyers, community organizers, village priests). Participants assumed complete control of this "regional" from CPC in 1982.

The four projects with current IAF funding have used CPC's "regional" as a model. (Some of their organizers had previously worked with CPC, and in virtually all cases, new groups visited CPC sites to learn techniques that might improve their own efforts. The organization of credit operations is one area where all five projects are very similar.) One of the newer projects was directly initiated by CPC in 1982, when an IAF grant allowed CPC to expand its activity into previously untouched parts of Guairá-Caazapá. By 1984, this project included 42 comités that were organized into five zones. The area has only recently been colonized, and most of the 705 member-families are small farmers who have legally registered their land.

The **Programa de Ayuda Cristiana (PAC)** was funded by IAF in 1981. PAC operates in an area of new colonization on the eastern border with Brazil, and most of its participants are either squatters or homesteaders who lack proper land titles. A number have been forced to relocate because of the Itaipú dam or land disputes. Most of PAC's IAF funding (13 percent of its 1984 budget) has been channeled into legal aid to assist peasants in obtaining deeds. The credit, agricultural, and social service components of the project are financed through other sources, primarily the Catholic Relief Services and several European churches. By 1984, PAC's 900 member-families were organized in 50 comités.

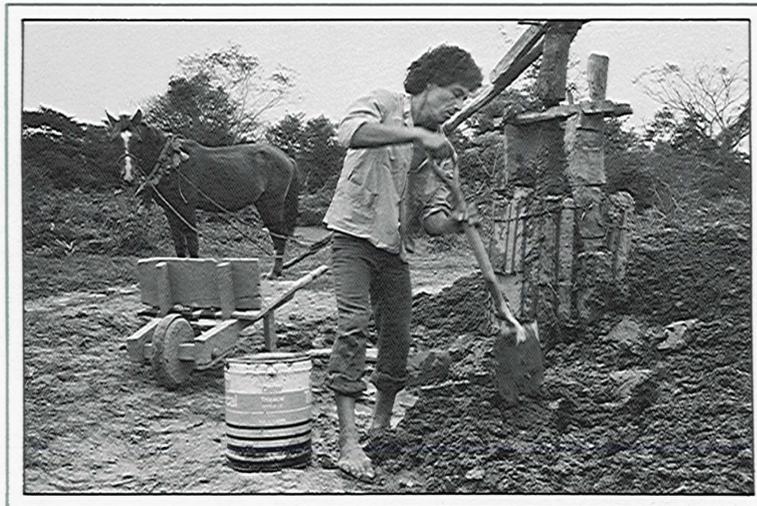
The **Proyecto de Ayuda Rural de Iglesias de Itapúa (PARII)** has been funded by the IAF since 1982. Located in the southern area of Itapúa, this project also works in an area of colonization where land titles are a central concern. Some of the Foundation's grant is being used to establish a rotating credit fund, which in 1984 was being utilized by 29 comités and over 500 families.

Centro de Promoción Campesina de Cordillera (CPCC) is the newest grantee. The group operates in one of the older areas of settlement in Paraguay, where the supply of fertile land is shrinking because of overfarming and an increasing population. The project became operational in 1983 and had enlisted 42 comités by 1984.



Francisco Torales, member of Comité Potrero Angelito III, in front of his house.

Paul Griffin



Carlos Brítez, member of Comité Potrero de Carmen I, prepares clay for firing bricks.

logic of the old subsistence economy no longer works, while the entrepreneurial logic of agro-business requires resources unavailable to impoverished small farmers. They have, therefore, designed a system of *productive sequences* that builds on traditional patterns of interdependence to help peasants adapt to the demands of a market economy. That system has three interlocking elements. The first concentrates on helping each family to be self-sufficient. The second develops the capacity of neighborhood comités to reconstitute the "safety net" of peasant society. Finally, technical assistance and start-up capital are provided to help members pool their resources for maximum leverage in the marketplace.

ESTABLISHING HOUSEHOLD SELF-SUFFICIENCY

As a first step toward self-sufficiency, project agronomists stress the importance of families growing enough to feed themselves. This reduces undue market dependence by ensuring food will be available even if cash crops fail. Project agronomists also introduce new crops and seed strains to boost production and diversify family diets. Campesinos are taught to keep yearly production reports that detail the extent and type of each family's production.

When families grow sufficient food for their own needs, they can qualify for loans to cultivate cash crops. This credit is designed to assure producers that tools, seed, and insecticides will be available when they are needed.

Although project credit and a renewed emphasis on food crops increase small farmers' security, most peasant families still need some wage labor income. Production plans show that families require an average of 81,000 guaranis (\$1 = G1,200) annually for each hectare of commercial production. This figure can be broken down as follows: tools (G20,000), seeds (G1,000), insecticide (G30,000), veterinary supplies (G5,000), bags for harvesting (G10,000), and harvesting (G15,000). Yet the projects can only provide 40,000 to 60,000 guaranis per household (the poorest families receive slightly more to buy tools).

In some ways, wage labor seems more attractive than growing cotton to make up the shortfall. In 1984, cotton producers earned approximately 1,000 guaranis per day, only slightly higher than the pay scale for day laborers. That slight advantage is offset by unpredictable weather and market prices, which can wipe out a year's efforts overnight.

Project organizers argue, however, that reliance on wage labor also has its risks and hidden costs. Since most rural jobs are tied to the agricultural cycle, campesinos often wind up neglecting their own fields. That not only reduces income from cash crops, it endangers the subsistence farming at the heart of the program.

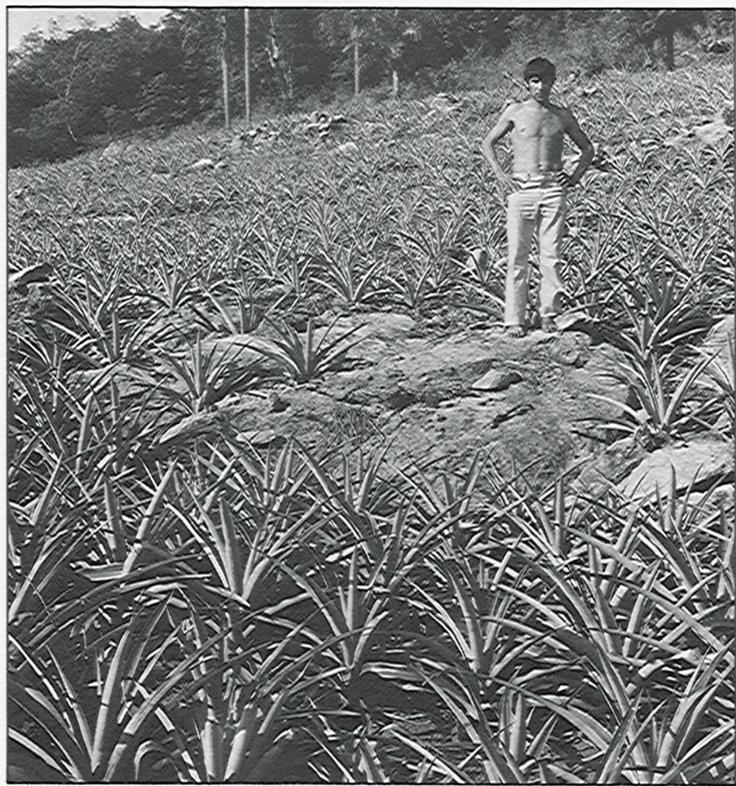
The programs, therefore, try to minimize the amount of time devoted to day labor. A hectare of cotton demands approximately 100 days of work; subsistence crops demand an additional 120 days. Since these periods of work are interspersed with periods of inactivity, families are encouraged to fit wage labor

into the slack times of crop cycles. And the *minifundistas* working with CPCC, for example, are doing just that: they report that credit from the project has cut their wage labor in half. (It should be added that project organizers believe that day labor per se accelerates the stratification of rural society. Even if credit funds were large enough to cover all expenses, loans would not be issued to allow small farmers to hire workers. Loans are designed to help each family farm as much acreage as its own labor allows. A detailed examination of credit policies and practices in these projects is included in the next article.)

BUILDING NEIGHBORHOOD COMITES

All of the projects use the neighborhood comité as the instrument for promoting self-sufficiency. Comités are required to prepare annual production plans that detail how member families intend to meet their subsistence needs before they can qualify for loans. These plans, in turn, help project agronomists design training and technical assistance programs to boost crop yields.

In these projects, however, comités are not so many cogs in a large bureaucratic wheel. Leadership and labor is unpaid and rotated among the members, and the primary intent is to create working institutions at the local level that will allow small farmers to rebuild the kinship and neighborhood networks that have withered in recent years. Comités reinforce community relationships between self-sufficient households and



Aparicio Rojas, member of Comité Pedrosa, in his pineapple field.



Rosa Martínez, member of Comité Jaguareté Kua, grinding corn into meal.

Paul Griffin



Pedro Martínez, member of Comité Jaguareté Kua, with his harvest of calabaza (squash).



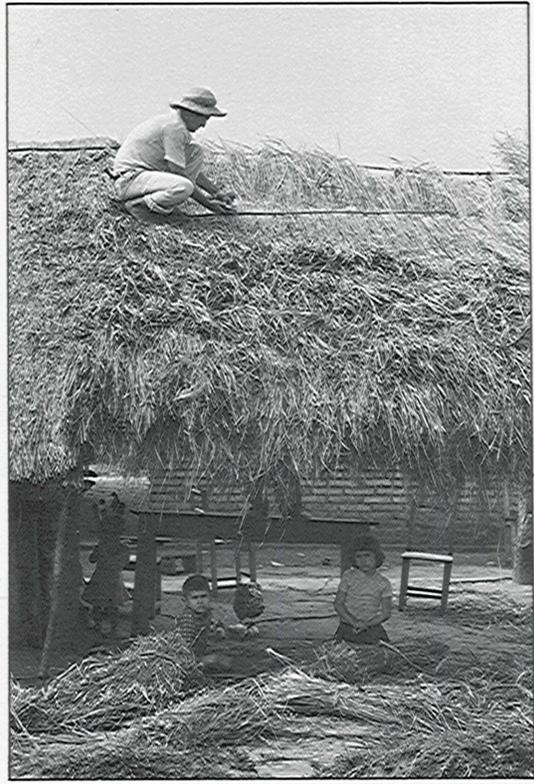
Members of Comité Jaguareté Kua, who have built two small, commercial fish ponds.

Paul Griffin

Paul Griffin



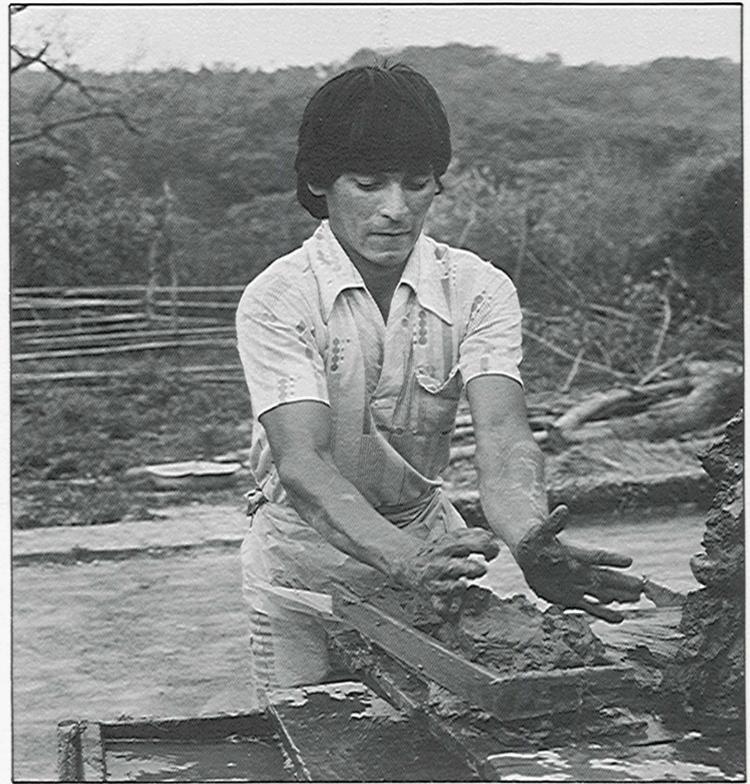
Mario and Merardo Franco grow onions for a cash crop.



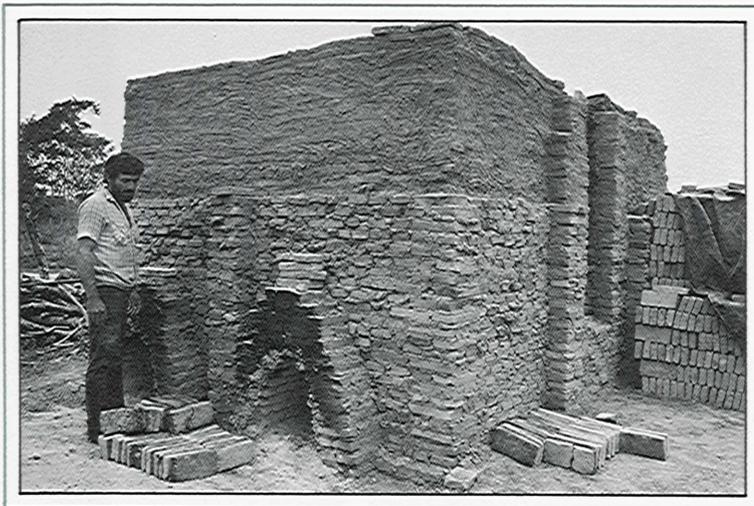
Campesino helps thatch the roof of a fellow comité member.



Felipe and Eugenio Díaz work a small garden plot that feeds their families.



Clay bricks being molded for housing at Comité Potrero de Carmen I.



Paul Griffin

Baudelio Martínez of Comité Potrero de Carmen I makes bricks for local houses.

provide an arena for resolving community problems and needs.

For instance, comités provide a focus for organizing *mingas* (group work parties) to build roads or schools. In the past, *mingas* were important for sharing the backbreaking work in farming, such as clearing forest land for cultivation. Comités are reviving that tradition, an obvious boon for growers who cannot afford to hire help.

Comités also foster the traditional sharing of resources. Members plant communal fields, usually 1.5 to 3 hectares in size, on land donated by members. These plots provide a model for testing agricultural innovations, and proceeds from their crops are used to benefit the community. In San Buenaventura, for example, members saved their earnings from two years of soybean production to build a meeting house. Next, they are planning to buy their own soybean sheller, obviating the need to rent a machine for each harvest. Other comités save their profits for emergencies such as rebuilding a home destroyed by fire or making loans for emergency medical treatment. Other comités purchase oxen teams, which members take turns using to plow their fields. Once the process becomes ingrained, voluntary arrangements often follow. For instance, comité members who own land often lend the portions they do not farm to other members who are landless.

