



New evidence from the 12 AID-assisted countries in the LAC region indicates that food security is a major problem in these countries. Food supplies are not adequate to provide sufficient calories to all members of the population in most countries, even if the total food supply were divided equally between rich and poor. ("Adequate" food supplies is defined as 2,300

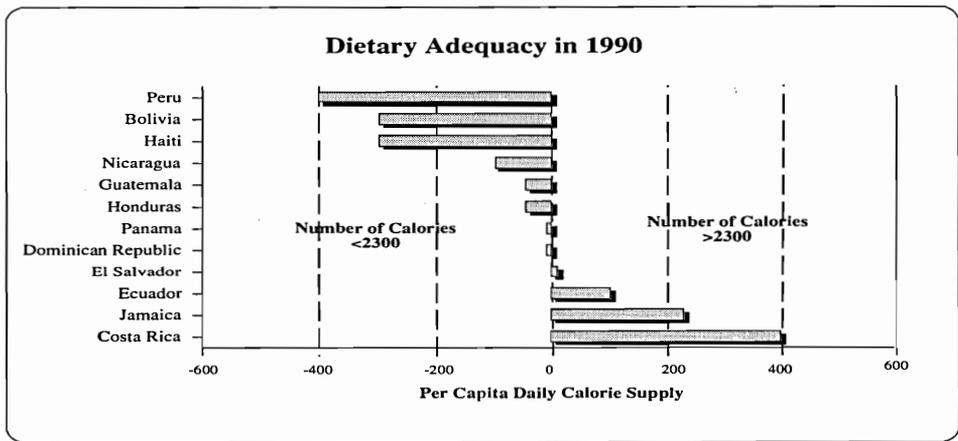
calories per person per day, the food security minimum used in the new U.S. food aid legislation.) Poor households are unable to produce and/or buy enough food to enable family members to lead active and healthy lives. This bulletin explores seven aspects of food security in the LAC region, relying largely on recent FAO data analyzed by the author.

This is the first in a series of technical papers published by the AID Agriculture and Rural Development Technical Services project (LAC TECH) to disseminate technical findings and products of the project. See back page for subscription and other information.

NATIONAL FOOD SUPPLIES REMAIN INADEQUATE

In 1990 the supply of calories at the national level was inadequate in eight AID-assisted LAC countries: Peru, Bolivia, Haiti, Nicaragua, Guatemala, Honduras, the Dominican Republic, and Panama. This is twice the number of countries reported in 1988.

Three countries—Peru, Bolivia, and Haiti—had major shortfalls of more than 300 calories per person per day. Two countries with calorie intake above the cutoff point, El Salvador and Ecuador, were close enough to the minimum (less than 5 percent above it) to easily fall



below given shortfalls in production and/or foreign exchange. Only two countries, Jamaica and Costa Rica, seem far enough above the cutoff point to be

characterized as having achieved food security—at least in terms of aggregate national supplies.

Dietary Adequacy in 1989/90 and Rates of Growth in Per Capita Food Supplies Between 1979/80 and 1989/90

Calories Per Person Per Day Available in 1989/90

	Less Than 2300	More Than 2300
Positive Rate of Growth	Dominican Republic Guatemala Honduras Panama	Ecuador El Salvador Costa Rica
Negative Rate of Growth	Bolivia Haiti Nicaragua Peru	Jamaica

Rates of Growth in Per Capita Calorie Supplies Between 1979/80 and 1989/90

PER CAPITA FOOD SUPPLIES DECLINE

Overall growth in per capita calorie supplies was negative during the 1980s in five countries: Bolivia, Haiti, Nicaragua, Peru, and Jamaica. This is particularly worrisome in the first four countries, where per capita calorie supplies are below the established minimum. Jamaica also experienced a decline in national calorie supplies during the 1980s, but not enough to cause per capita supplies to decline below the 2,300-calorie minimum. Growth in calorie supplies has been significantly positive (over one-half of one percent per year) in four countries: Ecuador, Costa Rica, Guatemala, and Honduras. In Guatemala and Honduras, however, growth has not been sufficient to meet the cutoff minimum.

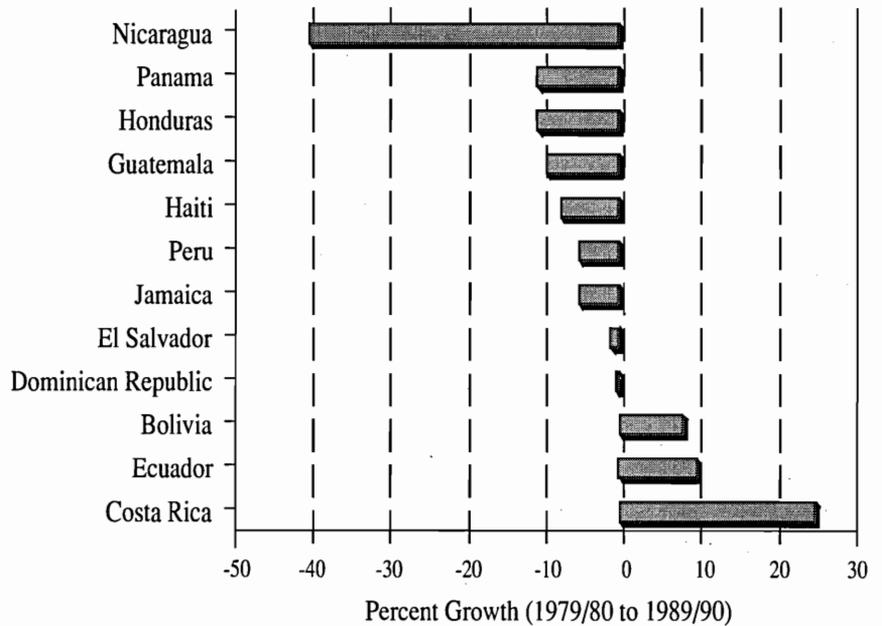
PER CAPITA FOOD PRODUCTION DECLINES

Food produced per person declined in the 1980s in nine AID-assisted LAC countries: El Salvador, the Dominican Republic, Guatemala, Haiti, Honduras, Jamaica, Nicaragua, Panama, and Peru.

The decline was particularly serious in Nicaragua—almost 40 percent. Four other countries—Guatemala, Haiti, Honduras, and Panama—saw their per capita food production levels decline by 5 percent or more. Costa Rica was at the other extreme, with an increase of over 20 percent in per capita food production during the same time period.

Two other countries where food production kept pace with population growth were Bolivia and Ecuador. Ecuador and Costa Rica were two of three countries to experience increases in per capita food production during the 1980s and the only two with adequate levels of per capita calorie supplies in 1990.

Change in Per Capita Food Production in the 1980s



FOOD IMPORTS DECREASE IN SEVEN COUNTRIES; FIVE COUNTRIES SERIOUSLY AFFECTED

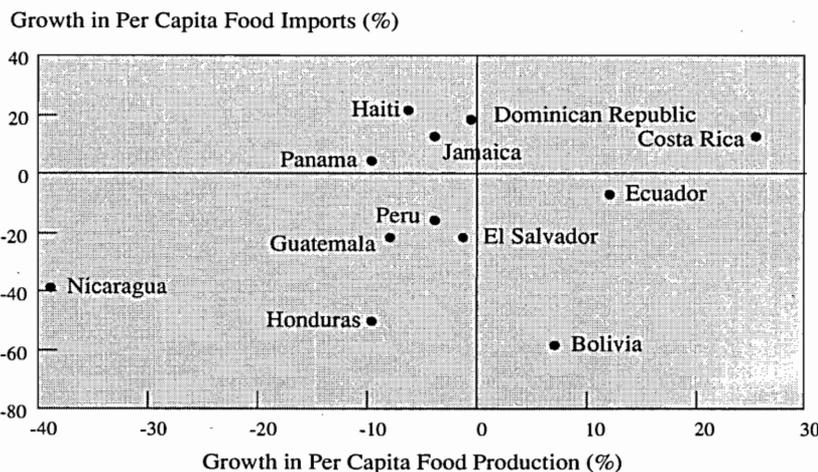
Declining per capita food production would not have been a problem for these countries had they been able to make up

their deficits with food imports. But food imports (measured in value terms and calculated on a per capita basis) also

declined during the 1980s in seven countries. Viewed from a food security perspective, the problem was most serious in five countries—El Salvador, Guatemala, Honduras, Nicaragua, and Peru—because they experienced negative rates of growth in per capita food production as well as declines in per capita food imports. The decline in the value of food imports was over 40 percent in Bolivia, Honduras, and Nicaragua, and near 20 percent in El Salvador, Guatemala, and Peru.

Only El Salvador and Jamaica were able to maintain overall per capita calorie supplies above the 2,300-calorie minimum. In Bolivia, a 60 percent decline in per capita food imports cancelled out a 10 percent growth in per capita domestic food production, and per capita calorie supplies declined. Only Costa Rica was able to increase domestic food production and food imports at a rate faster than population growth.

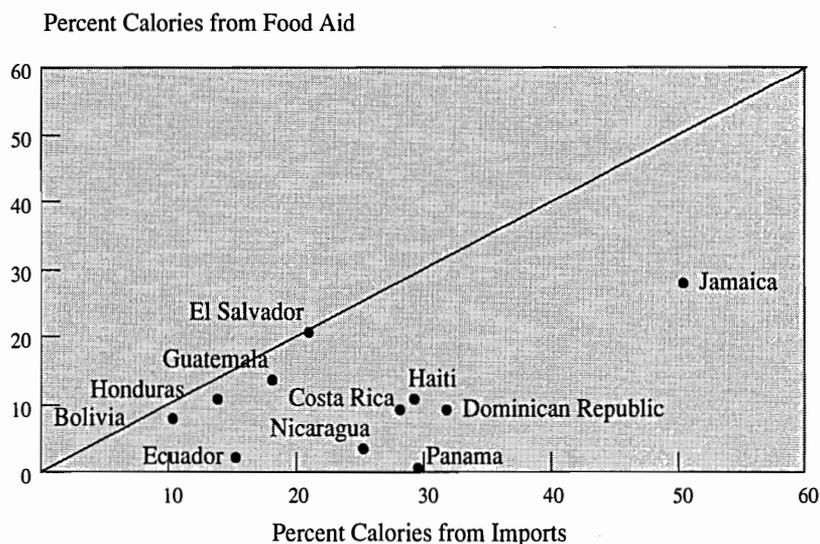
Sources of Growth in National Food Supplies in the 1980s



FOOD IMPORTS A VITAL SOURCE OF CALORIES

Food imports already account for an important share of national calorie supplies in many AID-assisted LAC countries. Six countries—Costa Rica, the Dominican Republic, Haiti, Jamaica, Panama, and Peru—obtained approximately 25 percent of their national calorie supplies from imported foods in 1989/90. Jamaica was at one extreme with over 50 percent of its calorie supplies from imported foods, while Bolivia, Honduras, and Ecuador were at the other extreme with respectively 10, 13, and 15 percent coming from imported foods. Food aid accounts for a large share of food imports (in terms of calories) in a number of these countries. Five countries—El Salvador, Guatemala, Honduras, Jamaica, and Bolivia—relied on food aid for half or more of their imported calorie supplies in 1989/90. El Salvador was the most reliant on food aid imports and Panama the least.

Importance of Food Imports in 1989/90 (Including Food Aid)



In the figure above, the closer a country is to the diagonal line, the more important food aid imports are relative to total imports.

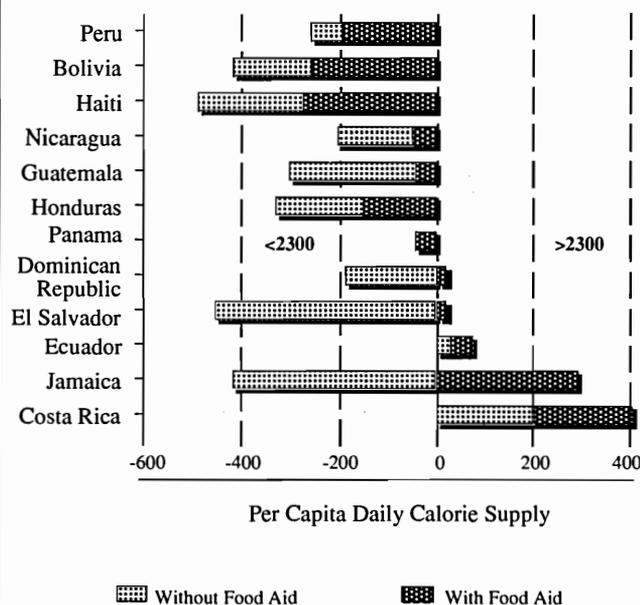
FOOD AID MAKES KEY CONTRIBUTION TO DIETARY ADEQUACY

Another way to gauge the importance of food aid is to determine the number of calories per person that would be available in the absence of food aid (including program and project food aid from all donors).

If food aid had not been made available in 1989/90, for example, two more countries would have joined the ranks of the food insecure: El Salvador and Jamaica. Without food aid, these two countries would have joined Bolivia and Haiti as countries with the largest calorie deficits—over 400 calories per person per day.

Similarly, Peru, Honduras, Guatemala, and Nicaragua would have seen their deficits grow to over 200 calories per person per day. In the case of all but the first country, per capita deficits would have doubled. In other words, if food aid had not been made available in 1989/90, only two of the 12 AID-assisted LAC countries—Costa Rica and Ecuador—would have had adequate per capita calorie supplies. Of these two, only Costa Rica would have had supplies sufficiently above the 2,300-calorie minimum to characterize the country as having achieved national food security in aggregate terms.

1990 Dietary Adequacy with and without Food Aid

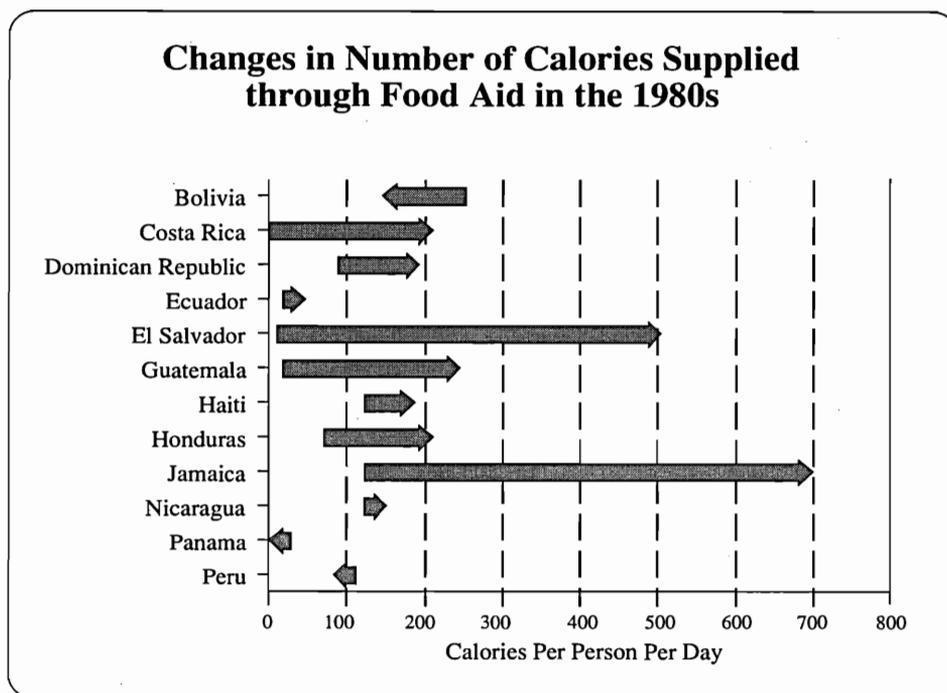


FOOD AID GROWS IN IMPORTANCE; MAKES GREATER CONTRIBUTION TO CALORIC INTAKE

The number of calories supplied by food aid increased in nine AID-assisted LAC countries in the 1980s. All nine have become more dependent on food aid; food aid supplied a larger percentage of their total calorie supplies in 1989/90 than it did at the beginning of the 1980s.

