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# grassroots development

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Assessing the Water Decade

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Cover photo: A child draws clean water from the faucet at her home in Tiquillaca, Peru. (See article on p. 2.) Photo courtesy of the IDB. Opposite: Mapuche farmer with team of oxen near Temuco, Chile. (See article on p. 12.) Photo by Miguel Sayago.

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# *In the Vessel's Wake*

## The U.N. Water Decade and Its Legacy

David Douglas

**C**lean water for all the world's people. The slogan was not new. But in 1977 at Mar del Plata, Argentina, representatives from world governments gave it a twist by imposing an explicit deadline: Clean water for all by 1990.

They lacked no reasons for setting a target date: Each day water-related diseases killed 30,000 people, triggered 75 percent of the sicknesses afflicting humanity, and hobbled women—the haulers of water—across the Third World.

In 1980, the United Nations embraced the timetable set at Mar del Plata's Water Conference, giving the moral goal its political imprimatur by christening 1981-1990 "The International Drinking Water Supply and Sanitation Decade." The Water Decade (as it became imprecisely but conveniently known) trickled into the consciences of civil servants, sanitary engineers, and aid officials. Although the initiative passed unnoticed by much of the world's press, developing nations often reoriented their priorities and scarce funds to extend water and sanitation to those in need.

And now, as the Decade ends, how successful was it? Estimates have only begun to appear, blurred and tentative, but they hint at a sobering result:

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*A woman in the village of Platería, near Puno, Peru, fills an earthenware jar with clean water from the faucet in her patio.*

Providing clean water to the world's poor takes more than brave talk—it requires money and community participation.

In some regions of the world, more people lack clean water now than in 1980. Despite the catalyst of one of the United Nation's most creative initiatives, clean water failed not only to reach all people, but in some places even to keep pace with population growth. "The Decade leaves much to be desired in terms of achieving quantitative targets, to put it nicely," says private consultant John Kalbermatten, who attended Mar del Plata's meeting as the World Bank's senior advisor for water and waste. "It's nowhere near what was hoped for initially." (The table on p. 5 shows progress over the ten years of the Decade.)

In the 1980 keynote address to the United Nations that launched the Decade, Secretary General Kurt Waldheim chronicled the victims of inadequate water and sanitation (patients in "half the world's hospital beds . . . most of the 15 million children under five who die in the world each year"). Waldheim challenged skeptics who doubted the Decade's timetable; invoking the memory of the eradication of smallpox, he insisted, "The goal of clean water and

sanitation for all by 1990 is eminently achievable." Few Decade participants agreed with his schedule. "It's quite well accepted that the goals at the beginning of the Decade were overly optimistic," says Monty Montanari, long-time Latin American consultant and newsletter editor of the Inter-American Association of Sanitary Engineering and Environmental Sciences. "One of the results is that obviously they haven't been met."

U.N. officials estimate that in 1990 clean water still remains a mirage for 1 billion inhabitants of developing countries, excluding China. Even more people, 1.8 billion, lack adequate means of sanitation. "It's very disappointing," says Vic Wehman, former chief of the Water and Sanitation Division of the U.S. Agency for International Development (USAID) and currently a private corporate consultant, "to have so many people work so hard and have so little accomplished."

And yet the Decade is like a glass of water half empty and half full. To focus on what is missing slights the contents. Participants credit the Decade with saving lives, subduing disease, and nudging water into the global spotlight. "It has done something tremendous in bringing attention to bear on water and sanitation," says Montanari.

The Decade helped to extend water to an estimated 730 million people (nearly 180 million more than in the 1970s) and sanitation—at a rate more than double the previous decade—to

415 million people. "That's an extraordinary accomplishment. If it weren't for the Decade we would be far worse off," says Peter Bourne, president of the Washington, D.C.-based educational organization Global Water. Only half the population of the developing world had access to adequate water in 1980; by 1990 that percentage has climbed closer to two-thirds.

The Decade galvanized countries to set national drinking water goals and elicited billions of dollars more for their fulfillment. In less quantifiable ways, it deepened the sensitivities of bureaucrats and bankers to the staggering casualty toll from insanitary conditions, convincing many that good health was the *sine qua non* of economic development.

**T**he Decade's Latin American birthplace was particularly fitting. Conferees at Mar del Plata modeled their global initiative on previous decade-long efforts by Latin American countries. Though not aspiring to universal coverage of water and sanitation, agreements at Punta del Este (1961) and Santiago (1972) that sought increases in service levels created a momentum unique among continents of the developing world. "The Water Decade was, for Latin America, actually the *third* water decade," points out Horst Otterstetter, regional advisor for the Pan American Health Organization (PAHO).

Thanks as much to the impetus of the 1960s and 1970s—and a deep reservoir of technical expertise and experience—Latin America and the Caribbean extended water during the Decade to an estimated 96 million people, keeping ahead of its population growth of 86 million.

Though Humberto Romero Álvarez, technical advisor at Mexico's Comisión Nacional del Agua, warns that "what we have in Latin America is the lack of reliable information," preliminary U.N. figures suggest that



World Bank

*A young boy carries water from a public fountain to his home in Guayaquil, Ecuador. In Latin America, 87 percent of city dwellers enjoy access to safe water.*

77 percent of Latin Americans now have access to clean water (an increase of 8 percent since the Decade's inception). Rural inhabitants bear the shortfall's burden. Only half those living in rural areas, compared with 87 percent of city dwellers, enjoy access to safe water.

Identifying how individual countries fared during the 1980s is a slippery, often subjective task. Nevertheless, with the thrust of three consecutive decades, countries reporting broad coverage to PAHO included Chile, which estimates 86 percent of its population has house connections or "easy access to water" (defined as "a public water fountain at 200 meters or less from the home"); Brazil, which describes its coverage at 96 percent; and Costa Rica, which now enjoys nearly 100 percent urban coverage. "Costa Rica has shot ahead," according to Per Engebak,

Guatemalan-based director of UNICEF's water and sanitation projects for Central America.

Conversely, low coverage continues to exist in cash-strapped Bolivia (where only 15 percent of the rural inhabitants have safe water) and in nations where debt or combat have crippled waterlines, among them Nicaragua, Argentina, and Peru.

An even more telling, Decade assessment glances beyond political boundaries to economic geography: Despite the urging of Mar del Plata conferees to give priority to the poor, "80 percent of the investment in water and sanitation went to the wealthiest 20 percent of the population," according to Martin Beyer of the U.N. Development Programme (UNDP). Among Latin America's poor, negligible changes in water coverage and infant mortality rates explain the barbed conclusion in a 1988 paper is-

sued by the U.N. Economic Commission for Latin America and the Caribbean: "It is not readily evident that the poor have benefited in any general or particular way from the water supply and sanitation programmes executed so far during the Decade." The Santiago-based author of the commission's report, Terrence Lee, economic affairs officer in charge of the Water Resources Unit, admits that for the poor today "things have gotten even worse since the paper was written."

**D**ecade studies devote more pages to constraints than to triumphs. While none of these constraints were unexpected, they coalesced to make movement in water coverage, as one observer laments, "seem like two steps forward and three back." Some of the more formidable impediments were:

- **Money.** It costs \$270 on average to furnish a city dweller with water and sanitation and \$60 per person in the countryside (or an overall average of \$100 per person), according to World Bank economic advisor Mike Garn. Third World nations and external donors channel about \$9 billion a year into the water and sanitation sector—less than half the amount necessary to meet Decade goals, even with evolving low-cost options. In Latin America, the Water Decade collided with debt crises and dwindling per capita incomes (a 1.6 percent annual decline). "Given the economic constraints these countries have been exposed to, the 1980s haven't been the best years to carry out this initiative," concedes Guillermo Dávila, coordinator of the Division of Environmental Health of PAHO.
- **Population.** In 1990, 840 million more people occupy the planet than in 1980. In many parts of the world, as David Kinley, information advisor at the UNDP, notes succinctly, "More people have water. More people lack water. There are simply more peo-

ple." Forty million more Africans need water than 10 years ago. Latin America and the Caribbean kept ahead of population growth, not as individual countries but as a region—thanks largely, says the World Bank's Luis Chang, "to the weight of Brazil," which accounted for half of the continent's gains in water coverage.

- **Maintenance.** Inadequate repair and maintenance sabotage half the handpumps installed in the Third World. Few communities or utilities possess tariff structures for generating enough revenue to keep water flowing. "The real question," says Christian Gómez, senior economist at the Inter-American Development Bank (IDB), "is not how many systems are installed, but how many are maintained—with reasonable charges and measures to take care of the system. All improvements go down the drain if people don't care about maintenance, conservation, and leaks."

- **Community involvement.** Jaime Henríquez, water and sanitation specialist with the Peace Corps, speculates that "50 percent to 70 percent of the water projects" installed in Latin America are no longer functioning because the community was not involved in the planning. One of the Decade's finest accomplishments, says John Kalbermatten, is having "created awareness of the need to work with the community, to have social and cultural sensitivity."

- **Sewage.** Pathogens in human waste trigger more than 30 diseases—

including cholera, typhoid, schistosomiasis, and diarrheal diseases that kill 4 million children a year. Segregating human wastes can break the cycle of fecally transmitted disease. But despite its prominence in the Decade's title, "sanitation"—the least glamorous constraint of all—was often treated parenthetically by politicians and publicists. Across rural Latin America, for example, though sanitation coverage nearly doubled during the Decade, four out of five people still live without a safe way to dispose of human wastes. A 1989 UNDP Decade Assessment Report concludes, "The Decade essentially failed to arouse interest in rural sanitation."

Untreated sewage from Third World cities still routinely irrigates crops, and some virulent pathogens survive in the soil for months. Contaminated food can ignite outbreaks of typhoid, hepatitis, and dysentery. Former USAID official Vic Wehman, who currently heads International Environmental Services of San Antonio, Texas, says, "In the Lempa River system from San Salvador all the way to the sea, the waste goes untreated—it's just a big sewer with zero oxygen—and that's true for 90 percent of the cities in the world." *Source*, a well-edited, UNDP-published magazine that covers Decade activities, reported in its June 1989 issue that much of the human and industrial wastes of Guatemala City finds its way into the Río Las Vacas, which one resident compared to "bean soup,

## Water Supply and Sanitation Coverage for Developing Countries 1980-1990

(Preliminary estimates. Population in millions.)

	Population		Percent Coverage		Number served		Number unserved	
	1980	1990	1980	1990	1980	1990	1980	1990
Latin America and the Caribbean	Water							
	Urban	237 324	83%	87%	197	282	40	42
	Rural	125 124	41%	50%	51	62	74	62
	Sanitation							
Urban	237 324	73%	81%	173	262	64	62	
Rural	125 124	13%	22%	16	27	109	97	
Global totals (excludes China)	Water							
	Urban	730 1089	76%	80%	557	870	173	219
	Rural	1510 1766	37%	56%	559	981	951	785
	Sanitation							
Urban	730 1089	57%	65%	418	705	312	384	
Rural	1510 1766	14%	20%	217	347	1293	1419	

Global totals include the following regions: Africa, Latin America and the Caribbean, Asia and the Pacific (excluding China), and Western Asia. Percentages and populations rounded off. Source: United Nations

only the smell is much worse."

At the same time, Latin America has offered notable sanitary innovations—among them Peru's San Juan lagoons, a series of 21 waste stabilization ponds south of Lima. Since the 1960s, they have purified effluent from San Juan de Miraflores so that it may be used to safely irrigate both agriculture and aquaculture. During the 1980s, the ponds provided valuable epidemiological data, according to Henry Salas, water pollution control advisor at the Pan American Center for Sanitary Engineering and Environmental Sciences in Lima. Only 5 percent of Peru's coast has adequate fresh water for agriculture, and PAHO's Dan Epstein believes that the San Juan lagoons could offer arid countries across the Third World "a prototype of how to make good use of treated wastewater," dramatically expanding the amount of water available to grow crops and fish.

**D**eveloping countries raise two-thirds of the annual investment in their water and sanitation, but external donors make no small contribution—currently \$3 billion a year. Moreover, "there's some magic among the players, both nationally and internationally," claims UNDP senior program officer Frank Hartvelt, who sees a degree of collaboration unprecedented in his experience. "A large part of these groups are engineers, not politicians, and when they meet they get down to business. They're not talking politics."

The World Bank loans roughly \$1 billion a year to the sector, while the largest lender to Latin America, the IDB (which earmarked its very first loan back in 1961 for water and sewer lines in Arequipa, Peru) adds \$300 million annually. "We've tripled our commitments from previous decades," says Juan Alfaro, chief of IDB's Sanitary Engineering Section. U.N. agencies distribute a combined \$150 million annually for water and



IDB/David Mangurian

*Workmen in Santa Cruz, Bolivia, build a sewerage system financed by a loan from the Inter-American Development Bank. Despite its prominence in the Decade's title, "sanitation" was often given short shrift by politicians and publicists.*

sanitation, including \$70 million from UNICEF, whose senior project officer Carel de Rooy points out, "If you speak of development, you have to start with water. It's as simple as that." (For information on IAF water projects, see page 8.)

Nevertheless, fewer dollars than originally anticipated came from donors. Decade officials try to put the best light on this now by asserting that low-cost alternatives have reduced the amount of funding needed. Less often stated is that to meet original Decade goals, investment would have to have nearly tripled just to

build new water and sewerage systems—not to mention the costs of maintaining those that already exist. A tripling—even a substantial increase in sector investments—is wishful thinking. In fact, while funding appears to increase annually, measured in constant dollars it is actually declining—a trend that began in mid-Decade.

The Water Decade witnessed the anomaly of some donors actually reducing their emphasis on water aid. In 1984, for example, UNICEF allocated 28 percent of its budget for water and sanitation; by Decade's end,

that had fallen to 16 percent (though UNICEF officials envision a higher priority for water in the 1990s).

Even more incongruous was USAID's withdrawal, given its role in drafting Decade strategy. President Jimmy Carter's USAID administrator promised an additional \$2.5 billion for rural Third World water projects, but the pledge went unrealized during the Reagan era.

Parasites contaminate 90 percent of rural Africa's water, but U.S. assistance there nearly evaporated during the Decade. From a high of \$20 million in 1981, USAID now earmarks less than \$4 million. A few years ago, when funding dropped even lower, Global Water's Peter Bourne addressed Congress: "I pointed out that the entire water and sanitation budget for rural Africa was less than the director of the Office of Management and Budget asked for to redecorate his and his deputy's office."

Latin America fares somewhat better, with USAID currently designating \$13 million annually for water and sanitation projects. Nearly half that funding is earmarked for El Salvador—"a function," observes one U.S. official, "more of politics than of health." U.S. involvement continues as well through the Peace Corps, which has nearly 500 volunteers assigned to water projects—"and half of its other volunteers work in water at one time or another," according to the Peace Corps' Jaime Henríquez. He adds, "Every time we send out a volunteer to a community, they come back saying people are expressing a need for water."

USAID disbanded its Water and Sanitation Division in 1985, having nearly emptied the agency of sanitary engineers. It currently turns for technical expertise to private contractors at the Water and Sanitation for Health (WASH) Project. WASH fields engineers, hydrologists, social scientists, and epidemiologists to assist USAID missions and PVOs around



Emma Robson

*A woman in Oruro, Bolivia, uses a Yacu handpump, one of several notable designs that emerged from the Water Decade.*

the world. Though observers give WASH excellent marks—"one of the bright lights of the Decade," says Bourne—its staff rarely can stay long enough to monitor projects. Moreover, adds Bourne, "there's no money to carry out what WASH suggests."

**W**hy did donors often slight water during the Decade? In part, projects take too long—first to install, then to reap health benefits. UNDP's Martin Beyer, for 16 years coordinator of UNICEF's worldwide water and sanitation activities, estimates that after an improved water system is installed, half a generation might pass before a community develops habits of using it hygienically and disease rates begin to tumble. "Donors are impatient," says one aid official. "They want quick results—'silver bullets' that cheaply and dramatically appear to solve problems."

One such solution that diverted funds from water projects was oral

rehydration therapy. ORT is the cheap and marvelous remedy (essentially 8 teaspoons of sugar, 1 of salt, in a liter of water) that swiftly rehydrates victims of diarrhea. The justly vaunted mixture has saved lives from Mar del Plata to Manhattan (diarrheal disease is among the top five causes of hospitalization for U.S. children). But ORT does nothing to prevent disease. A child recovering returns to the same insanitary conditions and succumbs to more bouts of diarrhea, a pattern which collectively weakens and stunts brain and body, and too often ends young lives. USAID and UNICEF have diverted scarce funds into ORT's publicity and packet distribution. But rehydration efforts have often come at the expense of, rather than as a complement to, long-term improvements in a region's water supply.

Food aid also keeps water in the shadows. One fundraiser for a large U.S. charity, noting the public's and Congress's imperviousness to insani- tary water, complains that "compared to hunger issues, sewage is just not a sexy topic." Adds John McDonald, former U.S. coordinator for the Water Decade and now president of the Iowa Peace Institute, "Hunger sells. I keep flogging the point that our concern should be bread *and* water. The two must go together." Water's neglect by hunger advocates is unfortunate: Malnutrition stems not only from lack of food but also from diarrheal dehydration that strips its victims of nutrients. The cure for malnutrition often rests more with water and hygiene than with food supplies.

A year before Mar del Plata, at a U.N. Conference on Human Settlements, women marched through the streets of Vancouver carrying buckets to publicize "Clean Water for All." Leadership by gender was appropriate. Women have the most at stake. Across the Third World they carry the water, at times expending a third of their day and caloric intake in the

# Water for the People: The IAF Experience

A recent book published by the World Health Organization warns that "setting up a water or sanitation system can be a complete waste of money unless the community to be served gives its full support . . . and the landscape is littered with just such expensive failures." The Inter-American Foundation has, from its inception, believed that community participation is a prerequisite for lasting development. Through grants responding to local initiatives, it supports activities that test new ideas or that act as catalysts to mobilize groups and network efforts for further development.

During the past 10 years, the IAF financed over 50 water and sanitation projects throughout the hemisphere. Although IAF water-related funding may have had no discernible impact on the outcome of the Water Decade, those grants reinforce the emerging consensus about the vital importance of community participation and offer some clues on how its potential can be realized.

One outstanding example is the work of Agua para el Pueblo (APP)—or "Water for the People." "It is," wrote IAF President Deborah Szekely, "the most impressive rural development project I have seen. The 97 families of Colonia 6 de Mayo have purchased teams of oxen to till community fields for a variety of subsistence and cash crops, including a bountiful recent harvest of corn and tomatoes that villagers are marketing themselves. Each family has its own kitchen garden, lush with growth. Cisterns are well sealed to avoid contamination, and each house has its own standpipe for potable water. The latrines have been installed at suitable distances from living quarters, and have been outfitted with pour-flush toilets. The spring that feeds the water system has ample flow for irrigation during the dry season and fish ponds year

round, and the village committee, which is quite dynamic, has drawn up a master plan to incorporate another 150 families. Some of the local families have used the added income they are earning to roof their mud-and-wattle houses with corrugated tin. Seldom do we see such positive results in such a short period of time. The changes in Colonia 6 de Mayo have been so dramatic in the past year that the IAF representative accompanying me drove the car right by without recognizing the village from his previous visit."

The Honduran community Szekely was describing in her report to the IAF board of directors is one of a cluster of land reform settlements in the department of Santa Bárbara that are being assisted—through a Foundation grant of US\$189,000—by Agua para el Pueblo. Citing statistics that indicate 10 percent of infants in Honduras die during their first year of life and nearly 25 percent of child mortalities are from diarrheas caused by waterborne bacteria and parasites, APP is convinced that "communities cannot grow or flourish without clean water because economic viability depends on a healthy community."

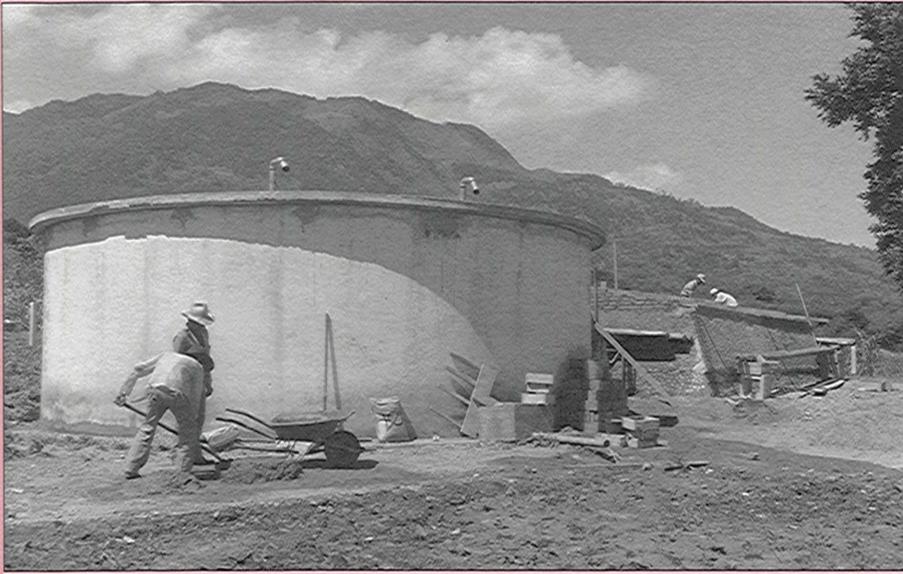
Although the gravity-flow water systems it helps to install are models of sanitary efficiency costing one-tenth the amount of government projects, APP understands that the key to effective water systems is not technical but human infrastructure. "What makes them unusual among technical assistance agencies, particularly in Honduras," says Foundation representative Jan Van Orman, "is their view that water can be used to raise community consciousness and spur new development activities in much the same way Paolo Freire uses literacy."

This is how that concept works in practice. After a series of preliminary community meetings to explain

what a water project entails and to evaluate the level of local commitment, a contract is drawn up outlining the responsibilities of all participants. Villagers agree to organize work teams for gathering sand, gravel, and other local materials and building the system. APP agrees to offer technical guidance and to provide cement, plastic piping, and other outside inputs through discounted loans, which the community agrees to repay on a sliding scale—from 10 to 50 percent, depending on the income-earning potential of various project activities.

To implement the agreement, the villagers agree to create a water board that will supervise the design and installation of the system and oversee its maintenance. Board members are trained by APP in administration, single-entry accounting, and water-service controls; "plumbers" are trained to diagnose mechanical problems and make repairs. General assemblies are held regularly to disseminate technical information so the community can weather unexpected loss of key personnel, and to educate villagers in environmental sanitation so that the benefits of clean water will not be diluted by improper hygiene. APP staff also work with promoters from other NGOs and public agencies to coordinate training in agronomy, aquaculture, and other activities so that when the water arrives it can be channeled into integrated rural development.

Perhaps the key innovation of APP's methodology involves the creation of a local tax base to assure liquidity over the long-term. Each household pays one or two dollars monthly for its water; when the community loan from APP is repaid in 18-24 months, 25 percent of the "utility fees" are set aside for maintaining the new system, and the remainder capitalizes a fund to expand



Residents of Villa de San Francisco, Honduras, build a reservoir for drinking water with the help of Agua para el Pueblo.

services or start new development activities.