INCREASING THE MARKET LEVERAGE OF PEASANTS

In a sense, the previous two elements rely heavily on the past. They attempt to mobilize what still works in the traditional subsistence economy to form a bedrock upon which small farmers can build. By themselves, they do not provide peasants with the means to extend their household economies into the commercial economy. Once comités establish a secure level of subsistence among their members and develop their skills at working together, a new order of effort becomes feasible. Projects provide the structure, technical assistance, and loans needed to help comités buy and sell in bulk.

Comités allow small farmers access to advantages of scale. Before the projects, growers sold their cotton to local intermediaries who paid 10 to 20 percent under the official government price. That difference stemmed partly from transportation and handling costs, but it also reflected a lack of market information among peasants and their inability to find other buyers, often because of indebtedness to local middlemen. Project credit has freed comité members from prior commitments to local merchants and allowed peasants to sell their produce in bulk—at higher prices—directly to refineries.

Local middlemen have had to respond by offering better terms. In many areas, middlemen now pay as much as, or slightly more than, project comités receive from refineries. In effect merchants are eliminating all handling

charges for marketing crops and are confining their profits to sales of agricultural supplies and consumer staples to campesinos. Admittedly, merchants may be providing this price break to undermine the cohesiveness and appeal of marketing through comités. If they are successful, benefits may well be short-term. Meanwhile, however, the competition has raised selling prices even for peasants who are not comité members.

Sometimes comités are also able to reduce the expenses of small farmers by purchasing goods in bulk. Stores are established with funds from members, who then have the right to purchase from the stock. Goods are bought wholesale and sold with minimal markup, usually 10 to 20 percent under prevailing prices. Despite these savings, comités have considerable trouble maintaining cooperative stores. Capital is often reduced by inflation, pilfering, and nonpayment of credit. Most stores have enacted strict accounting practices; even the smallest sales are witnessed by two members. Since all labor is donated, stores are often open only a few hours daily.

Nevertheless, some stores are successful. The comité of Primero de Mayo near Villarrica opened its doors in 1976 and has accumulated 400,000 guaranis in capital. The store not only carries a full range of merchandise at prices 10 to 12 percent below its competitors, it is able—unlike most comité stores—to provide members with consumer credit and cash loans of up to 5,000 guaranis. Comité stores are most successful in areas that have never had a retail store because poverty and transportation costs made



Paul Griffin

Aparicio Rojas and family, members of Comité Pedrosa.

store operations unprofitable.

PEASANTS AS SMALL PRODUCERS

The four Paraguayan projects are setting in motion a sequence of events designed to permanently improve rural social relations through a process of education and learning. They are best understood, therefore, not through any specific transfer of resources that has occurred (e.g., land entitlement), but by the transfer of skills that make new social and economic relationships possible. Take, for example, the previously cited example of land ownership. The number of land disputes testifies to the importance of the issue. Yet, a deed cannot maintain the soil or guarantee fields will be worked productively. When peasants lack those skills and access to modern technology, entitlement is often only an invitation to sell the land for a quick profit.

These projects are designed to give small farmers the tools they need to make their land work for them over the long haul. First, they assist households to use available resources to foster their own self-sufficiency. Then, from a more secure position as independent producers, peasants form groups that allow them to reinforce traditional patterns of mutual assistance. Finally, from the security of the peasant community, the projects assist peasants to integrate themselves more effectively into a market economy.

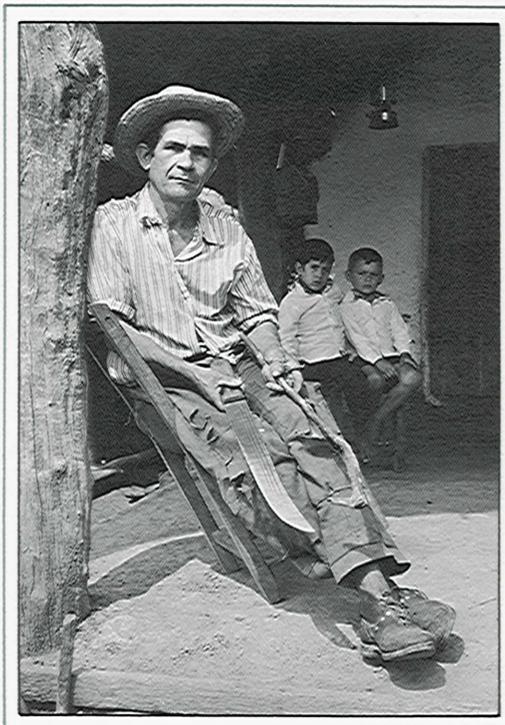
The comités have allowed peasants to improve their standard of living while

structuring their own communities. They are particularly appropriate for restoring the sense of community that is lost when nuclear families resettle in frontier areas far removed from old friends and extended family. They also can help revitalize the kinship and neighborhood networks that have been badly damaged by the pressures of the expanding export economy. And finally, project organizers hope that, in the future, comités will form links between widely dispersed communities and become integrated into a regional network. Then they can begin to define common problems and act on broader issues.

The project staff are willing and able to help peasant comités organize themselves as federate cooperatives of small landholders. This has already taken place among the first comités organized by CPC; they have organized themselves to manage an independent credit fund and an agricultural technology program, and they have formed cooperative purchasing and marketing groups. Taken together, these changes offer Paraguay's small farmers a chance to share in the country's expanding agricultural "miracle."

RICHARD REED is completing his doctorate in anthropology at Harvard University. His field research in Paraguay (1979-82) was supported by an IAF doctoral fellowship. This article is based on evaluative research of these four Paraguayan projects performed in the summer of 1984.

José Montaña, member of Comité Jaguareté Kua, grows subsistence crops such as corn and manioc, and new cash crops such as sugar cane and onions.



The preceding article by Richard Reed (page 17) described four Paraguayan projects that help small farmers acquire the skills needed to survive in a market economy that has worked to exclude them. This article by economist Ken Jameson examines how these groups wield the perilous lever of cooperative credit as an instrument in development. Despite the formidable risks of rural credit, these groups have developed shrewd strategies to prevent—or at least restrain—the tendencies toward loan “backsliding” and decapitalization.

Luis Rojas of Comité Pedrosa cuts and bundles palm branches to feed family's cattle.



Paul Griffin

CREDITING CAMPESINOS IN PARAGUAY

KENNETH JAMESON

There is an African proverb that says "Cross the river in a crowd and the crocodile won't eat you." That cooperative credit arrangements are commonplace testifies to the promise of the proverb. That so many of them fail indicates that the crossing remains perilous.

Two types of cooperative credit have offered the most enduring benefits to their members. The most successful arrangements involve small groups of friends who make regular payments to a capital fund for periodic distribution to purchase a particular producer good. Some notable examples are the "throwing-a-box, handholding societies" in Guyana, the many Asian "chit" funds, and the various African "susu" schemes. Because their goals are limited, their loans are short-term and quickly converted into physical assets, and their memberships are small and closely knit, these groups usually weather wild swings in the national economy.

Among larger cooperative institutions, credit unions have the best track record. Although not immune to national economic instability, they do have some protection. Their minimum membership contributions are often large, and that initial investment encourages members to remain active, provides some proof of creditworthiness, and precludes membership by the marginal sectors of the economy. Credit unions frequently have managerial problems, but a number of remedial methods have been carefully developed and are available to limit losses.

What forms of cooperative credit are most likely to fail miserably? The most likely candidates would combine an in-

formal pre-cooperative organization with minimal or no investment requirements for new members and would make multipurpose loans—to be disbursed and repaid in cash—from a rotating credit fund. These liabilities would be compounded if the borrowers were landless or were very poor farmers with insecure land titles.

Several projects in Paraguay, funded by the Inter-American Foundation, work under some or all of these handicaps (see box on p. 18 for a description of the projects). Although they are still in mid-stream, they have thus far eluded the crocodiles. How?

First, access to credit has been linked to participation in a broader program of rural development. Second, a number of restraints have been built into the programs to keep the credit funds solvent. Finally, the programs have found ways to enhance the effectiveness of loans, making their continued availability important for small farmers.

CREDIT AS A LEVER FOR RURAL DEVELOPMENT

The credit component of these programs seems modest at first. For example, the Centro de Promoción Campesina de Cordillera's (CPCC) credit fund represents only \$66,000 of a total project budget of \$300,000—or less than \$100 per member family. Yet both organizers and participants agree that loans are vital to the success of the entire rural de-

velopment effort. The many positive effects of the credit funds can be divided into three categories: economic, institutional, and symbolic.

Economic benefits. Most members are subsistence farmers who have traditionally worked as day laborers to earn cash for essential purchases. Since most day labor is also agricultural, campesinos often lack the time to tend their own farms during the growing season. They cultivate only a small portion of their land, primarily with a cash crop. That crop is pledged to local stores, generally on unfavorable terms, for purchases of consumer staples during the rest of the year. As one small farmer put it, "We really only eat three times a year: at Christmas, New Year, and Easter."

The availability of loans from a credit fund allows peasants to equalize their income over the crop cycle and to concentrate their labor on family plots. More land can be brought into production, and families can reduce their dependency on day labor. For example, a survey of four communities in the new Centro Paraguayo de Cooperativista (CPC) project reveals that participants were cultivating 41 percent of their land after one year, compared to a rate of 31 percent for nonparticipants. A study of the first five years of the original CPC project indicates that these differences persist. In three of the four communities compared, participants cultivated 20 percent more hectares than nonparticipants, while reducing the number of days they worked as hired laborers.

Once small farmers begin to devote more attention to their fields, credit can

be combined with technical assistance* to improve productivity. Participants borrow funds to buy high-quality seeds, fertilizers, and fungicides that are recommended by program agronomists who then suggest which crops to emphasize, where to plant them, and how to rationalize farming methods. One obvious result has been to improve levels of subsistence among participants. Planting a mix of food crops has been particularly important, broadening the nutritional base of family diets and improving the ability of small farmers to feed themselves when markets for cash crops are soft. Comprehensive information on yields for individual crops is unavailable, but the agronomists have often seen output double. Individual participants have cited even larger gains, e.g., the San José comité of the CPC project reported a jump in maize production from 200 to 1,500 kilos per hectare.

The credit funds have also made it possible for small farmers to accumulate assets while boosting production. In the old CPC project, for example, loans have frequently been used to purchase teams of oxen. This has allowed families to use the time freed from day labor even more efficiently by clearing and cultivating additional forest land. Some comités

*Historically, technical assistance for agriculture in Paraguay has been confined to major export crops such as cotton and soybeans. One survey supported by USAID found only 4.5 percent of farmers with less than 11 hectares had received technical assistance, and only 11.5 percent of farmers with 30 to 100 hectares. All of these IAF-supported projects provide technical assistance to their members.

have borrowed money to plant citrus trees or other potentially lucrative new crops that take years to realize their first returns. Others have invested both their freed labor time and borrowed capital in basic infrastructural improvements such as irrigation systems and erosion control projects. All of these efforts stand in sharp contrast with the national trend of declining crop yields from insufficient capital investment and poor land management.

Finally, the programs have used credit to help small farmers lower their costs and obtain better crop prices. In the case of cotton, small producers outside the comités sometimes have difficulty buying seed and tend to pledge their entire crop to a single local merchant in exchange for agricultural supplies and consumer goods for the coming year. The farmer absorbs the markup charged by the middleman and loses whatever advantages accrue from seasonal market fluctuations. Credit funds allow program participants, through the comité, to buy high-quality supplies in bulk at lower prices. Similarly, since Paraguay's cotton gin operators pay a premium for the delivery of large amounts of cotton, program participants receive higher rates of return by marketing their crops jointly.

Institutional benefits. Many of the economic benefits depend on small farmers having access to mediating institutions that can provide a variety of services—from offering technical assistance to arranging for bulk purchases and sales and the transportation of crops to market. Such infrastructure is rare in Paraguay,

Bricks at kiln of Comité Potrero Angelito I are stacked to dry in the sun.

(middle)

Elenio and Rosa Martínez of Comité Jagua-reté Kua, with their children.

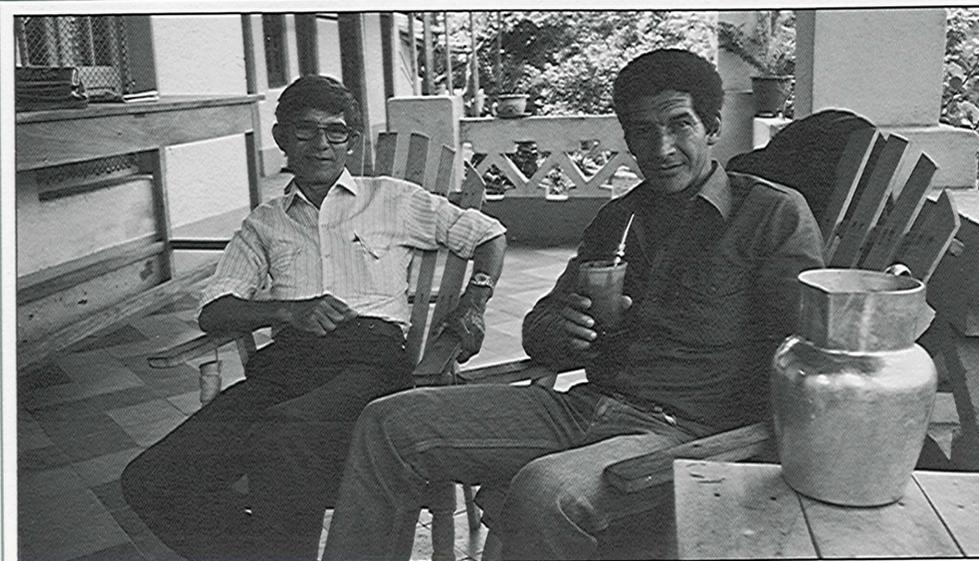
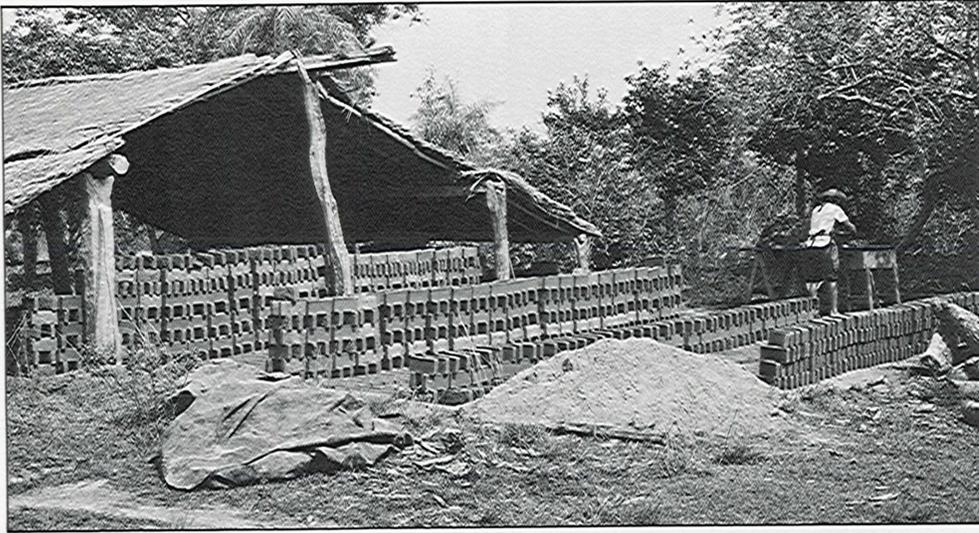
(bottom)

Council members Luciano Rojas, right, and Eulogio Velásquez, at CPCC project offices in Caacupé.

and these programs have often tried to erect a workable framework from scratch. Despite the need, campesinos are often reluctant to join development programs when there have been few precedents to show that benefits promised for the medium- and long-terms will actually be realized. After all, participation implies an immediate and dramatic shift in the order of everyday life: membership implies a commitment to work with a local group, develop an annual plan for the agricultural cycle, and participate in training courses.