Increases in El Salvador and Jamaica were fairly dramatic; about 450 extra calories per person per day were coming from food aid in 1989/90 to El Salvador, compared with some 550 calories to Jamaica. In relation to total supplies, these calories represented increases of more than 20 percent.

Modest increases also occurred in Guatemala and Costa Rica (over 200 calories per person per day), and Honduras and the Dominican Republic (over 100



calories per person per day). On the other hand, the number of calories supplied by food aid declined in three countries: Panama, Bolivia, and Peru. De-

clines in Bolivia and Peru are surprising, as these two AID-assisted countries had the largest per capita calorie deficits in 1989 and 1990.

SUMMARY: THE CHALLENGE OF FOOD SECURITY

As we have shown, food security has deteriorated in all AID-assisted LAC countries except Costa Rica and Ecuador. The problem is caused by declines in the amount of food produced per person and in commercial food imports. Food aid has helped prevent per capita calorie supplies from dropping further, but has also left countries dependent on assistance for a greater percentage of their food supplies.

But inadequate and declining per capita calorie supplies are only part of the problem facing AID-assisted LAC countries. There is a need to get more income into the hands of poorer households so they can compete more effectively for the calorie supplies available. Given the

highly skewed income distributions in these countries, poor households actually endure lower levels of calorie supplies than the averages suggest.

The path to sustainable food security will require significant improvements in the performance of the agricultural sectors of LAC countries. To compensate for deficits now being filled by food aid, countries will have to achieve significant increases in food production and/or non-food and non-agricultural production for export in order to earn the foreign exchange needed to import food commercially.

Economic policy reforms initiated in many countries should reduce the eco-

nomie distortions that have turned the terms of trade against agriculture. However, to elicit the necessary private sector response, policy reforms specific to the agricultural sector, improvements in the legal and regulatory systems, and the provision of support services will also be necessary. Countries will have to fill the deficits supplied by food aid and increase national caloric intake to the minimum of 2,300 calories per day. Broad-based economic growth will increase the income of the poor, and higher income will produce a greater demand for food. Failure to respond to increased demand for food could slow the overall growth process.

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LAC TECH is a regional technical support project managed by the Rural Development division, AID Bureau for Latin America and the Caribbean (LAC/DR/IRD). The project provides support services to AID missions and the LAC Bureau in agriculture and natural resources management.

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LAC TECH BULLETIN



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In many LAC countries, property registries are in need of reform. The few real estate transactions that are recorded rarely include a physical description and map of the property. As a result, governments do not have the ability to guarantee property boundaries effectively.

This can lead to a number of problems, especially insecurity about property ownership. Other problems include managing sewage treatment, irrigation, road construction, mail service, telephone lines,

electrical lines, zoning, environmental protection, land use restrictions, and soil quality control. To effectively oversee land use, governments need to evaluate a wide range of easily accessible data. A multipurpose land information system (MPLIS) can be an important tool to help governments manage land use and make complex decisions.

This bulletin, written by Steven Hendrix and David Moyer, examines MPLIS benefits, design, implementation, and cost.

This is the second in a series of technical papers published by the AID Agriculture and Rural Development Technical Services project (LAC TECH) to disseminate technical findings and products of the project. See back page for subscription and other information.

THE MULTIPURPOSE LAND INFORMATION SYSTEM

An MPLIS is a central database that typically contains information about land, such as ownership, use, cover, soils, geology, zoning, wetlands, and floodplains. MPLIS uses a common reference framework (usually the geodetic survey network) that links or integrates all the data in the system.

The land survey links the data, making it possible to combine and coordinate different-layer data for a wide variety of uses. Normally, the MPLIS uses geographic information systems (GIS), or computer programs designed to track geographic information, although it is possible to design a MPLIS that does not use computer programs.

Each layer is maintained by its own custodian. For example, the Department of Natural Resources might maintain information on wetlands, while the

Department of Agriculture might maintain soil information.

BENEFITS

Perhaps the greatest benefit from an MPLIS is that it automates many manual processes. It lowers some costs by reducing data duplication and stabilizes others, benefiting government operations in general.

Improved responsiveness is another benefit of an MPLIS. Titles can be issued more quickly due to the availability of a complete, coordinated database. New data from emerging technologies, such as location data from global positioning systems, can be added to the database quickly

Seven Steps to Design an MPLIS

- Assess user needs.
- Perform systems requirements analysis.
- Design system.
- Design implementation plan.
- Determine the scope of the system.
- Introduce MPLIS technology to the community that will develop and use the system.
- Design pilot projects, demonstrations, and bench mark evaluations.

and easily. Improved access to data and the ability to use it for additional tasks improves the government's effectiveness.

In addition, improvements in the land-transfer process—providing an equitable basis for property taxation and providing information for resource management and environmental planning—can be expected with an MPLIS.

Finally, MPLIS systems are perceived to be more fair and equitable than manual systems. Land information technology can incorporate detailed information without the real or perceived biases sometimes associated with manual systems.

Use of the system will increase since users believe they are being treated more fairly. Ad hoc, subjective evaluations are avoided, making the process more uniform and equitable.

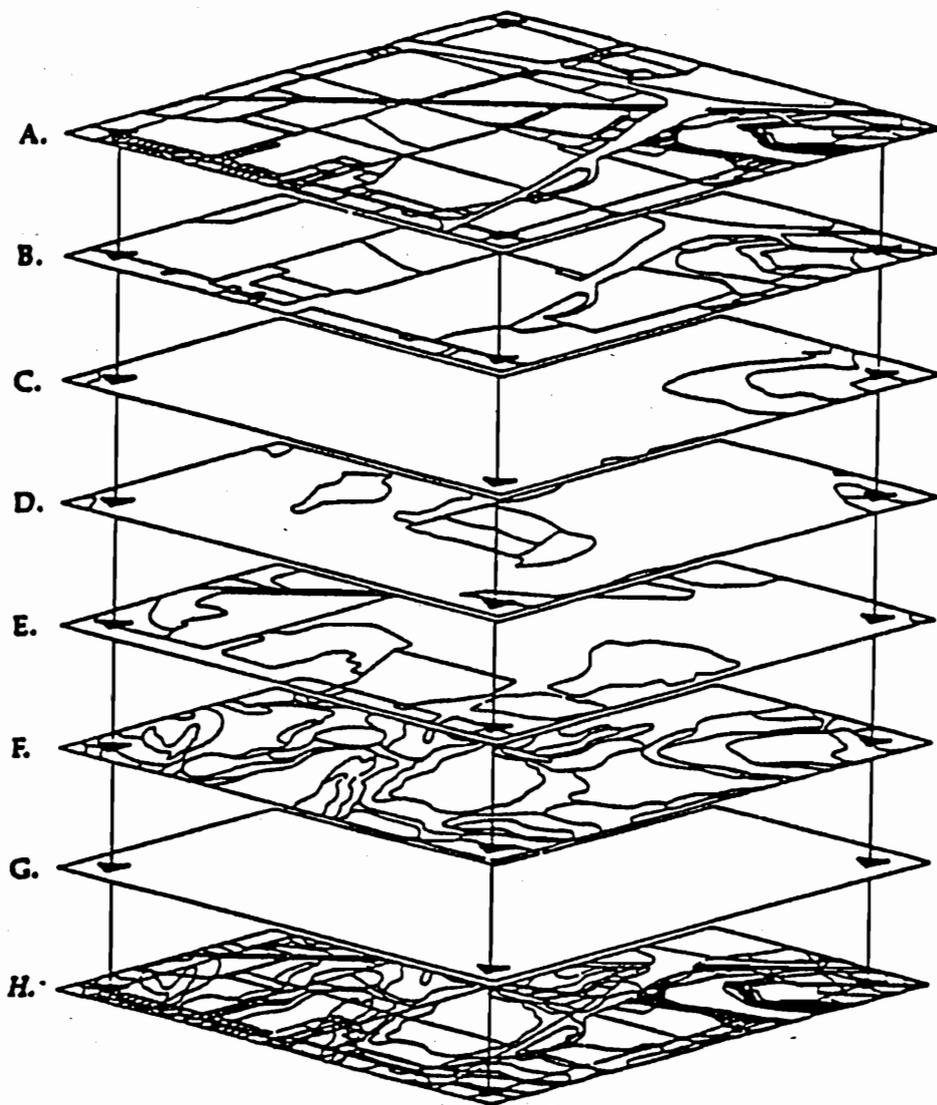
DESIGN

The first step in designing an MPLIS is to perform a cost-benefit analysis to assess whether the system is truly needed, and if so, where. The analysis should identify priority areas and examine alternative land regularization approaches. Different strategies may be used, depending on the areas of the country.

Designers must be careful to avoid “parachuting” modern computerized technology into developing countries and “leapfrogging” their development and management without consideration for the people, culture, and institutional fabric. It is much better to design a system with local needs and capacities in mind, and look for technology that fits those needs, than to force

Figure 1. Graphic representation of an MPLIS

(Sample from the town of Westport, Dane County, Wisconsin.)



Data Layer

Responsible Agency

A. Parcels	Surveyor, Dane County
B. Zoning	Zoning Administrator, Dane County
C. Floodplains	Zoning Administrator, Dane County
D. Wetlands	Wisconsin Department of Natural Resources
E. Land Cover	Dane County Land Conservation Committee
F. Soils	U.S. Department of Agriculture, Soil Conservation Services
G. Reference Framework	Public Land Survey System (geodetic coordinates)
H. Composite Overlay	Integrated layers as needed (H is a compilation of A, F, and G)

Source: Land Information and Computer Graphics Facility, School of Natural Resources, University of Wisconsin-Madison.

a predetermined system onto circumstances it might not fit.

A set of short- and long-term goals for the system should be developed at the outset. The needs of all users and how they can be met through an integrated information system should be assessed to determine specific attributes. An assessment of users should ask:

- Who uses the land records?
- What private sector user needs exist?
- What kinds of data do the organizations manage?
- How are the data used?
- How often are records accessed and updated?
- Who is responsible for data maintenance?
- What improvements are possible through automation?

Finally, while specificity is a desirable virtue of an MPLIS plan, flexibility as the project develops is also important. Both the needs and the technology will change and expand. Therefore, the sys-

tem design should be specific enough that goals and objectives are easily identified, but flexible enough that they may be reached through the most effective means possible.

An MPLIS is more than data, computer programs, and computers. It also includes staff and institutional support for

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its operation. A coordinated program to build and maintain all aspects of an MPLIS is needed for its success. The complexity of such systems requires that a variety of skilled people from the government and private sector be included in the design effort. These include com-

puter programmers and experts in law, cadastre, and land tenure.

IMPLEMENTATION

Once an MPLIS is designed, a plan is needed for implementation. A major consideration in MPLIS implementation is how the shift from the current manual system to the new automated system will occur. Normally, pilot projects, demonstrations, and benchmark evaluations are carried out on a small scale before full commitment is made to the new system. For example, a new property registry system may be tested in one or two states before being implemented nationally. Pilot projects provide the opportunity to fine-tune the system, work with the hardware and software, and apply different solutions.

Using the measurable objectives and priorities developed by the system's builders and users, monitoring should be carried out to provide guidance to both system operators and policy makers, who are needed to ensure financial support. Monitoring should include periodic reports on the overall MPLIS, as well as reports on specific functions

Cost of Mapping and Titling Projects for Honduras, Ecuador, and St. Lucia

Delineation and mapping, U.S. dollars per hectare

Honduras 4.50
Ecuador 4.60
St. Lucia 49.00

Titling, U.S. dollars per hectare

Honduras 19.00
Ecuador (not available)
St. Lucia 59.00

Source: *A Comparative Evaluation Framework for Cadastre-based Land Information Systems (CLIS) in Developing Countries* (Land Tenure Center, 1990).

such as property registration. Users and systems operators should be involved and clearly informed of the purpose and nature of these evaluations.

COST

One factor that makes policy makers reluctant to implement an MPLIS system is the high start-up cost. The costs of MPLIS tend to occur early in the life cycle. Hardware, software, and data, which often amount to 75 percent or more of total costs, must be purchased before the system goes into operation. Benefits, on the other hand, tend to be generated over a longer period of time.

This means that total benefits do not equal total costs until after 5 or 10 years. Benefits may be hard to quantify be-

cause they include intangible results such as more effective land management or improved staff morale. These factors make it difficult to develop a precise economic evaluation of an MPLIS before it is put into operation.

To save money, the implementation plan should be incremental. Phase-in should be analyzed in terms of the immediate needs of government and the private sector for output from the system. That is, a particular need to improve the property registry system, revise the property tax system, or solve a specific environmental or land use problem may make it necessary to assign priorities based on criteria other than cost.

One way to develop a priority list for funding an MPLIS is to consider the

components of the system itself. For example, one of the first components to be funded is usually the geodetic foundation, since this is the basis for spatial coordinates by which all layers of data can be linked and analyzed. Base layers are often developed as a background for other spatial data layers. Computer hardware and software are needed immediately to produce, manage, and integrate these layers. Finally, people and procedures are needed to operate and maintain the system.

As additional funds and needs surface, more data layers can be added. It is critical that a comprehensive plan be completed before any part of the system is implemented to ensure that pieces added later will drop neatly into place and provide the output desired.

ADDITIONAL READING

The following publications can be obtained from the Land Tenure Center, University of Wisconsin-Madison, Madison, WI 53706, Attn: Publication Request (phone 608-262-3657). These publications are free of charge to AID offices. For further information contact Steve Hendrix at LAC TECH.

Grenville Barnes, *A Comparative Evaluation Framework for Cadastre-Based Land Information Systems (CLIS) in Developing Countries* (Land Tenure Center, 1990).

D. David Moyer, *Geographic Information Systems: Definitions, Concepts and Applications* (Institute for Environmental Studies, University of Wisconsin-Madison, 1989).

J. David Stanfield, *Projects that Title Land in Central and South America and the Caribbean: Expectations and Problems* (Land Tenure Center, 1985).

Steven E. Hendrix, D. David Moyer, and Ronald S. Stochlic, *Land Registry Reform in Guatemala: A Status Report with Recommendations* (LAC TECH/Land Tenure Center, 1992).