Because they have invested their own time and resources in the system, communities can take credit for the dramatic benefits clean water brings, and that self-confidence inspires a flood of initiatives. The people of Colonia 6 de Mayo and the surrounding area have begun goat-raising projects, midwifery programs, and a host of other activities. And the leaders of these communities have become proselytizers for clean water and the payoff it brings. Working with villagers higher up in the valley, they are helping to expand the new APP system to eight additional communities, more than doubling its reach.

Many other IAF grantees have also developed effective strategies for garnering local support for water and sanitation projects. Among those previously profiled in Foundation publications, the work of Agua del Pueblo in Guatemala has shown that community participation in building and managing rural water systems not only lowers costs and makes the systems easier to maintain, it deepens the impact of educa-

tion campaigns to improve hygiene (see *Grassroots Development*, Vol. 6, No. 1). In the southeastern zone of Cartagena, Colombia, residents of Rafael Núñez barrio are demonstrating how a community's efforts to start a potable water system can grow into a project to install specially designed, hermetically sealed septic tanks for low-lying areas and inspire a septic-tank cleaning business that "turns waste into profit" by safely processing sludge into fertilizer (see *IAF Annual Report 1987*, p. 45-6). Finally, water projects have been shown to play a key role in making paramedics effective promoters of comprehensive preventive health-care programs in Brazil and among indigenous peoples in Colombia, extending their reach and deepening their impact (see respectively *Grassroots Development* Vol. 10, No. 2, and Vol. 12, No. 3).

Rather than "expensive failures," these initiatives proved successful because they all capitalized on the potential of community participation from the outset. This is a lesson that designers of any "decade" should keep in mind.

—Ron Weber

task. They manage water's use, storage, and hygiene training. "Women's involvement is crucial—that's the lesson learned during the Decade."

The scarcity of women at policy-making levels in the sector may also explain water and sanitation's low profile among some donors. One official of a development organization lamented her inability to convince a largely male board of directors of water's importance: "They dismissed water as 'simply a woman's issue.'"

Mary Elmendorf, consulting anthropologist and author, says that after Mexico City's 1975 Conference and Tribune for Women to inaugurate the U.N. Decade for Women, it disturbed her "how long it took for planners and engineers to respond to requests for help from women and their offers to participate."

Mar del Plata's insistence that the Water Decade involve women was met "mainly with lip service," says Elmendorf, but there were exceptions, notably Promotion of the Role of Women in Water and Environmental Sanitation Services (PROWESS). Located within the United Nations, PROWESS works with women in replicable water and health projects in over a thousand communities worldwide. "Ways to involve village women are often not known to those who manage water projects in the field," says Siri Melchior-Tellier, program manager of PROWESS. "Field engineers have told me, 'I want women's involvement but they will not come to my meetings.' Demystifying the process and identifying tools for participation therefore became priorities for PROWESS. As an example, a very simple, flexible, and effective tool is simply to involve villagers—women in separate groups if necessary—in mapmaking, to show traditional water sources, the preferred siting of pumps, or whatever is important. In Bolivia, the engineers had to copy the maps. Villagers attached so much im-

portance to the maps, they would not let them out of the village."

**A**t the Decade's end, an observer looking for hopeful signs could discern them, not only in examples such as PROWWESS, but also in technicians' belated embrace of community involvement. Where installation of pumps and pipes once implied that a project was 90 percent complete, now it more accurately reflects that 90 percent remains to be done—in terms of maintenance, assessment of community costs, and hygiene instruction. Once the Decade was considered simply a massive task in global engineering. Increasingly, community involvement is seen as essential as gravity for water to flow.

Though the quest for a reliable, cheap, locally producible handpump has not ended, several notable designs, including one from Bolivia's altiplano called the Yaku, emerged from the Decade. For rural populations to obtain safe water in the near future, "handpumps represent the best if not the only hope," concluded

wouldn't have gone from 30 percent to 70 percent."

And from the People's Republic of China, which released no official figures during the 1980s, U.N. officials have recently gathered estimates of water and sanitation coverage that exceed even optimistic projections. Though many officials consider them exaggerated, the newly gathered figures suggest that 78 percent of China's 1.1 billion people now have access to an adequate water supply. Singapore-based Saul Arlosoroff, regional manager for the UNDP/World Bank Water and Sanitation Program, says that "thanks in part to the introduction of modern, deep handpumps, the impact of the Decade in China might be larger than in any other country in the world."

**B**ut threatening to eclipse achievements are events that dispossess people of water. In Guatemala, deforestation dries up springs long used by communities; agricultural pumping in Mexico's central highlands lowers water tables six feet a year and renders shallow vil-

officials: Millions of people who now have access to water may lose it.

Saul Arlosoroff ventured his personal opinion at a water conference in 1987. "In Africa," he said, "present progress rates would leave half of the rural population still without safe water in the year 2000, while in Latin America it may be 30 to 40 years before widespread coverage is achieved unless progress improves dramatically." One Washington, D.C.-based health specialist forecasts an even bleaker picture: "In rural Latin America, it might be 100 years before full coverage."

Such predictions lead officials to look for relief to the Decade's short-term gains. They hail the Decade's gifts of low-cost technologies, donor collaboration, and innovative designs for water and sewerage systems.

Few Decade spin-offs promise more stunning health benefits than the attempt to eradicate guinea worm disease by 1995. The threadlike parasitic worm maims 10 million people annually in Africa and Asia. The UNDP's David Kinley says, "When you travel in Third World villages, the atmosphere is usually upbeat, but villages where guinea worm is present have a grim feeling about them—people are suffering. It happens every year, and people are uninformed that it comes from drinking water. I've rarely seen anything more serious."

Since the disease often enfeebles workers during the growing season, protecting water supplies means promoting food supplies. Martin Beyer reports, "In one district in eastern Nigeria, after about one year of the eradication program, guinea worm incidence fell almost to zero; among other side effects, rice production went up 20 percent."

**T**he International Drinking Water Supply and Sanitation Decade will likely not be extended by the United Nations. "That's been discussed at many meetings," says

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## Increasingly, community involvement is seen as essential as gravity for water to flow.

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a major, \$6 million, UNDP/World Bank study testing 70 types of handpumps around the world.

Yet another achievement was the Decade's rallying of "more than 60 governments for the first time to set strategies for reaching national goals," says the UNDP's Martin Beyer. That alone improved living conditions for millions of citizens. In India, for example, water supply coverage "jumped from 30 percent to 70 percent," points out Global Water's Peter Bourne. "Without the Decade you could have expected, perhaps, an increase of 10 percent, but it certainly

large wells useless; a natural disaster, like Mexico City's 1985 earthquake, fractures water and sewage lines for 5 million people. In bone-dry shantytowns outside Trujillo, Peru—a region of withering scarcity like other corners of Latin America and the world—it is not unusual for 200 families to share a single water faucet.

Often forgotten in the rush to extend new waterlines is the precariousness of old ones: Pumps break, wells collapse, sources are depleted. In regions of dwindling incomes and economic stress the incidents coalesce to conjure a haunting specter for Decade



IDB/David Mangurian

*Elsa Marina de Flores beams as she washes dishes with water from the new tap at her home in La Guama, Honduras. The Decade freed millions of women from the drudgery of water hauling to participate more fully in development.*

Juan Alfaro of the IDB. "But there won't be any more decades, at least not named that way." Adds one U.N. official, the decade idea "is kind of old and overused at this point."

The first week of September 1990, PAHO hosted an end-of-Decade retrospective in San Juan, Puerto Rico, giving governments a chance to assess the Decade's achievements in Latin America and the Caribbean and its legacy for the 1990s.

Later the same month, on a global scale, top civil servants from Third World governments and donors will gather in New Delhi, India, at a UNDP-sponsored meeting to chart water and sanitation strategy for the future. They will condemn compla-

cency, appeal for money, and promise to redouble their efforts. And dream: The world's thirst would be quenched if each person who enjoys clean water were to provide it for just one person who lacks it. Thirteen years after Mar del Plata, a new rallying slogan—"Clean water for all by 2000"—has been suggested, but this is being heavily resisted. "I'm a realist," says one World Bank official. "I'm against setting targets that cannot be met."

Compared to expectations five years ago, many Decade officials now express low-grade exasperation, like climbers wearily ascending a mountain only to find, as they suspected, that the summit lies hidden and

higher. And the half-spoken worry, with storms of debt and unfavorable demographics gathered, is that the peak may actually be rising. "Unless radical measures are taken," one U.N. report warns starkly at the Decade's end, "the numbers of unserved will rise and reach alarming proportions." The Decade's quixotic goal of universal coverage carried a built-in year of reckoning; 1990 has arrived to briefly deflate zeal.

But at the same time, the Water and Sanitation Decade worked as an audacious initiative, one with roots in Latin America, to arouse passive governments on a global scale. It averted millions of episodes of sickness (an estimated 70 million cases of diarrheal disease alone), freed millions of women from the drudgery of water-hauling to participate in development, and girded economies by liberating workers from hospital beds. Moreover, the Decade broke through the indifference of many in the developed world who never bothered to reflect on what it must be like to live on only a few gallons of dirty water a day. But "the magnitude of the effort," as Mar del Plata's Chairman Luis Urbano Jauregui conceded not long ago, "requires more time than the years in a decade."

The idea launched from Mar del Plata has bequeathed to the world a glass of water half empty and half full. Against great odds, the Decade's contribution allowed the level to rise. What will cause it to fall during the 1990s is the evaporation of concern, a decline millions of people will mark, if at all, only posthumously. ♦

*DAVID DOUGLAS lives in Santa Fe, New Mexico, and writes extensively on water and sanitation issues in developing countries. Author of Wilderness Sojourn (Harper & Row), he is a founder of WATERLINES, a nonprofit organization working with U.S. churches and communities in developing countries to provide clean drinking water.*

# Living *with* the Land

## Ethnicity and Development in Chile

Alaka Wali

The Aymara and Mapuche Indians are proving that ethnicity is not just a collection of quaint customs but a potent engine for development.

In the small village of Rulo Gallardo, tucked into a fold of gently rolling hills in southern Chile, a group of Mapuche men and women have assembled in the committee meeting house to talk with an anthropologist about how traditional values and customs affect their lives. The awkward silence is broken by a young man speaking Spanish, who tells the story of his early days at public school, the humiliation that followed whenever he spoke Mapudungu, the Mapuche language. It is a story shared by other young people in the room; one by one they put aside their inhibitions to recount the hazing from teachers and other children that finally made them give up speaking in their first language. Hearing the pain in their children's words, the old women in the room softly lament, in a mixture of Spanish and Mapuche, at not having steadfastly transmitted their ancestral language. Feeling the rush of loss, people in the room at first deny that traditional culture counts for much anymore, but slowly the threads of another story emerge that exemplify the religious beliefs and conceptions of good and evil that make these people Mapuche.

Almost 1,200 miles to the north, in a vastly different setting of rugged snow-capped mountains and high

barren plateaus, a group of Aymara men and women gather a few weeks later to discuss their culture. Reticent about their own beliefs and traditions, they inquire curiously about the culture of their visitor (herself from India), and in the process of exchanging stories, open a window into what it means to be Aymara.

The Mapuche farming their lush green fields in the south and the Aymara astutely exploiting "eco-niches" in the high Andean reaches of Chile's Norte Grande have little in common save their centuries-long struggle to retain control over resources in the face of a national society exerting its dominion through legal decrees, forced acculturation, and military conquest. In recent years, the battle over resources has been framed as a debate about development. Many of Latin America's efforts to modernize since World War II have focused on homogenizing populations, on the theory that this would grease the wheels of economic growth. This scenario visualized local cultural and social differences as obstacles to be overcome, not opportunities to be seized.

The shortcomings of this approach, exposed during the past decade of economic and environmental crisis, have led some theorists and practitioners to search for alternative meth-

ods that would spur "sustainable development." They have posited the thought that long-term growth depends more on careful resource management than on more-intensive resource exploitation. Increasingly, policymakers think the key to designing and implementing effective resource management means not only permitting local differences, but fostering them to tap local systems of knowledge. Considerable evidence indicates that indigenous peoples have successfully protected and managed fragile ecosystems for hundreds of years while achieving relatively high standards of living. This has given rise to the hypothesis that organic forms of local social organization are prerequisites to successful development.

This hypothesis rests on two assumptions. First, patterns of local social organization, influenced by shifting economic and political contexts, form the core of ethnic identity. Ethnicity, then, is not just the outward difference in clothes, music, dance, and even language: It is forged as communities respond through their social institutions (such as patterns of exchange, kinship relations, and religious systems) to the problems of adaptation. Second, effective local participation in a development project can occur by preserving and building



on this ethnic identity. If participation is sought through the imposition of nonindigenous cultural strategies, the project endangers community control over local resources.

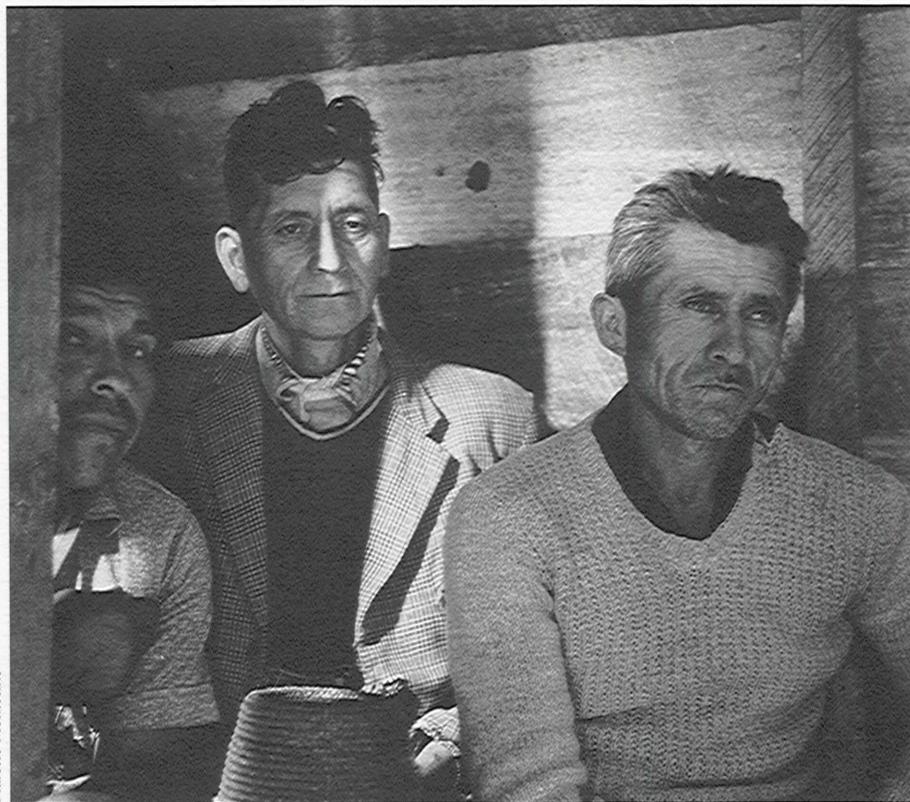
Among the Mapuche and Aymara, this hypothesis about sustainable development is being tested by two IAF-supported nongovernmental organizations (NGOs). Although working in very different contexts and facing different problems, both NGOs use strategies that reinforce ethnic identity, and the results in both cases are higher production and greater local control of land and resources.

Success in two projects, however laudable, is not a blueprint for simple replication elsewhere. The NGOs working with the Mapuche and Aymara have unique programmatic emphases that make them different from each other. A closer analysis of the projects' activities and methodologies however, reveals three common factors in the success of both that are transferable to other programs. Community autonomy, acceptance, and responsibility each work in their own way to reinforce group identity, enhance self-esteem, and empower project participants.

## THE COMMUNITY IS IN CHARGE

The success of the Sociedad de Profesionales para el Desarrollo Rural (SOPRODER) in working with the Mapuche and the Taller de Estudios Rurales (TER) in working with the Aymara is in no small measure due to their common strategy of permitting communities to define the agenda and set the pace for development. Their variation in implementing that strategy is a product of two NGOs with different institutional backgrounds interacting with two different indigenous cultures, each with its own history.

Today's Mapuche are descendants of a fierce but loosely organized nomadic people who stopped the Incan empire in its tracks and resisted the Spaniards for 300 years before finally submitting to "pacification" in the mid-nineteenth century. Subsequently confined to *reducciones*, or mini-reservations, that were titled to *caciques* who were heads of extended families, the Mapuche were forced to



Marcelo Montecino

Preceding page: A gathering of Aymara Indians in the altiplano of northern Chile. Above: Mapuche farmers listen intently to a discussion about wheat production held at a committee meeting in their community near Temuco.

abandon their lives as hunter-gatherers, to become herdsmen of cattle, and finally to take up the plow.

Life on the *reducciones*, while difficult, offered a measure of autonomy. Indigenous religious beliefs persisted, and new forms of social organization emerged based on mutual obligations to kin and community. The communities, which were named after a local geographical feature such as a river, often included several *reducciones*. It was these communities that shaped ethnic identity, making the Mapuche distinct from the Chileans rapidly settling the countryside around them. By the turn of the century, within the boundary of their communities, the Mapuche lived in dispersed households, with no main streets or village plaza. Some houses eventually incorporated outside building materials such as wood planks or tin roofing, but many had walls of cane or tree bark and thick thatched roofs. Pasturage was held in common, and though each nuclear family had usufruct rights to individual parcels of land, plots could not be bought or sold. While the Mapuche now buy and sell

goods in outside markets, reciprocal exchanges of resources and labor prevail within each community. These indigenous forms of cooperation help the Mapuche redistribute resources and protect fragile lands. The relationship between community and land, in turn, reinforces identity.

A century of systematic discrimination and encroachment on their land base has left the Mapuche mired in poverty. Overuse has depleted the soil, and the shortage of arable land has forced the young to migrate. Over half of the 900,000 Mapuche in southern Chile now live in urban areas, where they are poorly assimilated and in danger of becoming a permanent underclass. In 1979, a law was enacted that forced each family to register its own deed, privatizing community land and transforming it into a cash commodity. This law proved the most dangerous threat yet to the Mapuche community because it caused increased migration and unraveled the intricate web of mutual obligations that defined ethnic identity.

The year before, an interdenomina-

tional group called DIAKONIA, in an effort to counteract the poverty and out-migration, started a project among the Mapuche around the city of Temuco that helped tap the latent power of ethnicity by strengthening the community. SOPRODER is a nondenominational NGO that grew out of this effort; three of its ten-person staff have been working with the Mapuche for more than a decade, helping organize local committees to implement project activities; three of the staff are Mapuche themselves. Each committee, which may represent more than one Mapuche community, holds biweekly meetings and usually is visited each week by a SOPRODER technical team.

Each committee sets its own goals within an integrated program designed to improve subsistence levels, increase family incomes, and resolve domestic and social problems. The committee for the community of Rulo Gallardo, for example, is composed mostly of older women, and their emphasis has been on the development of artisan crafts, such as sewing and weaving, and on a health project. Yet the participants have also, over the years, adopted many of the agricultural techniques promoted by SOPRODER's extensionists, leading to a dramatic increase in wheat and lentil production. Now, instead of persistent shortages, households actually have surpluses. By contrast, the community of Leufuche, which recently joined the program, was unable to take advantage of the agricultural program initially. Leufuche's committee has instead emphasized social work to help combat the area's high incidence of alcoholism, broken families, and emigration by young people.

SOPRODER's willingness to let the community set the pace of development has given Mapuche participants a sense of control over the direction of change. Rather than being told what to do when, they decide which elements of the program best suit their needs. Among people who have lost control over so many aspects of life, regaining a sense of autonomy has been a key step in reinforcing the identity and integrity of the community.

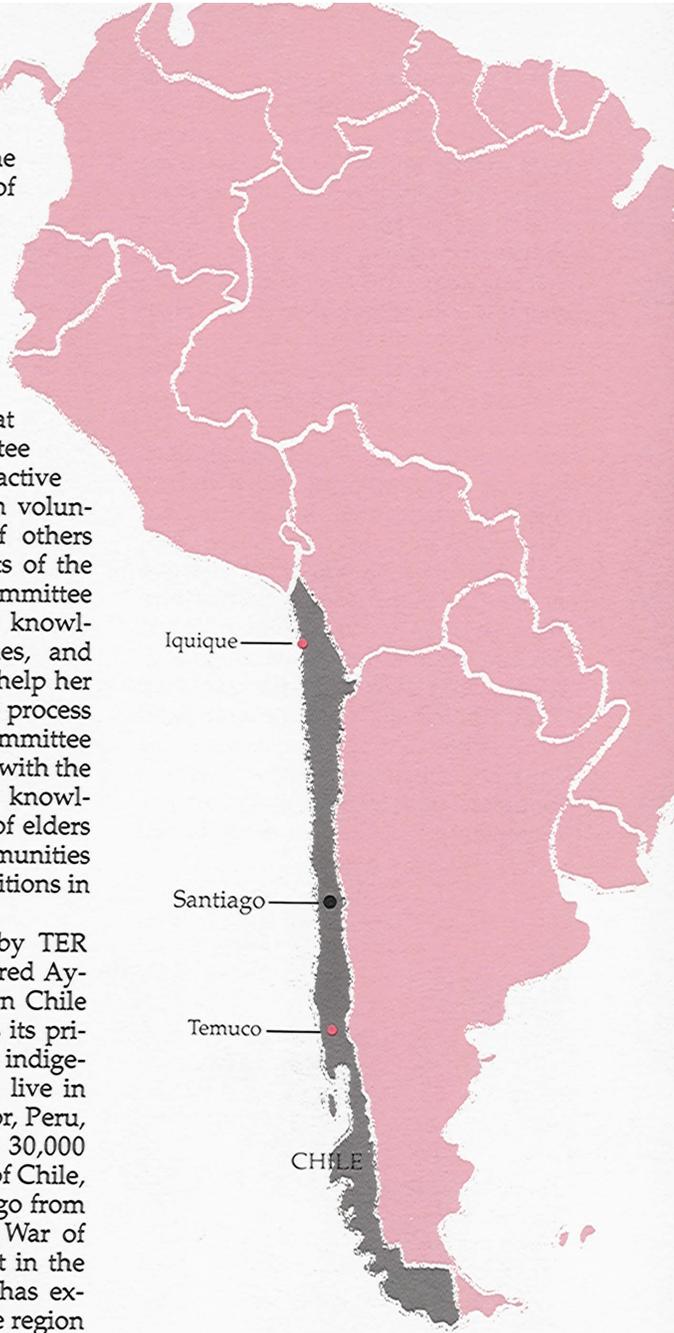
This can be seen in Rulo Gallardo, where the committee faced the task of selecting a monitor to participate in a

new health program that combined training in basic first aid with the collection and prescription of traditional herbal remedies. As the discussion unfolded, the committee's first impulse was to select a young person who was literate. No such person was readily available, however, and the feeling slowly emerged that older women on the committee had been excluded from active work. An older woman then volunteered to be the monitor if others agreed to help with the parts of the job requiring literacy. The committee recognized the value of her knowledge about herbal medicines, and committee leaders agreed to help her with written materials. In the process of choosing a monitor, the committee balanced the value of literacy with the need to preserve traditional knowledge, reaffirming the ability of elders to contribute to their communities and the relevance of oral traditions in modern times.

The program carried out by TER among the much more scattered Aymara communities of northern Chile have, from the outset, had as its primary goal the preservation of indigenous ethnicity. Most Aymara live in the Andean regions of Ecuador, Peru, and Bolivia, with fewer than 30,000 residing in the Norte Grande of Chile, which was seized a century ago from Peru and Bolivia during the War of the Pacific. Tensions still exist in the region, and the government has exerted itself to "Chileanize" the region through education programs, civic crusades, and tight border controls.