All four projects had to work very hard to establish their first comités. Once these were formed, however, growth was exceptionally rapid. Programs reached their third-year membership goals after one year or, at the most, two. For example, the CPCC project went from eight comités after six months to 42 after a year, only eight away from the three-year target of 50. Organizers in all of the projects agreed that small farmers' desperate and urgent need for credit was the key to this growth.

The availability of credit not only spurs the formation of new comités, it provides the basis for getting them to work. Project loans are made to the entire comité, not to individual campesinos. To join the program and be eligible for funds, people at the local level have to hammer out a common set of values and goals. They have to decide how prospective loans are to be distributed, for what purposes, and how they will be repaid. In reaching this consensus, they also must show an understanding of how the comité will interact with the



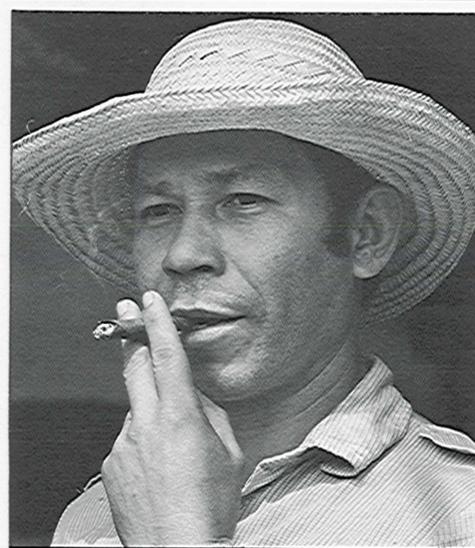
broader project's goals. In taking mutual responsibility for using the loan and for its repayment, members commit themselves to work together for a sustained period of time.

That commitment opens up a whole new range of possibilities. The comité, as an association of individuals, can help fill a void in rural society, which often lacks stable organizations of any kind. Although one would hesitate to apply his insights universally, the strongest case for voluntary associations was made by de Tocqueville, writing in 1833:

Americans of all ages, all conditions, and all dispositions constantly form associations. They have not only commercial and manufacturing companies, in which all take part, but associations of a thousand other kinds, religious, moral, serious, futile, general or restricted, enormous or diminutive. The Americans make associations to give entertainments, to found seminaries, to build inns, to construct churches, to diffuse books, to send missionaries to the antipodes; in this manner they found hospitals, prisons, and schools. If it is proposed to inculcate some truth or to foster some feeling by the encouragement of a great example, they form a society. Wherever at the head of some new undertaking you see the government in France, or a man of rank in England, in the United States you will be sure to find an association. (Volume II, p. 114, Vintage Edition.)

In Paraguay, the credit mechanism has encouraged the formation of associations that can then tackle other local problems, and their clearly economic goal helps insulate the new groups from outside political pressure.

Pedro Martínez, treasurer of Comité Jagua-
reté Kua.



Paul Griffin

Symbolic benefits. Credit funds affect how their members see themselves, each other, and their communities. The individuals are affiliated with a local comité, a zonal committee, and a regional organization. The prestige of these bodies will affect the individual's prestige, and vice versa, and the credit fund provides a yardstick to measure the importance of the entire operation. As one participant in a regional meeting observed, "Credit is important because it is ours, because it is a resource we control." The tens of thousands of dollars that campesinos own and manage together demonstrates that individual members of the organization are worthwhile and productive. They must be taken seriously and treated as equals in qualifying for and repaying loans.

That heightened status can promote a feeling of responsibility to the community. Much of one recent meeting of the regional coordinating committee of the CPCC project was spent debating whether or not to use doctored weights when comité products were sold to outsiders. Some people argued that "everyone did it," and the debate was spirited. The final conclusion was unanimous. The prestige of the regional and of its members required that they "act like Catholics," that their ethics be above reproach. This may appear to be simply good business practice, but the decision was also based on the social element introduced by the credit fund.

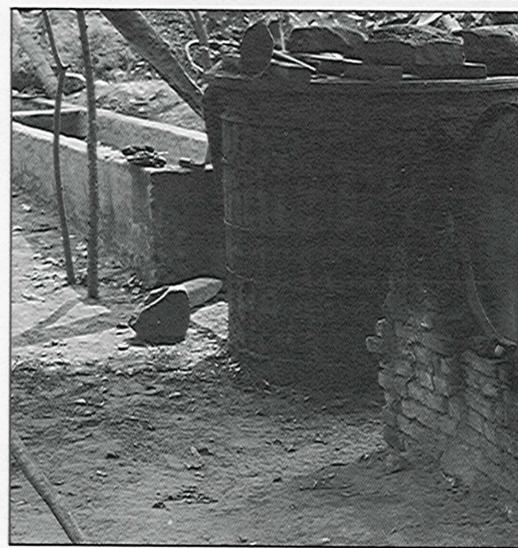
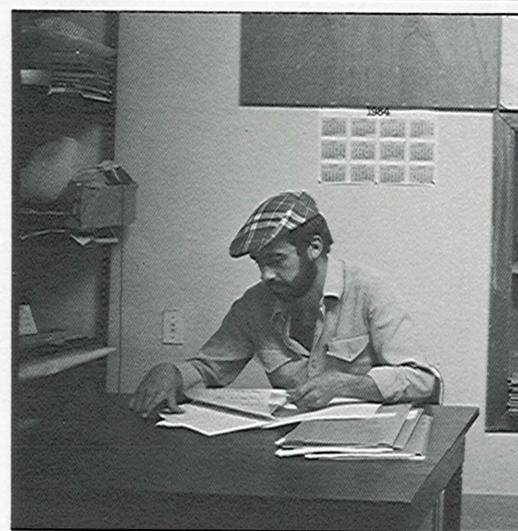
RESTRAINTS ON FUND DEPLETION

Revolving loan funds frequently fail when members leave the group and/or default on their loans. Fear of the crocodile is the best preventive against such backsliding, and sometimes that is enough. For example, one comité had a problem marketing their cotton in 1983 when a local wholesaler removed all bridges from their area—except the one he owned. A group work party assembled, and rebuilt another bridge. The comité's crop reached the mill, and the higher selling price underlined the advantage of working together.

The credit fund also serves as a kind of bridge. Because agriculture is seasonal, campesinos need access to that bridge repeatedly, and they have a direct as well as a symbolic interest in keeping it open. The genius of the projects in Paraguay has been their ability to promote that interest and to restrain backsliding in repaying loans.

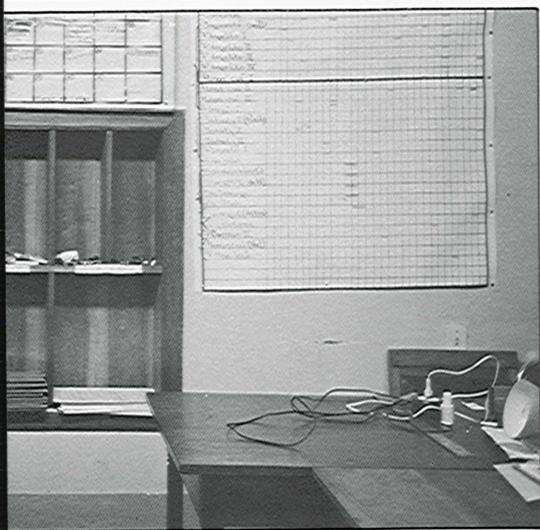
One central restraint is embodied in the very structure of the comité, which is the sole conduit for borrowing from the program and is responsible for all repayments. If a member defaults on his or her portion of the loan, friends and neighbors must assume the debt. Individual irresponsibility costs everyone, and if it is common enough, it threatens everyone's access to credit. Thus some of the responsibility for supervising the loan is inevitably shifted to local people who are more likely to know how funds are being used and who have a vested interest in seeing them repaid. There are

Miguel del Puerto, CPCC project agronomist in his office in Caacupé.



The Montaña family of Jagua-reté Kua operates a device for extracting essence of petti-grain from leaves of *naranjo agrio* (bitter orange tree).

Paul Griffin



Paul Griffin

many cases in which a comité's internal credit committee has suspended loan disbursement because the money was not being used properly.

The programs have also minimized risks by keeping most loans to comités relatively small (on average, \$125 per family per year). This removes much of the incentive for the treasurer to take the funds and leave for Asunción. Keeping the loans small also facilitates repayment, even when times are hard. For example, in 1983 there was a major problem when many Paraguayan farmers received cotton seed that did not germinate. Yet in the CPC project, loan repayment still reached 97 percent as members found other ways to generate the income needed to repay their small loans and continue in the program.

Another device has a similar effect. Every member of the comité who qualifies for a loan usually receives the same amount, even if all the money is not spent. (Some exceptions occurred early in the projects, and funds can be borrowed for capital investments such as buying a team of oxen.) This provision minimizes the dangers of concentrating resources among a few people, who will then have an incentive to default. It also maintains a sense of equality in the comité and removes a source of internal dissension.

Finally, some further measures are beginning to emerge as a result of past experience. For instance, timely rates of repayment have varied substantially among the projects. Three of the programs have a strong central staff that is convinced of the importance of the revolving fund, and rates in excess of 90

percent have been reached even in very difficult times. Repayment rates have been approximately 75 percent in another project whose staff believed long-term maintenance of the fund was less important than providing immediate assistance to very poor and struggling farmers. The lowest rate—50 percent—occurred in the oldest project. Control of the funds had passed to the participants themselves, and they had been less strict in demanding on-time repayment. When the danger of the fund decapitalizing became clear, a more rigorous loan policy was instituted. Only time will tell if the policy can be enforced or if an independent central staff must be reestablished to maintain solvency.

Of course, central staffs can also lose their resolve to lessen backsliding. Easy access to outside funding sometimes encourages staff complacency. The project with the 75 percent repayment rate had a wide range of activities underway, all financed by international donors, and it was clear that alternative sources were available to replenish a depleted credit fund. Similarly, the coordinator of the project where repayment rates had fallen to 50 percent was negotiating with an international agency for more project money, much of it for the credit fund.

Although outside funders would do well to require grantees to establish a strong internal mechanism to supervise loan disbursement and collection, a word of caution should be added here. The depletion of a credit fund does not necessarily mean that money has been "wasted." Small farmers in desperate need do receive valuable resources for a time, but at the price of limiting the num-

ber of clients that can be helped and possibly endangering the *program's* survival.

POSITIVE REINFORCEMENTS

Restraints against backsliding are not sufficient to maintain a program; there must be continuing positive inducements to both individuals and groups. All four projects include such elements, and continued success will ultimately depend on how well they work.

All of the projects encourage comités to cultivate a communal plot. This provides the local comité with a source of income to help cover any loan defaults by individual members. Since all members contribute time and labor, it also helps knit the group together while providing a tangible measure of who is actively interested and who is not. Thus far, most communal plots have not been needed to defray bad debts, and their income has often been used as initial funding for consumer cooperatives. That is, the communal plot has acted as a savings mechanism. In some cases, the accumulation of assets has been sizeable since working the land jointly has raised productivity. Larger tracts allow better use of ox teams, and tasks can be specialized to fully utilize the different skills of comité members.

The programs also provide a second positive feature. Before receiving credit, the comité must develop a production plan for the coming year that will include all of the members and their land. Implicit in this process is an assessment of the previous year's performance. Thus,

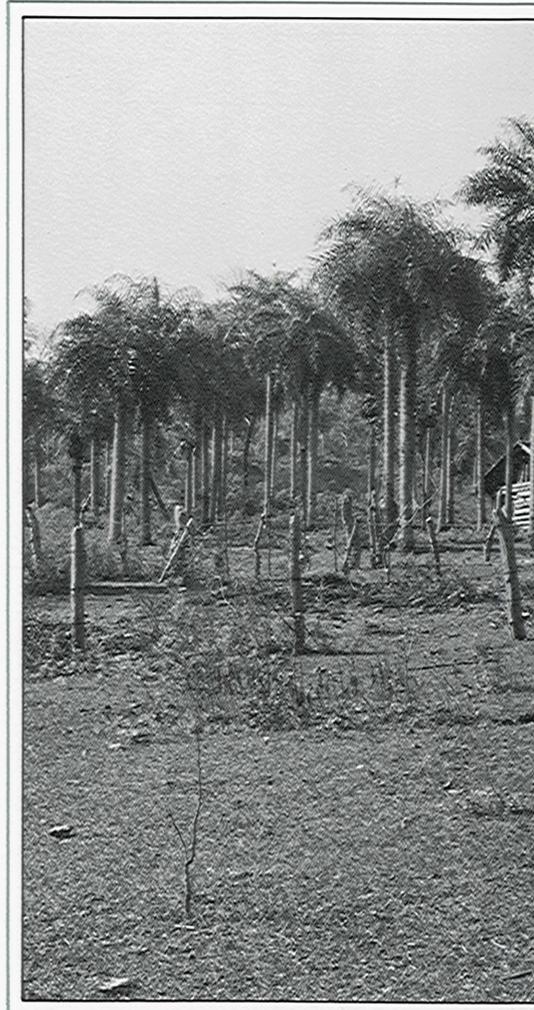
the production plans encourage learning from past experience while providing a record of what was learned. They also make it easier to focus the technical assistance from the program agronomists for maximum advantage.