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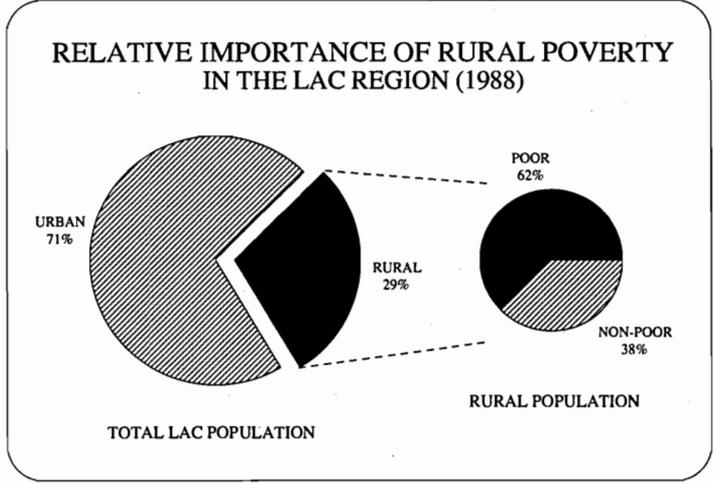
This bulletin explores the realities of rural poverty (1) in USAID-assisted Latin American and Caribbean countries compared with the LAC region as a whole and other regions of the world, and (2) in Central America. The first analysis (pages 1 and 4) is based on poverty estimates from the International Fund for Agricultural Development (IFAD). The second analysis (pages 2 and 3) is based on estimates from the Economic Commission for Latin America and the Caribbean (ECLAC). Both sets of

estimates are based on data from national-level household surveys undertaken primarily in the 1980s. They measure absolute poverty, or the numbers/percentages of people (households) whose incomes and consumption fall below nationally defined poverty lines. Although the estimates differ somewhat, the stories they tell about rural poverty in the region are consistent. The author, Roberta van Haeften, is the LAC TECH Food Policy Advisor.

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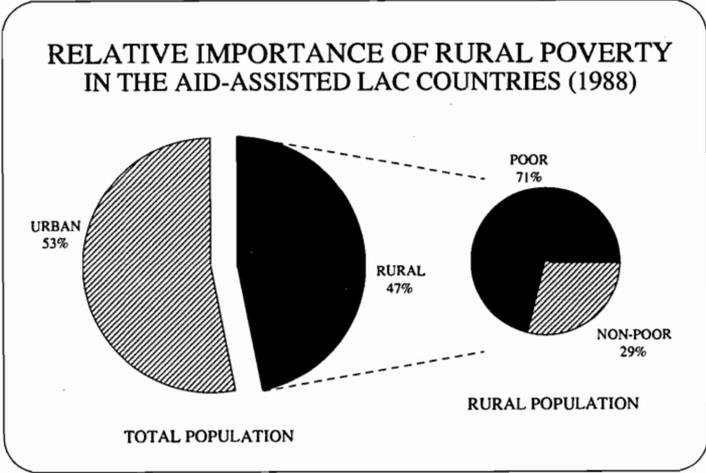
RURAL POVERTY IS STILL A PROBLEM IN THE LAC REGION

Most people think of the LAC region as being more urban and having higher incomes than Africa or Asia. The LAC region is indeed predominantly urban, with over 70 percent of its population living in urban areas at the end of the 1980s (see figure at right). This does not mean that rural populations are unimportant, however; more than 122 million people lived in rural areas at the end of the 1980s and more than 62 percent of them lived in absolute poverty. Furthermore, in many of these countries, the majority of people living in utter destitution reside in rural areas. Data from other sources further indicates that people living in rural areas are less likely to have access to schools, health services, markets, communications, etc., and their children are more likely to suffer from malnutrition and/or die early.



RURAL POVERTY IS MORE SEVERE IN USAID-ASSISTED LAC COUNTRIES

People living in USAID-assisted LAC countries are more likely to be rural (almost half the population still lived in rural areas at the end of the 1980s), and rural people are more likely to be living in absolute poverty (almost three quarters, or more than 27 million people, were living below the poverty line in rural areas at the end of the 1980s; see figure at left). As of January 1993, USAID-assisted LAC countries included in this analysis were Bolivia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Nicaragua, Panama, and Peru (USAID does not maintain a full "sustainable development" program in "more developed" LAC countries).

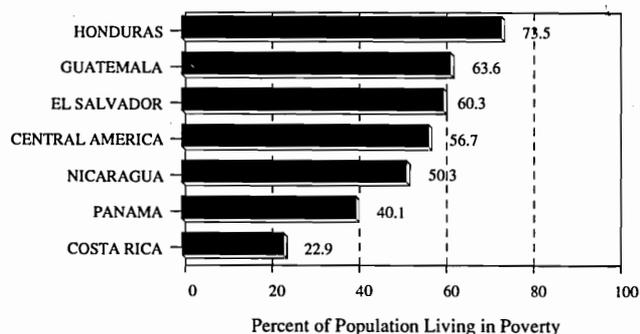


CENTRAL AMERICA

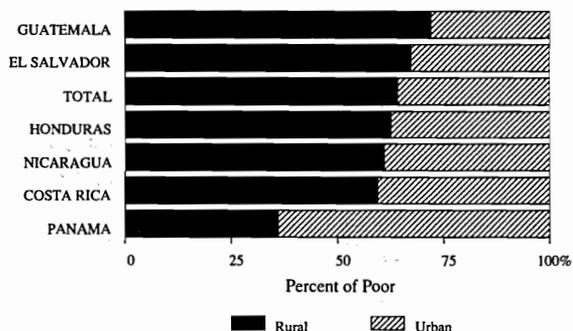
POVERTY IS A SERIOUS PROBLEM IN CENTRAL AMERICA

Poverty is still a major problem in Central America. At the beginning of the 1990s, almost 57 percent of the region's population, or more than 16 million people, lived in absolute poverty and were unable to meet their minimum basic needs. Fifty percent or more of the population were living in absolute poverty in four countries — El Salvador, Guatemala, Honduras, and Nicaragua. Costa Rica was the only Central American country whose poverty level had declined to less than 25 percent of the population.

RELATIVE IMPORTANCE OF POVERTY IN CENTRAL AMERICA (1989/91)



RELATIVE IMPORTANCE OF RURAL POVERTY IN CENTRAL AMERICA (1989/91)



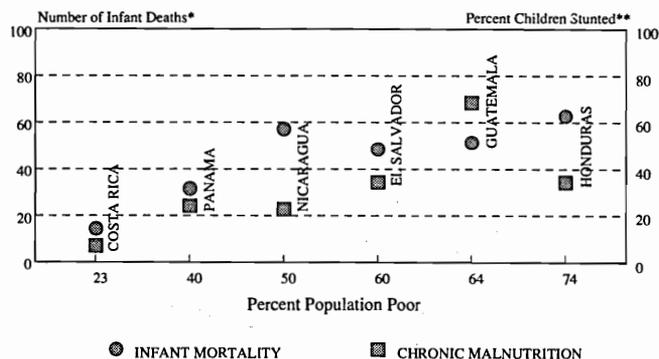
RURAL POVERTY IS STILL A MORE SERIOUS PROBLEM THAN URBAN POVERTY

Many tend to think that poverty in Latin America has become primarily an urban problem. This is not true for the Central American region as a whole or for the majority of the countries in the region. Sixty-six percent of Central America's poor still live in rural areas. Over 60 percent of the poor live in rural areas in five of the Central American countries — Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua. Panama is the only country in the region where urban poverty now predominates.

SOCIAL INDICATORS ARE WORSE IN COUNTRIES WITH HIGHER RATES OF POVERTY

Countries with higher rates of poverty also have higher rates of infant mortality and child malnutrition. At the beginning of the 1990s, four countries — El Salvador, Guatemala, Honduras, and Nicaragua — had infant mortality rates above 50 deaths per year per 1,000 live births. In five countries — Panama, Nicaragua, El Salvador, Guatemala, and Honduras — over 20 percent of the children suffered from chronic malnutrition. This relationship has not held over time, however. That is, most Central American countries saw their social indicators improve in the 1980s as the number of people living in absolute poverty increased (see discussion, next page).

SOCIAL INDICATORS AND POVERTY IN CENTRAL AMERICA (1989/90)



*The infant mortality rate is the number of infants who die before age one per thousand births in a given year.

**Chronic malnutrition is the percent of children under five who are stunted (whose heights are below two standard deviations from the median height for age of the reference population).

CENTRAL AMERICA

POVERTY WORSENERD IN CENTRAL AMERICA IN THE 1980s

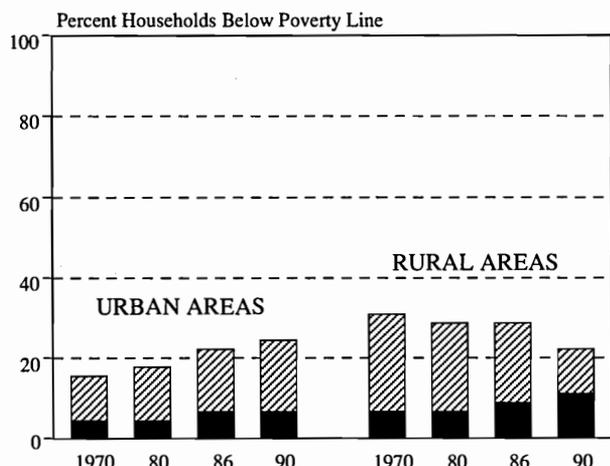
Poverty worsened in the 1980s in four Central American countries — Costa Rica, Guatemala, Honduras, and Panama (the four countries for which data is available for more than one point in time — see country graphs below). For urban areas, the picture was similar. The percentage of households living below the poverty line increased in all four countries. The percentage of urban

households living in extreme poverty also increased (households are classified as living in extreme poverty when their entire incomes, if spent on food, would not be sufficient to ensure an adequate diet).

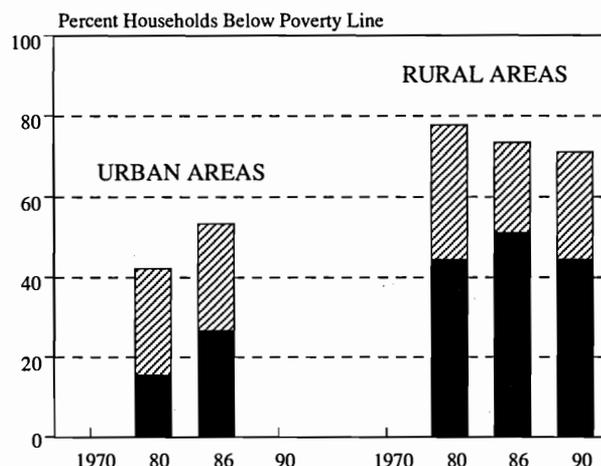
For rural areas, the picture is mixed. In two countries — Costa Rica and Guatemala — the percentage of rural households living in

absolute poverty decreased in the 1980s, although the percentage living in extreme poverty increased. In Panama, the percentage of rural households living in poverty increased, while the percentage living in extreme poverty decreased. And in Honduras, both the percentage living in poverty and extreme poverty increased.

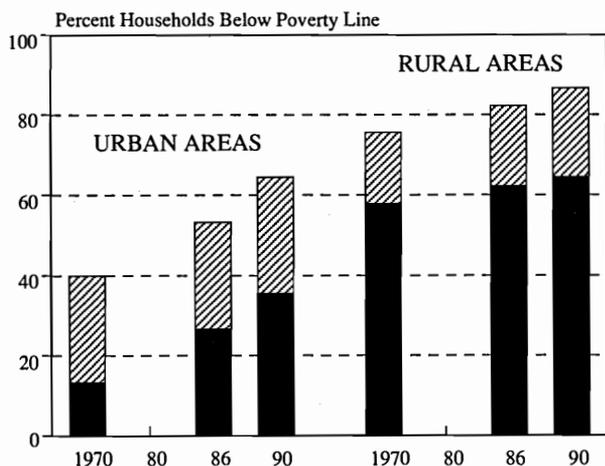
COSTA RICA



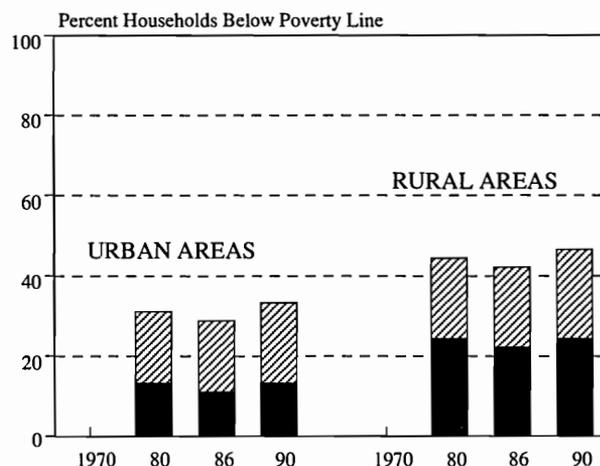
GUATEMALA



HONDURAS



PANAMA

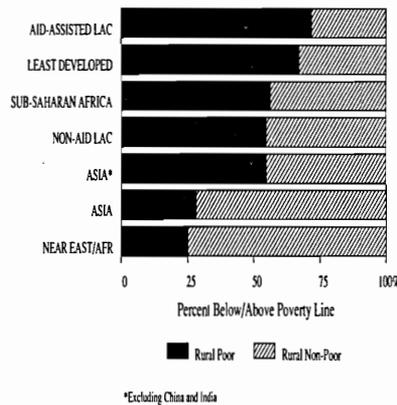


LAC REGION

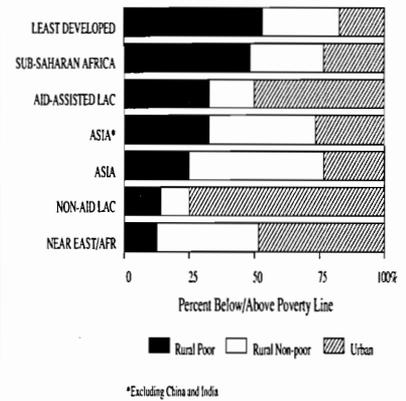
RURAL POVERTY IN THE LAC REGION IS NOT A MINOR PROBLEM

In fact, based on estimates by the International Fund for Agricultural Development, the percentage of the rural population in USAID-assisted LAC countries who are poor is higher than for any other region of the world (see first figure at right) — 71 percent for the USAID-assisted LAC countries compared with 60 percent for sub-Saharan Africa and 31 percent for Asia. (If China and India are excluded from these calculations, the percentage for Asia increases to 46 percent.) But because the least developed countries and sub-Saharan Africa are much more rural than USAID-assisted LAC countries, these regions rank ahead of LAC in terms of the percentage of their total population that is rural and poor (see second figure at right).