The mining boom in guano and nitrate that followed the war fueled rapid growth in the coastal towns of Iquique and Arica and profoundly altered life among the Aymara. The patterns of exchange that prevailed in the region began to break down as the Aymara farming the lower valleys became integrated into the new market economy and lost their language and customs. The highland Aymara, who were primarily llama herders, lost ready access to maize and other food crops produced at lower elevations, and many began to emigrate in search of better livelihoods.

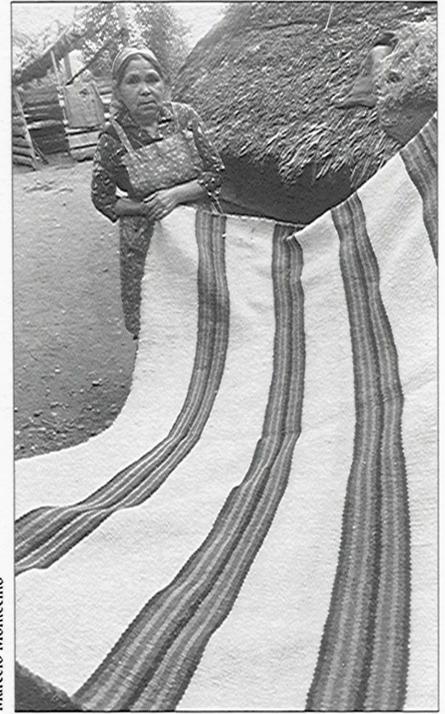
Those who remained in the alti-



plano retained their language, social structures, and kin affiliations into the 1970s. The basis of Aymara ethnicity rests on religious beliefs reflecting strong ties to the environment, close attachment to local villages, and the concept of *ayullu*, a lineage system that allocates the distribution of resources and labor. However, when the government of Augusto Pinochet created a free trade zone in Iquique in the mid-1970s and interest in mining intensified, new pressures were exerted on the altiplano. Communities became increasingly stratified as some Aymara men began to haul cargo full-time for merchants shipping imported goods from Iquique across the highlands to Bolivia and Peru. In order to buy a pickup truck, these men sold off their herds, gradually severed their obligations to their communities, and became more and more urban. At the same time, the downhill stream of young Aymara continued unabated, until as many as 70 percent of all Chilean Aymara had settled in urban areas.

TER emerged from a group of social scientists studying the highland Aymara under the auspices of the Universidad de Tarapaca in the 1970s. This group soon saw that their research needed practical application. TER's current staff of ten professionals with diverse skills is convinced that the survival of the environmentally fragile altiplano as a productive region depends on the survival of the Aymara as a people. Consequently, TER selects its development projects not only for their ability to increase production but for their ability to knit communities together.

In order to enhance the sense of autonomy of the high valley communities, most of TER's projects have concentrated on improving infrastructure, including the building of two model irrigation canals and two dip baths for llamas. Current plans call for another canal and water storage tank, a windmill and canal project, and a school. While the projects are not technically novel, the degree of community control over them has



Marcelo Montecino

*Artisan crafts projects in some Mapuche communities help increase family incomes.*



Miguel Sayago

*Thousands of Mapuche now live in urban areas, where they are poorly assimilated. In Santiago, the group Folil-Che Aflaiiai works to preserve Mapuche culture through activities such as this religious festival.*



Olaf Olimos

*An Aymara farmer works on an irrigation project that modifies the ancient low-valley technology of the Incas for transfer to the highlands.*

been unusual, and central to their success.

For instance, the community of Chapicollo clearly needed to produce more diversified crops to replace those it could no longer obtain from farmers at lower elevations. TER staff thought the obvious solution would be to modify the ancient low-valley technology of canals the Incas built out of sand and stone for transfer to the highlands where risky rain-fed methods predominated. Rather than imposing this solution by offering to build the structure, TER used the idea of a canal to spark a community discussion that would pave the way for stronger local organization.

The first step was to hold regular

community meetings in which every aspect of the project was aired: the route of the canal, the division of labor, the types of building materials. A number of disputes soon arose. Some Aymara families had begun to migrate seasonally to the lower valley, farming there for part of the year while maintaining their llama herds in the altiplano through a complicated set of sharecropping, land rental, and kinship relationships. These families resented the demand for communal labor mandated by ayullu since it came at a time when their fields in the lower valley required considerable attention. The most likely site for the canal also seemed the most controversial, re-

igniting land disputes between the people of Chapicollo and their neighbors in Inquelga and Aravilla that had smoldered since a tiling process was instituted by the Chilean government at the turn of the century.

As people resolved these conflicts and reached compromises with their neighbors and relatives outside the community, they not only realized the continued utility of indigenous methods of working together, they also gained confidence in making their own decisions and implementing them. By facilitating the discussions and carefully watching from the sidelines as they moved to fruition, the TER staff reinforced local social organization. Eventually relatives living in squatter settlements in the lower valley decided to return and pitch in. Residents from neighboring villages also decided to help build the canal, some because they had claims by marriage to fertile land in the area, others because they expected that the people of Chapicollo would one day help them build their own canal.

Because of the protracted nature of negotiating these arrangements, canal construction took more than three years. TER confined itself to providing cement to supplement the sand and stone gathered locally, facilitating transport, and giving technical guidance. By the 1988 growing season, the canal was ready for use by some residents. Families used the water to raise their yields of potatoes and *quinoa*, a high protein grain grown throughout the Andes, and for the first time harvested garlic and other vegetables that had never grown in the altiplano. TER was confident now that indigenous forms of action that strengthened community autonomy were also compatible with modified traditional technology.

## THE COMMUNITY MUST AGREE

When SOPRODER and TER insisted on putting the community in control of the pace of development, they implicitly limited themselves to techniques and technologies that were acceptable to the community.

SOPRODER only introduces easily adaptable technologies. Some of these new methods are modified versions of indigenous practices. It recommends cultivation techniques such

as composting and new methods of planting and harrowing; technologies such as a new time-saving plow, the *arado sincel*, whose three blades are angled to avoid churning the topsoil and help conserve nutrients; and inputs such as organic fertilizers that are simple, inexpensive, and easily applied. As a result, Mapuche farmers have reduced their need for expensive agrochemicals while increasing production.

In each case, the new technique was thoroughly discussed with farmers, modified by their suggestions, and tested on a small scale before being widely introduced. The new harrowing technique is one example. Staff members Ana Mella and Augusto Gallardo experimented on the SOPRODER model farm with a method that involves extensive harrowing of wheat fields when the new plants are about three inches high and weeds are just taking root. Although the weeds are uprooted, the technique appears to be foolishly counterproductive since the wheat is plowed under. But two weeks later the wheat reappears, more robust than ever. To allay farmers' fears, SOPRODER demonstrated the technique on small sample plots in communities, hoping that people would be inspired by the results to plant larger fields. Some farmers, however, remained wary.

Such was the case in the community of Calof where a farmer had volunteered to let his field be harrowed in the new way. A few days before the scheduled demonstration, a government extension agent visited him and counseled against the procedure. Instead, he urged the farmer to accept "free" herbicides. The farmer was torn between his loyalty to the SOPRODER program and his reluctance to offend the government or refuse free inputs. Rather than make the farmer choose, Mella suggested that half the field be treated with the government herbicides while the rest was maintained with the new harrowing method. This would allow local farmers to judge the results for themselves before locking themselves into a weed control method. Mella realized that the new technique offered the possibility of making the Mapuche less dependent on outside resources, but she also realized that independence would be hollow if the

Mapuche could not be trusted to make their own decisions. As a result of this experiment, most farmers in the area are using the SOPRODER harrowing method.

TER's work with a textile project in three Aymara communities underlines the importance of community acceptance in building the self-confidence and self-esteem required for taking another step in development. The project is designed to preserve traditional weaving techniques and increase household incomes by involving women in spinning wool and making textiles for sale. The women own the enterprise and, with the help of TER staff member Lucila Pizarro, are learning how to run it.

The women of each community elect leaders to coordinate production, which is marketed in a small shop, rented by the project, in the city of Iquique. The store is staffed by young Aymara women who have migrated to the city. They earn additional income by using wool spun in the altiplano to knit some of the sweaters they sell in the store. While the store serves as a museum for educating tourists and cityfolk about Aymara weaving techniques and the meaning of designs, it has also inspired a minirevival in the altiplano. The women of the village of Cotasaya, for instance, have turned to their mothers to deepen their knowledge of traditional weaving patterns.

Motivated by the prospect of getting higher prices for their spun wool and textiles, Aymara women are taking better care of their llama herds to ensure higher quality fleece. This has increased support for TER's program of improved livestock management and led to demands for antiseptic dip baths. In this instance, community acceptance of one project has led to acceptance of another. Like the Mapuche, the Aymara are finding that gains in production are related to growing self-esteem.

### THE COMMUNITY IS RESPONSIBLE

SOPRODER and TER have managed the process of development assistance in ways that have given Mapuche and Aymara communities the desire, confidence, and ability to take greater responsibility for their own destinies. Indigenous peoples

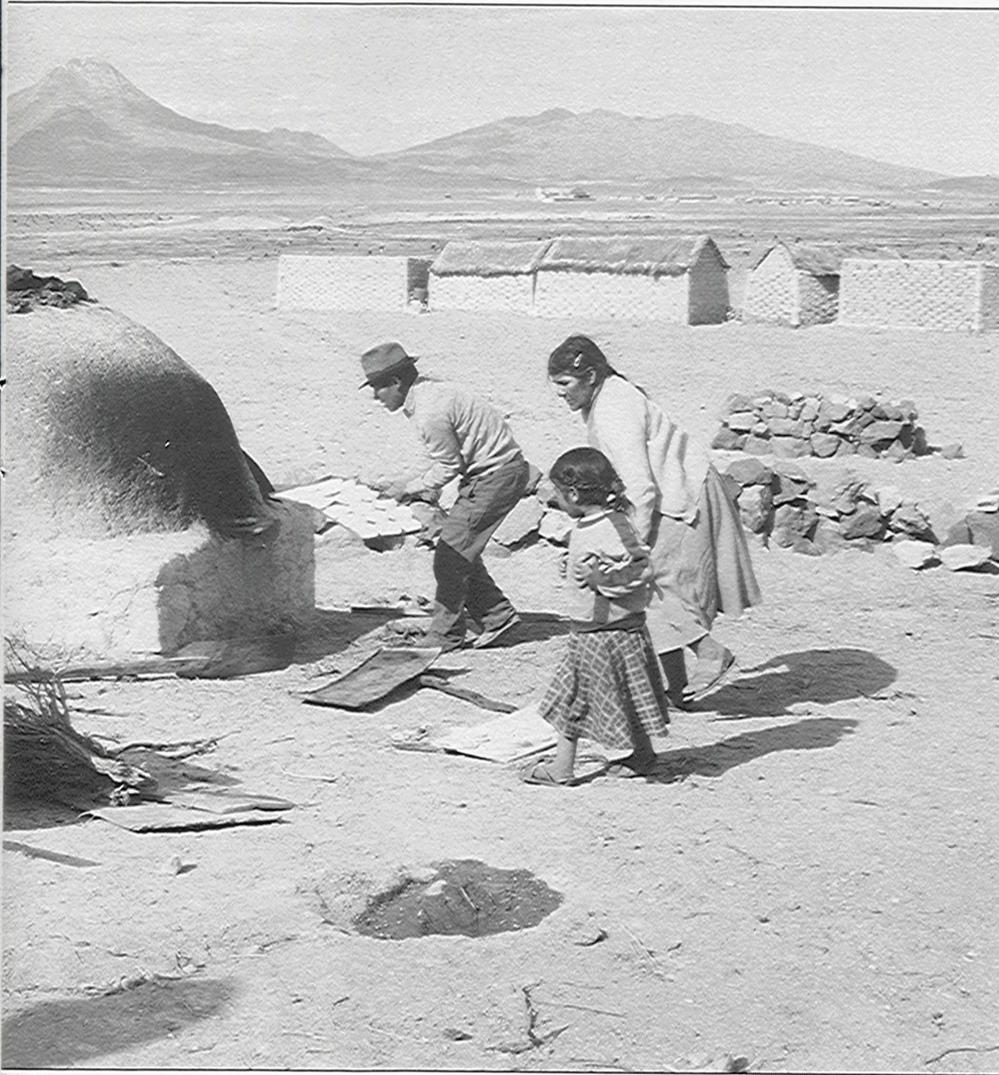


Chaf Olmos

are increasingly identifying their own problems and trying out their own solutions.

SOPRODER's primary technique for accomplishing this has been the training of monitors. Selected by local committees, monitors receive specialized instruction in a particular skill such as wheat production, horticulture, animal husbandry, or health. Monitors are then responsible for training others in their new specialty.

This program has had several positive effects. Monitors are encouraged to travel to other communities to offer technical assistance; they hold seminars to exchange information; and they have become a beacon for Mapuche pride and self-worth. The latter is particularly important because the systematic erasure of Mapuche ethnicity from the public schools has deprived the Mapuche of indigenous role models who not only understand sophisticated technol-



*An altiplano family uses a traditional oven to bake bread. The survival of the environmentally fragile area in which they live depends on the survival of the Aymara themselves.*

ogies, but are able to teach their own people how to use them.

A recent committee meeting in Leufuche is illustrative. Two SOPRODER staff members attended, accompanied by two monitors from other village committees. As part of the meeting, SOPRODER planned to set up a demonstration plot to see which of five wheat strains performed best in the area's microclimate. SOPRODER extension agent Ricardo Sánchez opened the session by holding up each variety and briefly describing its characteristics, but he quickly stepped aside in favor of one of the visiting monitors, Francisco Curiñir, a wheat specialist. The monitor then led a spirited discussion, distinguishing the varieties in detail, explaining the care required by each, and listing the possibilities for cross-fertilization. Meanwhile, Sánchez quietly slipped away to hoe the demonstration plot for tilling. And off to

the side, the other visiting monitor, Mercedes Curimil, who specializes in orchards and animal husbandry, was busy discussing the latest information on fruit horticulture with her counterpart from Leufuche. The subliminal impact of SOPRODER technicians voluntarily taking a back-up role to Mapuche "experts" was visible to anyone familiar with grassroots projects.

The confidence these experts have developed from working with each other and the knowledge they have gained about the common problems facing the Mapuche have led them to form Rayen Koskulla, a pan-community organization independent of SOPRODER, although formed under its auspices. The two monitors who visited Leufuche are the president and secretary of this organization. Initially, Rayen Koskulla, the Mapuche name for the *flor de Copigue*, a common Chilean flower, was only a co-

ordinating body with no source of funds and no agenda of its own, although its board was controlled and elected by all the committee members. Both the leaders of Rayen and the committees themselves grew dissatisfied with this limited role and began to press for more autonomy. In early 1988, Rayen attained legal status as an *asociación gremial*, which is similar to a rural cooperative. It hopes to exert more control over the revolving credit fund now managed by SOPRODER and to set up a marketing network to obtain higher prices for cash crops.

Among the Aymara, TER has been active in promoting both intracommunity and pan-community seminars that incorporate technical training with more wide-ranging discussion of the nature and goals of development and their relation to the community's needs and problems. The pan-community *encuentros* were the first general gatherings of representatives in many years to discuss common problems and explore the meaning of Aymara identity.

This series of three-day meetings, many of which focused on ways to strengthen local organization, eventually gave birth to Aymar Marka, or "the Aymara people," an umbrella organization dedicated to defending Aymara ethnicity through the promotion of its culture and the provision of services to altiplano communities. Recently Aymar Marka has embarked on a legal battle to protect community rights to water and land from renewed claims by mining companies.

Both Aymar Marka and Rayen Koskulla face grave problems as Chile returns to democratic rule. First, the constituents of both groups remain largely the project beneficiaries of SOPRODER and TER, only a fraction of the much larger Mapuche and Aymara populations. If either organization is to succeed in its goal of combining ethnic preservation with economic development, it must broaden its membership substantially. This may be difficult for Rayen since the committee structure on

which it rests is an invention of SOPRODER and has yet to attract participation by caciques and other community leaders. Aymar Marka has made some progress, however, through its participation in a federation of Aymara organizations in the north.

Second, the centuries of systematic oppression and forced assimilation have so eroded the native forms of social organization that their original shapes are barely perceptible. The attempts by SOPRODER, TER, Rayen Koskulla, and Aymar Marka to renew those forms are significant, but in the end may come too late.

Finally, both of the indigenous organizations and their NGO progenitors are aware that considerable internal stratification exists among the Mapuche and the Aymara. No one yet knows if reliance on indigenous social institutions and practices that stress egalitarian modes of resource use will be able to prevent further stratification as increased production leads to tighter integration into the national market economy. The NGOs, too, face problems because both rely heavily on dwindling international donor funding.

## GUIDEPOSTS FOR THE ROAD AHEAD

It is unlikely that either the Mapuche or the Aymara will be able to maintain their ethnicity if they are forced to alter their fundamental relationship to the land. For the Mapuche that means finding new ways to counteract the pressure toward individual rather than community land holdings. The Aymara must protect their water rights and find a way to preserve the fragile ecology of the altiplano from outside pressures to exploit the area's resources. Chile itself has a stake in these struggles. If the rural Mapuche lose their land and their identity and flock to cities where they are not welcome, they may create an underclass that is a permanent burden on the national society. If the Aymara are unable to protect the ecology of the Norte Grande, the source of water for the lower valleys and coastal cities in this arid region will also be endangered.

Fortunately, the return to democracy has created a new opportunity to expand the accomplishments of

SOPRODER, TER, and the organizations that have emerged among their beneficiaries. The Chilean government has recently moved to establish a decentralized corporation called Condición Especial de Pueblos Indígenas (CEPI) to handle indigenous issues and funnel loans and resources to local communities. Funds have yet to be appropriated, but CEPI



Olaf Olmes

*Older community members such as this Aymara woman contribute significantly to activities supported by TER and SOPRODER.*

is headed by José Bengoa, an anthropologist who has worked extensively with the Mapuche and was an IAF consultant for the SOPRODER project. CEPI's mandate includes working closely with NGOs to formulate policy towards indigenous people.

The return to democracy also may allow for closer cooperation among indigenous populations and the NGOs that assist them, allowing one group to learn from the experience of others. TER, for instance, could benefit from the technical know-how SOPRODER has developed in increasing agricultural production. Now that Aymara communities are receiving irrigation from their new canal for the first time, they will be farming more intensively and may need access to credit and extension services, which TER is not equipped at present to provide. SOPRODER, on the other hand, might benefit from

making explicit some of the unexpressed ethnic components underlying its program. Systematic applied research along the lines pioneered by TER might allow SOPRODER to develop a more penetrating view of Mapuche ethnicity beyond the maintenance of cultural forms such as dress, music, and art. Most grassroots organizations experience difficulty in making the transition toward greater autonomy from the NGOs that help give them birth, and Rayen Koskulla and Aymar Marka are no exception. But in responding to the organizations' demands for greater control over project resources, SOPRODER and TER have the opportunity to help Chile's indigenous peoples form organizations that give traditional values a new shape. This is occurring within the context of a new political awakening among Chile's indigenous peoples that has led to the formation of their own political party, Partido Tierra e Identidad (PTI).

No one suggests that any of these hopeful signs are panaceas. The process of maintaining ethnicity by fostering community autonomy, acceptance, and responsibility clearly results in a slower pace of economic development than some theorists would find acceptable. It also may involve higher commitments of staff time and resources by NGOs. Yet these projects have harnessed the opportunity to continue growing in sustainable ways because they have been responsive to community norms and elicited community participation. They suggest that other indigenous groups can also find their way in a changing world if they are empowered to explore the potential of their own technologies and social institutions and mold them to the needs of development. The benefits will be not only a greater richness and diversity in national cultures, but a better chance of preserving the resources of an ever-shrinking planet. ♦

*ALAKA WALI is an assistant professor in the Department of Anthropology at the University of Maryland, College Park. The material presented here is drawn from a study based on fieldwork she conducted in July-August 1988. For a copy of the complete report (in English) write to the Inter-American Foundation, Publications Office, 1515 Wilson Boulevard, Rosslyn, Virginia 22209.*

# Experiments in Partnership Research

In 1988, the IAF granted me a six-month stay in Santiago, Chile, to organize a partnership research program with several nongovernmental organizations (NGOs) that the IAF has funded. I welcomed the break from the day-to-day pressures and responsibility of my work as a Foundation representative and the chance to reflect on the projects I had monitored in Chile over three very satisfying years.

Partnership or joint-venture research is a hybrid of IAF-initiated and field-initiated learning efforts. It appealed to me because it transferred the IAF's basic grantmaking philosophy to the learning arena: The IAF would attempt to respond to the learning needs of the Chileans as it responds to their funding needs and would seek to involve the project beneficiaries in the design and fruits of the learning projects. However, in partnership research, unlike project funding, the IAF would be heavily involved in planning and implementation. The IAF assumed that in partnership research IAF and local entity perspectives would be complementary and that the IAF would learn more about development issues of most relevance to local practitioners.

## THE "PARTNERSHIP RESEARCH" METHODOLOGY

The joint learning venture began at the IAF with a review of 42 Chilean projects funded between 1980 and 1986. From this review a list of issues was developed. The next step was to find out if those issues fit within the agenda of Chilean researchers and interested NGOs. After considerable give and take, three topics rose to the top of the mutual list: ethnicity in development, rural credit schemes,

In this report, senior Foundation representative Carl Swartz describes the first IAF-supported participatory research project, from his point of view as project coordinator.

and the transfer of project control to beneficiary organizations. The plan was to unite forces in the design of an empirical study for each topic. IAF grantee projects would serve as the units of analysis.

For the credit study, the IAF found common ground with five grantees and with one NGO experienced in evaluative research, the Programa de Economía para el Trabajo (PET). Another set of five grantees, including three from the credit group, wanted to participate in the transfer-of-control study; and the Centro de Investigaciones para el Desarrollo Educativo (CIDE), a research/action NGO, was enthusiastic about working on its design and implementation. CIDE had recently completed a survey of 100 popular education projects in Chile, in which the theme of transferring skills and knowledge from support groups to organizations of the poor was an important concern. The study of ethnicity and development interested two IAF grantees, SOPRODER and TER, regional NGOs that work with Indian communities. TER was particularly interested in helping design the ethnicity study but agreed that a neutral party should

do the actual fieldwork and analysis. In the end, the IAF and the two NGOs decided to hire Alaka Wali, a U.S. anthropologist experienced in development, to carry out the study. (Wali presents the results of the study in detail in the preceding article.)

After the topics and participating researchers and grantees were selected, the nuts and bolts of the studies had to be sorted out: objectives, methodologies, work plans, budgets, and expected products. During this time, I worked very closely with the NGOs and served as a link to the grantees to assure that they participated fully in designing the studies and planning their implementation. While agreement was reached easily on most matters, some differences of opinion did surface. For example, the IAF typically wanted to move quickly into impact analysis, while the Chilean researchers desired to work through a more elaborate conceptualization phase. The IAF was more inclined to ask how each activity could be carried out most expeditiously, while the Chileans asked how the entire process would unfold and how all the parts related to each other. And the Foundation was always more interested than the Chileans in shorter, simpler final products. In the true spirit of a joint venture, compromise was the order of the day.