Finally, the credit funds have opened up new possibilities for production. For example, there are many wild coconut trees in the CPCC project area, but the coconuts are often not collected because of marketing problems and because many members have hired out as day laborers. The CPCC project decided to provide a loan, based upon the expected harvest of *cocos*, to sustain campesinos during the harvest period and until the crop could be sold. Without the advance funding, this valuable source of income would not have been tapped.

CREDIT FUNDS AND THE MACROECONOMY

It would be ironic if the comités learned to avoid the crocodile only to drown in a rising river. Inflation has been severe in Paraguay, reaching an estimated rate of 30 percent in 1984. Unless compensatory adjustments are made, even full repayment by borrowers will not keep loan funds from decapitalizing.

The interest rates for project loans vary substantially. One project levies no charges, but most charge one percent per month, plus a one-time service fee of two percent. This is below the annual average rate of 18 percent for official rural credit in Paraguay and the 24 percent rate in credit unions.



Coco palms from the farm of Aparicio Rojas, member of Comité Pedrosa. *Cocos* are sold to factories, which extract oil and use the pulp to make soap.



Paul Griffin

A number of strategies are being tried to preserve the value of credit funds. In the old CPC project, interest is now deducted at the time of loan disbursement. This "prepayment" raises the effective interest rate above 16 percent, and the return to the regional organization, which relends these funds, is above 18 percent. This remains below the rate of inflation, but it is far higher than the return paid by commercial banks on deposits.

Another project is making some of its loans in seed and charging an in-kind repayment of 125 percent. With two six-month growing seasons per year, the effective rate of simple interest is 50 percent.

Finally, one project is loaning 200 guaranis (about 16 cents) for each box of coconuts that a member plans to harvest. When the crop is sold, a surcharge of 50 guaranis is added to the ordinary interest charge. This yields an effective annual interest rate of 56 percent. Members believed the project was worth the cost, and it is being extended to cover a second harvest.

These responses testify to the ingenuity of the Paraguayan credit funds, but will they be enough to keep the programs afloat? The overall record at first seems discouraging. The oldest of the projects dropped from a peak of 60 comités to 40. However, some of those "missing" affiliates actually graduated from the program. Based on their success and the assets they accumulated, they had gained access to other sources of funding. And there are additional grounds for cautious optimism. Three of the 20 comités that dropped out have resumed activity, and seven new groups are form-

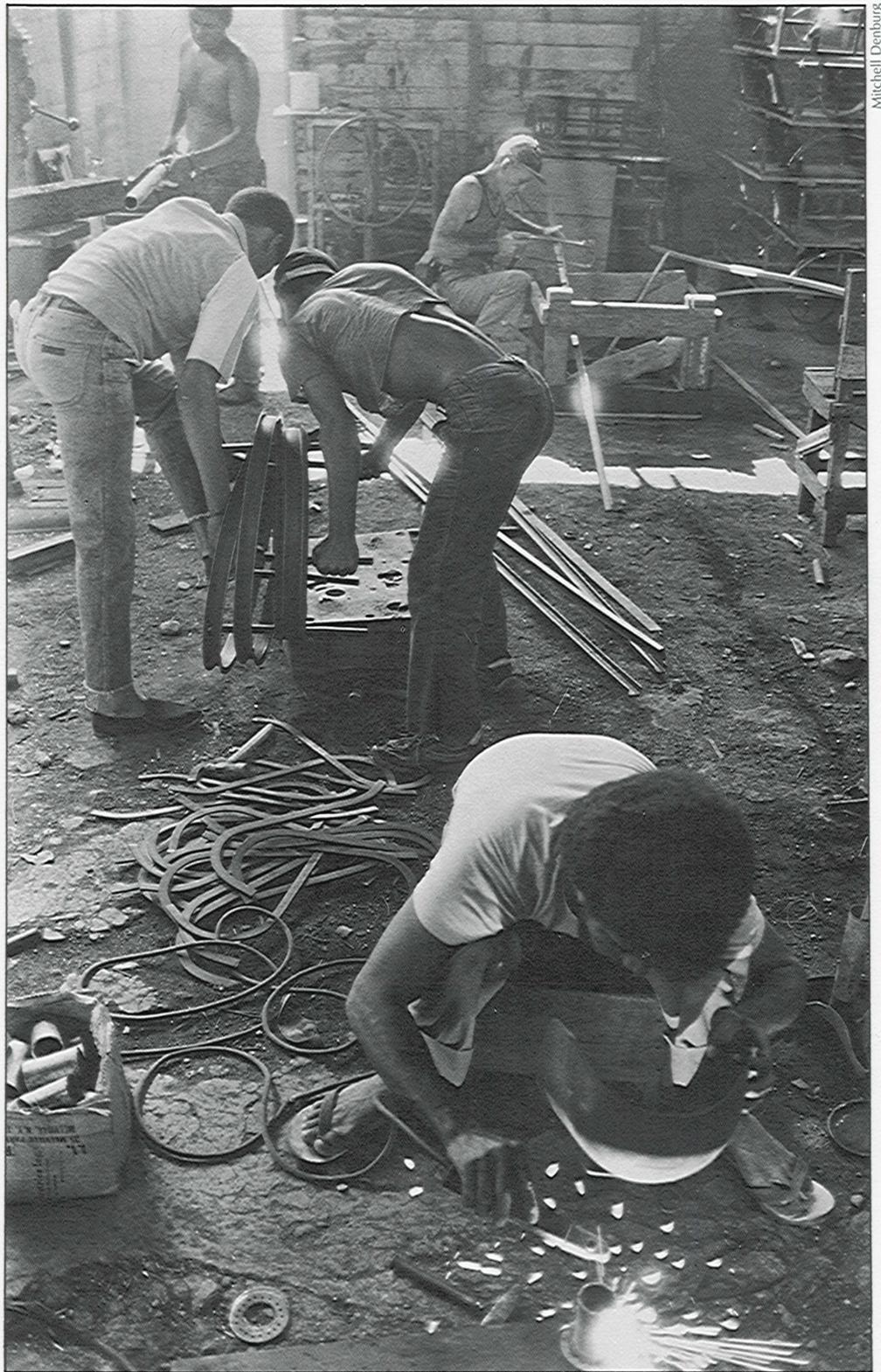
ing. The river and the crocodile remain formidable, but people are getting across.

Ramón Rivas cleans aquaduct that supplies his community's fish ponds.



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Ken Jameson's article on rural Paraguay (page 25) describes how groups of small farmers are navigating the crocodile-infested waters of credit extension. Here, Sarah Wines examines the use of credit by 24 successful urban microentrepreneurs in Santo Domingo, Dominican Republic. She suggests how credit and technical assistance might be tailored to suit the needs of small firms at three distinct stages of growth.



Microenterprise workers manufacturing bicycles in Santo Domingo.

STAGES OF MICROENTERPRISE GROWTH IN THE DOMINICAN INFORMAL SECTOR

SARAH W. WINES

The debate on urban employment in developing countries has recently focused on how small-scale enterprises can provide income for a growing proportion of the workforce. These entrepreneurial activities, which are collectively defined as the "informal" sector of an economy, are frequently depicted as opportunities of last resort. That is, poor people with little formal education and no prospects of finding "real" jobs are assumed to have started small businesses to scratch out a living. Very few success stories are actually reported or investigated in depth, so this characterization is rarely challenged.

One reason for the lack of solid information is the difficulty of researching informal sector businesses. Turnover is frequent, most firms are unlicensed, and many operate illegally. Opinions vary widely about their growth potential and their need for programs to provide credit and technical assistance.

Earlier this year I conducted a study of 24 thriving informal sector firms in Santo Domingo, Dominican Republic, to see how the availability of credit affected their ability to grow and to form linkages with firms in the formal economy. Case histories identified three stages of growth, each with its particular set of problems. The study focused on how owners approached those bottlenecks and what role credit played in overcoming them.

The surveyed firms specialized in a variety of manufacturing activities—from making ceramics, candles, or clothes; to repairing refrigerators or mattresses; to baking bread, confecting sweets, or even printing paper. All 24

were participants in a credit extension program operated by the Association for the Development of Microenterprises, Inc. (ADEMI), which was founded in April 1983 within the private sector, with support funding from the government and from international donors.

This program borrows and combines the most successful elements of similar efforts by the BKK in Indonesia, FEDIC-CREDITO in El Salvador, and the DDF in the Dominican Republic. Paperwork has been streamlined to speed up loan processing and to reach a large clientele. Loans are made on a sliding scale, require no collateral, and carry interest charges well below the street rates of neighborhood moneylenders. Initial loans tend to be small and their repayment schedules short—as little as 300 Dominican pesos (approximately \$100 in March 1984) and three weeks respectively. Larger firms can eventually borrow up to 5,000 pesos for five months. Thus far only eight percent of ADEMI's portfolio has gone into arrears—a rare accomplishment in the world of credit extension programs.

By ADEMI's standards all of the 24 firms are "successful." That is, each meets at least one of the following criteria. Each has (1) borrowed and repaid a series of loans, (2) grown large enough to qualify for ADEMI's largest loans, (3) simultaneously received credit from another lending institution, or (4) satisfied the minimum criteria to borrow from the Investment Fund for Economic Development (FIDE is a program within the Dominican Central Bank that finances small industries with fixed capital assets of 10,000 to 100,000 pesos).

Admittedly, the range of this sample is narrow. Since all of these are manufacturing enterprises, their experiences may vary considerably from those of successful service-oriented firms. And as "successful" entrepreneurs, their owners had very few criticisms of the ADEMI program, which might not have been the case had they been visited by program assessors or the sheriff because of overdue loans. These success stories do, however, shed some light on how informal sector firms work and how they can be helped to grow.

THE DYNAMICS OF A DEVELOPING ECONOMY

To find a framework for evaluating these success stories, it is first necessary to place them in a wider context. There is general agreement that developing economies display a dual nature: one formal, the other informal. The formal sector includes all activities based on modern modes of production and organization. The informal sector has been defined by the International Labour Office (ILO) as "a way of doing things characterized by ease of entry, reliance on indigenous resources, family ownership of enterprises, small scale of operation, labor-intensive and adapted technology, skills acquired outside the formal school system, and unregulated and competitive markets."

There is no consensus, however, on the usefulness of this distinction or on how ironclad it should be. Three kinds of criticism have emerged. One finds the model too rigid and points to the link-

ages between the two sectors (Moser, 1978). Another emphasizes the variations within each sector and proposes additional divisions (Standing, 1977). A third views the two-sector economy as real but temporary: informal sector businesses are evolving into formal sector businesses (Emmerij, 1974). All three criticisms have a common thread: they suggest a dynamic relationship among firms, whether small or large, informal or formal.

Empirical studies have attempted to shed light on this interrelationship by analyzing the various growth constraints facing informal sector enterprises. Schmitz (1982) divides studies of such manufacturing firms into two categories: those emphasizing external factors and those emphasizing internal factors. The first group of studies concludes that microfirms are stunted by lack of access to modern technology, raw materials at bulk prices, bank credit, and mass markets. The second group emphasizes that microfirms stagnate from a lack of entrepreneurial or managerial skills.

Within each group there is disagreement over how "removable" or "dissolvable" these constraints are, and this has sparked a debate over whether growth in the informal sector will be "involutionary" or "evolutionary." Involutionary growth emphasizes the disparity between the informal and formal sectors. Employment in the informal sector does not generate the savings for entrepreneurs to expand their operations or for workers to buy their products. Formal sector businesses have the technology, size, and capital to penetrate and reor-

ganize informal sector markets and to monopolize raw materials. Informal sector enterprises thrive only at the margins, where profits are skimpy and uncertain (Hart, 1970; Oshima, 1971). This view implies that a change in the prevailing international and national economic order is required to assist the informal sector (Tokman, 1978).

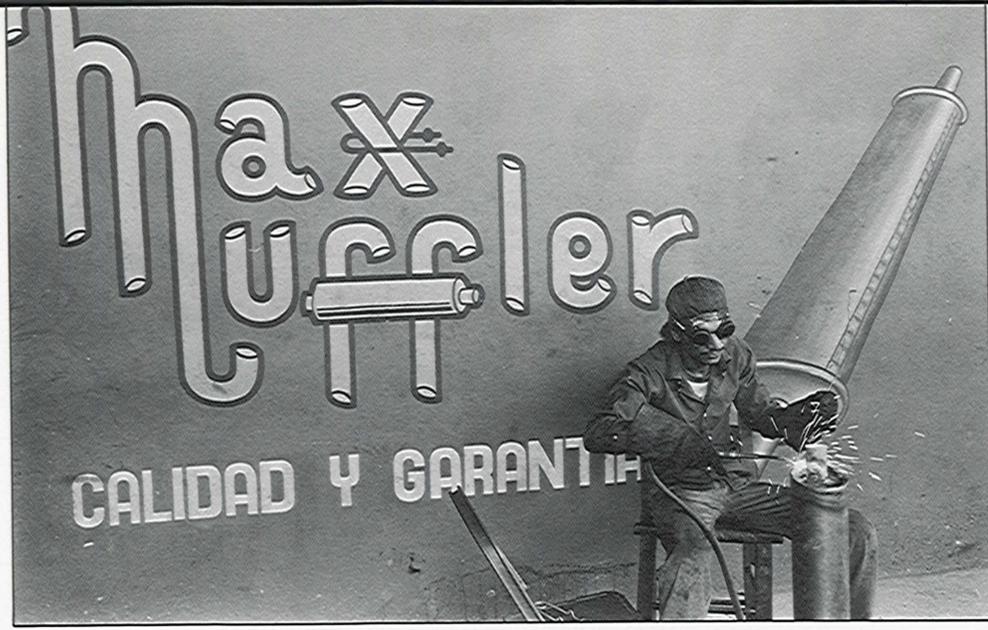
On the other hand, those who forecast evolutionary growth believe that informal sector firms do grow when the policy environment is favorable and when linkages can be formed with formal sector firms (Mazumdar, 1976; ILO, 1972; Sethuraman, 1976). Some emphasize the need to remove internal constraints to growth through training programs for improving managerial skills. Those emphasizing the removal of external constraints to growth concentrate on programs to provide informal sector firms with access to technology, raw materials, and credit. In practice, current policies toward the informal sector attempt to attack both kinds of constraints. The best examples are credit extension programs that also provide technical assistance.