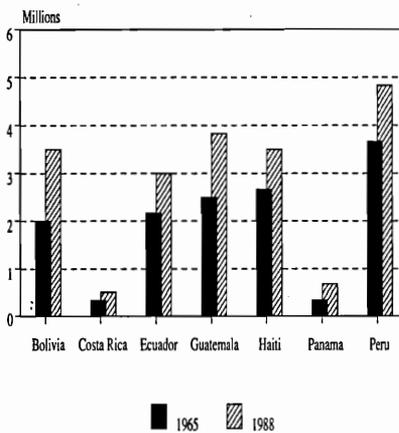
RELATIVE IMPORTANCE OF POVERTY IN RURAL AREAS IN KEY REGIONS OF THE WORLD (1988)



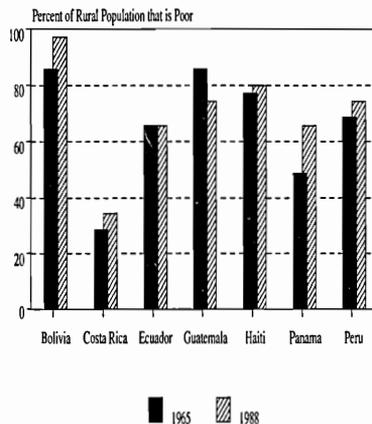
RELATIVE IMPORTANCE OF RURAL POVERTY IN KEY REGIONS OF THE WORLD (1988)



CHANGES IN NUMBERS OF RURAL POOR AID-ASSISTED LAC COUNTRIES (1965, 1988)



CHANGES IN PERCENTAGES OF RURAL POOR AID-ASSISTED LAC COUNTRIES (1965, 1988)



RURAL POVERTY HAS INCREASED IN THE USAID-ASSISTED LAC COUNTRIES

The number of rural people living in poverty grew in absolute figure, as well as relative terms (see second figure at left) in many USAID-assisted LAC countries between 1965 and 1986. The fact that the percentage of people living in poverty in rural areas has increased in most countries for which data is available is significant. This means that the number of people living in poverty in rural areas is growing faster than the rural population as a whole.

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The views expressed in the LAC TECH Bulletin are solely those of the authors and do not necessarily represent the views of USAID. For information about LAC TECH or to receive additional copies of the Bulletin, contact Sher Plunkett, USAID Project Officer.

Many Latin American countries face a severe shortage of financial entities to provide credit to rural clients. Urban-based private banks have mostly ignored rural areas, and interventions by government-subsidized state banks have largely failed. Credit unions can be a useful vehicle to provide sustainable financial services in rural areas, but they too have failed in many countries.

Roots of the Problem

One of the most glaring problems confronting many rural areas in Latin America is the shortage of self-sustaining financial entities. This problem, ultimately, is rooted in the bias towards urban-based investment and in past development strategies that marginalized vast parts of the population, especially in rural areas. As a result, dual economies emerged in many Latin American countries. The first is a formal sector, operating in the "modern" economy, where anonymous exchanges and infrastructural market institutions prevail. The second is an informal sector, characterized by personalistic relationships and underdeveloped infrastructure. It is the formal sector, with substantially higher productivity and income—rather than the informal sector—that determines the overall pattern and dynamism of economic development.

Economic dualism and acute market segmentation smother financial intermediation in the countryside. To compensate, many governments became direct suppliers of these services through public development banks. These entities, however, were usually constrained by excessive centralization, making them unsuitable to lend to dispersed small farmers and vulnerable to political interference when evaluating loan applications. Fur-

This bulletin examines the roots of the rural finance shortage in Latin America, ineffective attempts to address the problem, and a successful USAID project in Guatemala that has strengthened 20 rural credit unions and led to increased credit in rural agriculture and finance. It was written by Jorge Daly, financial policy advisor for the LAC TECH project.

thermore, these banks were the main vehicles of excessive, subsidized credit. Together, political interference and "cheap" credit doomed these entities with low repayment rates, while their inability or unwillingness to mobilize rural savings aggravated their heavy dependence on government funds.

The state banks' monopoly on the formal rural financial market introduced not only severe economic distortions, but, most importantly, widespread misconceptions regarding the economic characteristics of rural areas. One of these was that rural people were poor and in need of welfare, not a market with potential growth for profit making. Not surprisingly, the mostly urban-based private financial entities, shunning the higher risk implicit in rural loans and unwilling to invest in acquiring information, all but abandoned the field to the state banks, even in countries with a strong agriculture base.

The Traditional Credit Union Model

Credit unions, following the spirit and practices of the times, operated on the traditional outdated system of subsidies and poor management practices. (Richardson *et al.*) This system denied the advantages of maximizing interest in-

This is the fourth in a series of technical bulletins published by the USAID Agriculture and Rural Development Technical Services (LAC TECH) project. See back page for subscription and other information.

come and considered profit making and retained earnings to be anti-cooperative in spirit.

The traditional credit union model assumed that farmers were too poor to save; moreover, many believed that savings deposits constituted a costly and unstable source of funds. Consequently, banks relied on members' shares as the main source of lending and internal funding. These shares, however, earned a very low or close to zero rate of return, consistent with the cheap credit that was offered to the membership. Another problem was that shares were illiquid. Withdrawal of shares usually meant the end of membership, and since this would erode the capital base of the entity, members were greatly discouraged from withdrawing (and normally had to wait 90 days). Finally, shares were used to determine maximum loan size, normally a multiple of the member's share outstanding. In general, loan applications were automatically approved if they conformed to a specific percentage of the member's share balance. This was the foundation of an "automatic loan" policy that was implemented without adequately assessing the borrower's repayment capacity, and, in the case of larger loans, without consideration for solid, real collateral.

Not surprisingly, under this traditional model, credit unions were not viable financial entities. Lax credit procedures and loans provided at below-market, heavily subsidized interest rates led to a poor quality loan portfolio. Subsidized loan interest rates also led to below-market returns on shares and savings deposits and greatly constrained the capacity to accumulate earnings and increase capital. The result was a weak capital structure that was inadequate to cover operational losses. This was clearly seen in times of acute financial crisis, when it was common for credit unions to freeze share withdrawal. Under these circumstances, the only alternative for members to protect their shares was to become delinquent in their loans. But this action, in the end, only accelerated the financial deterioration of the entity.

Credit Union Reform in Guatemala

With funding from USAID, the World Council of Credit Unions launched the Cooperative Strengthening project in 1987 to provide technical and financial assistance to 20 cooperatives of the National Credit Union Federation (FENACOAC). The objective of the project was to implement a reform program to recapitalize the cooperatives, turn them into economically viable entities, and ensure their long-term sustainability in the marketplace.

After almost six years, the results of the project are impressive. As Table 1 indicates, from 1989 through September 1993 total assets, loans disbursed, shares, deposits, and capital have grown every year except 1990, when the annual inflation rate outpaced the rates of growth of all indicators except total deposits. During this period, membership increased from 65,200 to 86,849.

The project worked with many credit unions—all undercapitalized and with high delinquency rates. They had lost pres-

tige within their communities because the public perceived them as unsafe. In a short period of time, however, a spectacular turnaround has been achieved. The reasons for this turnaround are described below.

The credit unions pursued a market model approach. This was a radical departure from the past. The project sought “to increase the availability of production and investment credit throughout the cooperative movement by stabilizing the financial situation of selected organizations,

rise, it is expected that savings will increase further. In this regard, it is imperative that credit unions sustain the deposit mobilization they have achieved. Traditionally, private banks captured savings in the localities where credit unions operate. But by September 1993, credit unions were capturing 34 percent of the market share of deposits, compared to 45 percent for private commercial banks and 14 percent for BANDESA, the state bank. This is because the credit unions offer competitive terms and the minimum deposit to open a savings account is much lower (\$3.50) than private commercial banks (\$44). Yet, there is room for improvement. For example, high-income credit union members prefer to save at private banks, notwithstanding the fact that most credit unions peg their rates to those offered by private banks. Prestige and the availability of checkbooks seem to account for this preference.

Most credit union clients have virtually no access to reasonably priced loans from private commercial banks, who require

that borrowers fill out difficult loan applications and pay high fees. When applications are submitted, the borrower must wait weeks before he or she knows if they have been approved or rejected. The average loan size for credit unions is significantly smaller (\$305) than for private commercial banks (\$5,830), but the transaction cost for small loans is higher for private banks than for credit unions. This is because private banks usually operate through commercial branches with high fixed-cost structures that are not compatible with the size of the market they serve. The gap is filled by BANDESA and informal lenders. But the credit unions have proven to be more dynamic actors, because they underprice the informal lenders and the quality of their services is superior to BANDESA. As Table 2 illustrates, credit unions have become the most important source of credit in the communities where they operate.

Table 1. Growth of key indicators (1989-1993*)

	1989	1990	1991	1992	1993*
	(percent)				
Assets	30.3	35.0	30.3	38.7	33.0
Loans	31.3	18.5	39.5	37.1	55.5
Shares	26.0	20.0	26.0	28.0	27.0
Deposits	44.7	67.6	48.9	70.0	34.3
Capital	40.6	51.3	69.6	44.8	61.4
Inflation	20.2	59.8	10.0	15.0	15.0

* Through September

Source: Cooperative Strengthening project

promoting the use of innovative resource mobilization and credit intermediation techniques, and upgrading the management and service delivery capabilities of the cooperatives.” (Lennon *et al.*)

Pursuing a market model approach required that each financial entity locate its appropriate market niche. They did this by tapping a mostly rural clientele of the self-employed, salaried workers, traders, small business people and farmers. The average member’s monthly income was \$141, considered to be lower to middle-income by Guatemalan economic standards. The average savings balance and loan size were \$75 and \$305, respectively.

In general, the membership has a limited savings potential. Almost 90 percent of total savings accounts are less than \$88. Salaried workers and commercial farmers seem to be the best savers and have the highest growth potential. As incomes

The credit unions embraced sound management techniques to introduce demand-driven financial services. Managers adopted high volume, low margin operations to replace the low volume, high margin operations typical of the financial services offered by the traditional model.

Sound management techniques are the foundation for the long-term financial viability of credit unions and for ensuring that they stay competitive with their rivals. This task has been greatly facilitated by the introduction of the PERLAS Monitoring and Evaluation system. PERLAS is a system of standardized financial ratios and formulas that measures overall performance from five categories: asset protection, financial structure, yields and costs, non-productive assets, and growth. The PERLAS system is a valuable management tool that allows managers to react quickly to impending problems and

introduce corrective measures before they become unmanageable.

The project credit unions have performed admirably. They have evolved into self-sustaining, economically viable financial entities. One can safely conclude that if they stay the course they will continue to grow, become stronger, and play an increasingly important role in rural financial markets. However, there is still room for further reform in two areas. First, although yields on shares have risen from 0 percent in 1987 to almost 4 percent in 1992, they are still far below than the 10-12 percent returns that are offered on savings deposits. This difference should be bridged because it sends the wrong incentive to managers and encourages reliance

Table 2. Market share of loans (1992)

	Number	Volume outstanding (percent)
Credit unions	47	51
Private banks	3	10
Public banks	11	15
Other	39	24

Source: "The Impact of Credit Unions in Guatemalan Financial Markets."

on low-cost funds and away from savings deposits—the cornerstone of future growth. The second area of concern is that in spite of the rapid growth of total assets, operating costs have been growing faster. Operating costs as percentage of total assets rose from 6.4 percent in 1987 to 7.9 percent in 1992. This suggests that the entities have not been able to lower the significantly high transaction costs for small loans.

Using PERLAS, it is possible to highlight the following achievements of the 20 credit unions:

- Since 1989, a 100 percent provision covers loans that are overdue 12 months. In 1987, provisions covered just 53 percent of overdue loans. By the end of 1992, provisions were enough to cover 58 percent of delinquent loans, up from 33 percent in 1987.
- The ratio of liquid assets to total assets has risen from 13.3 percent in 1987 to 22 percent by 1992.
- All participating credit unions are required to reserve 10 percent of their savings deposits within FENACOAC. By September 1993, the credit unions, on average, had increased these reserves to 10.5 percent, up from 3.8 percent in 1987.
- By September 1993, the ratio of net earnings to total assets was 3.6 percent, compared to 2.1 percent in 1988.
- Loan delinquency is measured not on the overdue loan service but the entire principal balance. By the end of 1992, delinquent loans as a percentage of the total loan portfolio was 6.9 percent, down from the 30-40 percent rates that prevailed in 1987-1988.
- The ratio of non-productive assets to total assets dropped from 14.5 percent in 1987 to 9.2 percent in September 1993. Moreover, since 1991 these assets have been entirely financed by internally generated, zero-cost resources. In 1987, only 74 percent of non-productive assets could be financed this way.

The market model approach rests upon the competitive pricing of both savings and loans. Under this model, savings deposits become the primary source of loanable funds. The model advocates forsaking the dependence on shares as the main source of permanent, inexpensive capital and instead increasing the volume of savings. Although this is more volatile and expensive, it solves the problem of liquidity shortages that traditionally have been the curse of credit unions.

Proximity to customers, safety, convenience, ease of deposit and withdrawal, and positive returns are all conditions that must exist to mobilize savings successfully. These conditions have been largely met by the 20 credit unions that participate in the Cooperative Strengthening project. In fact, the expansion of savings deposits has been spectacular. By September 1993, savings deposits totalled 66.8 million quetzales (\$11.7 million), or 48 percent of total assets. This compares with 8.8 million quetzales (\$1.5 million) in 1988, 24.7 percent of total assets.

This impressive growth has induced three positive developments. First, the relative

importance of share capital has declined, from 47.1 percent of total assets in 1987 to 33.7 percent in September 1993. Second, a higher volume of savings has fueled a higher volume of loans. By September 1993, loans outstanding amounted to 94.3 million quetzales (\$16.5 million), an increase of 50 percent (in real terms) over 1988, despite the introduction of more conservative, stricter credit analysis techniques put into effect that year. Third, the expansion of savings deposits has lessened the dependence on external funds. As of September 1993, only 140 million quetzales (\$24.5 million, or 2.7 percent of total assets), was financed with external loans. This compares favorably with a "dependency ratio" of 18 percent in 1988 and is especially significant in view of the traditional reliance on external assistance of many rural lenders in Latin America.

The successful drive for savings mobilization forced credit unions to adopt "full cost pricing" and charge higher loan rates to cover operating costs. These were needed to pay for the competitive rates that were being paid on deposit—ending cheap subsidized credit. Reforms also allowed for the steady reduction of the "automatic loan policy" in favor of new lending criteria based on repayment capacity, credit history, and collateral.

The implementation of these criteria, in combination with the major emphasis on savings mobilization, led to a decline in loans as a percentage of total assets, from

62.5 percent in 1987 to 58.2 percent in 1992. In addition, loan administration and pricing policies were implemented to generate earnings to create provisions against bad loans and to expand capital for future growth. In this regard, the project demanded that all participating credit unions capitalize net earnings. As a result, capital grew dramatically, from 5 percent of total assets in 1987 to 9 percent by the end of 1992. This ratio is better than the present capital ratio of private commercial banks (5.2 percent), which suggests that, on average, the 20 credit unions are financially safer and sounder than private banks.

Looking Ahead: The Future of Credit Unions

Credit unions are useful vehicles to fill gaps created by the unwillingness or inability of private and state banks to provide high quality, reasonably priced financial services to rural clients. Credit unions have several advantages. One is a well defined presence in rural areas that enables them to obtain less costly information on the creditworthiness of a client. This feature is reinforced by the fact that credit unions are mutualist entities, i.e., members are both clients and owners. Another advantage is relatively low transaction costs compared to private commercial and state banks. In the case of Guatemalan credit unions, clients do not have to pay fees, wait long for loan approval, or go through the time-consuming paperwork and the proof-submit-

tal of collateral that other financial entities normally require from borrowers.