On one issue, however, the Chileans and the IAF were in absolute agreement: the need to make the research highly participatory and useful to the grantees involved. We did not want "participatory research" to mean—as it sometimes does—that the groups being studied would collect data on themselves, that is, "participate" as unpaid data gatherers. In this project, the participatory research concept was much broader. Grantee participation started with IAF-

sponsored meetings in Santiago and in Iquique in which the researchers, the grantees, and I worked together to lay out the fundamental research questions and choose the variables and their indicators to be analyzed. Once data collection began (and it was carried out by paid junior researchers, not beneficiary groups), the IAF, the researchers, and the participating grantees met in seminars to review and refine the studies as they progressed. After the studies were completed, a third series of meetings was held to analyze the results, discuss dissemination possibilities, and sound out ideas for future learning on the three topics.

### THE RURAL CREDIT STUDY

The credit study tried to find out why many revolving credit funds tend to decapitalize. By examining the workings of revolving funds in five different rural areas of Chile, the study came up with useful conclusions about what measures produce the healthiest funds, in financial terms.

The projects studied ranged widely in size of funds (from less than US\$20,000 to over US\$300,000) and socioeconomic status of beneficiary families (average family incomes ranged from US\$250 to US\$2,800 a year). The lending mechanisms also varied, including cash, in-kind, and mixed, with real and subsidized interest rates. As some of the programs managed more than one revolving fund, the total number of funds studied was nine.

As soon as the draft report was completed, PET shared it with representatives of the five projects and the IAF during a day-long seminar in Santiago. The seminar participants recommended that PET use the study results to produce a practical manual on how to establish and maintain revolving funds. That manual, now circulating among more than 100 Chilean organizations involved in rural credit, is a concrete example of the salutary impact that beneficiaries can have on research when true participation is cultivated.

The basic finding of the study was

sobering. Despite a relatively benign macroeconomic environment, five of the nine funds were decapitalizing, though in two cases the rate of real decapitalization was not great. Of the four funds that were not losing ground, only two had succeeded in capitalizing (in dollar values) from repayments and interest. The other two used donated capital to increase their capital base.

Contrary to our initial prediction, the use of in-kind loan and repayment methods did not consistently correlate with success. The most successful funds employed a combination of cash and in-kind mechanisms, relying upon cash repayments.

The most positive finding was that credit, usually complemented by technical assistance, generally resulted in increased productivity, which in turn translated into increased sales and family incomes for the participating farmers.

Perhaps the most useful conclusions of the credit study are these rules of thumb for revolving-credit-fund managers prepared for the final in-country dissemination seminar:

- For revolving credit funds to increase their capital, borrowers must be charged positive real interest rates.
- Revolving credit funds for subsistence farmers are virtually doomed to financial failure.
- For loans to achieve their maximum potential, they should be accompanied by assistance in production and marketing.
- Revolving funds must be managed astutely. This includes good record-keeping, close supervision of loans, and effective collection mechanisms. Beneficiaries can be trained to assume these functions; reliance on outside credit managers is not a *sine qua non*.
- Successful funds should operate by written rules that leave no room for confusion about the rights and responsibilities of all parties. This includes provisions for beneficiaries to scrutinize financial records.
- A formal loan agreement (a notarized, signed document, for example) is as good as collateral in ensuring repayment when all of the rules of thumb above are followed.

In sum, a successful revolving credit fund for poor small-scale farmers in Chile is like a juggling act. Managers must pay attention to all the critical elements. If any one of these elements falls or wobbles, the juggler loses control and the long-term viability of the fund is jeopardized.

### TRANSFERRING CONTROL TO BENEFICIARIES

Many IAF grants are made to "helping organizations" such as professional associations and technical assistance institutions whose members comprise socially committed, middle-class individuals dedicated to helping the poor to help themselves. These grassroots support organizations (GSOs) view the goal of passing the baton to the beneficiaries someday as sacrosanct—their ultimate institutional objective. In the 42 projects originally reviewed, the notion of transferring control to the poor was stated time and again as a key justification for making the grant. Yet little is known about whether and how control is actually being transferred and to what extent beneficiaries are also interested in transfer of control as a goal.

To get a handle on this slippery but critical topic, the IAF and its Chilean research partner CIDE developed four key indicators of effective transfer of control: management ability (*capacidad de gestión*), "know-how" (*saber instrumental*), social organization, and control. The concept of control was closely linked to the notion of appropriation of the project's resources, methodologies, organization, and values by the beneficiaries. The major hypothesis was that the degree to which the beneficiaries appropriated the project's resources, methodologies, organization, and values would reflect the degree to which control had been transferred.

The study revealed that transfer of control is an extremely complicated process, not easily subject to absolute judgments. The two parties in the transfer process, the "givers" and the "receivers," do not ascribe the same value to the transfer of control. For

instance, the beneficiaries often do not want control of certain functions. They are willing to let the GSO function permanently as the purveyor of technical knowledge and the interlocutor with resource holders and power brokers in Chile. This clashes with the view generally held by GSO professionals and technicians (and perhaps by the IAF as well) that independent management of both technical information and resource brokering are necessary for grassroots development. Perceptions aside, the study indicated that both roles—resource broker and technical information provider—were still played by the GSOs in all cases.

Study findings on the issue of control over financial and material resources were less ambiguous. The beneficiaries want it, but they have achieved very little to date. Management of credit funds, investment capital, and project infrastructure remains substantially in the hands of the GSOs. The study cites transfer of this type of control as the most urgent short-term issue, one that is complicated by the apparent inconsistency of beneficiaries who demand control over financial and material resources while insisting that the GSO remain as the primary source or broker of these resources.

In some areas, substantial transfer of control has occurred. Perhaps most significant, beneficiaries are willing and able to control their own organizations, and they accept without reservation the idea that their organizations should be democratic. Also they seem to have appropriated much of the know-how that the GSOs have offered, often adapting it to fit their own ideas. For example, Mapuche Indian farmers near Temuco agreed with the GSO suggestions that they adopt a new plow design and set aside their old, simple stick method. However, instead of the two-pronged model recommended by the technicians, they insisted upon a three-pronged design for reasons never fully understood by the GSO. The three-pronged plow was provided and is being successfully employed by large numbers of the beneficiaries

along with the other elements of the GSO's technology package.

True transfer of control occurs, the study states, when the receiver makes himself "owner" of that which is passed on and begins to adapt it to his own view of appropriateness. This applies not only to production techniques and technical skills but also to organizational styles and structures, which, in many of the cases studied, were refined by the beneficiaries to fit their own situation. GSOs that understand and promote appropriation and

merce of Temuco do not mean that these indigenous cultures are dead. In fact, these adoptions manifest the dynamic process of revitalizing ethnicity for the sake of development.

As a corollary to the ethnicity study, Chilean film and video producer David Benavente was commissioned to direct a documentary video on the self-help efforts of the two groups. Unique in its format and design, this video connects the two geographically disparate communities through a series of "visual dialogues"

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**The most positive finding was that credit generally resulted in increased productivity, which translated into increased sales and family incomes for participating farmers.**

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adaptation by beneficiaries are on a much more realistic transfer-of-control track than those insisting that their formula is the one that works.

### ETHNICITY AND DEVELOPMENT

The basic notion underlying the research on ethnicity and development was that it is not necessary for Indian people to give up their identity to gain access to the benefits of modern society. On the contrary, ethnicity can be an important tool in grassroots development. The study focused on Chile's two indigenous groups, the Aymara and the Mapuche.

The study concludes that the Aymaras' and Mapuches' reaffirmation of their cultural uniqueness allows them to make the decisions needed for enhancing their standard of living and strengthening their native organizations. The ability of these groups to use certain mores of the larger society to achieve their own self-development plan is perhaps the quintessential manifestation of employing ethnicity for development. Thus, the presence of Aymaras wearing suits and ties in government offices in Iquique or Mapuches speaking Spanish in the chamber of com-

in which each group is filmed viewing and commenting on images and recorded statements of the other. The video will be available for distribution in late 1990, after the participant feedback process is complete.

### DISSEMINATION

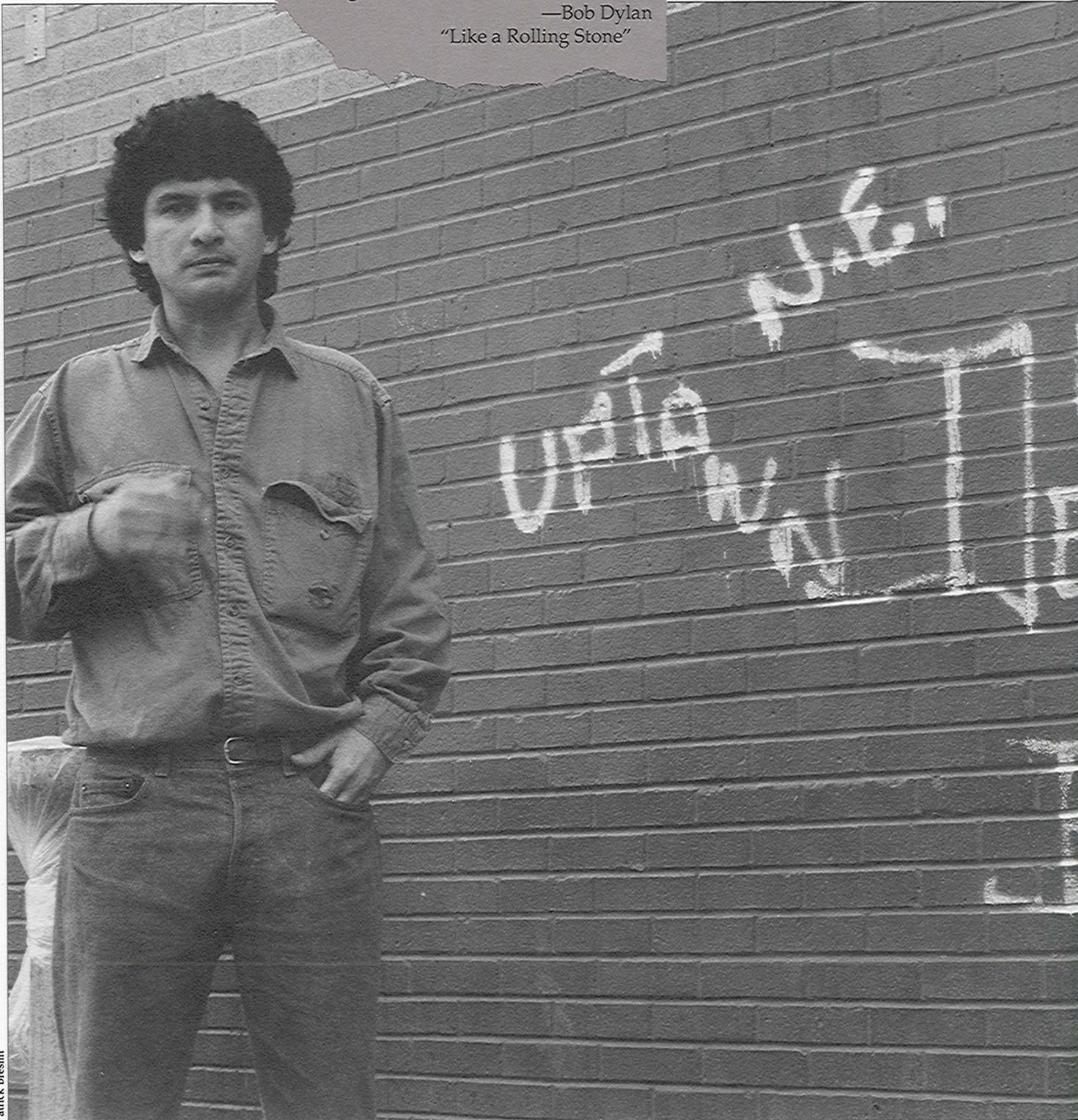
As these partnership studies show, it is possible to marry the learning agendas of groups as different as the IAF, Chilean NGOs, and Chilean Indians, artisans, and peasants, and to produce useful results. In my opinion, the joint venture aspect of the research must continue during the dissemination process. For maximum utility, attention must be paid to the socialization of the information, that is, its dissemination to various audiences in ways that are intelligible to all and that also invite the participation of all in advancing the knowledge of grassroots development.

Photocopies of the reports are available free of charge from the IAF. The credit and the transfer-of-control studies are in Spanish; the ethnicity study is in English. Write to the Inter-American Foundation, Publications Office, 1515 Wilson Boulevard, Rosslyn, Virginia 22209. ◇

—Carl Swartz

*Nobody's ever taught you  
how to live on the street  
and now you're going to have  
to get used to it...*

—Bob Dylan  
"Like a Rolling Stone"



Patrick Breslin

# Can Development be a Two-way Street?

Patrick Breslin

Two young survivors of “the mean streets of Bogotá” are providing a mirror to bring social problems in the United States into sharper focus.



**L**eonardo Escobar is a long way from home on Columbia Road east of 15th Street in northwest Washington, D.C., but he does not look it. Dressed in running shoes, blue jeans, and a short-sleeved shirt, the 29-year-old Colombian moves easily down the summertime sidewalk, his eyes alert to the hustlers and the dealers and their early warning systems of kids working as lookouts. He notices the racial dividing lines, the cruising cops, the mothers watching their children. “Observing from the inside,” he calls it, a way of fitting into the scene while studying it that he learned as a *gamín*, a kid living from the age of eight on the mean streets of Bogotá.

Meanwhile, in California, Carlos Lara, 24, another ex-*gamín* from Bogotá, walks the streets of central Los Angeles, a solitary pedestrian in a city fashioned by the automobile. After less than a month, Lara knows sides of L.A. that most of its citizens never

see. He has talked with homeless people sleeping in shelters or under a freeway overpass they call “the hotel.” He has ridden in police squad cars at 3 a.m. and met with members of the *pandillas*, or street gangs, waging murderous turf wars over drug markets in the San Fernando Valley. For Lara, the scene is all too familiar. From age eight, he too lived out on Bogotá’s streets, cadging food, stealing money, and sniffing gasoline fumes or toking marijuana for the fleeting high that would float him away from the cold, the hunger, and the danger.

That was almost 15 years ago. Today, Lara and Escobar are emissaries from the Fundación Servicio Juvenil—the Youth Services Foundation—one of the most innovative programs for street kids anywhere in the world. They are spending two years in the United States, living with American families to learn English, seeing the country from the perspective of the American underclass, and studying how dozens of U.S. public and private agencies—not only in Washington and Los Angeles, but

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Former *gamín* Leonardo Escobar on the streets of northwest Washington, D.C.



David Melody

Ex-gamín Carlos Lara walks across campus at the University of Washington in Seattle.

also in cities like Seattle, Albuquerque, Memphis, Denver, New York, Boston, and San Francisco—deal with the problems of homeless people, abandoned or runaway youths, and the dealers, users, and victims of the drug trade.

When they return to Colombia, the two men will carry back a wealth of experience, information, ideas, and critiques to enrich the work of Servicio Juvenil, which years ago rescued them both. They will leave behind, among people they have worked with in the United States, new perspectives on how street kids think, some unsettling critiques of many U.S. social service agencies, and a deeper understanding of Colombia at a moment when the federal

war on drugs has raised interest about that country while distorting its image wildly.

This experiment to see whether such exchanges of experience can be a "two-way street" for new ideas is partly supported by the Inter-American Foundation, which has also supported the gamín program in Colombia since 1975. The Foundation's work in funding thousands of private organizations throughout the hemisphere over the past 20 years has convinced IAF staff that some of the innovative solutions to social problems developed in Latin America and the Caribbean have much to teach U.S. citizens confronting similar problems. As "street people" and runaway youth become evermore common-

place on the U.S. scene, will North America turn for insights to places like Bogotá?

## THE STREETS OF BOGOTÁ

Carlos Lara was born in a small town near Bogotá and raised by his grandmother in what he calls the "subhuman conditions" of the city's south side. He saw his mother, who worked as a maid, only on weekends. He never knew his father. For Lara, school was, from the beginning, a half-day prison full of frustration and failure, and he repeated the first grade twice. The rest of the day, he played football in the streets.

Sometime around his eighth year, he stayed out all night with some friends, sleeping in a park. He began to meet other boys who lived on the streets by begging.

"I was deciding between misery without freedom and freedom with misery," he said. The choice became clear as he began to spend more nights out.

"The street takes hold of you," he said. "By age nine, a street kid has become an adult. He has defined his life, fed himself, experienced sex, withstood the elements."

Those first few months were spent only a few blocks from his grandmother's house. He returned home a couple of times, but never for long. Finally, he broke the tie completely, moving to downtown Bogotá, where he learned to get high on marijuana and gasoline fumes. "Cocaine was for white-collar people then," he said. Although sampling it, "fortunately, I never went so far as to become addicted."

In Bogotá, the street kids were harassed by the police who threw them in jail. Judges sent them to institutions for rehabilitation. Lara was in several, but he preferred the streets. "I lived on the streets for six years."

At one point, Lara and his *gallada*, the group of boys he ran with, were living on a platform they had built high in a tree overlooking the downtown bus station. One night, a green van stopped below. The priest inside invited the boys down to talk.

"Two of my companions climbed down, but I was suspicious. I held back," Lara said. "I could hear talking and singing inside the van. After a half hour, I went down too. And that

was how I learned about Padre Javier and the program."

Leonardo Escobar was 12 when he found the program. Born in the department of Caldas, he rode a bus to Bogotá when he was eight. Over the next four years, he lived on the streets there or in the city of Giradot, or with a series of families who routinely abused him. The street was equally dangerous. Once, a policeman's beating put him in a hospital for a month, the first week in intensive care. Still, he preferred the street because it offered liberty. "When I lived in someone's house, I had to do whatever they wanted me to. That's why it's so difficult for any program to take kids from the street, because of the liberty they have there."

Escobar avoided joining a gallada because the norms of the group impinged on the total freedom he found on the streets, and also because the older boys often abused the younger. Instead, he spent much of his time with one friend. When that friend ran across the priests recruiting gamines for Padre Javier's program, Escobar went along to see what it offered.

## LA FLORIDA—SCHOOL FOR GAMINES

The program Lara and Escobar entered, along with hundreds of other Colombian street kids, was the inspiration of Javier de Nicoló, an energetic priest from southern Italy. De Nicoló grew up in a poor, religious family in Naples. As a young man, he joined the Salesian Fathers, who have built schools for boys around the world. Sent to Bogotá and assigned to teach poor children, de Nicoló chafed at the school's rigidity, and he began to argue the need to respect the liberty of each child. For a time, he worked with the most unfree children of all—young inmates in Bogotá's prisons. Soon, he decided it made more sense to try to reach them before they were sent to jail. As he got to know them better, he became convinced that the kids were all right. How society treated them was the problem. Gradually, he developed educational theories based on respect for the gamines' values, above all, for their freedom. Meanwhile, he was gaining their trust.

That trust became the rock upon which Padre Javier and the gamines

built a unique enclave called La Florida that later spread its influence throughout Colombia and inspired programs in other countries of Latin America and the Caribbean. Javier acquired facilities in Bogotá and some land on the outskirts, and evolved a voluntary program for gamines, offering them education through high school plus technical training. While tailored to the needs of each student, the program generally offers five to six years of education and training. Outside of rules barring drugs and weapons, the students are left in control. Today they elect their own government, police themselves, play in their own symphony orchestra, and run their own store, cafeteria, and bank. They even have their own currency and savings accounts to learn how to handle money.

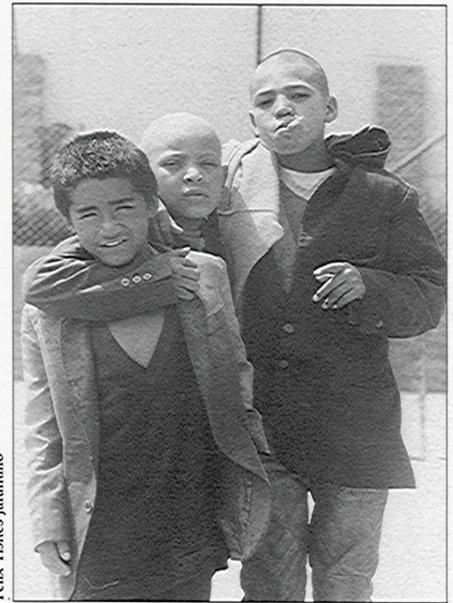
"What is unique about our program," Escobar said, "is that kids can choose. In the United States, they're sent to a program by a court or referred by a social worker. In our program, kids come and go when they want."

The program has centers in other Colombian cities, and in recent years it has moved into the countryside, setting up communities in which young people learn agricultural skills on the Caribbean Coast near Panama and along the Orinoco River.

Recalling his years as a student in the program, Lara said, "At first, I didn't like it. Too much discipline. On the street I had complete liberty. I was expelled twice, but I went back both times."

What drew him back to the program was the affection and respect it offered, qualities absent from the other institutions he had passed through. "No one had ever considered me to be a person before. Nor given me the security a child needs."

Lara got an education, and more. "The program gave me what I needed to become a man: study, work, the chance to develop my personality. At the same time, it respected me. I was never punished physically, never sent away hungry, never denied an opportunity to learn. Where other institutions teach you that you're poor, only a beggar, I was taught to become a man of service to others. It was like that famous quote of your President Kennedy: 'Ask not what your country can do for you; ask what you can do



Félix Tisnes Jaramillo

*Gamines in Bogotá stand inside El Patio, the first stage of Padre Javier's program, where they can bathe, receive medical attention, and get something to eat.*

"The street takes hold of you," he said. "By age nine, a street kid has become an adult."

for your country.' I learned to ask what I could do for the program."

His companions elected Lara mayor of La Florida. Then he served as the program's public relations officer. Later, he worked at the gamines' outpost on the Orinoco.

Escobar studied to be an electrician during his years in the program, but he believes the opportunity to develop his leadership skills was the most significant payoff. He too served in various posts: everything from organizing committees, to handling laundry, to becoming secretary of the student government and acting mayor. He met high officials of the Colombian government, as well as foreign visitors ranging from ambassadors to popular music stars.

After graduation, both Escobar and

Lara stayed to work in staff positions with Servicio Juvenil. Those experiences, and their previous life on the streets, have given them a unique vantage point to formulate and evaluate ideas about what makes social programs work.

Their current two-year sabbatical grew out of an earlier visit by six ex-gamines to U.S. agencies working with young people. That group toured several states and identified the programs which seemed most promising to learn from. Escobar and Lara were selected to do the follow-up research.