This study of 24 Dominican microenterprises implicitly falls within the first group cited by Schmitz since it focuses primarily on external constraints. Survey results also support the view that informal sector growth is evolutionary since these manufacturing firms were able to "dissolve" or "remove" many external bottlenecks. The fact that many of these firm owners *left* jobs in both the informal and formal sectors to establish their own businesses suggests they were

not pursuing opportunities of last resort. Profits are available, and surpluses can be accumulated for investment. The fact that these entrepreneurs actively sought out and profited from relationships with larger buyers and sellers suggests that the relationship between informal and formal sector firms is not a one-way street. Microfirms can use these linkages to grow.

Indeed, study results support all three cited criticisms of simplistically dividing developing economies into formal and informal sectors. First, the study shows there are definite links between institutions in both sectors. Second, it shows how difficult it is to categorize firms by their behavior. (To cite just one example, many microfirms were unlicensed, but still observed labor laws. The first characteristic would make these firms informal, while the second would make them formal.) Finally, the study clearly shows that some informal sector businesses do evolve towards the formal sector, suggesting that the two-sector phenomenon is *temporary*. (As successful firms grew, they began requiring a more skilled labor force, relying on imported raw materials, and selling their products within formal markets.)

This pattern of evolutionary growth can be divided into three stages. The stages were defined by four variables: (1) the age of the business, (2) its source of supplies, (3) its customers, and (4) its workforce.



Mitchell Denburg

Worker for "successful" micromanufacturer in Santo Domingo, welding a muffler.

THE BIRTH OF THE FIRM AND ITS "DAYS OF STRUGGLE"

The owners interviewed for this study described their first two years of business as "days of struggle" when the whole family had to work long hours not only to keep the firm afloat but to "keep bread on the table." New microenterprises operate on a very narrow margin, where every *chelo* (penny) is important, and survival depends on exploiting every available "natural advantage." No salaries are paid because family members contribute their labor. Often the business operates out of the home. Owners make do with second-hand equipment, and devote most of their energy to the production process because administrative demands are few.

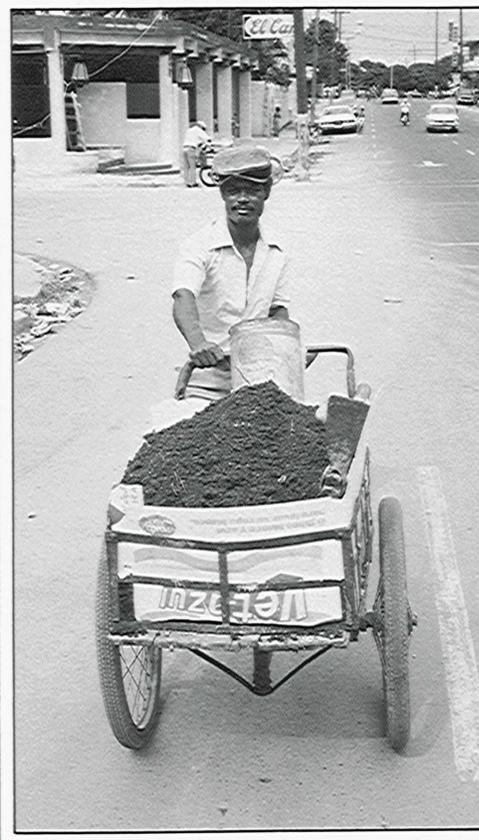
The main roadblock to growth at this stage is the lack of liquidity to purchase a steady supply of raw materials. Ironically, not much money is required. Most customers are poor and can only afford inexpensive goods, which allows producers to use lower-quality or even recycled raw materials. Some owners are able to use that flexibility quite ingeniously to get by. As one shoemaker put it, he could buy needed scraps of cloth, leather, and rubber and still cover his basic family expenses because he had learned to "make everything out of anything."

For most owners, however, these first years bring hard choices. The capital invested in raw materials is tied up until the finished product can be sold. When turnover is slow, other sources of income

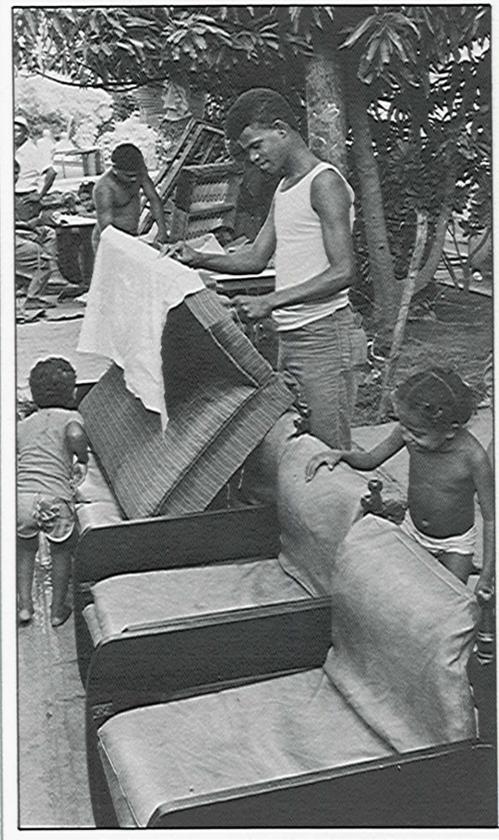
are required. At first owners may dip into savings accumulated from previous jobs, but those are usually quickly exhausted. Some owners keep other jobs and still try to operate their businesses as sidelines. Others borrow from moneylenders, friends, or family to tide themselves over until products sell. The latter sources, however, are also often strapped for cash, and moneylenders usually charge high rates of interest.

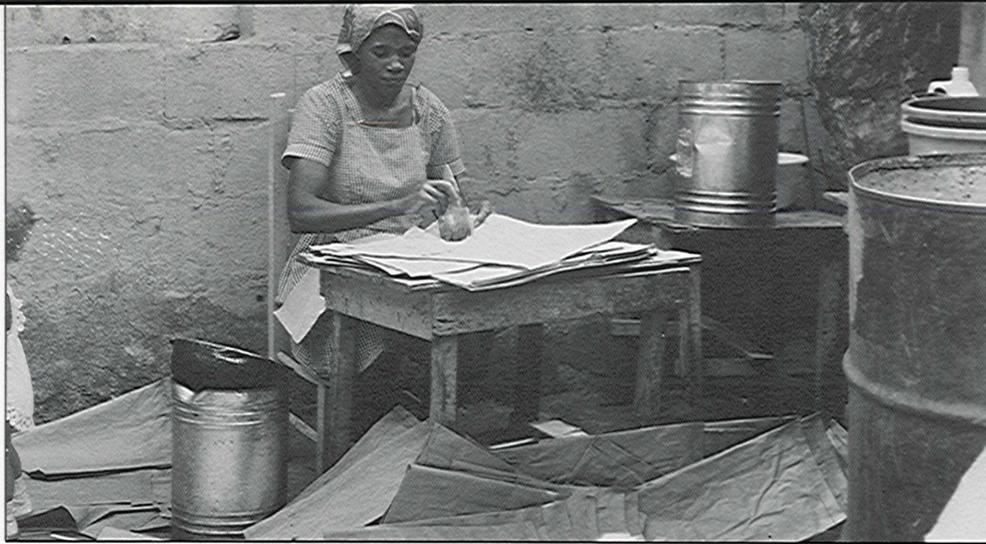
Triciclero, vender on the streets of Santo Domingo.

Microentrepreneur upholstering a couch in Santo Domingo.



Stephen Vetter





Worker making paper bags.

Since profits from sales may not be enough to cover expenses and buy more raw materials, more loans may be needed. Owners then try to narrow their risks by borrowing just enough to produce what they can safely hope to sell in a day or a week.

Surveyed owners believed that the key to breaking this cycle was the ability to buy raw materials from larger suppliers. Large suppliers were able to keep a wider variety of items in stock, reducing the need for numerous trips crosstown "in search of this or that," and they were able to offer discounts because they sold in bulk. (Some owners mentioned that these wholesalers could also become important intermediaries for breaking into formal markets since they had contacts with large retailers.) Most microenterprises, however, cannot afford these savings: they find it difficult enough to make ends meet today without worrying about tomorrow.

ADEMI offers a potential way out of this impasse. It costs less to take out a small, short-term loan with ADEMI than to borrow from moneylenders. That difference can be used to purchase more raw materials to boost production without endangering the borrowing family's welfare. The "successful" owners in this survey managed to break through this barrier before ADEMI was founded, but they undoubtedly would have welcomed its assistance when they were getting on their feet.

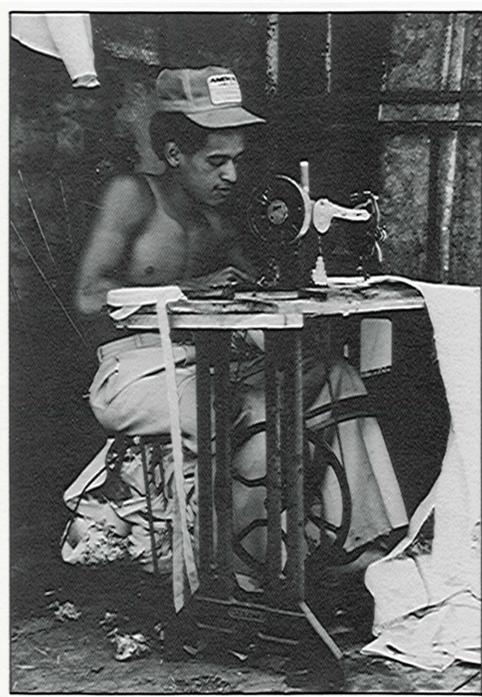
These owners also had strong opinions about what kinds of technical assistance were appropriate for this stage of growth. Several admitted that advice on selecting proper materials would

have avoided costly mistakes. Most argued, however, that there was little need for managerial assistance since there were few if any paid employees. Nor was there much need for developing accounting methods when the business was barely making enough to expand production. This suggests that credit extension programs which also try to offer technical assistance should focus on improving production methods in new firms and leave management and marketing for later.

STABILIZATION: SECURING A MARKET BASE

Once a firm begins to expand production it approaches a threshold. More workers are needed, and family labor must be replaced by outside employees. The additional cost is affordable because there is a large pool of young and unemployed persons willing to accept low wages and poor job security. During this stage of growth, owners of microenterprises may use a "hiring-firing" technique to keep labor costs low. Apprentices, after working six months, become *operarios* (skilled workers) who are eligible, under Dominican law, for minimum wages, severance pay (equivalent to two-weeks salary), and fringe benefits (vacation pay and sick leave). Some owners have found it cheaper to fire their employees every three to six months, even if it meant training new workers.

Along with the gradual switch to larger suppliers mentioned in the previous section, firms in the second stage of growth begin to search for more lucra-



Worker hemming fabric in Santo Domingo.

tive markets. They continue to sell to individual customers who come to the shop, but also begin marketing to *tiendas* (shops) catering to the growing lower- and middle-income populations of Santo Domingo.

The owners in this study articulated both the disadvantages and advantages of forming relationships with customers in the formal sector. Owners of older firms concluded that advantages outweighed disadvantages, whereas own-

ers of the newer firms believed the opposite.

Two advantages from selling to the *tiendas* were cited. First, these shops are more predictable customers than street vendors or individual clients. The owner knows at least 15 days in advance that a minimum quantity of merchandise will be sold because the *tiendas* send out advance orders, making it possible to plan production. Second, firms are required to improve only "slightly" the quality of

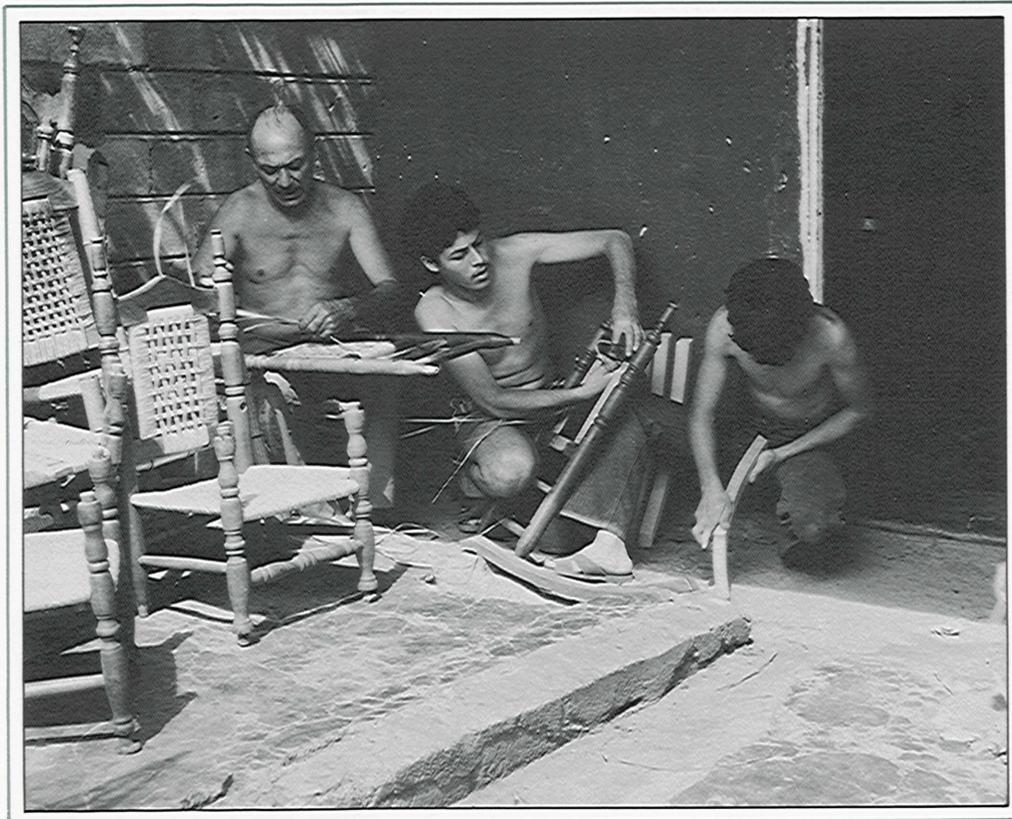
their merchandise. While the *tiendas* buy in much larger quantities, they cater to the same low-income populations.

Several disadvantages were also cited. First, products had to be delivered to these stores, raising costs. Second, the competition was keener (people who already had contracts for a long time were often favored by *tienda* owners). Finally, the owners of newer firms complained that they were not paid on time, and checks occasionally bounced.