The credit union reform that has been achieved in Guatemala will help foster badly needed financial reforms nationwide. At present, the 20 credit unions, on average, exhibit better safety and soundness ratios than private commercial banks because their policies for minimum capitalization, delinquency control, reporting, and reserve creation are stricter. In fact, as described above, the capital/asset ratio for credit unions is almost twice that for private banks. By the same token, the loans to assets ratio is 58.2 percent for credit unions, higher than the 44 percent offered by private banks. In contrast, the ratio of non-productive assets to total assets is only 10.8 percent for credit unions, much lower than the 25.6 percent for private banks. Reserves to cover total liquidity are four times higher in credit unions than in private banks (58 percent against 14.2 percent).

The Guatemalan example demonstrates that credit unions can play a significant role in providing financial services to rural clients by mobilizing savings and resolving the problems of credit delivery. In doing so, they bring marginalized clients into close contact with formal financial markets and help lower the dualism of the Guatemalan economy. Without the presence of the 20 credit unions that have been assisted by the Cooperative Strengthening project, most of the members would have been denied well serviced, timely credit at reasonable commercial terms.

Sources

Richardson, David, Barry Lennon, and Brian Branch, "Credit Unions Retooled: A Road Map for Financial Stabilization." Guatemala Cooperative Strengthening Project. (March 1993).

Lennon, Barry and David Richardson, "The Impact of Credit Unions in Guatemalan Financial Markets." Cooperative Strengthening Project. (November 1993).

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How has the non-traditional agricultural export (NTAE) boom been influenced by land tenure patterns? Have land tenure and labor utilization changed with crop diversification? What factors should be considered in designing projects for winter fruits and vegetables? Tim O'Hare, formerly a rural development officer with the Latin American and Caribbean Bureau and now a program economist with LAC, examines these and other related questions in a review of USAID-sponsored research by economists at the University of Wisconsin. In an upcoming video, LAC/RSD and selected LAC missions present NTAE-related farmers and business persons themselves as they describe the changes that the NTAE boom has brought to their lives.

This is the fifth in a series of technical bulletins on current development issues published by USAID's Agricultural and Rural Development Technical Services (LAC TECH) Project. See back page for subscription and other information.

INTRODUCTION

USAID missions in the LAC region have focused a significant portion of their programs on the development of non-traditional agricultural exports (NTAEs). These crops can improve the conditions of the rural poor through expanded employment and income opportunities. NTAEs also enable developing countries to earn sorely needed foreign exchange. Consumers and producers in developed countries benefit from extended fruit and vegetable availability and opportunities to invest in and sell to profitable new enterprises. While generally held to be highly successful, questions have been raised concerning the distribution of benefits derived from these new, specialized production and marketing technologies. This review of LAC/DR/RD-sponsored research by economists at the University of Wisconsin examines the structural effects of NTAEs on land, labor and product markets in three countries--Guatemala, Chile and Paraguay.

BACKGROUND

With external debt growing and earnings from traditional export commodities declining in the early 1980s, many Latin American and Caribbean countries began to pursue a growth strategy of liberalized and diversified trade that emphasized non-traditional exports, both manufactured and agricultural. Initially the export base of non-traditional exports was small, and several years transpired before significant benefits accrued. With the enactment of the Caribbean Basin Initiative (CBI) in 1984, the strategy received a significant boost as

non-traditional exports more than tripled from the mid- to late-1980s. Similar developments were occurring throughout the region. As an example, Costa Rica's exports of agricultural commodities, a large portion of which were NTAEs, increased nearly three-fold during the 1980s. Paraguay's duty-free access to the U.S. market facilitated dramatic increases in non-traditional agricultural exports (NTAEs). In Chile, NTAEs increased by 222 percent in the latter half of the 1980s, while they increased by 78 percent in Guatemala during the same period.

CONTROVERSY

The NTAE revolution has not been without controversy. Advocates maintain that NTAEs generate employment for the rural poor and small landholders, and that their foreign exchange earnings stimulate growth and ease balance of payments problems. Critics argue that purported benefits of the export-oriented growth strategy, particularly as they relate to NTAEs, have not materialized for the small landholders or rural poor. Furthermore, opponents contend that with the introduction of NTAE commodities, the danger exists that they will replace basic grain production, and the poor's nutritional status will deteriorate (see the summary of these positions in von Braun, et al [1989]). Environmental concerns, especially related to agrochemical usage and soil erosion, have been voiced recently as well.

DISTRIBUTIONAL EFFECTS

In a thoughtful and highly informative paper entitled *Agro-exports and the Rural Resource*

Poor in Latin America: Policy Options for Achieving Broadly-Based Growth, Professor Michael R. Carter and his colleagues Bradford L. Barham, Dina Mesbah, and Denise Stanley, of the University of Wisconsin, examine the distributional effects of NTAE booms on the rural resource poor in three countries with different natural endowments, labor-force characteristics and land conditions--Guatemala, Paraguay, and Chile. With the benefit of extensive field experience and primary data, the authors examine the three countries' experiences in the context of two criteria: labor absorption and induced structural change. Labor absorption is measured in terms of what the authors call "small farmer participation," "land access" and "net employment effects." The paper's analytical construct and policy recommendations focus on "structural change," which refers to how the intensity of labor use changes with different scales of production. The following sections detail the findings.

EMPLOYMENT EFFECTS

The paper describes empirically the range of net employment effects of export growth. It concludes that in the short run, net employment growth attributable to NTAEs depends on the distribution of the size of farms producing the exported commodity. In the longer run increased labor opportunities depend on the presence or absence of a pattern of structural change. As the authors observe:

In the Short Term, the employment generated by an export good depends on the size distribution of the farms which initially adopt the production

of export crops. As a massive body of theoretical and empirical literature indicates, large farmers are likely to produce any given crop with less labor per-hectare than would a small farmer.

In the Medium Term, an agro-export boom could induce a pattern of structural change which in turn generates further changes in net employment by systematically shifting land from more to less labor-absorbing large scale producers.

ally defined, the information constrained nature of the various ancillary markets which surround agricultural production tend to create farm-size biases. For any particular crop, some biases may favor larger units, while others may favor smaller production units.

In other words, due to the costs associated with obtaining information about the pertinent markets for a given agricultural pro-

capital markets favor larger producers;

2. Working Capital. Large amounts of purchased inputs and working capital are usually required in the production of NTAEs and thus create a large-farm bias that can be exacerbated when competitive capital markets favor larger producers;

3. Human Capital. Generally, NTAEs are management-intensive in terms of their production and marketing requirements, therefore favoring commercial sized units;

4. Price-Quality Measurement. With stringent quality and freshness standards and steep discounts for failure to meet them, the production and marketing of NTAEs require the training and self-supervision of labor - which is more prevalent on small farms;

5. Product Perishability, Processing Output and Gains from Vertical Coordination. The need for expensive processing equipment as well as sensitive production and harvesting schedules can bias NTAE production toward large farms or plantations;

6. Investment Gestation Period. This particular bias pertains mainly to tree or orchard crops where large initial investments by larger land owners are typical and income generation is deferred during a relatively long gestation period; and

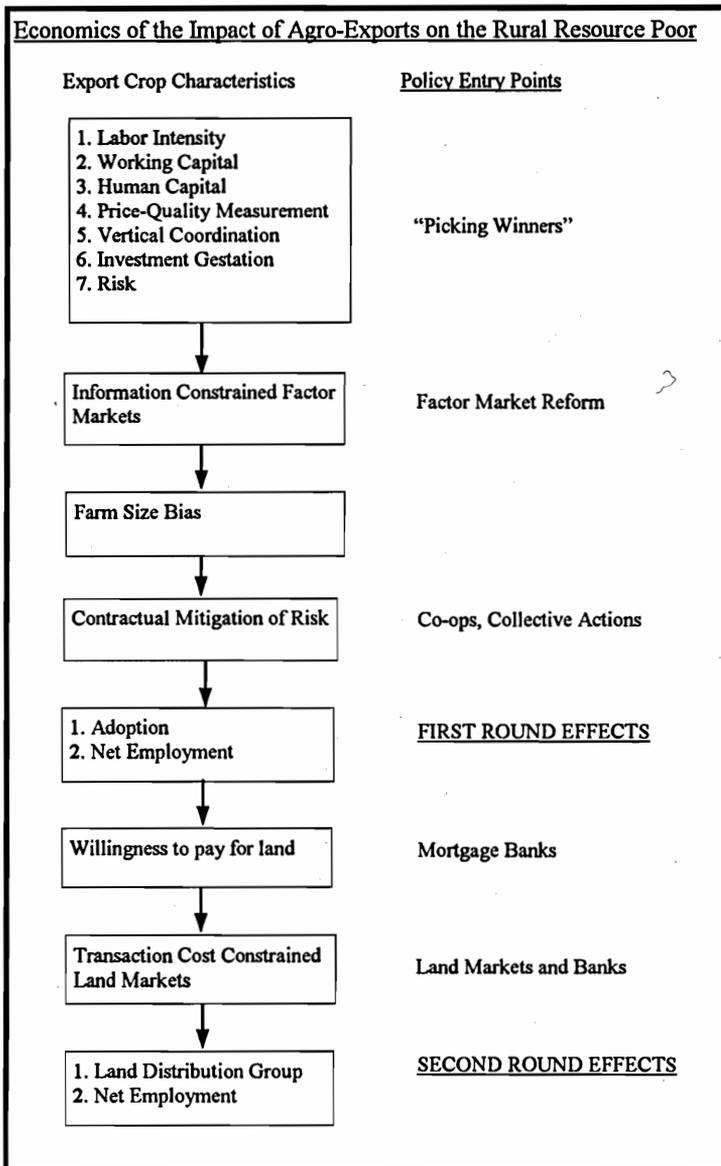
7. Output and Relative Price Risks. Export crops are more risky than traditional food staples in terms of quantity, quality, and price variability—typically favoring large farmers.

CONTRACTUAL ARRANGEMENTS

In spite of farm size biases, contractual arrangements are capable of mitigating some of these market imperfections. While traditionally sharecropping has been considered an effective way to join family labor with an individual who has access to cheap capital, this form of partnership nevertheless does not lead to equal returns for the parties involved. Furthermore, it rarely succeeds

POLICY OPTIONS

The accompanying diagram provides a concise, logical flow linking the crop characteristics of NTAEs and their farm-size biases, market conditions, contractual arrangements, and first- and second-round effects on the rural resource poor. It also shows at what points policy can be an effective tool to assist in the process. For example, "picking winners" refers to encouraging production of the types of crops whose characteristics will have positive impacts on the rural poor. Factor market reform can help to incorporate small farms into the markets for capital and risk. Contractual arrangements figure prominently due to their ability to offset to some degree the inherent farm-size biases of NTAEs. Improving the mortgage banks system and addressing the prohibitive transactions costs associated with buying land can help involve small holders in the land market.



MARKET BIAS

Carter, et al.'s LAC/DR/RD-sponsored research found that induced structural change follows from farm-size biases inherent in the production of export crops in general and NTAEs in particular:

While most if not all agricultural production processes exhibit constant returns to scale as usu-

duction, some crops experience higher profits when grown at one particular farm size than another.

Seven farm size biases prevalent in the production and marketing of NTAEs in information constrained markets include:

1. Labor Intensity. Some commodities and

in an environment more suitable to wage labor production. Contract farming, in which exporters or other agents provide smallholders with the capital and technology necessary for high-value agricultural commodities for export, can also potentially mitigate farm size biases. The major disadvantage here is the high risk exposure participating farmers may face. Guatemala is one major exporter that relies on this arrangement to schedule production, deliver working capital, and provide technical assistance to "multiple small producers." However, to some extent the market biases are still prevalent, for example in terms of supervision costs, price-quality management and so forth. Finally, the need for quality assurance at the product-assembly stage may be prohibitively expensive for processors or exporters contracting for the production of NTAE commodities.

The experience of the Cuatro Pinos Cooperative in Guatemala in organizing production and marketing has been encouraging. Here, contract farming has successfully tapped into underutilized family labor in order to compete with larger scale production. Nonetheless, contract farming still suffers from problems due to fixed costs of information. For example, when pesticide residue problems arose in Guatemala in the early 1990's, cooperatives and export firms faced increasing costs due to the need for exporters to directly monitor production.

FIRST- AND SECOND- ROUND EFFECTS

Decisions for crop adoption and employment use—or "first-round effects"—for any given commodity depend on whether returns are higher for the traditional or for the export commodity. The following quote explains how farm size will affect these choices:

Effective factor prices are different for large farms than for small farms. The cost of labor in productivity or efficiency units, is relatively low on small farms (because residual claims makes family labor self-supervising), while the cost of capital tends to be relatively high. The opposite configuration holds for large farm units which depend on hired labor, but which are large enough to overcome the fixed costs of information which increase the cost of capital for small holders. Given these differences, it is not surprising that large and small farms produce the same crop with differing production techniques and labor intensities.

"Second-round" effects - or changes in land access and further net employment - are determined in part by land distribution and the actual functioning of land markets. Potential land buyers will pay a price for land based on the expected future income stream accruing to land ownership. However, the rural resource poor, who are not well integrated into formal financial markets and must rely their own, informal means of insurance and savings schemes, will discount future income from land at a rate higher than those better endowed in terms of capital and information. Therefore, their expected future income stream will be lower, and likewise their incentive to purchase land is diminished.

Transaction costs figure prominently in the analysis of land markets. They are a barrier to smallholders' ability to purchase land parcels from larger units. They can also limit a largeholder's ability to consolidate a set of many small holdings into a single large unit with economies of scale. Certain to become a controversial point among development practitioners in Latin America is the suggestion contained in the paper's inventory of policy recommendations that *land titling may not be a necessary precondition for broadly-based growth* under certain conditions and could actually facilitate the displacement of smallholders. As the authors state, "land titling may only serve to generalize and make marketable to outsiders what had been locally secure, smallholder tenure". Policy makers must thus be careful in their prescriptions. The experience of Chile, where land titles are secure and transferable, is cited as an example of land market structure unfavorable to the resource poor. As Carter and Eduardo Zegarra argue in related work, broadly based growth may require a proper sequencing of capital and land market reforms. For example, capital market reform would precede land market reform in areas where more fluid land markets would only exacerbate the uncompetitive position of small farmers.

THE GUATEMALAN CASE

The NTAE boom in Guatemala was broadly based, because many factors mitigating farm size biases were in place when the boom commenced in 1987. The key and mitigating factors were:

- 1) the commodity mix—short cycle crops;
- 2) contractual arrangements—a heritage of cooperatives;

- 3) self-insurance or risk management strategies; and
- 4) land distribution patterns—traditional small holder.

A significant link was established between labor absorption and crop adoption. The commodities most important to Guatemala's NTAE boom have been broccoli and snow-peas, which absorb labor at greater rates than traditional commodities. The returns to the cultivation of these commodities enabled small farmers to acquire additional units of land, demonstrating their confidence in future income from it. There are some documented cases of large-scale producers or exporters willing to enter into contractual arrangements that provided credit and/or productive inputs to small scale producers. The authors are emphatic that many of the benefits of the Guatemalan NTAE boom can be attributed to USAID's and other donors' investments in small farmer cooperatives and rural credit programs that served to mitigate some farm-size biases while reducing transaction costs and offering limited risk management options.