Despite Servicio Juvenil's success, it reaches only a fraction of the children sleeping, for instance, in shop doorways in Colombian cities. Not only are the numbers growing, but an

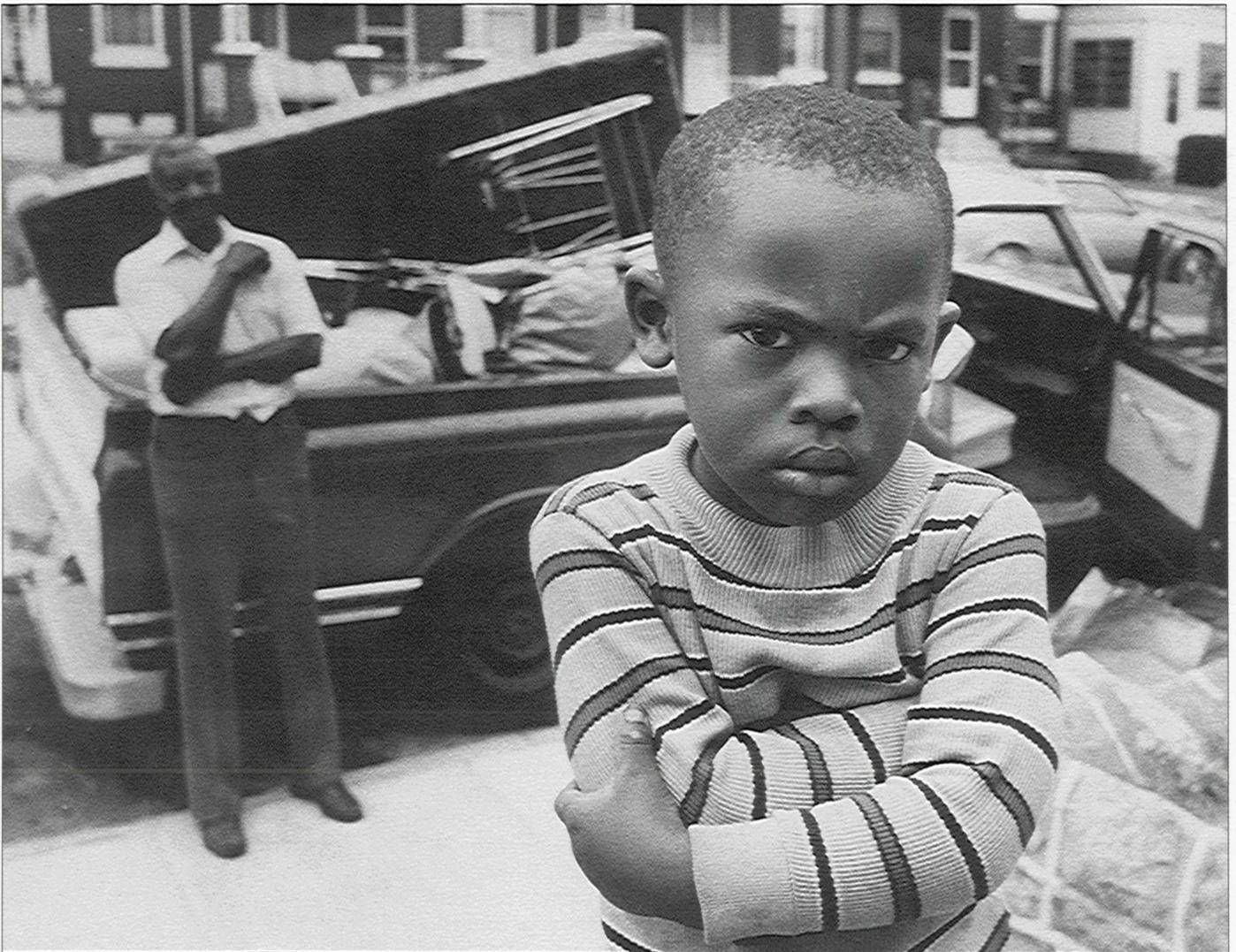
increasing percentage are girls. And the problems of abuse, exploitation, violence, and drugs keep intensifying. The pattern is repeated throughout Latin America. Estimates of the number of children in the region living either permanently or temporarily on the streets run as high as 20 million.

"Colombia has changed, the society is more corrupt," Lara said. "Political leaders have betrayed the people with false and unfulfilled promises. Colombia is not underdeveloped. It's under-administered. And now, the narco-traffickers have stepped into that gap." In Medellín, for instance, there is a barrio subsidized by and named for the most notorious of the drug lords.

Street kids today confront threats deadlier than Escobar and Lara knew

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*George Cook, age 10, watches as he and his family are evicted from their home in Washington, D.C. Programs like Padre Javier's could offer hope to homeless children in the United States as well.*



Jim Hubbard

as gamines 15 years ago. "Drugs are cheaper, much easier to get," Lara said. "Now, in addition to marijuana and gasoline sniffing, there is *bazuco*, a cocaine residue. I was lucky. I avoided addiction. Now we are swamped with addicts. That is one reason we are here in the United States—to look at how people work with drug dependent kids, kids with very low motivation."

## THE STREETS OF DENVER, WASHINGTON, SEATTLE, ALBUQUERQUE ...

Both Escobar and Lara are writing reports for Servicio Juvenil based on what they see out on the street, as well as inside U.S. service organizations. They visit agencies repeatedly, to sit in on staff meetings, take part in research efforts, or just observe groups of clients in discussions.

The street people they see are older on average than those in Colombia, a difference that has been duly noted.

"I was surprised to find so many adults on the streets here," Escobar said. "There seem to be more resources—both rehabilitation programs and correctional institutions—for kids here, at least up to the age of 13."

Lara, remembering his own half-days of primary education, attributed the difference, in part, to educational resources. "Here, all the kids are supposed to be in school," he said. "A police officer can stop a kid at 9 a.m. and very legitimately ask why the child is not in school. In Colombia, there's no space for half the children, so who knows when a kid is playing hooky?"

Some of the efforts they have observed in the United States, however, do not translate into a Colombian equivalency for comparison. Lara visited one West Coast center for drug-addicted and sexually abused children. "They have 37 kids there, and a staff of 100," he said. "That, in our society, would be out of the question."

Beyond considerations of cost, Lara wondered whether so much professional attention was necessary. "More than once, I have asked myself whether these programs exist to solve the problems of the kids or the employment problems of the professionals. Even more than a doctor or a psychiatrist, do these kids simply

need a friend? Our kids begin to change when they get a clean bed, when we treat them with the respect they deserve. The change is visible, much more than you see here after a kid has 15 sessions with a psychiatrist."

Escobar questioned another assumption in most of the programs he had seen in Washington, Denver, and

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Albuquerque. "Here, the basic idea is that the kids should spend the minimum amount of time possible in a program, and then return to their families. That's assumed to be the best outcome. But usually, the problem is in the family. And if the basic problem hasn't been solved, the situation just repeats itself.

"Normally," Escobar continued, "kids see two institutions, the family and the school. And some of them don't find what they need in either place. That's why they go to the streets. If they are sent back, they enter a vicious circle. The kids can't break out, so they often find their best alternative is to play with the system, to bounce from one institution to another, from the courts to the welfare agencies and back again."

Escobar contrasted the "depressing surroundings" and "prison camp appearance" of many U.S. institutions with the "embracing atmosphere" of his program. "Some of the places we've seen are dangerous," he said. "There is a serious problem of personal security, particularly in some of the shelters for the homeless."

Other experiences in the United

States have piqued their interest. The Centro de la Raza helps recent immigrants arriving in Seattle. It stocks a "food bank" with grocery items nearing their expiration date that have been donated by large supermarkets in the area. The center distributes the food to poor people, "an idea," Lara said, "we could use in Colombia."

Escobar saw interesting possibilities in Mi Casa, a program for poor, young mothers in Denver. As previously mentioned, girls are swelling the ranks of gamines in Colombia. Servicio Juvenil incorporated girls into its program a decade ago, but most of its expertise has been with boys. "Mi Casa succeeds because it offers alternatives to girls who assumed that, with a baby, their lives were essentially over," Escobar explained. "It offers child care so young mothers can study or be trained in order to broaden the range of job possibilities."

Something familiar in the operating style of several programs in Albuquerque also appealed to him. "I sensed commitment among the staffs, a dedication, what we call *mística*. There was also a sense of flexibility. I saw many groups that have much in common with our own."

While Escobar and Lara both insist that respect for kids is the foundation for a program's effectiveness, they sound like stern advocates of the work ethic when discussing some relief efforts they have seen. Escobar questions a system of charity which pretends to give people everything they need, doling it out piece by piece. "One must challenge people to do something, if they are to grow," he said.

"We emphasize work," Lara added, "because it is the best therapy. But this work must pay a just salary, so that a person can live as a human being."

A year into their sabbatical, both Escobar and Lara were still excited by their experiences and the chance to learn. "I hope others can have this opportunity," Lara said. "It's very enriching, more so than all my previous studies."

They will take back to Colombia a complex picture of the United States, an x-ray really, since they have tried to see beneath the surface. Lara traveled from Seattle to Juneau to attend a

conference on alcoholism organized by Alaskan Indians. He made the six-day ferry trip sleeping on an outside deck. Going from Seattle to Los Angeles, Lara chose the train. "It traveled behind everything," he noted. "Behind the houses, behind the factories."

The inner workings of the U.S. political system also fascinated Lara, who hopes someday to study law so that he can defend the rights of Colombian street kids. With this interest in mind, he brought his own set of questions to our interview. He wanted to know about Watergate and Vietnam, and he wanted to know where to find a copy of the U.S. Constitution in Spanish.

"I admire the United States," he said. "Despite great contradictions, it has found a balance that guarantees civil rights and freedoms."

Extending his practice of "observing from the inside," Lara noticed details that do not appear in civics textbooks. "I've gotten used to reading on the bus in this country," he said. "You can't do that in Colombia. It's inconvenient for the powers that be if poor people educate themselves, so our buses aren't set up for reading."

More prosaic aspects of U.S. life impressed him as well. "It's been an education for me to see how transportation works here, how garbage collection works. Before seeing that, I believed our problems in those areas were unsolvable."

Escobar, who plans to study at the Vermont Experiment in International Living's School for International Training before returning to Colombia, echoed Lara's balanced view of the United States. But he reemphasized the importance of the right kind of work. "I have seen many positive things here," he said. "A shortcoming exists in many programs, though—the failure to motivate. There are many programs for the homeless, for example. But the number of homeless people constantly grows. These programs don't have much success in motivating people to change their situation. They just make the situation more or less tolerable."

## WHICH IDEAS TRAVEL NORTH?

Both Escobar and Lara have been much in demand as speakers, given

the heightened interest in Colombia and the drug trade that has coincided with their U.S. sabbaticals.

"I've been interviewed by the press," Lara said. "I've spoken at universities. I go to the doctor. It's all the same: 'Oh, Colombia. Cocaine.' The response has become predictable. The level of knowledge here about my country is low. In one school, the

"I don't know whether I have taught anything here, but perhaps I am leaving behind some useful questions."

teacher who introduced me pointed to Chile on the map instead of Colombia."

In their talks, Lara and Escobar offer a more complex picture of their society, one that goes beyond the sensationalism of cocaine and *sicarios*, the hired killers who work for the drug lords and right-wing paramilitary groups. Lara said, "People were surprised to hear that drugs are illegal in Colombia, that our engineers work with NASA, that there are honorable Colombian judges." Many people, Lara said, thought his homeland, which has one of the world's most varied landscapes, was all jungle. "We have mountains, plains, and deserts. Rivers. And museums, micro-waves, Betamaxes."

"Before meeting Carlos," said Lynne Beresford of Seattle's Work Training Program, "we knew very little about Colombia beyond the negative headlines. One example of the country's positive side is the program Carlos represents."

Americans may be eager to learn about another country, particularly one as much in the news as Colombia. Are they as willing to question

seriously their own professional attitudes and methods when exposed to alternatives from abroad, particularly when the alternatives, as Escobar and Lara present them, challenge many established practices?

Larry Leckenby of American Cultural Exchange in Seattle went to Colombia in 1963 with the Peace Corps. He still remembers seeing the street kids roaming downtown Bogotá and sleeping on pieces of cardboard in store doorways. Last year, Leckenby helped place ex-gamín Lara with families and connect him with social service agencies in the Seattle area.

"Carlos is a riveting speaker," Leckenby said, "especially when he can sit down with people and show them a video or a book about Father Javier's program. He makes an impact. And it startles the hell out of the average gringo that we wind up learning something from an ex-street kid from Latin America. For example, we put people in trouble on schedules. In and out of an institution in 17 days, or 30 or 60. And we wonder why we have recidivism. Carlos offers another approach, a phased program that 'detoxifies' kids from street life. It takes time, and patience, and commitment, but it works."

Dr. Jim Farrow of the Division of Adolescent Medicine at the University of Washington was one of those who heard Lara speak. "His presentation was superb," Farrow said. "I invited him to speak to our staff. I knew what he had to say would mean more to a professional audience that wrestles with the problems of bringing services to homeless children. I was especially intrigued by the comprehensive nature of the program Carlos described. We don't have anything like that in this country. We don't have anything that even approaches it. And we need it."

Lara himself was unsure of the impact of his talks. "I don't know whether I have taught anything here, but perhaps I am leaving behind some useful questions."

He and Escobar represent an approach that runs against the grain of the social service professions. "The notion of a youth worker is more developed in their program than it is here," said Helen Hopps, an anthropologist who worked with Escobar on a University of Maryland survey of Hispanic youth in Washing-



Emma Rodríguez

*The gamín symphony orchestra performs at IAF headquarters in Rosslyn, Virginia. In past years, the orchestra was invited to play in Italy and Germany.*

ton, D.C. "Social workers here don't do outreach. They don't leave their offices. Leonardo wants to get out and walk around among people where they live."

Of course, both Lara and Escobar have encountered different work styles before. "I've talked to the social workers in Colombian universities who were going to graduate in a month, and they had never once stepped foot in Bogotá's south side," Lara recalled.

Particularly during the early part of their sabbatical, the language barrier

inhibited communication. Both of the Colombians have worked hard at learning English, but turned to translators when needed.

Deborah Huachuja, executive director of the Seattle Partners of the Americas office that coordinates joint programs between Washington State and Chile, interpreted when Lara spoke to area audiences. She was dubious that the example of the gamín program would spur changes in U.S. programs, but thought the twin messages of faith and hope would have their effect.

"I think in North America, we assume we do everything best. But the effectiveness of the program Carlos describes is impressive. I think the key thing is they put the responsibility on the kids to decide to change their lives, and second, they believe in the kids, no matter what they've done or experienced before. It is so much more hopeful than what you normally hear—about 'throwaway kids,' the immensity of the problem, the sense that it's all overwhelming. And here's a program whose experience confirms that trust is not misplaced. They even have an orchestra of ex-street kids that goes to Europe to play concerts. It gives you the energy to try to do something.

"But a lot of work would have to be done before those ideas would be accepted here. Our programs are top heavy with professionals. We pile up millions of pieces of paper keeping files on every kid. Maybe their program in Bogotá hit on responsibility and trust because they had no other choice. They couldn't afford a big staff."

Anthropologist Hopps wondered whether North Americans understand how much there is to learn from others. "When I asked people who worked with Leonardo what they learned from him," she said, "they were surprised by the question. It hadn't occurred to them that they could. You've got a pro like Leonardo and nobody asks him questions."

Perhaps Escobar found part of the explanation while observing several voluntary assistance projects in the United States. "Americans feel an obligation to help," he said. "I've seen volunteers arrive with their tools and rebuild a house for a poor family. They do all the work, but the people it's for aren't involved. They just watch. I think it's that Americans like results. They'll give money, time, work. But for short periods, not for the kinds of relationships that take longer. That is what our program is about." ♦

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ACCION International

*IAF experience in support of microenterprise development has concentrated not on finance—the central topic of this article—but on the provision of training and technical assistance specifically aimed at helping small producers and service providers to “graduate from the gray area.” Nonetheless, the author’s emphasis on vitalizing the informal sector and de-romanticizing microenterprise promotion that does not permit small businesses to “graduate” into viable enterprises resonates with IAF experience. In this article, Hugo Pirela Martínez challenges donors and development activists alike to analyze the limitations of being forever “micro.”*

# The Gray Area in Microenterprise Development

Hugo Pirela Martínez

**C**urrent discussions about nongovernmental organization (NGO) credit programs for the informal sector are dominated by the issue of sustainability. As donors scramble to restrict repetitive funding of such programs, they are searching eagerly for ways to help these credit programs stand on their own. During a 1989 seminar in Washington, D.C., on informal finance hosted by Ohio State University, this issue was brought up again and again in discussions between donor agencies and NGOs in Latin America. At the same time, the issue of self-sufficiency of the *microentrepreneurs* was conspicuously absent from these discussions. It might be expected that programs engaged in development would concentrate more attention on the sustainability of the microenterprises they seek to assist than on the credit programs per se.

Naturally, self-sufficiency of NGO credit programs is to be desired, but a credit program can be called successful only if the beneficiary enterprises it serves are also successful: that is, if they are helped to evolve from mere subsistence to become stable sources of income and jobs through some de-

gree of transformation in at least their productivity and assets, if not also their size and legal status.

No matter how hard it may be, it is up to the development community to prove the link between credit to microenterprises and genuine development. Support for only the "incipient stages" in the evolution of microenterprises—their formation and continuation—can be justified on grounds of economic survival but not for its long-term development merit.

## FOR OR AGAINST THE INFORMAL SECTOR?

It is rapidly becoming common wisdom that the single best way for NGO credit programs to become self-sufficient and more effective is for them to emulate the institutions of informal credit that are so pervasive and successful as financial intermediaries in the economies of low-income countries. But moneylending and other such informal financial intermediation (whose brand traits are small amount/short-term loans, high interest rates, a personalized approach to risk assessment, and so on) may be merely "maintaining" micro-businesses as just another bare sur-

vival strategy in the informal sector of these economies—a sector characterized by subsistence income, low labor productivity, and technological stagnation.

If this is the case, why would additional semiformal institutions, internationally sponsored, be needed to do a job that indigenous informal institutions are already doing so well? Clearly then, NGO credit programs ought to be measured by other standards. The appropriate question to ask is whether or not NGO credit programs emulating informal finance institutions ever help "structurally graduate" a microbusiness. Are they able to aid a microenterprise's capitalization, its growth, its productivity, the deepening of its operational reserves, the expansion of its market share, and the achievement of bank credit-worthiness? If so, how do they do it? How effective are they at the task? There are no quantitative, unambiguous answers to these questions anywhere, and the development community should be looking for them.

NGO microenterprise credit programs, despite their recognized strides toward self-sufficiency and their strong record of involvement in



IDB  
 Employees make dolls at the Industrias Cláfer "factory" in Cali, Colombia. Although the firm doubled in size from three to seven workers after receiving a loan, it still faces many obstacles before it can graduate into the formal economy.

the informal sector, are not doing much about graduating microenterprises in the sense of structural transformation outlined above. Given the current tendency of multilateral institutions to contemplate an increased role for NGOs in credit programs directed to the informal sector, it is perhaps high time for planners and policy analysts in these institutions to require from NGOs a greater emphasis on measuring the impact of their activities on the long-term evolution of informal microbusinesses.

The current lack of focus on such measurement may not always be a simple case of misplaced practical priorities. It may also reflect a perception of microenterprises that understands very well their synchronic functioning but pays little attention to their evolutionary dynamics: a tendency to view the informal sector primarily as a "stock" rather than as a "flow." This static vision of economic informality runs counter to what is known about the dynamics of the sector and is perhaps rooted in earlier discussions that tended to depict the informal sector as pretty much a fixed, endemic feature of less-developed economies.

The theory of a dual economic structure, postulating "informal mar-

kets" relatively insulated within the "modern economy" in lower-income countries, has come under increasing questioning by the evidence of so many clear links between the two sectors. Perhaps the strongest proof yet of a structural connection is the now evident fact that as the formal economies have contracted during the last decade in Latin America, the informal economy has enlarged significantly. Nevertheless, this connection appears to have worked so far only through a one-way flow: toward increasing informalization and underemployment. Periods of economic growth do not necessarily entail an identical process in the opposite direction: toward increased levels of employment and improved income distribution. Arguably, this is due to the imperfect functioning and segmentation of markets, especially labor markets, responsible for the patterns of uneven growth characteristic of these economies.

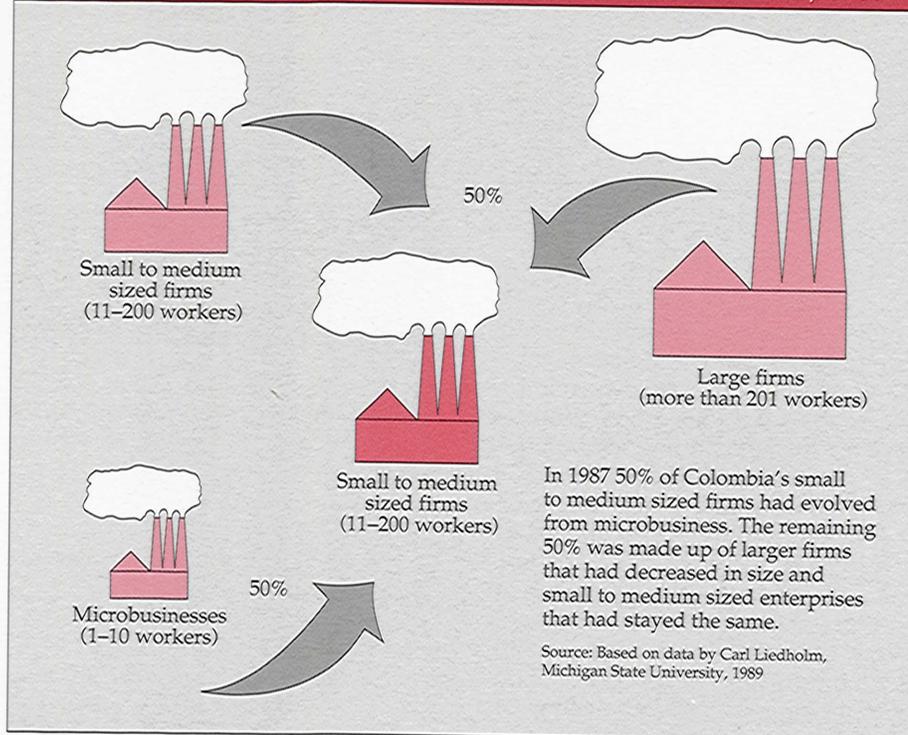
Regardless of the difficulties involved, the truth is that structural transformation can and does occur in both ways across the segmentation. Informal activities do in fact evolve into "modern" formal jobs. Field studies in several lower-income countries have shown that a sizable por-

tion of existing modern small and medium firms started once as microbusinesses. Such studies confirm the existence of a real-life "graduation process" into the modern economy.

Figure 1 indicates the particular case of Colombia, where as much as half of the modern manufacturing firms of small to medium size (11 to 200 employees) existing in 1987 had evolved from an initial stage as microbusinesses, while the other 50 percent originated as larger firms. Similar data is available for other countries in Africa and Asia. Yet this "upward transformation" process is still poorly known and studied, and legitimate questions about its significance, feasibility, and frequency linger on.

For instance, how many of the ultimately successful microenterprises began as true subsistence, low-productivity microbusinesses of the kind so familiar on the streets of Third World cities and towns? And then, how well do the low-income microenterprises that graduate fare in comparison with those that remain stagnant forever? Or languish in a constant oscillation between "dormant" and "active" periods? Or rotate endlessly between branches of activities, different domiciles? Or out-

Figure 1  
Origin of Modern Firms (11–200 workers) in Colombia, 1987



right perish? Additionally, the ability to structurally transform, or graduate, appears the clearest in "manufacturing microenterprises," just a fraction in the immense pool of economic informality. What does this imply about the chance a microbusiness may have of graduating?

For good reasons, therefore, the informal sector has come to be viewed pretty much as a permanent structural feature of Third World economies: growing during economic contractions but relatively inelastic, with individual businesses that are seemingly impermeable to expansion and modernization.