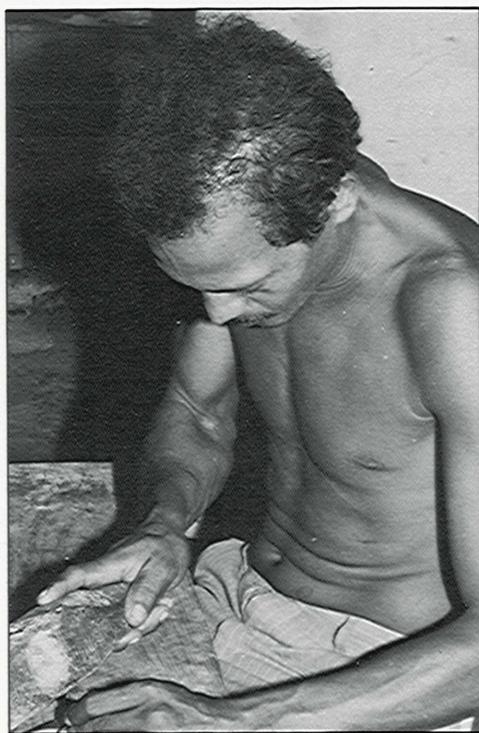
Many owners also stressed that the initial approach to the *tiendas* is especially difficult and challenging because it means developing a new kind of skill. Product samples must be marketed—a new experience for someone who has devoted his entire working life to production activities—and the shop must be persuaded that the firm is reliable. Convincing *tienda* owners to switch from buying merchandise from an importer who charges slightly more but guarantees product quality and timely delivery can be difficult. Many small entrepreneurs described how they had to supply *tiendas* for several months before actually securing a written contract.

Access to credit plays an important role in all of these transformations. For instance, there may be a time lag between hiring the workers needed to increase production and securing the cash flow to pay their salaries. Owners who had been in business for an average of 19 years described how, in their first years

ACCION International



Microentrepreneur and sons assembling wicker chairs.



Shoemaker "making everything out of anything."

of operation, they had spent every spare chele hiring more workers to keep up with demand. Owners who had been in business for an average of two years at the time of the study said they used the ADEMI loans primarily to hire "many workers and buy more raw materials."

Credit programs can also play a crucial role in easing the transition to larger suppliers and, later, to larger purchasers. Loans can be used to buy raw materials in bulk, reducing the per unit cost to help absorb the cost of hiring labor. They can also be invested in trucks or jeeps to transport merchandise, or in expanding the *locale* to stock materials and finished products.

The owners also mentioned the indirect effect that credit has on a firm's ability to expand. The fact that an agency is willing to lend to an owner gives him legitimacy. Stores can be confident that the microfirm will not fail if they are forced to delay an order due to slow business. Suppliers also feel confident that the mi-

crofirm will continue to buy at a steady pace. Being a client of a financial institution such as ADEMI places an individual in closer contact with the more privileged sections of the economy, improving the borrower's chances of opening a savings account or becoming eligible for financial or technical assistance at other institutions.

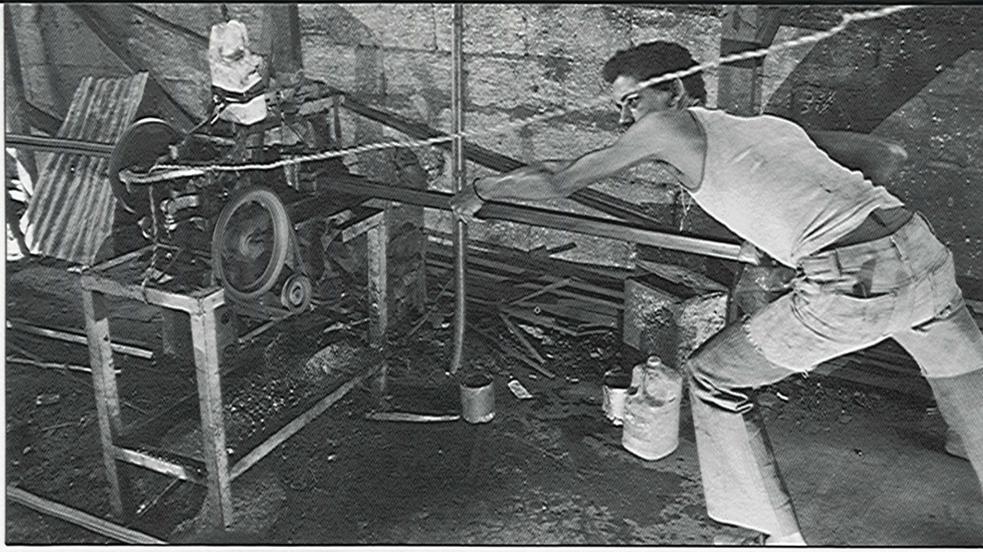
EXPANSION INTO NEW MARKETS

Before reaching the third stage of growth, a firm has already begun generating sufficient income to cover personal expenses, begun purchasing an increasing quantity of raw materials, begun expanding its labor force, and begun accumulating fixed capital. Selling to the *tiendas* requires an improvement in the quality of goods, and firms begin to retain skilled workers.

When they reach the third stage, firm



Small carpentry business in Santo Domingo.



Mitchell Denburg

Skilled worker making bicycle frames in "successful" microenterprise.



Mitchell Denburg

Workers assembling shoes.

owners become concerned with legalizing their enterprises. For some, the need to retain skilled workers leads them to stop "hiring and firing" every three months and to pay the minimum wage and the fringe benefits required by law. The desire to use imported raw materials to improve the quality of their output provides firms with an incentive to purchase various business licenses and registration fees. (Most wholesale importers require proof of sales and will only supply licensed firms.)

This is symptomatic of the range of managerial and administrative problems that microfirms begin to encounter. Owners are often reluctant to promote employees to positions of managerial responsibility, and it becomes difficult to rationalize or structure nonproduction activities. Delegation of authority and control (such as handling customers' orders or the daily cash box) is so difficult because most owners lack experience in training employees or are simply

reluctant to trust workers who are not family.

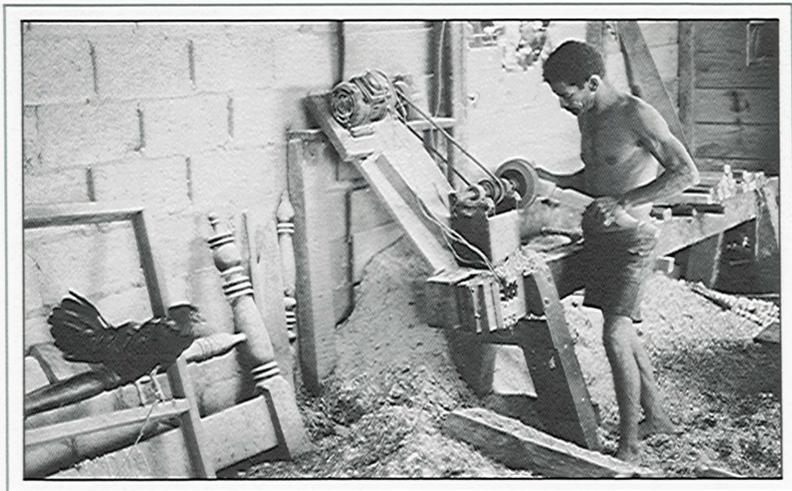
During this stage, owners invest an increasing percentage of income in fixed capital assets. This reinforces the need for skilled workers, but makes it easier to satisfy that demand since the best workers want to master the state-of-the-art in their trades. And according to surveyed owners, buyers from *tiendas* tend to equate technology with more reliability in the quality, quantity, and delivery of merchandise. The fact that the firm has the ability to invest in fixed capital implies it has consolidated a base market and is now able to expand into others.

Indeed, after cementing their relationships with *tiendas*, some firms begin selling to boutiques—retail stores that cater to the more affluent middle and upper classes. Boutiques pay more per unit of merchandise than *tiendas*, but require goods of much higher quality. This solidifies the previously cited trends toward hiring and maintaining a skilled



Mitchell Denburg

Workroom of small shoe factory.



Stephen Vetter

Worker using lathe to make bedframe.



Stephen Vetter

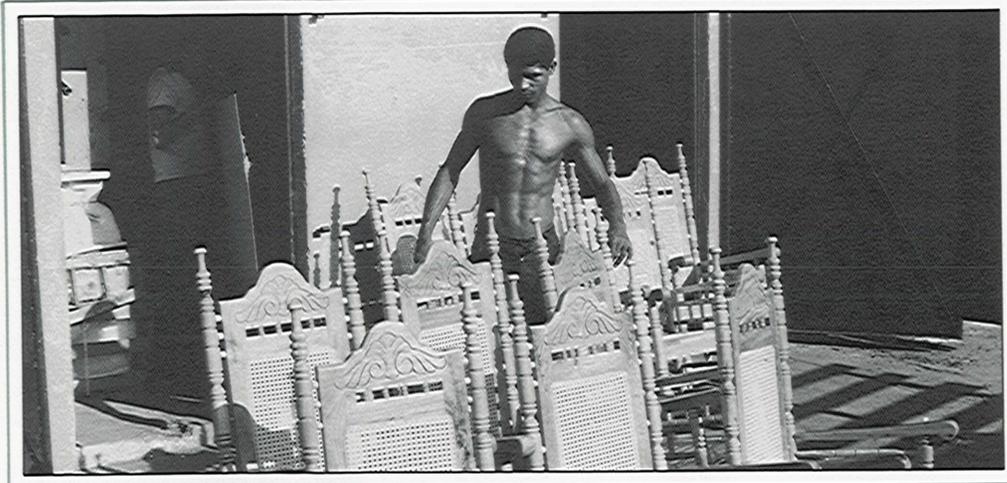
Worker polishing metal jewelry for sale in Santo Domingo boutique.

labor force and modernizing the productive plant.

Penetrating this new market, according to interviewees, has been facilitated by the introduction of IMF austerity measures. In the short-run, the micro-firms' main competitors in this market—large domestic producers and importers—are being squeezed by the removal of subsidized imports. As the cost of final consumption goods from abroad rises, boutiques begin substituting for them with domestically produced goods. Domestic producers in the formal economy tend to rely on imported raw materials, which are also becoming more expensive. Ironically, micro-manufacturers who have had to learn how to make the most of locally available supplies suddenly have an edge in the market place.

Credit plays an important role in all of these changes. Firms borrow to pay higher salaries in an effort to retain skilled workers, to invest in machines, or to buy business licenses or raw materials of higher quality. Some of those outlays are sizeable and long-term expenses. A few of the owners complained that their loans from ADEMI were not large enough to purchase machines to meet their new volume of business. Others said that they were using the credit history they built through ADEMI to qualify for larger loans with longer repayment periods (and hence lower interest rates) from other nonprofit credit organizations.

ADEMI's response seems ambiguous. Recently, it has been raising loan ceilings and lengthening repayment periods for those clients who have consistent re-



Stephen Vetter

Worker setting aside finished chairs for delivery to market.

payment records. Some critics believe this shift away from short-term credit prevents ADEMI's clients from "graduating" to formal-sector lending institutions.

That criticism seems unwarranted. While ADEMI's successful, hence richer, firms continue to use the program, interviews showed that these firms are still having difficulties obtaining bank loans. Formal lending institutions are reluctant to lend to borrowers who talk about using their loans to carry them through slumps in sales or price hikes in raw materials since such statements indicate a severe liquidity problem. Second, banks require paperwork that firm owners find too time-consuming or complex to complete. Third, the shortage of lending funds in the economy—caused by negative real interest rates—may be inducing banks to ration credit, thereby excluding smaller, poorer borrowers.

Lending larger amounts for longer periods does bring a different set of responsibilities to a credit program. For example, the longer repayment period offered by previous credit programs in Santo Domingo was considered a sign of leniency by some owners, who believed that being "a little late" on their payments would not make much difference since the loans were a year old already. This attitude may help explain the high default rates that followed. It certainly underlines the need to "educate" borrowers from the informal sector on the use of credit, and ADEMI's policy of increasing loans in stages is designed to do just that.

Programs should also take note of the

need at this third stage for technical assistance in management, marketing, advertising, and bookkeeping. Efficient firms are presumably better able to pay off their loans. The primary need mentioned by owners in this survey was for bookkeeping skills now that their businesses had expanded. Selling to boutiques also required improved product packaging and promoting. A few said they could handle the bookkeeping, but needed advice about training employees for management. All owners with any of these problems said they were willing to pay for technical assistance.

Hopefully, ADEMI can continue to refine its program and respond to the different needs of microenterprises, depending on their stage of growth. ADEMI was based on the learning experience of prior credit extension programs. It has the opportunity to become a model for other efforts in the field.

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Socios of the cooperative walking down a street in Yurira, Guanajuato, after a Sunday planning session.

While researching a book about Mexican workers who migrate back and forth to the United States, Ted Conover met an unusual group of men who are working to change the conditions that forced them from their homes. Their *Cooperativa Sin Fronteras* is a cooperative that is making a difference for those Ahuacatlán villagers who have remained behind in their remote hamlets in the Sierra Madres.



A COOPERATIVE BEYOND BORDERS

TED CONOVER

Manuel Marin, 58, has spent most of his life as an undocumented worker in the United States. Having picked cotton in Texas, citrus fruit in Arizona, and vegetables in California, one thing Marin noticed was that his fellow Mexicans, unaccustomed to earning so much money, tended not to use it to their best advantage.

"Cars, beer, girls, radios—sometimes we would spend in a weekend what it took us two weeks to earn. Nothing we bought ever lasted. And I decided that this was a problem, because making money was the reason I came in the first place."

Marin paused to look at his American interviewer. "You will forgive me, but I never enjoyed life in your country very much. To get by, we have to work very hard. We can live there for years, but still we feel like foreigners. We endure in order to save and go home to a better life, but few really succeed in this."

As a founding member of the Arizona Farmworkers Union (AFW)—the first organization of undocumented laborers in the United States—Marin had an idea to break this cycle of waste and disappointment. For every hour a member worked at a union farm, the employer would either set aside 10 cents in cash or assign 15 cents worth of farm machinery toward a development fund that could be used in the worker's home community. The fund in a good year could be expected to contribute \$30,000–\$45,000—a considerable amount by Mexican standards. The goal was to improve agriculture at home so that workers would not have to migrate to the United States in order to survive.

The self-help concept was immediately endorsed by the membership, and soon after, the *Cooperativa Sin Fronteras* (Cooperative Without Borders) was founded. Its creative approach to developing rural Mexico is truly Marin's, the genius of a villager who never finished primary school.

"It wasn't just that it was a great idea," said Lupe Sanchez, executive director of the union. "It also had a lot to do with the way we all felt about Manuel."