THE CHILEAN CASE

Chile's NTAE boom was "ambiguous" because of positive employment effects accompanied by negative land effects. The former were produced by the first-round, labor absorbing characteristics of fruit cultivation. In the two regions of Chile (northern and southern portions of the Central Valley) analyzed in the paper, fruit crops were more labor-absorbing than traditional field commodities at any given level of cultivation. On the other hand, large-farm biases were very much evident in Chile, as NTAEs there tended to be tree crops with long gestation periods and large capital requirements. The authors identify a trend toward rapid restructuring of land access in Chile's central valley, where the NTAE boom occurred, which leads them to conclude that the boom excluded the rural resource poor as producers. This was especially evident in the south central valley, where the NTAE boom resulted in "land polarization" or a movement toward larger units in both absolute and relative terms. The authors are uncertain about the labor-absorption effects attributable to this trend and suggest that it is too soon to draw definitive conclusions.

THE PARAGUAYAN CASE

Unlike Chile, there are no ambiguities about Paraguay's NTAE boom. Rapid agricul-

tural expansion occurred in the large, agro-industrial sector, which produces soybeans for export and wheat for the domestic market. Citing Luis Galeano's comparative analysis of Paraguay's 1981 and 1991 agricultural censuses, the authors document the trends in changing land access patterns and conclude that the medium- and small-farm elements of the Paraguayan agrarian economy suffered as a result of agricultural modernization. Modern farm operations drove up land prices beyond the level at which small farmers, with their limited access to capital, could afford, and displacement followed.

VALUABLE REFERENCES

Those interested in crop diversification issues and the problems of marketing non-traditional agricultural commodities will undoubtedly appreciate the paper's review and summary of the literature on NTAEs. Reviewed articles are listed by commodity, per-hectare labor requirements, and seasonality of labor demand.

CONCLUSIONS

The experiences of these three countries lead the authors to conclude that growth strategies relying on NTAEs do not necessarily nor automatically include disadvantaged groups, such as the rural resource poor. A successful and equitable strategy is realistic only in a setting of liberalized

markets and outward-looking policy. But that will not suffice. Additional policy options may have to be pursued, in order to overcome farm-size biases and ensure that the benefits of NTAEs are socially sustainable in the context of liberalized markets and outward-looking policy. Providing the disadvantaged with financial assistance and softening the severity of structural change may be needed. This activist policy agenda is certain to generate some controversy and should provoke policy makers intent on fostering NTAE development to be cautious in their recommendations.

SOURCES:

Agro-Exports and the Rural Resource Poor in Latin America: Policy Options for Achieving Broadly-Based Growth. By Michael R. Carter, Bradford L. Barham, Dina Mesbah, and Denise Stanley. Madison: University of Wisconsin, 1993.

Nontraditional Export Crops in Guatemala: Effects on Production, Income and Nutrition. By Joachim von Braun, David Hotchkiss, et al. Washington, D.C.: International Food Policy Research Institute, 1989.

Sequencing Capital and Land Market Reforms for Broadly-Based Growth. By M. R. Carter and E. Zegarra. Madison, University of Wisconsin, 1994.

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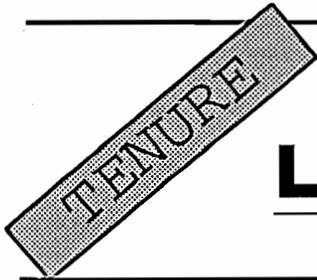
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LAC



TECH BULLETIN

No. 5

September 1994

Tenure and Development Strategy

The topic of "tenure" has often been debated in the development literature. What exactly does "tenure" mean? And how is it relevant to the present goals of the development community? This bulletin attempts to respond to those two basic questions.

The Meaning of "Tenure"

When people think of "tenure," they often think of agrarian reforms, the old Alliance for Progress, or perhaps land titling projects. But tenure issues are much broader. Tenure relates to property ownership. We can talk about tenure or ownership of land, water, buildings, forests, oceans or even intellectual property. As such, tenure concerns are not usually a goal in themselves, but rather tools to reach some other goal. And property ownership questions are everywhere! As presented below, resource tenure issues are cross-cutting issues in nearly all strategic objective areas.

Broadly Based Economic Growth

The major factors of economic production are land, labor, and capital. To seriously promote sustainable economic growth, especially for disadvantaged groups, donors should address each of these factors because, at some levels, they are substitutable.

There now exists in Latin America a great opportunity to liberate land markets to spur economic growth, especially for disadvantaged groups. Most research demonstrates that *campesino*-owned farms are often more productive than larger estates. Yet the landless and land-resource poor for years have been locked out of participation in the market due to economic barriers. The agrarian reforms of the 1960s tried to solve this market failure by substituting a political solution—

This bulletin was written by Steven E. Hendrix, resource tenure, legal, and policy advisor for the LAC TECH project.

redistribution of wealth—for the economic structure in existence. For a variety of reasons, most of these reforms did little to correct the underlying structural imbalance.

Today, correction of market defects may be accomplished through the market itself by activating land markets. Where smallholders are more competitive than their larger counterparts, removal of market barriers will increase productivity and food security, generate more employment, and enhance participation by the disadvantaged.

The single biggest change in Mexican law since the revolution occurred when President Salinas opened land markets, making it possible for *ejido* beneficiaries to legally sell, buy, rent, and mortgage land. Similar projects are being undertaken in Peru and Honduras. Tenure policy analysis can offer guidance on how to construct similar reforms in ways that will not negatively affect the environment, disadvantaged groups, democratic institutions or broadly based economic growth.

The Global Environment

Questions of sustainable use of environmental resources often turn on who has ownership and access to those resources (be they land, forest, water) and on what basis. These are fundamentally resource tenure questions. Policy interventions include buffering and conservation strategies, titling, intensification of agriculture in sustainable areas, and other tenure-related policies. After a decade of addressing macroeconomic concerns in the developing world, donors are now turning to address neglected microeconomic environmental issues, which have long been tenure-related concerns.

This is the fifth in a series of technical papers published by the USAID Agriculture and Rural Development Technical Services (LAC TECH) project. See back page for subscription and other information.

Sustainable natural resource management requires providing alternatives to peasants who invade parks, reserves and fragile lands. Typically, these farming people lack alternative access to resources. Through work with land and mortgage banks, taxation, titling, land-for-infrastructure and other mechanisms, **land markets** have been considered as a tool for providing alternative access to land.

Democracy

Property rights are guaranteed in any democratic society by its constitution. Without this assurance, market economies are crippled. Donors have worked to improve the legal institutions that make this guarantee enforceable, namely the property registries. Unfortunately, most registries in Latin America and Africa are in disarray, discouraging investment in land. Registry disorganization provides opportunities for corruption and abuse and facilitates the avoidance of a primary responsibility of democratic society—payment of taxes.

Today, most property registries in the developing world are ineffective for government operation and planning. Where registries are modernized, their data can be used for government coordination, planning and administration, tax collection, and land management. Unfortunately, in most countries, a number of separate governmental entities all spend scarce resources to produce similar geographic information. The information produced is often incompatible and unreliable.

Reorganization of registries can be accomplished via savings from elimination of duplication of efforts and via increased income from tax revenue. If governmental administration is to address environmental, poverty, education, population, and health concerns on a sustainable basis, it must have the funding to do so. Property tax revenue made possible when property registries are modernized is one element in this strategy.

Securing resource tenure is an important element for insuring participation in a democratic society. Sometimes governments deny titles as a way to deny effective citizenship. Without titles, citizens are unable to access public institutions and services such as police, fire, disaster assistance, food, water, sewage, and education. Titling can be used to empower the disadvantaged and ensure their participation in democratic society.

Conflicts associated with land disputes can threaten democracy in some countries. In Nicaragua and El Salvador, the importance of tenure concerns in dispute resolution is highlighted. Democratization implies systematic efforts to resolve these conflicts. Dispute resolution in Latin America particularly means dealing with the issues associated with land.

Food and Disaster Assistance

Food security, in the long term, is obviously linked to agricultural production. As stated above, tenure policy has a major impact on agricultural productivity and investment.

With regard to disaster relief, the Organization of American States recently published *Primer on Natural Hazard Management in Integrated Regional Development Planning*. That text included a chapter on the "Tools and Techniques for Natural Hazard Assessment," outlining the application of remote sensing, geographic information systems, multiple hazard mapping, and critical facilities mapping as essential planning elements in a strategy for dealing with disasters. These activities will gain greater importance as "planning" replaces "reaction" in future strategies.

Stabilizing World Population Growth

Land policy provides three ways to address population growth:

First, land taxation can provide sustainable funding for population and education programs. Despite poor implementation in many countries, we have found that a properly designed land tax can be an effective means for revenue generation. Property tax projects can, of course, be self-financing.

Second, theoretical literature has suggested a linkage between tenure security and fertility rates. Women on the margins of the formal economy tend to have more children as a means to insure that at least one will survive. As families gain social and economic security, the strategy changes and fertility rates drop. Tenure security has been shown to be

an important element in establishing this feeling of security and well-being.

Third, land intensification practices (land market activation, increased agricultural productivity, etc.) lessen the stress created by increases in population.

Conclusion

Tenure security is not an objective in itself. It is a means used to achieve other policy goals. Such policies have an important impact on the development community's present objectives. With diminishing funding resources, donors must concentrate their efforts in areas with great cross-cutting impact. Consequently, tenure policy should be considered as a critically important operational element of a broader strategy and should be more fully incorporated into strategic objectives. Neglect of tenure policy will threaten the sustainability of the program and result in less effective use of development assistance.

Sources

- William C. Thiesenhusen, ed., *Searching for Agrarian Reform in Latin America* (1989).
William Glade and Charles A. Rielly, *Inquiry at the Grassroots: An Inter-American Foundation Fellowship Reader* (1993).
Roy L. Prosterman, Mary N. Temple and Timothy M. Hanstad, *Agrarian Reform and Grassroots Development* (1990).
Sheldon Annis, *Poverty, Natural Resources, and Public Policy in Central America* (1992).
Peter Dorner, *Latin American Land Reforms in Theory and Practice: A Retrospective Analysis* (1992).

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LAC TECH BULLETIN

No. 6

August 1994

Production of non-traditional agricultural export (NTAE) crops has grown rapidly in the Latin America and Caribbean (LAC) region in recent years, due in part to the work of the U.S. Agency for International Development (USAID). This growth, which is expected to continue in the future, has numerous benefits for both producing and importing countries. NTAEs include fresh and processed fruits, vegetables, spices, flowers, and other agricultural products that are not usually exported by a particular country. A product considered traditional in one country can be non-traditional in another. Also, traditional export products, e.g., bananas, beef, coffee, and sugar, can have non-traditional variations such as finger bananas in Colombia and gourmet coffee in Guatemala. This bulletin was written by Kenneth D. Weiss, Rural Enterprise Advisor for the LAC TECH project.

This article is the sixth in a series of technical bulletins by staff of the Latin America and Caribbean Agriculture and Natural Resources Technical Services Project. It is a prelude to a video and an accompanying booklet on non-traditional agricultural exports from the LAC region to the US.



Fresh quality produce for the U.S. consumer

Horticultural Products Review, and have continued to grow.³ The graph below shows an example of this dynamic growth.

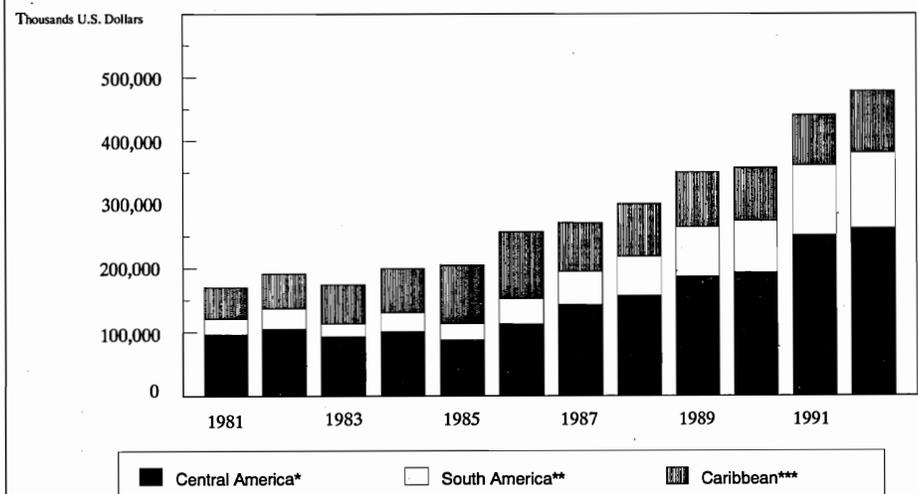
BENEFITS TO PRODUCING COUNTRIES:

Diversifying into NTAEs has many advantages for producing countries. First, it allows both large and small farmers to increase their income and diversify their risk. A 1989 study by the International Food Policy Research Institute showed that gross margin per hectare in Guatemala was ten times as

IMPORTANCE OF NTAEs:

U.S. imports from Latin America of fruits, vegetables, spices, flowers and preparations thereof now total more than \$2 billion dollars per year.¹ From 1985 to 1992, the value of NTAEs from USAID-assisted LAC countries more than doubled to \$480 million. This figure is from FAO statistics and includes only fresh fruits and vegetables, less bananas.² Fresh cut flowers (exports approximately \$40 million), for example, are not included. U.S. imports of horticultural products from Caribbean Basin Initiative (CBI) countries increased from \$88 million in 1983 to \$288 million in 1991, according to the USDA's August 1992 edition of

Trends in Non-Traditional Agricultural Exports in Latin America and the Caribbean



Source: FAO Agrostat
NTAEs=fruits and vegetables, minus bananas

Regions: *Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama
**Bolivia, Ecuador, Peru
***Belize, Haiti, Dominican Republic, Jamaica

high for snow peas as it was for maize.⁴ According to a 1992 study by Jurgen Weller for the International Labor Organization, farmers in Honduras and Panama who produced melons and sesame seed were getting from 60 to 80 percent of their family income from

According to an earlier CDIE study, "...agricultural exports on average tend to have considerably more domestic value added ... than light manufacturing exports..."⁹ According to the recent CDIE study on NTAE projects in Guatemala, imported inputs range from

consumers, who are supplied with previously unavailable fresh fruits and vegetables.

BENEFITS TO THE USA:

For the USA, this important new trade benefits transportation companies, port service firms, marketing middlemen and, of course, consumers. Importers (including U.S. growers who import), brokers, wholesalers, retailers, food service companies and American families now have fresh produce available to them twelve months of the year.

Trade, of course, is a two way street. According to the FATUS report cited earlier, U.S. exports of fruits and vegetables and preparations thereof to the Latin American region have increased to about \$600 million. There are also important exports of tree nuts, grape wine and other products of horticultural origin.

An article published in *The Journal of Commerce* in November, 1993 stated, "...the increasing success of so-called non-traditional crops is driving the mechanization of whole sub-sectors." Much of the equipment to meet this need is of U.S. origin. For example, calculations from official statistics show that U.S. exports to the LAC region of walk-behind rotary tillers increased by 130% from 1989 to 1993. Exports of



An Ecuadorian woman, employed in growing flowers for export

non-traditional crops.⁵ The percentage was remarkably similar for farmers of different sizes. A recent case study done by USAID's Center for Development Information and Evaluation (CDIE) concluded that USAID's work with NTAEs in Guatemala could be justified economically even if no results were considered other than earnings of small farmers.⁶

Second, there is significant employment creation. The CDIE study cited above concluded that the full-time equivalent of 35,000 persons are now employed in the NTAE industry in Guatemala. Many of these jobs are held by women, especially in the packing houses. A recent study by Michael Carter and others found labor absorption as high as 140 person-days per hectare, depending on the crop and the farm size.⁷ A study by the World Resources Institute found that nearly two thirds of the workers on Ecuadorian flower plantations were women.⁸

Third, NTAEs generate export earnings with very high local value added.

about 30% of sales for carnations to less than 8% for snow peas.