Unfortunately, all too often in the development community this interpretation gets translated in practice as a rationale for merely "handling" the sector and not addressing the underlying segmentation and structural heterogeneity that causes its existence and permanence in the first place. Many programs tend to act—perhaps unwittingly—as if the expression "support for the informal sector" had nothing to do with helping informal microbusinesses to escape from their informality, but instead actually meant helping to maintain and reproduce informality—to multiply the informal sector horizontally.

This interpretation of informal sector support may be found in various degrees of explicitness across the spectrum of the development community, from the very implicit, through the barely disguised, up to the very explicit "positive action" programs.

### THE CASE FOR A SURVIVAL STRATEGY

There may be a case for supporting the informal sector, in the sense of maintaining or multiplying it "horizontally," as a last-ditch survival strategy in the midst of chronic economic stagnation. However, proliferation of economic informality hardly needs positive-action encouragement if a stagnant or contracting formal economy is already stimulating its spontaneous spread. Some Latin American governments seem to be allowing just that in the current crisis—though never officially—by turning a blind eye to otherwise strictly enforced regulations against informal activities.

Aside from the "subsistence" rationale, the argument for multiplying or maintaining the informal sector is based on the conviction that informal microenterprises provide a way

to participate in the economy for a large portion of the economically active population that would otherwise be unemployed or underemployed. Supporters of this line of argument contend that microenterprises can have a positive effect on the development of an economy because an increase in the number of micro-producers and service enterprises will contribute to growth as measured by gross domestic product.

The main assumption behind this argument is that the majority of people working in microenterprises of the informal sector are not underemployed. But this claim is not supported by available evidence from field studies, which clearly associate both "visible" and "invisible" underemployment with informal jobs. The concept of visible underemployment—people who work less than 40 hours per week and wish to work more—in itself appropriately reflects the irregular, unsteady, and frequently seasonal pattern of operation characteristic of so many informal microbusinesses. The concept of invisible underemployment—those who work 40 hours per week or more yet earn less than the minimum wage—provides an even stronger disclaimer to the "full employment" theory of informal microenterprises.

The informal sector in Guatemala is a case in point. A study sampling 800 microbusinesses in the capital city estimated that the average monthly income for owners of microenterprises was about 240.43 quetzals (about US\$96) in 1987. Owners are, arguably, the "best paid" people in a microenterprise, and yet their income was still below the minimum legal wage of 255 quetzals (US\$102) for other urban workers in Guatemala the same year.

Figures on monthly sales provided by the same study and depicted in Figure 2 show that more than 86 percent of the microbusinesses surveyed grossed 400 quetzals (US\$160) or less

a month. In enterprises averaging more than two employees per unit this level of revenue means that per capita monthly incomes are well below the legal minimum. This study confirms what we know about economic informality everywhere: As a general rule it means underemployment.

Accordingly, from a development-policy point of view, support for the informal sector should mean exactly the opposite of helping to maintain and multiply it. At the micropolicy level it should mean stimulating the kind of structural transformation mentioned above that would enable microbusinesses to move vertically up the income scale and out of the sector. At the macropolicy level it should mean ultimately to seek the reduction of the sector to its minimum structural size by addressing the causes of market segmentation that lie at the root of the sector's existence.

The informal sector may appear at first glance to be more or less a "fixed" feature of less-developed economies, but a closer look at its inner dynamics reveals it as a highly unstable "transit zone" in which jobs rotate rapidly and firms stagnate or flourish, become consolidated or perish. Figure 3 presents some of the available, albeit sparse, data on this two-way process.

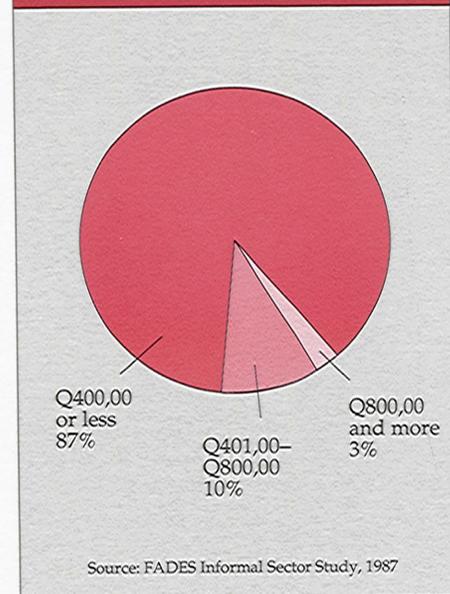
Part A of the figure shows data on the "upward" structural transformation of microbusinesses as observed in several countries of Africa and Asia, similar to the one presented above for the case of Colombia. Here, once again, we observe that a significant portion (between 20 percent and 65 percent) of the modern, small to medium-sized enterprises included in the surveys originated as microbusinesses. Part B presents data on the other, "downward" side of the picture: microenterprise mortality. The disappearance of microenterprises is a much less studied phenomenon, although arguably a prime

cause of the instability of informal employment.

The two sets of data in the figure must be compared cautiously. For example, the modern enterprises graduating from a "micro-origin" in Nigeria did so over an unknown number of years until the total number reached the cumulative proportion of 43.7 percent in 1965, while the 10.4 percent mortality rate in manufacturing microenterprises in the same country represents the average portion of businesses with fewer than 10 workers that disappeared each and every year between 1974 and 1980. Also, the cross-sectional nature of the mortality figures may be covering up a much more important source of instability of informal employment, one that is only measurable through longitudinal studies, namely, high job turnover and the intermittent disappearance of informal enterprises and activities caused by the seasonality of markets.

Data coming from a census conducted between 1980 and 1987 by the ACCION International program Asesoría Dinámica a Microempresas (ADMIC) in Monterrey, Mexico, presents at least indirect evidence of this instability. ADMIC learned that 86.6 percent of all microfirms contacted during the years of the census had been created within one year before the survey (see Figure 4). A field check on the data conducted later revealed that as many as half of the previously contacted microbusinesses had already disappeared from their registered domiciles, suggesting that the high proportion of "newly started" microfirms in the census may be reflecting not only a generally growing informal sector, but also the kind of rapid rotation by which a self-employed person suddenly disappears from the market of a particular activity and place, only to reappear shortly after in some other activity or place as part of the general survival strategy of informality.

Figure 2  
Monthly Sales  
of Microbusinesses,  
Guatemala, 1987

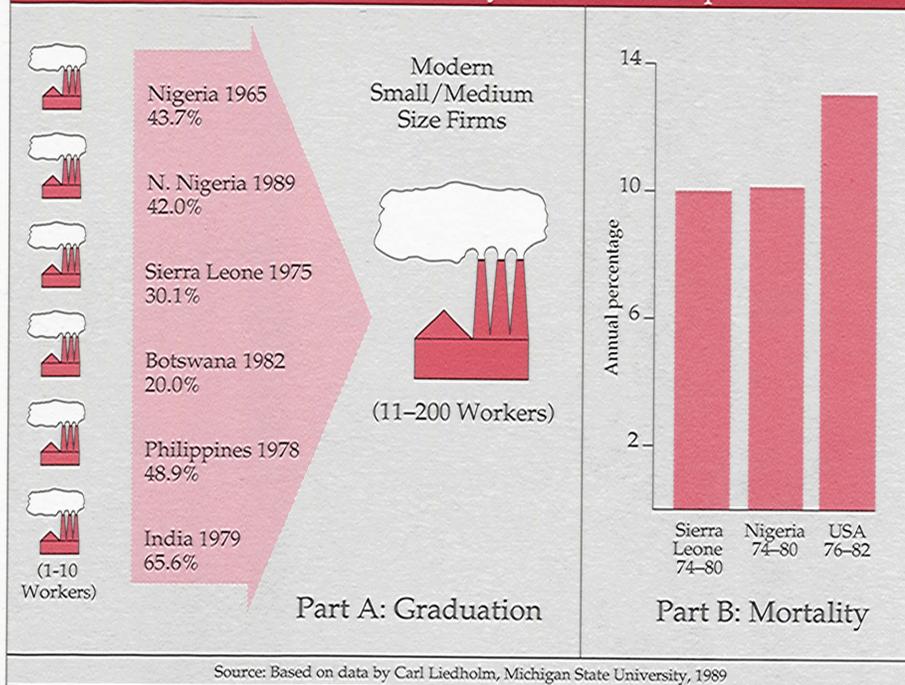


## THE DYNAMICS OF MICROENTERPRISES

The facts discussed so far suggest that the ever-changing face of the informal sector has a lot to do with the vagaries of microbusinesses, and that we need to study and understand these dynamics better, especially the process an enterprise must go through in order to become a modern, consolidated business. This process is empirically possible, but it is also true that enterprise transformation is only one possible result of a very fluid, nonlinear, haphazard process in the informal sector, in which businesses are in no way assured of success. To improve the odds, NGOs involved in microenterprise-support projects must learn how to stimulate the transformation of microbusinesses under controlled conditions.

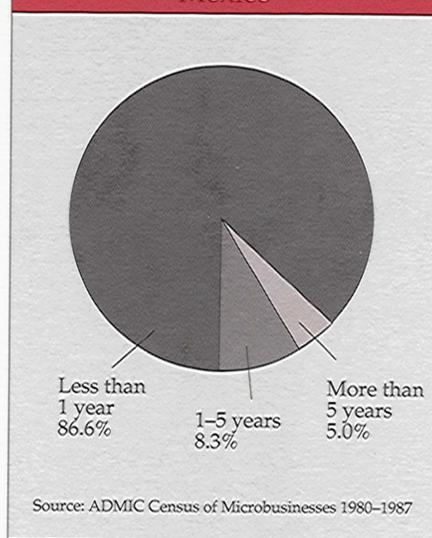
A first step toward helping microenterprises succeed is to draw a more precise picture of just what is under-

Figure 3  
Graduation and Mortality of Microenterprises



the formal sector should not be understood exclusively or primarily in the legal sense. In fact, frequently the costs and fiscal implications of a legal status may undercut the very economic viability of a microbusiness, let alone its graduation into the modern economy. On the other hand, legal incorporation may appear as a requirement associated with access to a particular loan from a formal financial institution. In such a case, legalization is obviously not the cause but the consequence of a more fundamental characteristic of enterprise transformation: the achievement of credit-worthiness for the banking system. Achieving credit-worthiness is, in turn, a reflection of the kind of long-term profitability normally associated with consolidation of a business's market share and sales level, and this should be interpreted as a true sign of graduation.

Figure 4  
Age of Microbusinesses Surveyed, Monterrey, Mexico



stood by enterprise "graduation," "formalization," "modernization," or "transformation."

In the data presented so far, the issue of transformation has been discussed only in relation to the size of the enterprise (number of employees). Increased size is perhaps the single most visible feature of an evolving enterprise, but certainly it is not a sufficient, or even a necessary, condition

for modernization or graduation into the formal economy.

A microenterprise may be transformed and graduate into the modern economy without experiencing any increase in size. Certain kinds of activities actually require intrinsically small optimal operational sizes, due to such constraining factors as fixed market ranges and efficient transportation costs. Still, for most microenterprises, structural transformation should entail some degree of growth in size. Frequently an increase in size is a reflection of growth in more fundamental but less visible aspects of the enterprise, such as sales and market share. Temporary enlargements are also a normal occurrence in informal businesses, as they respond to short-term or seasonal increases in sales, only to shrink back to normal size after the peak, or even slump into "dormant states" with rock-bottom capacity utilization. To be considered legitimately associated with microenterprise transformation, increases in sales and market share must be permanent and high enough to insure a constant stream of above-subsistence income.

Another feature that frequently comes up in discussions about enterprise graduation is legal incorporation. However, transformation into

From a practical point of view, three key questions arise: How do microbusinesses go about increasing their level of sales permanently? How do they conquer larger markets? How do they translate increased revenues and market share into higher profits and incomes? There may not be enough empirical knowledge to answer these questions in detail, but theory predicts with virtual certainty what the general process would entail. In order to achieve all of the above permanently, informal microbusinesses should increase their labor productivity. In all probability this would necessitate some degree of capitalization and improvement in know-how, especially in those cases in which consolidation does not entail generation of new employment.

To sum up, transformation is a process by which a microenterprise achieves a level of labor productivity and assets similar to other small firms in that field, supporting comparable levels of sales and credit-worthiness, and therefore consolidating incomes and employment for those involved

at a stable level above subsistence. Accompanying characteristics of the process, though not sufficient or necessary, are an increase in size and legal incorporation.

## THE PROCESS OF MATURATION

In general, the maturation process of an enterprise takes place in stages. Informality may be viewed merely as a stage in the evolutionary process of a microbusiness—that of incubation and infancy—while transformation corresponds to the last stage of the process, the maturity of the enterprise.

Considering this streamlined progression, as depicted in Figure 5, the point at which the incubation ends and the industrial infancy begins for most production enterprises can be defined unambiguously as the moment when the first investment occurs and the first long-term risk decision is made. However, the point at which it can be said that an enterprise has been consolidated and has entered its maturity is far more ambiguous. Indeed, nothing rules out the possibility that a firm will go under even long after it has consolidated. Nonetheless, it is useful to locate intuitively the consolidation of an enterprise around the point when the level of revenue allows it to break even with a certain safety margin, when a firm share of the market has been certifiably conquered, and when its internal cost and margin structure have been controlled and stabilized. Figure 5 portrays the consolidation stage as a gray area or "zone" instead of a rigidly predefined line.

Typically, for informal production microbusinesses to transform, or become mature enterprises, their productivity should increase and additional investment decisions involving long-term risks must be made at some point in this gray area. Chief factors of structural segmentation in the econ-



Stephen Vetter

Clockwise from above: Microenterprises such as these in the Dominican Republic, Mexico, and Haiti proliferated in Latin America and the Caribbean during the past decade as the formal economy contracted.

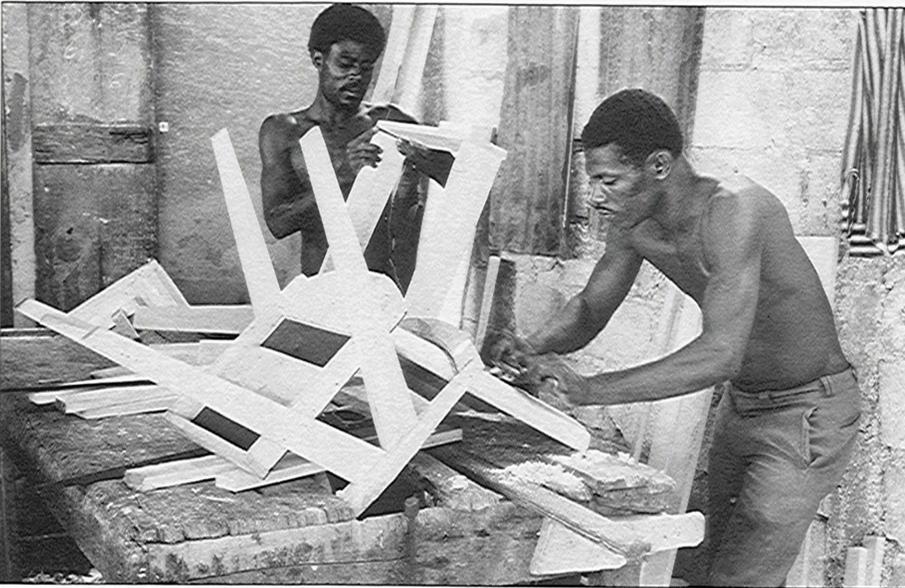
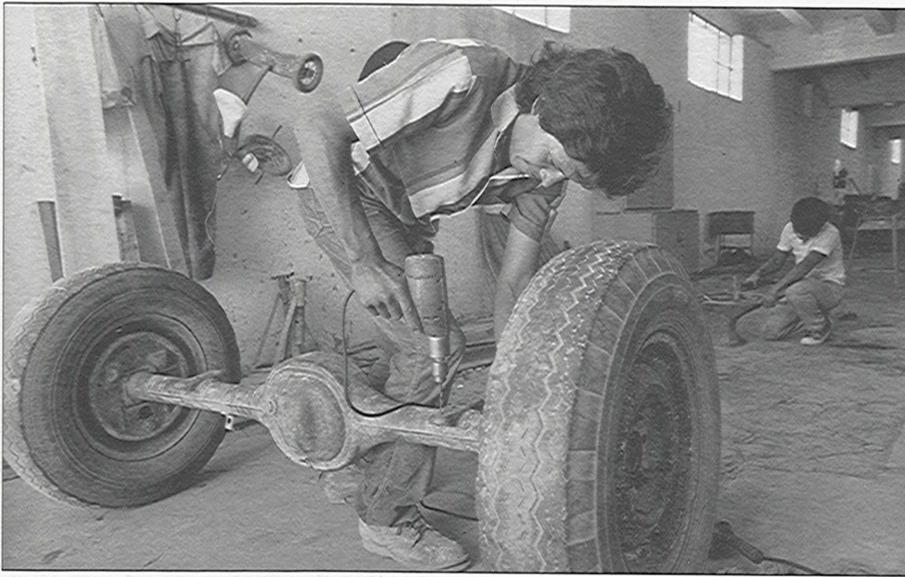
omy affect precisely this gray area, hindering the transformation of informal microbusinesses.

## IS EMULATING THE INFORMAL FINANCE SECTOR ENOUGH?

At the beginning of this article, the following basic question was posed: How effective are NGO credit programs operating from a platform of "financial informalization" in the critical stage of enterprise transformation or consolidation?

Available evidence shows that in-

formal sources of finance do help enterprises through incubation (start-up) and aid their survival during infancy. However, the role played in the process by informal sources appears to be much more limited and ambiguous than has been alleged, especially in what concerns aiding the growth of microbusinesses and financing long-term, fixed-asset investments. According to Michigan State University economics professor Carl Liedholm, one of the participants in the seminar mentioned earlier, the initial investment almost always comes from personal or family sav-



ings and not from an external source. Only when the enterprise has already been launched do informal sources of credit typically come into play and then only to provide short-term working capital needed to fill the gap of "excess capacity" already installed—a prevalent feature in this stage of enterprise development. Informal credit almost never appears as a source of fixed-asset financing for additional capitalization or increased productivity.

After discussing the available data on the subject, Liedholm's conference paper (cited at the end of this article) sums up this dynamic progression:

*The following picture of the financial evolution of the typical microenterprise*

*begins to emerge from these findings on the demand for and supply of finance. At its inception, the microenterprise's primary financial need is for fixed capital, which is almost entirely obtained from internal family sources, mainly personal savings. Once operations begin, the working capital needs typically predominate, and most of this is financed from the firm's internal cash-flow. As the firm ages and its reputation grows, external sources of informal finance begin to emerge. Credit from customers is frequently the first source to appear, followed by credit from various suppliers, professional moneylenders and others. These are primarily short-run sources of funds that are used to meet the working capital needs of the microenterprises. If the microenterprise*

*grows larger and transforms itself into a modern small or medium enterprise, however, its needs for both fixed and working capital greatly expand. At [that] point, the firm may now begin to have increased access to the formal financial market.*

Credit programs incorporating traits of informal financing seem to work well with informal micro-businesses because they suit the needs of the early stages in their evolution, which emphasize short-term rotation of working capital, or because they target businesses that only require this kind of resource, such as street vendors. The role of informal financial sources in the more advanced stages of microbusinesses goes largely unsubstantiated. Certainly, in most cases when it comes to the larger loans and the longer repayment schedules needed for investment in additional capitalization and increased productivity, the capacity of microbusinesses to pay the interest rates of moneylenders may simply not be there. In addition, arrangements that may remedy the problem of low capacity to repay short-term loans, such as capitalization of interest charges or rollover of debt for longer periods of time, so common in the formal banking system, are also not offered by informal lenders to suit the needs of microbusinesses.

Informal lenders may be better at dealing with the financial risk in informal activities than the formal banking system, but, when it comes to the long-term risk involved in capitalization and increased productivity of microbusinesses, neither informal nor formal credit sources are there to bear it. Suppliers of machinery are a conspicuous exception to this rule, as they may and do provide equipment on credit. Since the machinery itself serves as collateral, minimizing the need for paperwork, they are able to charge lower interest rates than moneylenders. In any case, the signifi-

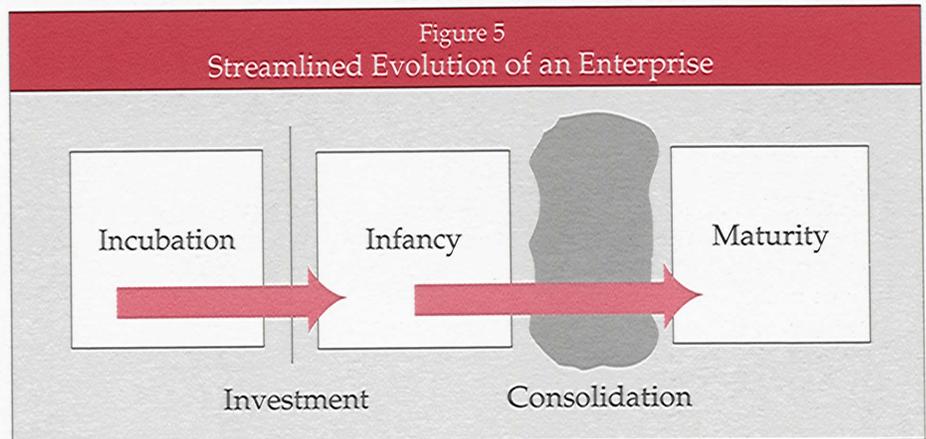
cance of credit from machinery suppliers in the informal sector is probably limited, especially if compared to credit from raw-material suppliers, which obviously addresses only the working capital needs of a microbusiness.

The role of informal financing sources in the graduation of microenterprises is, according to the present state of knowledge, either minimal or completely absent. In its report on world development for 1989, the World Bank notes: "Except in housing finance, informal arrangements generally do not provide term finance. These shortcomings may inhibit the longer-term planning and investment that are necessary if productivity is to rise."

### UNCLAIMED TERRITORY FOR CREDIT PROGRAMS

Informal finance arrangements seem to suffice as a resource for survival in the informal sector, but they do not appear to offer much when it comes to the structural transformation of enterprises. They do not address properly the needs of the "gray area," those trying times when microbusinesses are about to make the "quantum jump" into the modern economy which we call "graduation." Likewise, NGO credit programs that emulate the mechanisms of informal finance may achieve self-sufficiency because they charge high interest rates on small, rapidly rotating loans, but it does not necessarily follow that they are actually helping microentrepreneurs to succeed.

Microentrepreneurs cannot look to the formal finance system for help either. For instance, the ADMIC program in Mexico has found that between 30 and 40 percent of the microbusinesses using its credit program graduate within five years, in the sense that their operations expand far enough for their financial needs to surpass the maximum loan that the



program may grant them. Hence they may technically be ready to enter the formal financial market, but the majority cannot do so because their financial needs have not yet reached the minimum value of individual loans accepted as worthy of processing by formal financial institutions. In a sense, their success has made them too steep a risk for both the informal and the formal finance sectors. They are lost in the gray area, a true structural gap in which thriving businesses stagnate, their potential for generating further income and employment curtailed.

The gray area is unclaimed territory for credit programs. Seizing this unclaimed territory requires grappling with issues such as long-term interest rates, risk assessment and management, loan ceilings, and collateral, among others.

Failure to address the issues in the gray area by both financial sectors only contributes to maintaining the kind of segmentation between labor markets and productive strata that International Labour Organization studies found two decades ago as a chief cause of informality in Third World economies.