Though diminutive, Marin had a big reputation for boldness, endurance, and indefatigable high spirits. He was already a minor legend among the local "illegals" for having led a group of 10 *compañeros* from the border to Phoenix on foot—a distance of over 200 miles.

"We had run out of money and they wanted to turn back," explains Marin. "I said, 'You're crazy—we're almost there!'" The desert trek, done almost all at night to avoid detection by police, took a week. In the company of Marin, one has a sense of expanded possibility.

In its first two years, Marin's development fund sponsored small projects—the planting of some fields, the founding of a secondary school, the construction of some houses—in two Mexican states. Then, as money continued to come in, its administration was formalized, and in 1981 the *Cooperativa Sin Fronteras* was born. With the support of the Inter-American Foundation and others, it grew quickly into an organization of national reach and, as an innovative example, of international significance.

Today the cooperative boasts a membership of 5,000–6,000 people and a paid staff of 15. In a regionalist country where

national coops are almost unknown, it coordinates the work of a great variety of projects in six of Mexico's 32 states, and is still growing.

In Sinaloa state, for example, members recently finished construction of a tortilla factory, and they already run a butcher shop. In Michoacán, female members run a crafts and textiles workshop that produces articles for the tourist market. In Guanajuato, the cooperative's technicians hope to help a group of local fishermen rid their lake of *lirio*, a nonnative plant choking the lake's shallow waters and robbing locals of their livelihood.

The main projects in Guanajuato and in San Luis Potosí, though, involve the drilling of wells for irrigation. For lack of arable land to farm and feed their families, "virtually every male in La Palma Pegada (San Luis Potosí) migrates to the States every year," said union director Lupe Sanchez. "And Mexico's problem is not lack of water. It is the lack of means to get the water." Partly through a loan from one of the AFW-contracted growers, the *ejido* (a community of campesinos granted small parcels of land by the government) of La Palma Pegada has become the only one in Mexico to possess a well-drilling rig. Eleven wells should be greening the land by year's end.

By far the largest number and variety of projects, however, are located in a remote valley in the mountainous state of Querétaro, northeast of Mexico City. From this valley comes the largest single contingent of AFW workers—a group of some 200 men, mostly related, who for years have migrated seasonally to Arizona to pick citrus fruit—and who there-



AFW farmworker taking a grapefruit break in an orchard near Phoenix, Arizona.

AFW farmworkers in the U.S. being paid (35 cents per bag of grapefruits) at the end of the day. All of the men are from Ahuacatlán.



New gas-powered and machine-drilled well in San Luis Potosí. Earlier wells were dug with picks and shovels and used hand-driven wooden pumps.



Father Tomás Cano travels to *ranchos* around Ahuacatlán to say mass and perform weddings and baptisms.

fore make the largest contribution to the development fund.

Located in the Sierra Gorda branch of the Sierra Madre Oriental, the deep valley is about 10 hours by bus from Mexico City. From the state capital of Querétaro, the road ascends through barren, increasingly mountainous desert until, at about 8,000 feet, it twists over the top of a pass and descends into the comparatively green countryside. But even on this side of the mountain, blessed by rainfall from the Gulf of Mexico, there is only enough moisture to support a limited number of people.

The work of the cooperative is based around Ahuacatlán, a hamlet of approximately 1,200 people and of ancient origins. When Hernán Cortés arrived in Mexico in 1512, Ahuacatlán and the valley's other villages were home to the Otomí Indians. Due to their fierceness (well-documented in Spanish chronicles of the time) and the inhospitality of the rugged Sierra Gorda, the Otomí were one of the last indigenous groups to be subdued.

Ahuacatlán is at the bottom of the valley, on the Moctezuma River; in the highlands surrounding it are 25 much smaller communities, typically of between 20 and 50 people, known as *ranchos*. Almost every rancho lacks electricity, and most are accessible only by footpath. In most cases, a small spring accounts for the existence of a rancho. In monetary terms, residents of these hamlets are the poorest of the area's poor. Large agricultural haciendas dominated the valley until the agrarian reform, an ongoing legacy of the 1910–1920 Revolution, finally arrived in Ahuacatlán in the

1940s. Since then, Indians and mestizos have been eking out a bare subsistence on their meager plots.

With the chronic difficulty of raising enough to eat on the rocky hillsides, the grass on the other side of the mountains, but especially on the U.S. side of Mexico's border, began to look that much greener. The seasonal migration began: first to the other states in Mexico, and then with the Texas petroleum boom of the 1940s, to the United States. It was, in the eyes of those men who left, a tremendous opportunity. From the perspective of those who stayed behind, however, it was the beginning of a great malaise.

"Nothing has upset the social fabric of this area so much since the Spaniards arrived, bringing slavery and disease," said José Antonio, Ahuacatlán's young doctor. The town, now blessed by the development money and the checks of absent husbands, is cursed by the very migration that makes the money possible. For most of the year, Ahuacatlán is a town with almost no men. Well over half of its working-aged men leave to work in other places—most commonly the United States—after every summer rainy season.

Soon after he arrived from Phoenix last spring, AFW leader Lupe Sanchez began to meet, one by one, with the queue of perhaps 40 women and children that formed at his door. Sanchez brought news of their husbands and envelopes of cash from their latest paychecks.

"I have often said this is a parish of widows and orphans," said Father Tomás Cano, the American-educated (Catholic University) priest. Some re-

main widows and orphans for only nine or 10 months a year, he explained; but some errant husbands stay away for five or 10 years, stop sending money home; and their existence is confirmed only by second-hand reports. Some men never return.

"Usually they die in car accidents or in bar fights," said Father Cano. "My informal count for the past nine years is 17 dead."

Most men, nevertheless, are eager to go. They can earn as much in a single week in the States as they can in three to four months of backbreaking, dawn-to-dusk labor at home. Staying home is regarded as a sign of timidity or lack of drive.

The area's demography thus poses a problem seldom faced by development plans in the Third World: a shortage of manpower. This did not faze the founders of Cooperativa Sin Fronteras; they helped womanpower take the initiative.

One of their projects is a small enterprise for breeding pigs. There are 23 women (aged 18 to 45) working the pig farm. The majority have been "widowed," literally or figuratively, by the emigration of their husbands to the United States. In addition to caring for a large number of children, the women assume the roles of money-manager, disciplinarian, and in the all-too-frequent cases when U.S. money orders do not arrive, breadwinner. How do these women manage?

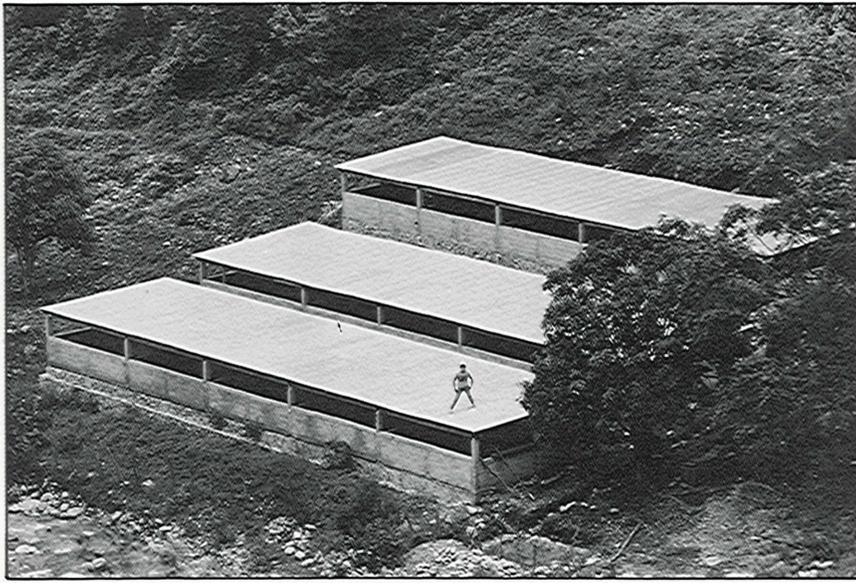
"Well, as you can see, I've been raising pigs for a long time," explained María Isabel, known locally as "Eustolia." Her giant sow and little groups of piglets, well-known characters in Ahuacatlán,

Ahuacatlán.



Philip Decker

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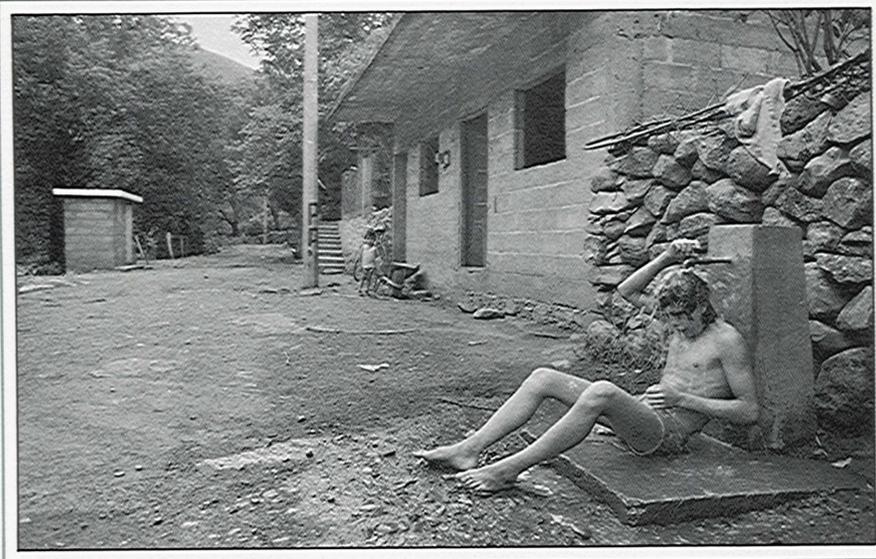
Newly built pig farm near Ahuacatlán that will soon hold 150 white Yorkshire pigs.

Every Friday morning women attend class to learn about breeding, feeding, and marketing pigs.



Philip Decker

Youth bathing under community water spigot of rancho Huajales, outside Ahuacatlán.



Philip Decker

were feeding at the door. Because Eustolia has no land, the pigs roam the town's back ways, feeding on whatever they can find.

Eustolia's husband has been in the States "12 or 15 years"; two of her seven sons, aged 14 and 16, left for Florida only a month ago. She is worried for them, but is also a bit relieved.

"Maybe they'll send some money home, and in any case, it gives me a little less work to do," she said. "The way I see it, building the pig farm takes extra time now, but once it's running, God willing, it shouldn't take up much more than I spend on my pigs now. And it will bring a lot more money."

The farm—a three-tiered series of covered and open-air concrete pens a half mile from town—was suggested three years ago by Jorge Fragoso, 30, the cooperative's veterinarian. The ejido donated the land, and 30 women organized the work, contracting for much of the construction. "Compared to what we've been through, that work was easy," Eustolia said.

The women's problem has been cooperation. As Eustolia explained, "Little things get made into big things. People misunderstand, they take things the wrong way. I think we women have more trouble getting along with each other than men do. We gossip. We talk more. That gets us into trouble."

At the moment, Eustolia's sister, the treasurer, is accused of stealing 1,000 pesos (about \$3). The governing committee, which is composed of five other relatives, is threatening to resign over the matter. No work is getting done, and everything is in limbo.

"This is only the latest incident in a long series," Jorge Fragoso said, taking off his San Francisco Giants cap (smiling, he had earlier explained how the SF also stood for "Sin Fronteras"). "The problem is, women here aren't ever taught to work together. Their expectation, growing up, is that the men will always be in charge of things. The only group activity that the women have had in the past is making dolls to raise money for the church. Building a pig farm is a lot harder."

Still, the electric line is being extended to the farm (light is needed at night to keep away vampire bats). The mill to grind the pigs' meal was nearly installed. And the members had decided on white Yorkshire pigs for their breeding stock. Three years' work was about to reach fruition.

Eustolia remained skeptical. "If we have this many problems now," she said, "imagine what we'll have when we've got the pigs—then we'll really have something to argue about. But my kids don't have very much now, and it's worth the trouble if this will make a better life for them."

Once every 40 days, the employees and project committee members of the Cooperativa Sin Fronteras convene at the main office and warehouse in the city of Querétaro. They review current projects, evaluate proposals for new ones, and decide how the money will be spent. Though indispensable by his own appraisal, lawyer Eduardo Chavez, the executive director, is not the most important person there. Rather, it is the six members of the board of directors—one from every state in which the coopera-

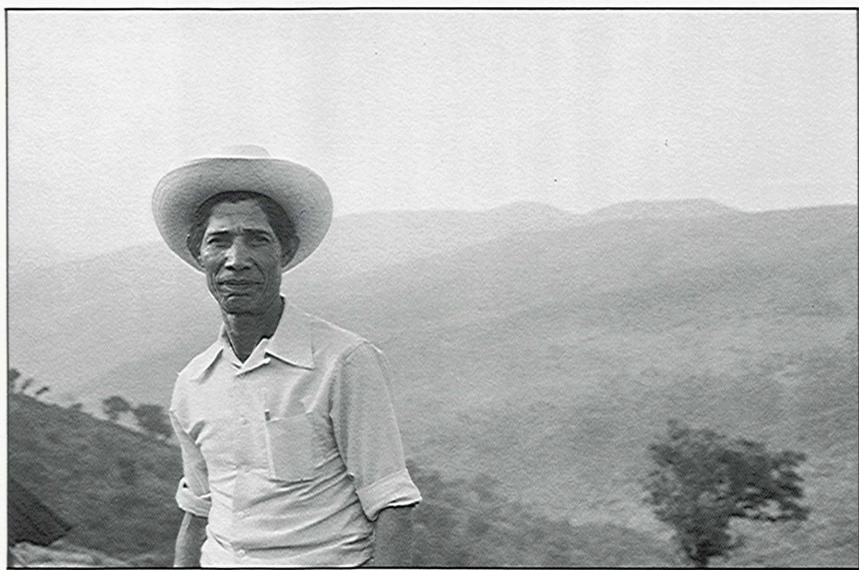
tive works. None has been to college; all are veterans of years of illegal work in the United States. Their "hotel" is a series of bunkbeds with thin pads in the back of the warehouse.

Their reunions (usually the evening before the general meetings under a bare bulb in the warehouse) are extraordinary. Manuel Marin, the originator of Cooperativa Sin Fronteras, often holds the floor. He is a quick-witted, hilarious talker known for his needling and his *espíritu chingativa*, his ability to give people a hard time.

More equable and contemplative is Adelaido Primero, 56, from Pancho Villa's native Parral, Chihuahua. Despite the handicap of having no legs, Primero worked for five years as a mechanic and janitor in Texas. He tells a story of crossing the river at Matamoros on a friend's back and having just been installed in his wheel chair on the other side when the Border Patrol appeared. His friends fled, leaving him to power himself down the street in his chair at record speeds and, of course, escape.