Fourth, as the NTAE industry develops it spurs changes in policies and improvements in essential commercial infrastructure including input suppliers, service firms, processing plants, exporters and transportation facilities. There are also benefits to local



U.S. - made agricultural equipment, exported to the LAC region



Proper use of agricultural chemicals, as promoted in USAID projects.

non-corrugated folding cartons to the region also increased by 130% from 1989 to 1993, and exports of onion seeds for sowing went up by 85%.

CHALLENGES:

There are several challenges in developing NTAE industries in the LAC region. Some of these are assuring that a substantial share of production is by small farmers, that only approved agricultural chemicals are used, that chemicals are handled properly, that NTAEs are cultivated in ways that do not degrade land, and that growers and exporters have enough information on production and marketing to keep their risks to acceptable levels. Another challenge is to improve working relationships between growers and exporters, and between exporters and receivers in foreign markets.

There are now ongoing activities designed to help meet these challenges. One example is USAID-sponsored intervention in El Salvador to help cooperatives and other organizations of small producers. The focus is on organic production and marketing of crops such as coffee and sesame seed. Another is the Central American training program in pesticide use that has been established by USAID, the Environmental Protection Agency, and

the Food and Drug Administration.

USAID PROJECTS IN NTAES:

USAID has helped develop the NTAE industry in the LAC region through regional, sub-regional, and national development programs. A majority of these, however, have been completed or are nearing completion. On the regional level, the LAC TECH project provides missions advisors in Agribusiness and Trade, Plant Protection and Quarantine, Institutional Development, and other areas related to NTAEs.

On the sub-regional level in LAC there are two important projects, EXITOS (formerly PROEXAG) in Central America and TROPRO in the Eastern Caribbean. EXITOS officials have documented some \$130 million in export sales that would not have been made without project assistance.

At the national level, there have been projects related to NTAEs in nearly every country in the region that receives assistance from USAID. Some of the better known are the Agricultural Export Services Project in Jamaica, assistance to export promotion organizations in Central American countries, and PROEXANT in Ecuador. A few



Central American onions, en route to dinner tables in the USA

projects, such as TROPRO and Chapare Regional Development in Bolivia, have focussed on generating exports to countries other than the U.S.

These projects pay off. *EXITOS officials have recently concluded that, for every dollar USAID has spent on the project, there has been a return of more than \$4.00 to the Central American economies and more than \$8.00 to the U.S. economy!*

USAID SUCCESSSES

There are some outstanding success stories. The Dominican Republic has a self-sufficient organization, JAD, that is devoted to development of NTAEs. Guatemala now hosts a major annual conference and exhibit, AGRITRADE, attended by industry experts and participants from the USA and the entire LAC region. Costa Rica's horticultural exports to the United States have climbed steadily from under \$23 million in 1983 to over \$124 million in 1992, according to the September 1993 *Horticultural Products Review*.¹⁰ Even the small country of Belize has begun exporting papayas, and Haiti has exported important quantities of mangoes. Many other success stories could be told at the level of individual LAC producers and exporters and U.S. international receivers.

POLICY IMPORTANCE:

Much has been done to develop NTAEs in the LAC region, and this work has brought important benefits to both producing countries and the USA. There are several challenges, but these are rapidly being met.

Development of NTAEs can occur quickly, but is usually a long-term activity because of the time required to improve management skills and expertise and to test crop varieties, production technologies, and methods of handling, shipping, and marketing. NTAE industries do not develop in a vacuum. They require a favorable policy environment, improvements in

infrastructure, investment and export promotion activities, and catalytic agents such as development projects, innovative producers and interested foreign buyers. They are facilitated by trade preferences such as the Generalized System of Preferences, the Caribbean Basin Initiative, the Lome Convention, and the North American Free Trade Agreement.

REFERENCES

- 1"Foreign Agricultural Trade of the United States, Calendar Year 1992," U.S. Department of Agriculture.
- 2"AGROSTAT," Food and Agricultural Organization of the United Nations, 1993.
- 3"Horticultural Products Review," USDA, August, 1992.
- 4"Nontraditional Export Crops in Guatemala: Effects on Production, Income, and Nutrition," Joachim von Braun and others, International Food Policy Research Institute, 1989.
- 5Weller, Jurgen, *Las Exportaciones Agrícolas No Tradicionales en Costa Rica, Honduras y Panama: La Generación de Empleo e Ingresos y las Perspectivas de los Pequeños Productores*. Geneva: International Labor Organization, 1992.
- 6"Agribusiness Assessment - Guatemala Case Study," James W. Fox and others, USAID, 1994.
- 7"Agro-Exports and the Rural Resource Poor in Latin America: Policy Options for Achieving Broadly-Based Growth," Michael R. Carter and others, University of Wisconsin, 1993.
- 8"Challenges in Latin America's Recent Agroexport Boom - Sustainability and Equity of Nontraditional Export Policies in Ecuador," Lori Ann Thrupp, World Resources Institute, 1994.
- 9"Export and Investment Promotion: Sustainability and Effective Service Delivery: Volume 1: Synthesis," Agency for International Development, 1991.
- 10Horticultural Products Review," USDA, September, 1993.

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No. 8

September 1994

This timely bulletin discusses the concepts of food security and assesses their meaning in the context of the countries in which USAID carries out assistance programs in the LAC region. These include those in the Sustainable Developing Country category -- Bolivia, Dominican Republic, Ecuador, El Salvador,

Guatemala, Guyana, Honduras, Jamaica, Nicaragua, and Peru -- and one in the Crisis Country category -- Haiti. As the LAC TECH Food Policy Advisor, the author, Roberta van Haften, has spent the last four years working on food security issues in many of these countries.

This is the eighth in a series of technical papers published by the AID Agricultural and Rural Development Technical Services project (LAC TECH). See back page for subscription and other information.

WHAT IS FOOD SECURITY ? THE BASIC CONCEPTS

The term food security has different meanings to different people. This has made it difficult within AID, first to agree whether there is a food security problem in a given country, and second, to discuss the dimensions of the problem and to agree on possible solutions. A number of concepts regarding food security have gained fairly wide acceptance in the international community, however, and are useful for evaluating the problem in the Latin American context.

Food security is access by all people at all times to enough food for an active and healthy life.

This is the definition of food security popularized by the World Bank. It is also the definition used in the Food, Agriculture, Conservation and Trade Act of 1990, which made important changes in the U.S. international food assistance program. USAID's 1992 Policy Determination Number 19 defined food security as "when all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life." Both of these definitions emphasize the accessibility of food or effective demand. This contrasts with earlier definitions which focussed more narrowly on food availability or supply.

Current definitions of food security encompass three basic elements: availability, access and utilization.

Food Availability

Food availability is an issue at the country, household and individual levels. Countries cannot achieve food security unless the food supplies available in the country are sufficient to supply every person in the country with an adequate diet. The food supplies necessary can be produced domestically; they can be imported commercially or through concessional aid programs; and in the short-run, they can be drawn from stocks.

Food availability is also an issue at the household and individual level. If food

supplies are inadequate at the national level, there is not going to be enough food available to feed all of the households in the country or all of the individuals, even if it is distributed equally among them.

In a world increasingly integrated through trade and political-economic ties, sufficient global availability of food is of increasing importance to household food security. Availability of food at the household level also requires that food be available in local markets, not just nationally, which also requires relatively smooth market operations, functioning infrastructure and a free flow of information.

Food Availability in the USAID-Assisted LAC Countries

Food availability is a problem for many of the USAID-Assisted LAC countries. In 1990, for example, seven countries -- Bolivia, the Dominican Republic, Guatemala, Haiti, Honduras, Nicaragua and Peru -- had per capita calories below the 2,300 calories per person per day minimum that is established in the 1990 food aid legislation. (see the first LAC TECH Bulletin for more details on food availability in the USAID-Assisted LAC countries in the beginning of the 1990s).

Food Access

Achieving food security in a country also requires that households within that country whose members suffer from undernutrition have the ability (the purchasing power) to acquire sufficient food. Some households within each country will be able to produce sufficient food to feed themselves. Others will have to rely on being able to earn enough money from farm and non-farm activities or through income transfers, food subsidies, etc. to be able to purchase a nutritionally adequate diet.

Food, in other words, is a commodity, access to which is governed by the same factors that govern access to any other commodity. This is why poverty and food insecurity are so closely linked.

Access is also a concept that has relevance at the national level. That is, if countries are wealthy enough and earn enough foreign exchange, it does not matter if they produce enough food to feed their population adequately. They can buy it on the international market.

Food Access in the USAID-Assisted LAC Countries

Lack of access to food is a major problem in the USAID-Assisted LAC countries because of the continued prevalence of poverty (see second LAC TECH bulletin on rural poverty) and inequities in income and asset distribution. The LAC poor, more than the poor in other developing regions, have to depend on markets to supply all or a majority of their food needs. This is because more of the LAC poor have moved to urban areas and because large numbers of poor households living in rural areas are also net purchasers of food because they do not have sufficient land or land of sufficient quality to produce all their food needs.

Access is also a problem at the country level. The USAID-Assisted LAC countries could use the earnings from their exports of goods and services to pay for the food imports required to supply the needs of their people for basic staples -- needs that are growing due to population growth and declines in per capita food production. However, foreign exchange is scarce and is needed for debt servicing requirements as well as to pay for the imports of capital and intermediate goods needed to get economies growing again. Equally importantly, the food insecure in the LAC countries are poor, which means that the amount of food that they can effectively demand is less than the amount that they need nutritionally. And, now that markets have been liberalized, unless poor consumers can increase their effective demand, the scarce foreign exchange that could be used to pay for commercial imports of basic foods will be used to pay for competing imports, including consumer goods for the middle and upper classes.

Food Utilization in the USAID-Assisted LAC Countries

Chronic malnutrition among children is a major problem in many of the USAID-Assisted LAC countries. According to UNICEF estimates, for example, Guatemala has one of the highest percentages of children under five stunted of any country in the world (68 percent). Over 50 percent of the children are stunted in Bolivia and Haiti, over 45 percent in Peru, and over 30 percent in Ecuador, El Salvador and Honduras. Some of this stunting is due to lack of access to adequate food supplies over long periods of time. However, the fact that so many poor people in these countries, in rural areas in particular, do not have access to health services or to adequate water and sanitation facilities is one of the major causes of poor food utilization and chronic malnutrition at the individual level.

Food Utilization

People can also be said to experience food insecurity when they fail to consume proper diets, even though the food is available, or when they consume the right diets but their bodies are unable to absorb the nutrients due to poor health. Given food accessibility, improper food utilization is the result of personal tastes, culture, peer pressures, lack of knowledge, inadequate household processing and storage, inadequate food labeling, misleading advertising, and lack of access to or utilization of health, water, and sanitation services.

Types of Food Insecure Households in the USAID-Assisted LAC Countries

Types of households likely to face food insecurity in most USAID-Assisted LAC countries include: food-deficit farmers with too little land, given their present technology, to produce enough food, cash crops or other income to support their families; underemployed, low-wage rural and urban laborers; and rural small-scale entrepreneurs facing declining demand for their goods when agricultural incomes drop due to poor harvests. Because wealthier segments of a society tend to make relatively few adjustments in their consumption levels in response to short-run shortfalls in food availability, the burden of adjustment falls primarily on the poor. Even when national income is growing, these and other groups may be unable to participate in the expansion going on around them because they lack the necessary natural resources, capital and/or knowledge.

Food insecurity can be chronic or transitory.

In theory, two types of food insecurity -- chronic and transitory -- can be distinguished, but in reality they are closely intertwined. **Chronic** food insecurity is a **consistently inadequate** diet caused by the inability to acquire food. It affects countries and households that persistently lack the ability to acquire food, whether by producing it themselves or buying, bartering, borrowing, sharing, etc. Chronic food insecurity is rooted in poverty. **Transitory** food insecurity, on the other hand, is a **temporary decline** in a country's or household's access to enough food. At the country level, it results from instability in food production or in a country's export earnings. At the household level, it results from instability in production, household incomes or food prices. In its worst form, transitory food insecurity can result in famine. It is typically the chronically food insecure who are hit hardest by transitory food insecurity problems.

Different indicators are required to measure the different dimensions of food insecurity.

Given the multiple dimensions of food insecurity, there can be no single indicator to measure it.

- Food security at the **country** level can be monitored to some extent in terms of demand and supply indicators. Quantities of food available can be compared with food needs based on estimates of the nutritional requirements of the population (both expressed in total and/or per capita calorie terms). And net import needs can be compared with import capacities, with import capacity defined as foreign exchange earnings net of debt-service obligations and other necessary foreign exchange expenditures.

- Food security at the **household** level is best measured by direct surveys of dietary intake (in comparison with appropriate adequacy norms). A second-best measure can also be constructed using information from household surveys on the amount of incomes earned by differ-

Chronic and Transitory Food Insecurity in the USAID-Assisted LAC Countries

Chronic food insecurity is the major problem in the USAID-Assisted LAC countries, as is suggested by the number of countries whose per capita calorie supplies have consistently remained below minimum levels and by the high percentages of children suffering from chronic malnutrition. Chronic food insecurity in these countries reflects the low level of productivity and the inequities in income and assets distribution. Low labor and land productivity in agriculture affects both the supply dimension through depressed food availability, and the demand dimension through low levels of marketing of surplus food and cash incomes that are too low to stimulate demand for additional farm and non-farm goods and services. With productivity and incomes also low for the majority in the non-farm sector, insufficient demand exists to exert upward pressure on food prices and food production incentives and growth in the food economy may be caught in a low-level equilibrium trap in which neither incomes nor productivity can increase. In this context, one can only move toward greater food security by introducing some disequilibrium into the economy by introducing changes in institutions, technology, and knowledge to raise resource productivity and incomes on a broad-based level.

ent households in relationship to the cost of an adequate diet. These diet-based poverty estimates, although indirect, are more readily available than direct measures of calorie intakes. The level of, and changes in, socioeconomic variables such as real wage rates, employment, price ratios and migration, properly analyzed, can serve as proxies to indicate the status of, and changes in, food security.

- Information on child malnutrition (anthropometric measures) can be a useful complement to these other measures because they are taken at the **individual** level. These measures also reflect changes in the health and sanitation environment (food utilization) and well as in the availability of and access to food. Three indicators are commonly used to measure child malnutrition: height-for-age (stunting) which indicates whether children are chronically malnourished, weight-for-age which indicates whether children are currently well-nourished, and weight-for-height (wasting) which is used as an indicator of current wide-ranging food shortages. All three indicators, however, height-for-age in particular, are measures of food insecurity after the fact.

Combatting food insecurity requires multiple approaches at multiple levels.

- Internationally, a food security strategy for the developing countries cannot be properly devised without reference to the trade, aid, and commodity program and stock policies of the developed countries.