Addressing gray area issues is perhaps the single most important challenge credit programs should confront in the future. Planners and policymakers in both NGOs and gov-

ernments should place these issues at the top of their agendas. ◇

*HUGO PIRELA MARTINEZ is an operations officer for the Division of Microenterprises at the Inter-American Development Bank (IDB). Formerly, Pirela has held positions as university professor and lecturer, and as a specialist in development economics for a wide range of organizations including TECHNOSERVE, the U.N. Development Programme, and Catholic Relief Services. The previous article expresses Pirela Martínez's personal views and not the official policy of the IDB.*

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## Eastern Europe and the Third World: A Challenge for NGOs

Rubem César Fernandes

The historical changes sweeping Eastern Europe provide both an opportunity and a challenge for Northern nongovernmental organizations (NGOs) that have been active in the Third World. There is clearly an opportunity for West to assist East in the struggle for democracy. The challenge lies in the fact that the reverberations generated by events in Eastern Europe will travel along a North-South as well as an East-West axis. NGOs must frame a response to these complementary developments.

Eastern Europe presents an opportunity because the circumstances there are conducive to the kind of work done by NGOs: action that represents concrete solutions through the reconstruction of civil society rather than sociological redemption through the state. The modern nation was built in and through the state in Western Europe. However, there is a long tradition in Eastern Europe of national identity founded not on the state but on social groupings such as the family, the intelligentsia, the exiles, local networks, and religion. Nations were constituted at the margins of and against an imperial and foreign state. Thus, the current circumstances are perceived as offering a chance for national reconstruction on the nongovernmental level.

Poland provides an example. Solidarity grew as a vast social movement and came to power through an electoral process without the benefit of any party structure. One of the factors in its success was the establishment of strong ties between the intellectuals and the workers. While the Solidarity experience may be

unique, civil associations have popped up elsewhere in Eastern Europe like mushrooms after a rain. NGOs can help nudge reform governments away from the utopias of the past toward pragmatic approaches to the difficult problems they all face.

Moreover, NGOs can reinforce the most enlightened and generous tendencies of the reformers. For example, they can show that it is possible to practice economic "privatization" and still maintain a social or "not-for-profit" vision. Also, in Poland and elsewhere, NGOs could open alternative spaces around the Church, which tends toward a clericalism resented by many lay people. NGOs have played this role in Latin America.

The collapse of "socialist" regimes in Eastern Europe has had a direct

to whom justice is important, NGOs in the South must take an interest in what is happening in the East.

However events play out in Eastern Europe, there will be profound implications for the South. Several scenarios are possible, and the first two range from pessimistic to sinister. First, to look at the situation pessimistically, if *perestroika* continues to develop gradually, this may reinforce a Eurocentric tendency. The West will become preoccupied with the periphery of Europe, to the detriment of the South. Conversely, should *perestroika* begin to disintegrate into coups, civil wars, and invasions, the implications for democratic ideals in both East and South could not be more negative.

To view the matter more optimistically, *perestroika* may highlight the global nature of present problems. If the Cold War is ending, it makes little sense to talk about "Second World" and "Third World." These two "worlds" are actually much the same. Western Europeans are mistaken if they see the transformation of the East simply as a victory for

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### NGOs can reinforce the most enlightened and generous tendencies of the reform governments.

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impact in Latin America. For 20 years, popular literature has criticized "capitalism" and supported "socialism." The latter is now being denigrated by workers and intellectuals in socialist countries, sending a message that parties of the left in Latin America are having trouble digesting. NGOs can help in translating the message because they stand with the poor and oppressed without being directly identified with the socialist regimes. This is a task that the NGOs cannot avoid. In order to defend their commitments and renew the ideological horizon of those

their way of life. The "East," even Eastern Europe, is more like the South than the West, sharing its debt, inflation, weak currencies, parallel markets, technological backwardness, rurality, and lack of experience with representative democracy. In a more positive vein, East and South also share the strength of multiple ethnic and national traditions, a different relationship between religious and secular domains, a belief in egalitarian values, cultural heterogeneity, and a very complex historical memory that does not fit the evolutionary

# Development Notes

models of "modernization."

This is the challenge for NGOs as far as including Eastern Europe in their field of action is concerned. If they opt for "business as usual," the sinister scenario is more likely to become a reality. Simply developing an "opening to the East" could bring a decline in generosity to the former Third World. Therefore, they must make a double effort. They must, on the one hand, develop a new network of contacts and support, methodologies, styles, and priorities in the East. At the same time, they must initiate a dialogue between their partners in the South and their new partners in the East.

The challenge is serious indeed. The collapse of the Cold War framework exposes international cooperation to a whole set of new questions. New words and new connections must be found to keep international solidarity alive. North American foundations might play an important role in this process, for they are less directly involved with the Eastern European upheaval. To do so, however, they need to resist the "triumphalist" tendencies that assault Western opinion and genuinely seek the new terms of partnership for a planetary democratic vision. ♦

*RUBEM CESAR FERNANDES, representing the Instituto de Estudos da Religião from Brazil, recently traveled to Poland as part of an exchange group including representatives of Znak, an independent lay association of Catholic intellectuals from Kraków, and the Comité Catholique Contre la Faim et pour le Développement from Paris.*

Opinions expressed in this column are not necessarily those of the Inter-American Foundation. The editors of *Grassroots Development* invite contributions from readers.

## MYLES HORTON MEMORIAL

The words to "We Shall Overcome" were written there. Rosa Parks, whose refusal to give up her seat on a Birmingham bus ignited the U.S. civil rights movement, studied there. Paulo Freire, who developed the popular education movement in Latin America, did a "talking book" there. And May 5-6, 1990, hundreds of people whose lives it had touched gathered there at the Highlander Research and Education Center, on farmland in the foothills of Tennessee's Great Smoky Mountains, to celebrate the life of Myles Horton, Highlander's founder and guiding spirit for over half a century.

Horton, who died of cancer January 19, 1990, opened the Highlander Folk School in 1932 to serve the poor people of Appalachia. Since then, Highlander has been at the center of grassroots organizing and social change in the southern mountains and beyond.

During its first two decades, Highlander was mainly a training school for the labor movement as the Congress of Industrial Organizations (CIO) organized miners and other workers. In the 1950s, Highlander shifted its focus to racial equality. Its workshops and facilities had always been run inter-racially, which defied state law, and as the civil rights movement spread through the South, official pressure increased. In 1959, Tennessee police arrested several staff members, and in 1961, the school's charter was revoked and its building closed down and later sold at auction.

Horton's response was that you can padlock a school but not an idea. Soon, he had Highlander operating under a new charter in its present location just east of Knoxville. As segregation crumbled in the South, Highlander's focus shifted again, this time to issues of occupa-



Rosa Parks at a recent memorial for Highlander founder Myles Horton.

tional health and safety, to the loss of factories and jobs in Appalachia, to toxins in the environment, and to the linkage of grassroots groups in the United States with similar groups around the world.

The May weekend brought together veterans of all these struggles for two days of workshops on how to build on Myles Horton's legacy in the future, particularly the international networking that drew much of his attention in recent years. There was also music, punctuated by remembrances of Horton and at the end, Rosa Parks sitting on a stage for a "press conference" with a score of children and patiently answering their questions about how it felt, on that Birmingham bus, to decide that she would not be moved.

—Patrick Breslin

## HELPING THE POOR TO SAVE THE PLANET

Can poor people manage their own natural resources in ways that foster sustainable development? In May 1990, the United Nations Research

Institute for Social Development (UNRISD) convened a three-day workshop in Geneva, Switzerland, to explore this urgent question. Researchers, technicians, and representatives of grassroots organizations and donor agencies from 18 countries of Africa, Asia, North and South America, and Europe presented papers, searching for common conceptual threads among a diversity of case histories.

African, Asian, and Latin American participants emphasized how environmental issues are skewed by the different perspectives of the First and Third Worlds. "Shouldn't we have a say on what Europeans do to the Ruhr Valley, on ongoing emissions of acid rain and carbon dioxide, on the disappearance of prairie grasses in the U.S. Midwest, if you want a say on the fate of the Amazonian rainforest?" asked Antonio Carlos Diegues of the University of São Paulo. Arguing cogently that blame for the worldwide ecological crisis should not be laid at the doorsteps of the poor, Third World participants challenged the complacency with which environmentalists from the industrialized North presumed to set the agenda for the people of the South. Preserving the environment, they suggested, required every nation to begin setting its house in order.

A paper discussing the IAF's experience with grassroots organizations examined how energizing civil society, in ways that involve rather than exclude the poor, could be a vital complement to action by the public sector. Three propositions were offered. First, the evolution of redemocratization in Brazil and Chile and elsewhere suggests that much of the social energy formerly invested in human rights is being rechanneled into environmental concerns. Second, nongovernmental organizations (NGOs) and the low-income membership groups they as-

sist have begun to develop innovative projects that offer promise for reforming public policy and for scaling-up into new programs. Agroecological experimentation and dissemination of sustainable methodologies, for instance, appear to move more effectively through NGO networks linking research institutes and community organizers than through state agricultural research and extension agencies. Finally, international environmental groups have impact within Latin America and the Caribbean to the degree that they work alongside local organizations. Making the voice of poor communities heard in the planning of large-scale infrastructure projects, such as hydroelectric dams, can help

to conserve tomorrow's resources unless their children can be fed today. Jayanta Bandyopadhyay of Nepal and Shimwaayi Muntemba of Kenya discussed how this dilemma is being resolved in some Himalayan mountain communities and among African dry-land farmers respectively. Hector Luis Morales, an IAF consultant from the Centro de Educación e Investigación de la Pesca Artesanal de Chile, touted a promising but tenuous "Blue Revolution" for the very poor, explaining how "fish farming has replaced fish hunting" while admitting that pollution could erase the gains of the artisanal fisherfolk in a flash.

During the final session of the workshop, participants concentrated



Jessica Vivian

The IAF's Charles Reilly (second from left) at a UNRISD conference in Geneva.

minimize environmental damage. Involving poor communities in a symbiotic management of national parks and biosphere reserves may be the best way of insuring their future existence.

The shared commitment of workshop participants to the importance of actively involving the poor transcended geographic and cultural differences. Diegues emphasized that poor populations cannot be expected

on setting an agenda for collaborative research. They discussed various innovative ways that poor people have devised to tackle their environmental problems and targeted the most successful of them for an in-depth study. In addition, it was decided to solicit and circulate studies that have already been completed by multilateral agencies and others. UNRISD hopes to sponsor a publication series emanating from both

sets of studies during 1990 and 1991, culminating with a major effort to disseminate the findings at the World Conference on Environment in Rio de Janeiro in 1992.

—Charles Reilly

## GETTING THE WORD OUT ON SUSTAINABLE AGRICULTURE

Joining hands across the Pacific Ocean, the Movimiento Guatemalteco de Reconstrucción Rural (MGRR) and the International Institute of Rural Reconstruction (IIRR), based in the Philippines, are reaching out to share practical knowledge of how small farmers can raise yields, diversify crops, and improve nutrition levels without endangering the environment. The first of several workshops that the two groups sponsored was held in Jalapa, Guatemala, in June 1989. The two-week session attracted 39 leaders and field workers from 18 non-governmental organizations (NGOs) and public agencies in Guatemala, Nicaragua, Honduras, and Ecuador. A follow-up workshop in March 1990 attracted 29 participants from 15 Central American organizations. During the same month, a five-day training program that emphasized urban food production and energy conservation was held in El Castillo, Mexico, in collaboration with PRAXIS, a Mexican NGO.

A key element of this program in "regenerative agriculture" is the biointensive garden, or "the poor man's refrigerator." A 400-square-foot plot, intercropped with 30 varieties of leafy vegetables, legumes, fruits, and root crops, yields enough daily produce to provide a typical campesino family with 60 percent of its requirements for vitamin A, 30 percent for protein, and 100 percent for vitamin C and iron. The densely planted mosaic of hardy indigenous species helps inhibit weeds and pro-



Anthony Rodale

*A workshop participant in El Castillo, Mexico, practices biointensive gardening.*

vides protection against droughts and insects. Further protection is offered by interplanting natural insect repellents such as garlic and marigolds. Although the initial preparation of the bed is labor intensive, the garden is designed to be self-sustaining and inexpensive to maintain since organic materials are substituted for chemical fertilizers and pesticides.

The MGRR has established demonstration plots in different parts of Guatemala to test regenerative agricultural strategies and adapt them to specific microecologies. In the denuded hillsides of the Sierra Madre in Jalapa State, terraced farms are intercropped with rows of basic grains and hedgerows of coffee and peach trees to prevent soil erosion. In the tropical rainforests of Livingston municipality on the Atlantic Coast, Kekchí Indians, descendants of the Mayas, are starting biointensive gardens to supplement their low-nutrition diet of tortillas, chilies, and salt. They have begun to plant hedgerows of legumes, such as cowpeas, and multipurpose trees, such as calliandra and leucaena, in their

hillside fields of maize. This strategy, which enriches the soil with nitrogen and provides fuelwood, green manure, and animal fodder, is a readily available and affordable alternative to the slash and burn agriculture threatening to devastate the area.

Recognizing that local conditions will vary widely in the complex macrocosm of Central America, MGRR/IIRR have incorporated these technologies and others into Spanish language training kits for their workshops. Basic, single-concept leaflets describe a variety of strategies for regenerative agriculture and allow field workers and small-plot farmers to select those methods most likely to pay off in each community.

The adaptive field research and training program of the two organizations is supported by the IAF, the U.S. Agency for International Development, the Inter-American Development Bank, the Jessie Smith Noyes Foundation, and the General Service Foundation.

For more information about regenerative agriculture training kits

and training programs in Latin America, contact: the International Institute of Rural Reconstruction, Silang, Cavite 4118, Philippines, or the Movimiento Guatemalteco de Reconstrucción Rural, Apartado Postal 1697, Guatemala City, Guatemala.

—Eric Blitz

## LOCAL HEROES CAN IGNITE GLOBAL CHANGE

*Local Heroes, Global Change*, a four-part series aired on U.S. public television, looks at the challenges of development through the eyes of people organizing themselves to overcome poverty. Filmed in the Caribbean, South America, southern Africa, and south Asia, the series examines how the gulf between the industrialized North and the developing South can be narrowed.

First broadcast in May 1990, each hour-long program strives to broaden public understanding of how development works, the knowledge and skill that Third World people bring to it, and the economic connections between developing and industrialized countries. Part one, "With Our Own Eyes," shows how well-traveled paths to modernization in the North often fall short in the South, suggesting that development takes off only when local people adapt the process to their particular experience, ecology, and culture. For example, Hasina Begum, a woman who works for the Grameen Bank in Bangladesh, which pioneered group loans to small farmers and microentrepreneurs, explains how new institutions can be forged to reach the poorest of the poor.

Part two, "Against the Odds," explores the inner contradictions of two approaches to top-down development. From the halls of the U.S. Congress where the drafters of the Foreign Assistance Act are hard at



Mitchell Denburg

A workshop at CIMCA, the Bolivian NGO featured in a recent TV series.

work trying to pass an \$18 billion package for more than 100 countries in the developing world, the program travels to the streets of Kingston, Jamaica, where Free Trade Zones provide foreign investors with tax breaks to increase the industrial base of the country but generate barely a ripple among the pool of unemployed and underemployed workers.

Part three, "Power to Change," examines how successful development requires the freeing of resources and initiative at the grassroots. One example is the Capacitación Integral de la Mujer Campesina (CIMCA), an IAF grantee in Bolivia. In this segment, viewers see Constantina Galarza de Victoria in action during a CIMCA workshop for indigenous women. CIMCA brings such workshops to village members throughout the altiplano region, offering courses in nutrition, women's awareness, natural medicine, leadership in grassroots organizations, horticulture, and Andean cultural values. Participants re-

turn home with new-found skills, inspired to teach their children, husbands, and neighbors what they have learned.

What role should the United States play in international trade negotiations? How do the policies of industrialized countries affect developing countries? These questions are posed in the fourth and final episode, "The Global Connection." Discussions with Colorado farmers reveal their reluctance to accept free trade in agriculture for the U.S. market. Until farm policy and agricultural trade are incorporated into the General Agreement on Tariffs and Trade, farmers in developing countries will have difficulty competing with the heavily subsidized farmers in developed countries.

Kevin Healy, IAF field representative for Bolivia and Ecuador, worked with *Local Heroes, Global Change* as a technical advisor on the CIMCA segment. Healy says that Richard Harley of the *Christian Science Monitor* had "the original idea for the film and the perseverance to make it happen." This program clicked, according to Healy, because filmmaker Michael Camarini has a "well-developed method in ethnographic film writing for letting poor people tell their own stories." The result is vivid images of the developing world too rarely seen—portraits of creativity, heroism, and the excitement of change.

According to Elise Storck, national education coordinator for *Local Heroes, Global Change*, the series will be an ongoing resource, one that "helps the American public understand how development works and the role U.S. policymaking plays." It is hoped that secondary and college teachers will use the series in their classrooms. Interested parties may contact Storck at 1802 Lawrence Street, N.E., Washington, D.C. 20018.

—Maria Lang ◊

# Reviews

**STREET CHILDREN OF CALI**, by Lewis Apteкар. Durham, North Carolina: Duke University Press, 1988.

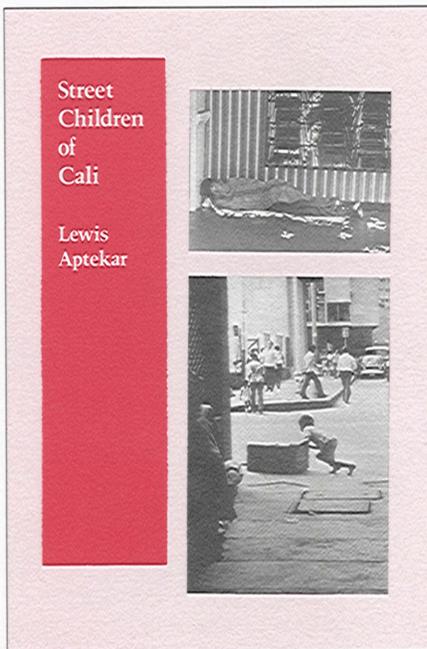
**LA LUCHA CONTRA EL TRABAJO INFANTIL**, edited by Assefa Bequale and Jo Boyden. Geneva: International Labour Organization, 1990.

Mark W. Lusk

No resident of urban Latin America is unaware of the growing phenomenon of street children. Although long a part of the city landscapes of the region, street boys and girls are attracting increased attention. UNICEF has estimated that there are as many as 40 million such children worldwide and that 25 million of them work or live on the streets of Latin America.

Most of the writing on the phenomenon to date has been journalistic or anecdotal. Too often, observers have failed to define their terms or look at the issue scientifically. Newspapers have highlighted individual programs (such as Fundación Servicio Juvenil in Bogotá, see pg. 24 of this issue) or dramatized the life of an individual child. While this has helped raise public awareness, little has been published on the social, economic, and psychological dynamics that account for street children and their lifestyles. Without a social science literature on the topic, social policy regarding street children has been fragmented and often based on false assumptions. Lewis Apteкар, a professor at San Jose State University in California, has done much to reverse the trend in his recent volume.

Apteкар's research builds on the foundation laid by two Colombian scholars—G.M. Téllez in *Gamines* (1976) and V.G. Pineda in *El Gamín* (1978)—as well as J.K. Felsman's dissertation, *Street Urchins of Cali*. In



dispelling the misperception that street children in Colombia could be best understood in terms of delinquency and social control, these authors noted that *gamins* were largely the product of deeply impoverished and sometimes violent families and that, despite their harsh conditions of life, these children displayed considerable resilience, adaptability, and entrepreneurship. Although Apteкар takes primarily a psychological approach to his research, he confirms the notion that the social deviance of street kids is overemphasized while their adaptive skills are often ignored.

The author uses two methods to understand street kids in Cali. First, he spent several months actively observing street children in the city. Through this informal contact, he is able to vividly portray their values, daily activities, social organization, and personalities. His second method was to administer cross-culturally adapted psychological tests to a sample of children to assess emotional, neurological, and intellectual functioning. The finding

of only minor impairments in these domains will surprise many who have not worked directly with street kids and are unfamiliar with their quick wits and perceptiveness.

The richest and most informative part of this volume is its ethnography of street children. For example, Apteкар distinguishes between the prepubescent and adolescent kids and notes that the younger members of a group of street kids are able to contribute more economically to the group because the public usually perceives them as cute and mischievous while the adolescents are seen as threatening and dangerous. This creates a mutual support system whereby the older youth provide protection while the younger ones provide income. Apteкар documents a street ethic of sharing and equal distribution and traces a "bureaucracy" within gangs, or *galladas*, wherein members know their individual rights and responsibilities. What may superficially strike the outsider as a ragtag collection of vagabonds is revealed to be a complex social organization for meeting the physical and emotional needs of its members. Apteкар also notes the central role of "chumship" in the bonding of youngsters. Their closeness provides much of the friendship and intimacy that they miss by having to live without families. Also noteworthy is Apteкар's finding that claims of extensive drug abuse and homosexuality among street kids are overstated. While present to some degree, they are peripheral issues in most of these children's lives.

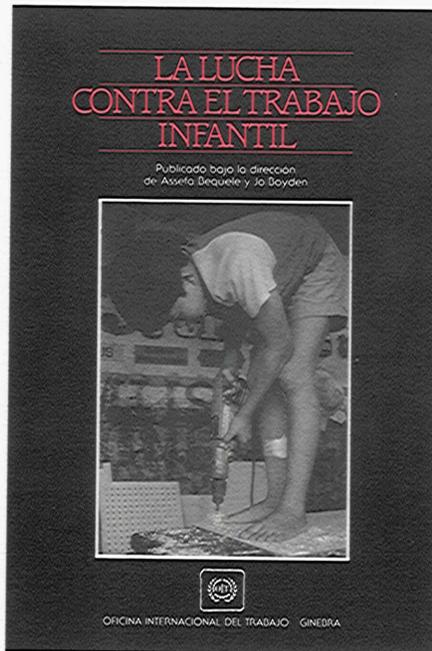
It is important to realize that children are in the streets of Latin America for many different reasons. Most of those whom one sees as *gamins* in São Paulo, Lima, or Bogotá are child street workers who maintain some regular family contact. Others are runaways from abusive homes, and fewer still have been abandoned by their parents. Social

policy cannot be adequately designed if it assumes that all street children are alike. Although Aptekar's research focuses only on the hard-core gamín of Colombia, he notes the variety of reasons which cause such children to be severed from their families. He concludes by reviewing policies—both macro and micro—that, by ameliorating poverty and violence, can perhaps begin to solve the gamín problem, if they are applied in conjunction with rehabilitative strategies that treat children individually.

The phenomenon of street children is fundamentally related to the broader and more pressing problem of child labor discussed in *La Lucha Contra el Trabajo Infantil* (*Combating Child Labour*). The overwhelming majority of street children are supplementing their families' incomes by working before the legal age limit or without legal protection. Only a fraction are cut off from their families and living like the gamines studied by Lewis Aptekar. This important volume of material recently published by the International Labour Organization makes a significant contribution to understanding the scope and nature of child labor on a worldwide scale.

Using a case study method that summarizes research, policies, and programs in settings as varied as Brazil, India, the Philippines, Hong Kong, and Peru, the editors reveal factors that force children into the labor market and catalogue the deleterious effects of unregulated labor on their education, health, and psychological development.