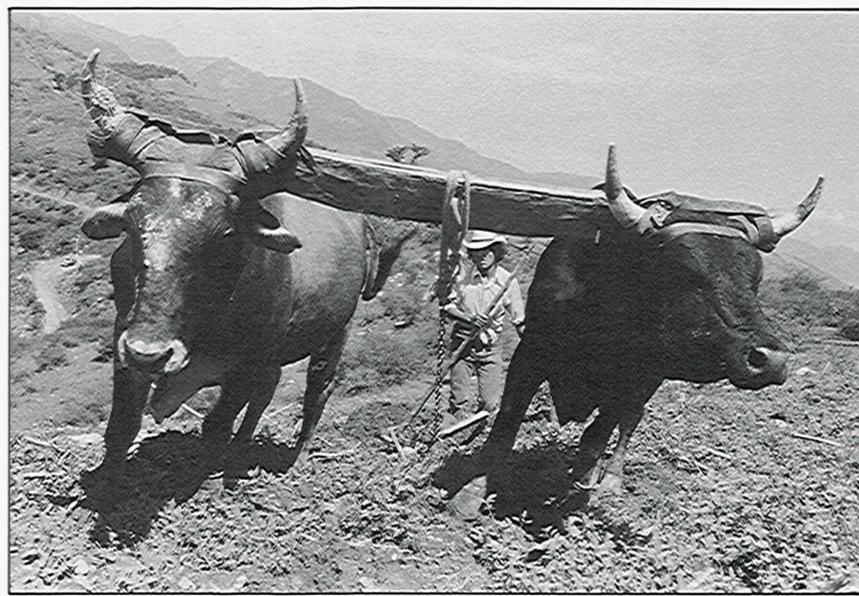
Cesar Valdez from Sinaloa and Mosto López from San Luis Potosí are quieter, but much respected. Valdez tells a story of arrest in Colorado, which was then matched by someone else. The board meetings are much like a reunion of war veterans. All of the men are local leaders.

Hilario Pacheco, from Ahuacatlán, is, at 55, the senior of the cooperative's three "promoters," or representatives. Like Manuel Marin and Adelaido Primero, he was one of the founding members of the AFW and an organizer of its first strikes against Phoenix's large cit-



Hilario Pacheco in the mountains around Ahuacatlán.

Coop members cleaning a new building for the chicken farm project outside Ahuacatlán.



Campesino plowing land to plant corn.



Eating peaches from the coop orchard.

rus growers.

"I worked in the same camp as Marin," Pacheco said. "The working conditions there were very bad. There was no housing, so we all lived out under the trees. We strung plastic sheets overhead to keep out the rain, but every few days our campsite would get irrigated, so we would have to move.

"One week, the company robbed me of 10 sacks of lemons—that is to say, they denied that I had picked as many as I really did. It had happened before, but never that bad. That's when I started to help organize."

It was difficult to get Hilario to talk of life in the United States, not only because he doesn't like to talk about himself, but because he is proud and found his years "on the other side" to be demeaning. But with prompting from his brother, Cornelio, one day he told how the two of them left for the North in 1949, after their father died. Hilario was 14, his brother 11.

"We walked 100 kilometers, from here to Xilitla, because there was no highway then," Hilario explained. "It cost us many humiliations—no, not from the gringos, from the other Mexicans—because we were so young and small and had no protector. We took a bus to the border, crossed the Rio Bravo, and found work picking cotton in Texas. I stayed there five years, sending money home to our mamá. I didn't save anything for myself. I did bring back a souvenir though . . ."

Hilario unbuttoned his shirt far enough to show a long wide scar on his shoulder. "You are lucky to live in a time when beer bottles have twist-off caps," he says. "A guy with a bottle opener in a Weslaco bar decided he didn't like

me . . ."

Hilario stayed in Texas five years, until he was deported in 1954 during the large sweep of illegal immigrants known as "Operation Wetback." Though offered a job as a legal guestworker under the *bracero* program of the late 1950s, he declined to go back until the early 1970s, when his wife, Lupe, needed surgery and there was no other way to finance the operation. It is Hilario's fervent hope that his six-year-old son, Jesús, will never be tempted to follow that path north. "I think that if we are successful enough here, he will never need to go."

As Sin Fronteras' main representative in Ahuacatlán, Hilario Pacheco is now in charge of the cooperative's numerous projects there. An effort similar to the pig farm, but this time for chickens, is being organized by men and women in the rancho of Huajales, just down the river from Ahuacatlán. Rounding out the fauna projects are numerous backyard apiaries started by members with the coop's loans and know-how. These are the special sideline of the coop's honey expert, Angel Ramos.

Dressed in leather jacket and designer jeans, Angel, 45, is a fast-talking wheeler-dealer. Angel hustled himself a job with the coop by showing members how to undercut the prices of other honey suppliers and still make a nice profit. (One of the places the honey is sold is in a small general store the cooperative helped get off the ground in the remote rancho of Quirambal.) "If you're sharp enough, there's money to be made in almost anything," Angel said.

Most of the other projects involve raising crops. Different groups of members

grow green onions, squash, lettuce, corn, and beans on patches of land ranging from flat to precipitous. Some 20,000 peach trees have been planted on 4,000 acres of mountainside so steep that each tree occupies a miniterrace, buttressed from below by a curving wall of stones. Since arable land is at a premium, it is common to see strips of corn and beans growing between the rows of trees, with not an inch of soil wasted. Avoiding waste and extravagance is high on Hilario's list of priorities. His dream is eventually to found a local cannery so that bruised or malformed peaches can be made into juice instead of being thrown away.

Each of these projects shares the coop's credit and technical expertise. Lately, they also share a small, walk-behind tractor which was imported from mainland China and designed for terrain that evidently mirrors the Sierra Gorda's steep slopes and small fields.

Most important, however, the agricultural projects benefit from—and in many cases, could not exist without—an extensive network of water deposits built high in the hills. The construction of this network, which includes more than 90 deposits and 100 kilometers (62 miles) of buried plastic tubing, is perhaps the cooperative's premier accomplishment. In essence, the system taps water from mountain springs and either conserves it for irrigation or, by gravity flow, transfers it to otherwise dry areas. The tubing, which connects one deposit to the next, makes this transfer possible.

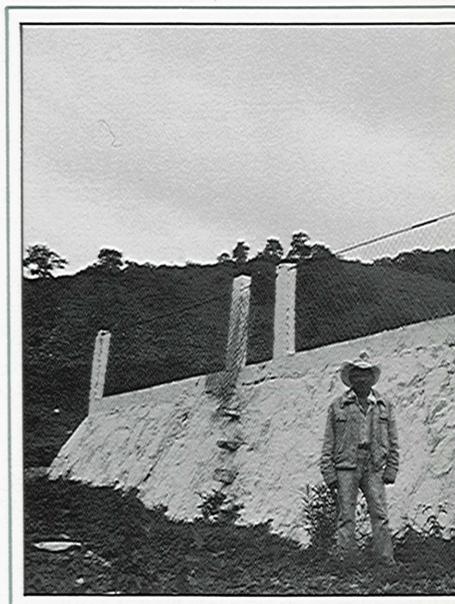
Members of the coop take immense pride in showing this system to American visitors. Standing on a ridge atop



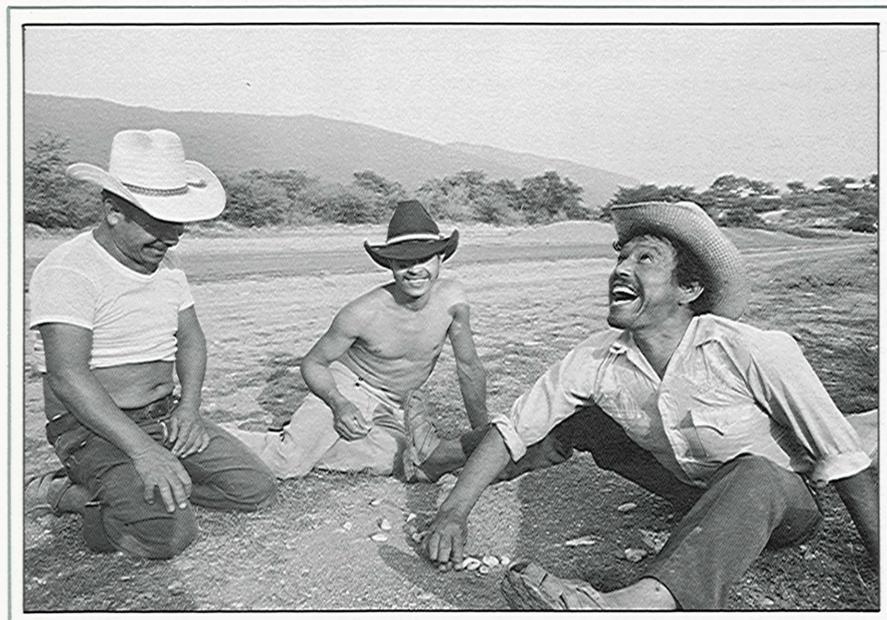
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Angel Ramos and Hilario Pacheco inspecting coop beehives.

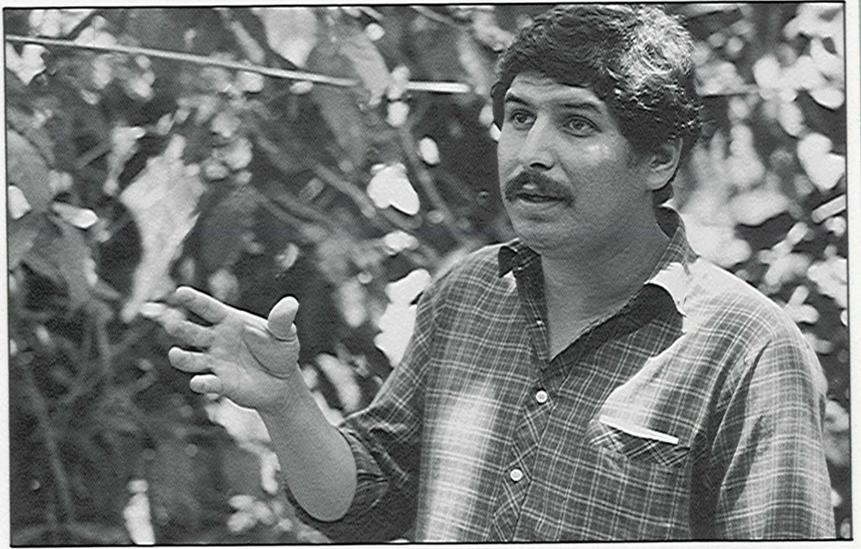
The cooperative's largest deposit, at Loma Roza, irrigates terraced fields of corn, chiles, and onions on the mountainside below.



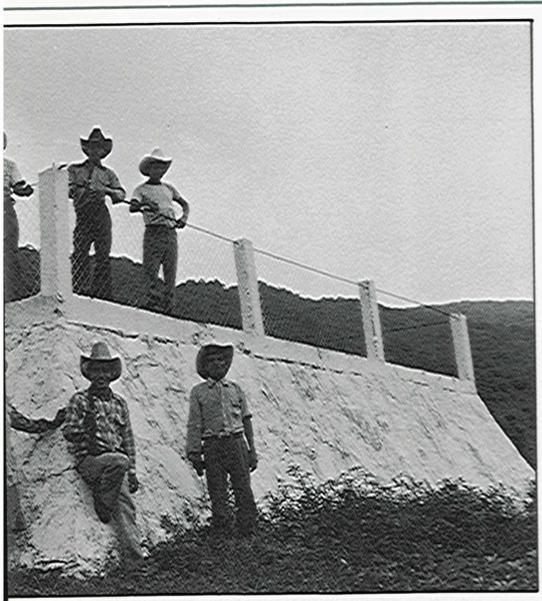
Campesinos relax with an Indian game of "jacks" after working in coop onion fields.



Philip Decker



Philip Decker



Philip Decker

one side of the Rio Moctezuma valley, Eduardo Chavez, the chief administrator, asked a delegation from the Inter-American Foundation to spot one of the squarish deposits on the other side of the valley, perhaps two miles away.

"That's where the main spring is," he said. "Now look to the right." In the distance, one could see another white square, a quarter-mile from the first and slightly lower on the mountain. "And just a little further to your right, you can see the corner of another one," he said. It took only a moment to appreciate that a series of deposits was linked together all the way around the valley to the very place we were standing!

"Some of the water we use to irrigate this side of the valley actually begins at that first deposit on the other side," explained Chavez. "Though it may not look this way, it simply runs downhill to where we are. What is not used to irrigate the land underneath a given deposit is transferred by gravity flow on to the next deposit, which is always a little lower on the mountain. Little springs along the way help to keep the system filled.

"Four years ago, before we began, we had some engineers out to look at the situation. We were thinking of paying for a study that would tell us the best way to do it. But as it turned out, their estimate for doing the study was more than everything we've spent on the deposits so far!" said Chavez.

So Sin Fronteras employed its own rustic engineers. "I visited every single one of those springs myself," said Pacheco, with a look of great fatigue. "We marked them on the maps. We figured

out which ones could be used to fill which deposits. And we got to work." Today, sectional committees of elected members decide which parched hillsides will become gardens.

"There are disputes in this as in everything else," said Chavez.

Often, it seems that things could go faster if some centralized authority simply decided things. But members of the coop know better.

"Having 100 deposits finished feels very good to me," Chavez said. "But it may not be the most important thing. The important thing is that the members decided it ought to be done and then, however long it took them to get organized, they did it.

"Sometimes the government, here or somewhere else, will decide that 'The people would benefit if there were . . . say . . . a fish hatchery here.' So one week they send somebody in, and they build it. Two years later, it's out of use—people lost interest, some supply became hard to get, some sort of excuse. This happens because the people never felt it was theirs: it wasn't their idea, they didn't sacrifice for it. You cannot do development by simply making gifts. Here, we are trying to build a different kind of attitude."



Philip Decker

Manuel Marin, the originator of Cooperativa Sin Fronteras.

TED CONOVER, a fellow of the Inter-American Press Association, lived during 1984-85 in the village of Ahuacatlán, from which he traveled regularly back and forth across the Mexican-U.S. border with undocumented workers. His book on illegal immigration to the United States will be published by Random House in 1986. His previous book, *Rolling Nowhere* (Penguin Travel Library, 1985), recounts his experiences living with railroad hobos in the United States.

The campesinos of Puerto Escanelilla have used coop materials to build 13 deposits in two years.



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