Employers often look to children as preferred workers. They are the lowest paid segment of the work force and are easy to exploit. Because they are unorganized and their work is not regulated, they receive few or no job benefits, work longer hours, are exposed to more hazardous tasks, and are the first to



be laid off in an economic downturn. Economic incentives for poor families in developing nations favor household decisions that increase the number of breadwinners. Adult salaries are too low to prevent children from being pulled into the work force. Furthermore, parental social values often rationalize such decisions by emphasizing acquired job skills over traditional education. The combination of familial "push factors" and employer "pull factors" leads to increasing child labor. Thus, adult wages remain low and normal childhood socialization is interrupted.

Economists define the secondary labor market as one in which there are minimal safety standards, little job security, and wages incommensurate with the market value of the work performed. One might argue that child labor occurs in a tertiary market. As *La Lucha's* case studies reveal, nearly all child labor is in the informal sector, beyond state regulation or control. Consequently, child workers are even more marginal than adult secondary laborers in terms of health dangers, salary, work

hours, and the risk of exploitation.

Case studies in this volume conclusively demonstrate three things. First, child labor is essentially unregulated, and the state is seemingly incapable of protecting the rights of working children. Second, education is ended prematurely for many children, while those who manage to work and attend school learn less due to fatigue and erratic attendance. And finally, unregulated child labor has a strong negative effect on children's health and personality development.

The editors correctly note that the abolition of child labor is currently an unrealistic goal in view of Third World poverty and the push and pull of prevailing household and market incentives. They argue instead for greater state protection and regulation in conjunction with enhanced support for nongovernmental organizations that serve child workers and their families. Few developing nations can afford a comprehensive inspection and enforcement agency, but, given the impact of child labor on health, education, and normal development, few of them can afford not to try.

Until wages for adult workers are increased and the benefits of doing business in the formal economy exceed the costs, child labor will persist despite the best intentions of social workers and law enforcement officials. Ultimate solutions must come at the policy level, coupling enforcement of child labor laws with a free market approach that diminishes the incentives to produce in the informal sector and raises household incomes through wage reform. ♦

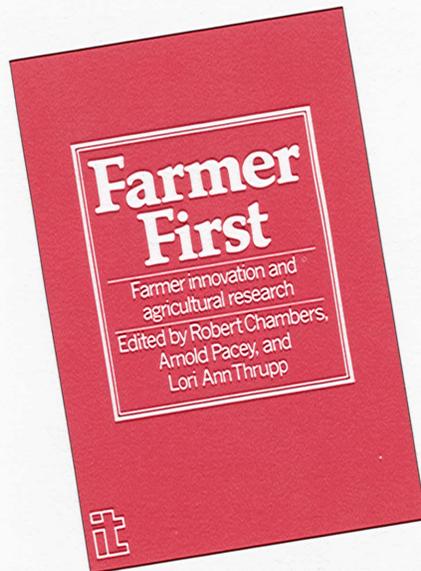
*MARK W. LUSK is a professor of social work and the director of the Institute for International Rural and Community Development at Utah State University. He is co-author, with Luis Valverde, of Los Niños de la Calle de San José, Costa Rica.*

# Resources

Experts testifying at a recent Congressional hearing on the U.S. Food for Peace Program warned that the worsening plight of impoverished food-importing countries requires donor agencies to double or triple their present efforts if catastrophe is to be avoided. The United States already allocates nearly \$1.5 billion annually in overseas food assistance and cannot solve the long-term problem alone. According to the United Nations Food and Agricultural Organization (FAO), global yields must rise by 40 percent in the next decade just to keep pace with population growth. Clearly, that will require new measures to make low-income nations agriculturally self-sufficient. The following resources all address the problem of feeding the world's hungry poor.

Many Third World rural development projects are doomed from the start because the implementing organizations lack administrative expertise, according to Hari Mohan Mathur, author of *Improving Agricultural Administration: Elements of an FAO Training Plan*. Mathur, an experienced development executive, researcher, and trainer, maintains that this deficiency is a prime reason why services tailored to the needs of small farmers frequently never reach their intended beneficiaries.

A possible answer to this problem has long been available. The World Conference on Agrarian Reform and Development, organized by FAO in 1979, developed an action guideline for improving the organization and administration of projects for small-scale farmers. Weighing a decade's experience in applying these recommendations, Mathur concludes that the FAO "experiment" has shown itself capable of reaping benefits with one major caveat: Training programs to transfer these techniques are badly needed to extend their reach, an oversight that must be remedied if the Third World is to



develop its agricultural potential.

Available from Oxford & IBH Publishing Co. PVT. LTD., 66 Janpath, New Delhi, India.

Changing attitudes—primarily of agricultural researchers—are the focus of *Farmer First: Farmer Innovation and Agricultural Research*, edited by Robert Chambers, Arnold Pacey, and Lori Ann Thrupp. *Farmer First* persuasively argues that learning how different communities farm and how they adapt traditional methods to produce higher yields are the first steps in exchanging effective and sustainable agricultural technologies. Too often in the past, the editors maintain, technology transfers have failed because they presume only outsiders have the right answers. Also, only resource-rich farmers could afford to adapt the so-called advanced agricultural technologies.

In an effort to correct those biases, the book calls on outside professionals to shift their attention toward the needs and tap the ingenuity of small-scale farmers. To catalyze lasting change, consultants should not dictate solutions but offer communities a "basket of choices" gleaned

from a variety of sources and grounded in direct experience. Providing insights on a broad range of issues—from policy to implementation and management of agricultural research, extension, and development—the book will be useful to an equally broad range of professionals.

Available from Intermediate Technology Publications Ltd., 103-105 Southampton Row, London WC1B, U.K.; or in the United States from ITDG North America Publications Office, P.O. Box 337, Croton-on-Hudson, New York, NY 10520.

Although women play indispensable roles in the farm production of most Third World countries, their contributions are often overlooked in the design and implementation of projects to conserve natural resources and raise agricultural yields. Most of these projects use the neutral term "household" as the basic unit of analysis, but males are presumed to be the heads of households, and thus the principal decision-makers and sources of information. Misunderstanding the role of gender not only can skew the distribution of benefits, but it can also endanger the project's performance.

*Gender Issues in Agriculture and Natural Resource Management*, part of the Gender Manual Series published by USAID is a useful compass for navigating the issue. Drawing upon brief case histories derived from their own work, the volume's various authors outline precisely how to avoid some of the more common pitfalls of misunderstanding the role of gender in farming. Among the topics covered are patterns of gender responsibility in agriculture, the importance of gender in non-project assistance, and how gender affects a project's economic analysis.

In format, the publication resembles a briefing paper more than a



Illustration  
from *Lost Crops of the Incas*.

book. Its 70 pages, divided into short chapters, will be especially useful for professionals working on USAID projects, but should also appeal to those interested more broadly in women in development.

Available from the U.S. Agency for International Development, Office of Women in Development, Bureau for Program and Policy Coordination, Washington D.C. 20523.

"In the Andes, *mashua* is associated with poverty. [The crop] is shunned by the upper classes because of its Indian origin and because it is eaten by the poor country folk. It is disappearing rapidly and in a few years most people will not remember it. Although [it is] a vital part of the Andean agricultural cycle, so little is known about it that its potential is almost certainly unrealized at present. . . ."

*Mashua* is but one of the many surprises included in *Lost Crops of the Incas: Little-Known Plants of the Andes with Promise for Worldwide Cultivation*, a handsomely illustrated book designed to inform mainstream agricultural development specialists about undervalued sources of indigenous food that can play a vital role in helping small farmers raise nutrition levels, diversify production, and boost family incomes. Conceived in 1984 at a seminar at the National Research Council of the U.S. Na-

tional Academy of Sciences, this ambitious study was prepared under the guidance of an ad hoc panel of specialists. Questionnaires were mailed to 200 renowned botanists requesting nominations of "under-exploited" Andean crop species. The thousands of resulting comments and suggestions were screened and evaluated by specialists from around the world.

The authors emphasize that *Lost Crops* is not intended as a handbook or as a comprehensive scientific monograph, but as an introduction to a selective range of edible plants with potential for economic development. To accomplish that purpose, the volume offers more than 400 pages of thoroughly researched material, amply sprinkled with beautiful drawings and color photos.

*Lost Crops of the Incas* is available for \$20.00 from the Board of Science and Technology for International Development, National Research Council, 2101 Constitution Avenue, N.W., Washington, D.C. 20418

Distribution bottlenecks impede development information as well as the flow of small farmers' crops to markets. It is a pleasure to report that many of the resources previously cited by *Grassroots Development* are among the 600 development titles listed by Agribookstore, a nonprofit mail-order outlet specializing in publications and learning materials related to Third World development. The store's catalogue provides incisive abstracts of specialized publications spanning the alphabet of sources—from the Australian Centre for International Agricultural Research to the World Resources Institute.

For one-stop-shopping to meet your agricultural development publication needs, contact Winrock International Agribookstore, 1611 North Kent Street, Arlington, VA 22209. ♦

—Barbara Annis

In 1988, *Grassroots Development* (Vol. 12, No. 1) published an article by Mac Chapin entitled "The Seduction of Models: Chinampa Agriculture in Mexico." This article, which examined the efforts to transfer traditional *chinampa* agricultural techniques from the Valley of Mexico where the *chinampas* originated to the swampy regions of Veracruz and Tabasco on Mexico's east coast, produced the largest volume of mail in the history of *Grassroots Development* and continues to generate controversy. The letter below is from the former director of Mexico's Instituto Nacional de Investigaciones sobre los Recursos Bióticos (INIREB), which was the institution in charge of the *chinampa*-related projects.

To refresh the readers' memories of the Chapin article, *chinampa* agriculture involves constructing raised farming beds in shallow lakes or marshes; the best known example is the famed "floating gardens" of Xochimilco near Mexico City. As the inability of the Green Revolution to improve farm incomes for the very poor became apparent, the quest began for affordable, productive, and ecologically sound small-scale alternatives. As part of this quest, INIREB began its experiences with the transfer of the *chinampa* system to the lowland tropics of Mexico. Despite being threatened in the Valley of Mexico by the growth of the city, the system seemed to offer a promising model for other areas.

Early in 1988, Chapin visited several projects in Veracruz and Tabasco as part of an IAF-sponsored assessment of ecodevelopment projects among peasant farmers in Mexico. The *chinampa*-inspired projects had been underway for about ten years. The first, among the Chontal Indians in Tabasco, was backed by the government of Mexico and the World Bank and, according to Chapin, suffered at the outset from unstated agendas and supposi-

tions. Neither the stated nor unstated objectives, he notes, grew spontaneously from the Chontal community. The project encountered numerous difficulties, none so serious as the failure to consider arrangements for transporting and selling the highly perishable vegetables the project produced. The project continued its slide into disorder, Chapin maintains, until INIREB, which began to provide technical assistance in the early 1980s, began listening to the Chontales. Major modifications were made, including abandoning both communal labor and intensive vegetable gardening, and the Chontales now grow subsistence crops that can be tended while they pursue wage labor in the nearby towns.

The other INIREB project Chapin highlights was located in the *ejido* of El Castillo, in the State of Veracruz. Here, the community was not at all interested in chinampas, but one young farmer—Imeldo Méndez Carmona—did volunteer to turn his land, which included an inlet of a lake, into a model integrated farm including four chinampa beds. An impressive array of vegetables was produced, but once again no marketing plans had been made. While hasty efforts were underway to address this oversight, Méndez accidentally drowned, and the project was subsequently abandoned.

In analyzing these case studies, Chapin concludes that nowhere in Mexico has the transfer of chinampa technology from the Valley of Mexico to the humid lowlands been successful. Among the reasons he cites are that the stated and unstated objectives of project managers had little fit with the farmers' interests and needs, that there was inadequate local participation in designing and implementing the projects, that the technicians were preoccupied with the narrow task of implanting an agroecological model, and that they

failed to consider how their model might adapt within wider social, economic, and political contexts.

In the case of the Chontales of Tabasco, Chapin notes that any correspondence between chinampa agriculture as an ideal construct and the raised beds of the Chontales was minimal. In El Castillo, he concludes that, even had the young farmer lived, too few of the necessary conditions for intensive chinampa gardening were present for the technology to have succeeded.

In concluding, Chapin reflects that it is very possible that in contemporary Mexico the chinampa model can never function as "much more than a small-scale scientific side show kept afloat by heavy subsidies." Yet the myth that the technology transfer succeeded lives on with surprising vigor in the literature, he points out. His explanation is that the "chinampa model, after years of promotion in journals and through word of mouth, has managed to break free of the constraining grip of the tangible world to take on a life of its own." He concludes with the observation that "considerable time and money are wasted when we become blinded by the beauty of a conceptual model and lose our bearings, mistaking it for reality itself. We end up seducing ourselves."

—The Editors

I read with great interest and sadness Mac Chapin's article regarding INIREB's efforts to transfer some aspects of the chinampa agroecosystem to the lowland tropics of Mexico. As the director of this effort for INIREB, I would have welcomed a serious and complete evaluation of my colleagues' and my research in chinampas; Chapin's article was so misguided and poorly documented that I originally thought it required no response on my part. However, Chapin's letter of response in the

Summer 1989 edition of *DESFIL* [the newsletter of the Development Strategies for Fragile Lands Project] to a criticism by William Doolittle so misquotes my work and publications that I feel I must now respond.

With the subtitle "Transplanting Chinampas," Chapin begins his deliberations regarding field research in chinampa technology. Unfortunately, he has misunderstood the objectives and history of the research and, in addition, confused three different projects:

1. The chinampa research (including the experimental research on technology transfer) of INIREB at Mixquic, San Pedro Balancán, El Espino, La Mancha, Tecocomulco, Nacajuca, and Cárdenas.
2. The Camellones Chontales project inspired by the chinampas but undertaken by the Mexican federal government; and
3. A rural development program of INIREB that includes primarily integrated farms along with other related activities.

These projects were the result of several initiatives:

1. The desire of many farmers to try alternative approaches to increase agricultural production and become more self-sufficient. INIREB, from the beginning, had an institutional commitment to respond to these aspirations, and it undertook many different projects, including apiculture, pig farms, manufacturing of wood tools, crocodile farms, pot irrigation, and biogas digestors.
2. Interest by INIREB's own scientists and students in trying nonconventional approaches. As a director of INIREB, I felt that alternatives were needed because conventional agricultural research was neither providing much help to poor farmers nor slowing the rate of deforestation or pasture conversion.
3. Initiatives from local and federal governments, mainly as a result of political pressures from environ-

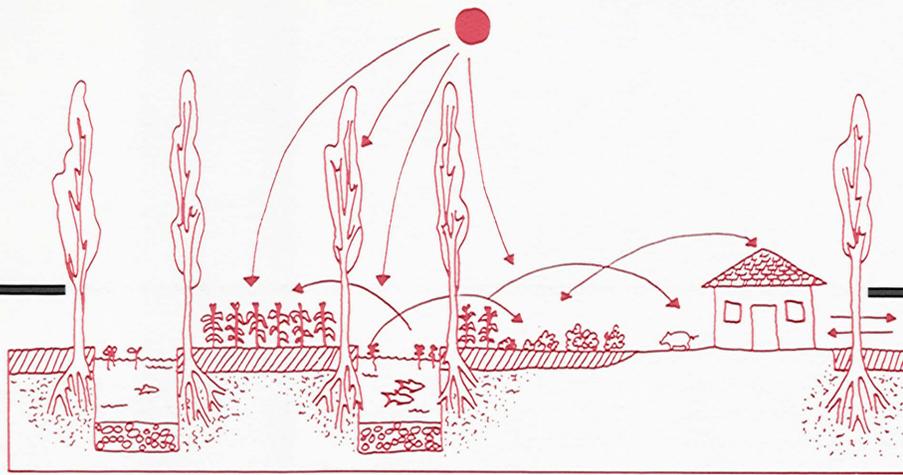


Diagram of INIREB integrated farm with chinampas.

Drawing adapted from: *Ecología y Autosuficiencia Alimentaria*

mentalists, farmers, and scientists.

Chapin's task was to assess ecodevelopment projects among peasant farmers in Mexico. It saddens me that most of his assessment was based on quick visits to a few field sites. There is no indication that he visited the farmers who participated in the projects. He did not even interview those, such as myself, who planned the research. Such a cursory review calls into question the quality of his research and the validity of his conclusions.

I would like to correct some fundamental mistakes in Chapin's assessment. The few small experimental chinampas that were constructed in Tabasco and Veracruz were just that: experimental. We paid to have them built and, by so doing, learned about their construction, scheduling, and production potential. The results were quite favorable in that we found it was possible to build chinampas and produce food from a swamp using hand labor and the *chinampero* approach. When the field research was finished, the areas were abandoned. These projects were never presented or planned as direct development projects, only as experiments to investigate the feasibility of an approach.

The only functioning tropical chinampas still in existence at the time of Chapin's research were those at La Mancha biological station near the port of Veracruz (formerly of INIREB), which Chapin neither visited nor mentioned. They have been active since the beginning, thanks to a chinampero farmer of INIREB who has done an outstanding job of experimenting with

new introductions, combinations of species, and soil management techniques. Hundreds, if not thousands, of farmers and students have passed through the La Mancha chinampas and learned about techniques and new species of horticultural crops successfully introduced by this chinampero.

The experience in handmade chinampas was evaluated by Chapin based, in part, on the El Castillo project. However, El Castillo was not a chinampa project; it was part of a different INIREB project that focused on integrated farms. The project was a response to a request from Ejido El Castillo for help with treatment of coffee pulp discharges and with the management of fish in the ejido's lagoon. Chapin's comment that the community was not interested in chinampas is correct. For that reason, an integrated farm was developed at El Castillo.

In the meeting with the ejido we met a young farmer, Imeldo Méndez, who proposed to undertake a project on his land with the support of INIREB. We accepted his offer because we saw in him a future leader. The farm's production was quite satisfactory, and, as in so many other cases, the problem was not one of production but of what to do with the products. We tried only to prove that one can produce a lot of food in a small area, and that was done, as Chapin notes. His complaint that "no one thought about marketing harvested produce, even though INIREB had an economist on the project team," is unwarranted as the project was never designed to develop markets but rather to ex-

plore intensive production systems.

The project closed because of the death of Imeldo and the decision by INIREB not to continue it. For the purposes of INIREB, the project had been a valuable experience.

It should be understood that the work done in rural development was intended to show that, if needed, alternatives exist to produce food in a way less damaging to the environment and based on labor-intensive agriculture. The farms produced food in excess of what the families, INIREB employees, or even the local community needed. Marketing the products was not part of the projects, though the need for research on this became immediately apparent, as we pointed out in our own evaluation.

In response to the need for marketing products, INIREB suggested a marketing cooperative (Bio-Cop) as a possible solution. In addition, INIREB started a project for the development of small-farm businesses based on biotic resources.

In the early stages of these new initiatives, the Mexican government faced an economic crisis. Programs were cut and institutions closed; the first projects suspended were the rural development projects of INIREB. INIREB was instructed to terminate all its activities in rural development and to cancel its project on small-farm business development.

Chapin cites the *camellones chontales*, the "raised beds" of Tabasco, as another example of failed chinampa agriculture. The *camellones* are in full operation right now, and the Chontal Indians have full control of them. They use traditional agriculture, and the new raised beds produce a great variety of products. First of all, the *camellones chontales* were not originally set up to be chinampas, though the idea of agricultural land raised from the swamps was influenced or inspired by the tropical

chinampas. Secondly, the camellones are valuable in the eyes of the Chontales, as well as many researchers; they are not examples of failed chinampa technology transfer. In addition, members of neighboring Chontal communities have asked that similar projects be undertaken in their swamps.

Chapin's comment that the Chontales project was very expensive and benefited only a few is puzzling. How much should a project cost and how many people should benefit in order for it to be worthwhile? The beneficiaries of this particular project were the Chontales, the poorest of the Tabascan inhabitants. What would be the alternative? To move the Chontales to other areas? Or introduce sugar cane monoculture in the Chontal agricultural lands? Transform the Chontales into cattlemen? These suggestions are not acceptable. The camellones remain a positive influence in the lives of the Chontal Indians and are an alternative for new agricultural land. A conference will be held in October 1990 to review and evaluate the raised field projects in Tabasco. We would like to invite Chapin to attend this meeting.

A final comment is necessary about the role of INIREB in the camellones. Chapin writes: "The project continued its slide into disorder until INIREB, which began to provide assistance in the early 1980s, started listening to the Chontales." INIREB was never in charge of the camellones. They were built, planned, and operated by the Instituto Nacional Indigenista and the Tabasco government. We were asked to leave, but we stayed. Later we were asked for advice, which we gave though it was not necessarily taken. Researchers from INIREB continued to monitor and report on activities in the camellones until INIREB's closure in late 1988.

It is unnecessary to continue

pointing out flaws in Chapin's evaluation. The facts stand by themselves. The question remains, however, as to what alternatives Chapin might suggest. If the chinampa technology proves successful in terms of agricultural production in a small area, the project is not acceptable because the product cannot be sold. If the raised beds from the swamps produce a whole array of agricultural products, the complaint is that the beds cost too much to build. A project undertaken with paid farmers means that we are using them wrongly. A project with insect pests is criticized because the chinamperos did not know all of them. It is hard to understand what project would satisfy all of Chapin's criteria.

Chapin makes a point of our "seduction" by the chinampa model. Seduction is a very strong word, but I fully accept it. I am seduced by an agricultural system that has prevailed for such a long time, by this system's efficient use of water and organic matter, by the knowledge of the chinamperos, by the staggering hydraulics works of the ancient people, by the resilience of the present day chinamperos, by the agricultural techniques the chinamperos use for the management of their crops and non-crop plants, by the efficiency of the agroecosystem in terms of both energy and economics, by the fact that a similar system was used long ago in many areas of the tropics, and by the fact that similar systems still exist and work in many parts of the world from China to India to Indonesia. I was seduced and continue to be so.

My working hypothesis has been that efficient systems of intensive agriculture existed in the past that sustained a higher density of population in the tropics than exists today without destroying the resource base. The study of such systems is not only important from the scientific viewpoint, but may also help

design better agroecosystems for a world that may need new answers to food production in the tropics.

Arturo Gómez-Pompa  
University of California  
Riverside

*The author responds:*

Gómez-Pompa's impassioned response to my article on Chinampa agriculture is very interesting, in several respects. For one thing, he demonstrates that we agree completely on one point: namely, that the chinampa system, as an agroecological technology, is one of the most efficient and productive ever devised by man. We also agree that the failure to deal adequately with non-technical aspects—for example, the lack of markets—in project plans created havoc.

However, I want to take issue with his assertion that the chinampas were "never presented or planned as direct development projects." Instead, he says, they were nothing more than "experiments" to see if it was feasible to "produce food from a swamp."

When Gómez-Pompa promoted chinampas as alternative systems for small farmers, and spoke of transferring technology to Third World peasants, many donors assumed he was speaking of development projects rather than mere "experiments" in food production. The chinampas were introduced into peasant and Indian communities as part of INIREB's integrated farm program, and the farmers and technicians I spoke to in the field thought it was a development program. I believe the Inter-American Foundation, which funded the program, had the same impression.

May I suggest that communication has broken down on a very basic point. ♦

Mac Chapin  
Cultural Survival  
Arlington, Virginia

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