- At the national level, macro and trade policies can have major effects on food availability and prices as well as commodity and agricultural-sector wide policies.

- Policies affecting communications and transportation are often important at the **regional and community** level.

- Employment and income policies are key to raising **households** out of poverty and food insecurity. Safety net programs help protect households suffering from temporary food insecurity as well as those such as the elderly and disabled who may have to depend on transfers over the long-term. Over the longer-term, investments in human capital are also important in increasing households' productivity and incomes.

- Health and education policies are important at the individual level.

Combatting food insecurity requires more than a commitment to poverty alleviation and broad based economic growth.

The "Food Security Discussion Paper" commissioned by AID in 1992 argues that "Economic development is necessary for food security, because it is cost effective and indeed the only feasible means to lift most people out of food and income poverty." "But development alone," the paper argues, "is not sufficient to end food insecurity. A sufficient condition is food and income transfers to food insecure people by-passed by development." This approach is consistent with a strategy that promotes investment where growth potential is highest. It also relies on transfer mechanisms to reach the food insecure by-passed by development in the short-run with the expectation that broad-based economic growth, over the longer term, will lift most people out of poverty and food insecurity. Others, however, argue that an economic strategy that targets the poorest

geographical regions, occupations, ethnic groups and household members with assistance designed to raise their incomes through more productive employment is a more effective approach to the problem of chronic food insecurity.

These two approaches differ not only in their location focus, but also in their time frames. In the first case, the focus is country-wide and the timescale is long-term; in the second it is more location specific and medium-term. The relationship between these two approaches is illustrated in the Table below.

This table brings into focus the degree to which the effort to reduce food insecurity has to be injected into the longer-term concerns with growth and poverty reduction. While it recognizes that some elements of food insecurity reduction can only be achieved by longer-term solutions, it concentrates attention on the actions needed to reduce hunger and food insecurity in the medium-term long before long-run solutions are achieved. It also points out the limitations of concentrating too heavily on efforts that will only have an impact in the short-run.

Food Security is not synonymous with food self-sufficiency.

Food security does not mean food self-sufficiency. National self-sufficiency in foods which can be traded internationally only makes sense when countries have a comparative advantage in producing these foods. Moreover, food security is achieved only if all households have the ability to buy the food. Thus, there is no necessary link between food self-sufficiency and food security. Empirical studies, in fact, tend to confirm that food self-sufficiency has no intrinsic value for eliminating chronic food insecurity. Moreover, in some countries, an excessive concern with food self-sufficiency has led to costly and uneconomic investments. These investments have tended to undermine not only per capita income growth and food security but also food self-sufficiency itself -- by diverting substantial resources for capital and recurrent spending from productive investments.

Food security differs from agricultural development.

Food security emphasizes the need to identify who the food insecure are and how to promote their access to food. In many cases, one of the better ways to promote their access to food will be to stimulate agricultural productivity and growth. However, even in rural areas, the need to find ways to assist households at risk to generate additional income quickly moves the scope of analysis and action beyond the agricultural sector.

Table adapted from Harry Walters, "An Issues Paper," prepared for a Conference on Overcoming Global Hunger, World Bank, November 1993.

THE RELATIONSHIPS AMONG EFFORTS DIRECTED TO RELIEF, FOOD SECURITY AND POVERTY ALLEVIATION

	RELIEF	FOOD SECURITY	POVERTY ELIMINATION
TIMESCALE	Immediate	Medium-term (1-10 years)	Long-term (10-50 years)
LOCATION	Feeding Centers	Vulnerable Areas and Groups	Whole Country
POLICIES/ PROGRAMS	Food Distribution Food Aid	Safety Net Programs Direct Interventions to Raise Incomes	Macroeconomic and Sectoral Policies Conducive to Broad- based Economic Growth

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Recently, most Latin American countries have embraced far-reaching, market-oriented economic reforms. In the context of rural finance, this entails: competitively determined interest rates; elimination of credit targeting; expansion of local savings as the foundation for the promotion of deposit mobilization; reform, privatization, or liquidation of state banks; and implementation of adequate regulation and supervision of financial entities. In spite of these positive steps, the cost of "doing business," i.e., transaction costs, remains an obstacle to financial intermediation.

The concept of transaction costs offers analytical insights on the wide gaps between the modern, mostly urban formal markets and the largely primitive, informal markets that characterize financial intermediation in less developed countries. For the rural population in particular, high transaction costs signal policies of exclusion and market failure. They reflect significantly high barriers to market entry which, in turn, smother a sustained process of private investment in the countryside. Therefore, it is imperative that the problem of high transactions

costs be addressed and reduced to the greatest extent possible.

In this ninth of a series of technical bulletins, Dr. Jorge Daly, LAC TECH Financial Policy Advisor, explores why the presence of high transactions costs poses limits on the effectiveness of financial policy reforms in rural areas and how these costs perversely affect the poor by denying them effective market entry. He discusses actions that the public and private sector can undertake to reduce these costs.

What Constitute Transaction Costs?

Transaction costs relate to the costs inherent in "doing business" that are unavoidable for both financial entities and customers. They are incurred in two ways, *implicitly* and *explicitly*. The former refers to the costs embedded in obtaining information, negotiating and enforcing contracts, and supervising and monitoring markets and financial entities — activities normally carried out by the public sector in most countries and critically important for the smooth functioning of financial markets. The critical element lies in the quality of these "public goods," for example how efficient and reliable the state is in providing these services. Also important is the quality of the existing economic infrastructure, such as roads, energy and water supply, and health and education facilities. As such, these implicit costs do not constitute direct operating expenses for financial entities and thus are difficult to measure. On the other hand, transaction costs also include specific and measurable administrative costs—personnel, office space, travel, training, maintenance, bad debts, loan

supervision, and monitoring of borrower—normally incurred by financial entities.

High transaction costs constrain the process of financial intermediation and, in the end, penalize all those who are willing, but find it impossible, to capitalize on economic opportunities triggered by market reforms. Given the pattern of economic growth traditionally pursued by most Latin American countries, these costs are perversely higher for rural residents and poor people than for more affluent urban dwellers. The rural population must contend with inadequate economic infrastructure. Poorly developed road networks force small and medium-sized farmers to spend long hours traveling to centers where financial entities are located. And the paperwork commercial banks normally require for loan approvals is either unfamiliar to or prohibitively expensive for them. If they are illiterate, these problems are even more formidable. From the perspective of commercial banks, lending to this clientele may not be the least bit attractive. Small borrowers in rural areas usually lack credible collateral, while information on their quality as clients, for example, their capacity to repay loans, is simply not avail-

able for lack of a documented credit history. Moreover, these loans are generally small in size and may not be profitable, especially when commercial banks incur high explicit (administrative) transaction costs.

High transaction costs block the effectiveness of market-oriented reforms in rural areas and reinforce the dualistic structures of Latin American economies (*see Box 1*). When these costs are prohibitively high, the rural poor do not gain effective entry into the formal market and are thus relegated to securing financial services from informal credit markets where loan rates are normally higher. High transaction costs, in the end, act to fuel the proliferation of informal lending in rural areas. This is precisely the trend currently observed in many countries of the region, including those with exponential growth rates of informal lending. While this phenomenon points to signs of economic vitality, one cannot ignore the fact that informal lending merely provides safety valves for economic systems that have long neglected the need to establish adequate institutions in the countryside.

Origins of High Transactions Costs

In a generic sense, high transaction costs result from inadequate *institutions*. This term refers not to social organizations, but to the so-called "rules of the game" that are necessary to secure contracts between parties within a market society. Clear, stable, and predictable "rules of the game" are crucial to economic development in general and financial markets in particular (see Box 2).

Traditionally, in Latin America, rules have not been established and enforced in a predictable way. For example, investors have frequently faced an economic environment permeated by constrained property rights, the threat of asset expropriation, unnecessary regulation, and undue interference in the economic arena (such as unpredictable exchange rate policies, interest rate manipulation and price controls). In addition, legal resolutions are often unpredictable and the system of judicial enforcement is generally weak. These factors, in particular, constitute serious shortcomings that largely explain the widespread weakness that permeates credit markets in rural areas: formal financial intermediaries, who normally perceive loans to rural borrowers to be riskier due to the vagaries of soil and weather conditions, are generally unwilling to offer loans to borrowers whose collateral cannot be foreclosed rapidly and at a reasonable cost.

High transaction costs are also intimately related to the existence of imperfect information, which accounts for the lender's difficulty in assessing the creditworthiness of potential customers: How do formal lenders determine which customers constitute good risks? How feasible is an accurate assessment of the customers' capacity and willingness to repay loans? These questions are not easy to answer when information networks are poorly developed. In rural areas, information is generally scarce and unreliable. Not surprisingly, the development of rural financial markets is seriously handicapped because rural customers are commonly shunned by formal financial entities that find it wise to ignore the increased risk on loan-default that is associated with imper-

fect information. This discrimination is more severe when the leading lenders show a strong urban bias, a feature prevalent in many Latin American countries.

The Road Ahead: Lowering Transaction Costs

An assault on the high transaction costs that permeate the Latin American financial landscape requires the combined actions of the public and private sectors. It is the task of the public sector to identify specific areas that are in need of institutional reform. In general terms, institu-

tional reforms address the need to lower the implicit transaction costs. Conversely, reducing the firm-specific, or explicit (administrative) transactions costs falls on the private sector.

Institutional reform is of central importance because rural financial markets will never prosper in an institutional vacuum. This obstacle can be overcome only with a firm commitment from the public sector to foster the development of efficient institutions. This entails upgrading the quality of the public goods that underpin transactions in financial markets. Institutional reform involving public goods is badly

Box 1 FORMAL AND INFORMAL FINANCIAL MARKETS

In most Latin American countries, the unrelenting pursuit of industrial protection policies that were applied in the past contributed to the marginalization of vast parts of the population, especially those in rural areas. As a result, so-called dual economies emerged: (1) a formal sector, which operates in the "modern" economy where impersonal exchange and market institutions generally prevail, and (2) an informal sector, characterized by undeveloped market institutions, where personalistic relationships are normally the rule. It is the formal sector, with substantially higher levels of productivity and incomes, that determines the overall pattern and dynamism of economic development.

Conventional market-oriented reforms in the financial sector, unfortunately, have a limited impact when applied in economies riddled by structural obstacles that normally reinforce highly uneven, dualistic distributions of productive assets and incomes. In the Latin American context market-oriented reforms commonly reach the formal sectors of the economies but not the informal sectors. This occurs because in the latter the implicit transaction costs are particularly high. In particular it is the informal sectors of rural areas where the market has not developed means to assess the quality of loan applicants, to verify their collaterals and to enforce loan repayment. This limited scope of conventional market-oriented reforms results in a failure to incorporate the large masses of rural, marginalized clienteles into the web of specialized, dynamic, cost-effective, and innovative financial services that characterize a modern economy.

This gap is partly filled by the advent of informal credit markets. Their emergence has led many influential researchers and academicians both in the United States and in Latin America, to recommend a "hands-off" approach to the problems of rural finance. These recommendations are based upon the assumption that informal lenders are growth-contributing entrepreneurs who are awaiting a commitment to market policy reforms and deregulation to unleash their wealth-creating potential to the fullest. However, policy makers are justified in viewing the proliferation of informal lending as a source of concern: while it is undeniable that informal lenders provide valuable services to small and medium-sized farmers by taking risks that are shunned by formal creditors, they cannot provide a lasting solution for the problems of finance in rural areas. This is because informal financial intermediation grounded in personalistic relationships has a limited growth potential. Also, this "system" does not provide for a safe, convenient, and sustained process of savings mobilization, a critical component of rural financial intermediation.

needed in several areas:

(a) *Enforced property rights:* In Central American countries and the Dominican Republic, ongoing property disputes are cited by bankers as one of the greatest obstacles to credit expansion in the agricultural sector. Consequently, property cannot be offered as collateral.

(b) *Improved legal systems:* In several Latin American countries, the legal systems favor borrowers because actions to exercise guarantees in the event of a loan default are often tedious and costly. As a result, financial entities tend to ration credit with greater restraint.

(c) *Development of information-sharing networks:* Networks are necessary to effect adequate screening of loan applicants and determine the "quality" of potential customers. A system of credit rating in rural areas can be established by local agencies or the financial entities. For example, financial entities can be obligated by law to issue to clients certificates indicating loan balances, arrears (if any) and a note detailing "history" of loan repayment. This procedure is not costly. Information on financial entities can be obtained by surveys completed by government officials who then publish the loan and deposit rates offered by entities operating in the same area.

(d) *Establish public trust:* The government must adopt and enforce rules and regulations aimed at safeguarding the liquidity of the entire financial system, establish the sanctity of credit contracts, and protect the safety of deposits. These are necessary components to spur the development of rural financial markets and foster their integration with financial markets in formal urban areas.

Regardless of the effectiveness of government action, one must recognize that the development of institutions in rural areas is a process that takes time. It is not realistic to assume that market segmentation, which mirrors the high implicit transactions costs that the rural poor face, will disappear anytime soon, by the stroke of a pen or sound public sector programs. Nevertheless, government authorities

Box 2 THE IMPORTANCE OF "RULES OF THE GAME"

Why do the clarity, predictability and stability of the "rules of the game" matter? When the rules of the game are not clear or predictable, and the government that should enforce them is not stable, the process of economic development suffers. Under these conditions economic agents, in their desire to reduce institutional uncertainty, ultimately establish their own forms of enforcement. This alternative approach is costly in economic terms and is made possible only by the existence of exchange relations characterized by intense personal contact. This system of personal contacts poses limits to the number of transaction partners because there is only a limited number of exchange transactions that can be effected on the basis of personal knowledge. This contrasts greatly with the numerous, transactions that can be carried out within a large, anonymous market. The result is that the obvious advantages normally derived from a high degree of specialization and division of labor are lost.

Furthermore, the presence of adequate institutions is a critical ingredient for the efficient operation of financial markets. Trust is the foundation of financial markets because they are grounded on transactions that embody the promise of a payment in the future. Therefore, the quality of institutions is measured by their ability to establish trust-building mechanisms. In other words, to what degree have the information-sharing networks, enforcing mechanisms of credit contracts, and the system of close supervision of financial entities developed? When these factors are missing or weak, trust can be built only through direct personal knowledge among participants. In Central American countries, for example, loan approval is rarely determined by the soundness of a particular project, or the apparent financial wealth of a borrower. Rather, the perceived character of applicants serves as the determining factor for securing loans. Not surprisingly, this feature poses severe limitations for the expansion of overall finance.

should not be deterred from ensuring that private economic activities be conducted in the presence of appropriate incentives. The cornerstone of these incentives is to let the market determine rates on savings and loans. This decision should enable rural financial entities to charge loan rates so as to cover operating costs (including loan reserves), cost of funds, and inflation, so as to maintain the real value of the loan portfolio and capital. In this way, the viability of rural financial entities as self-sustaining economic units will be enhanced.

It is worth emphasizing that price reforms, although necessary to foster the economic viability of rural financial entities, do not guarantee the conditions to complete the task. Hiking loan rates sufficiently to cover operating costs may be very costly since interest rates can rise to levels that preclude badly needed investments in the countryside. This option, when pursued under monopolistic conditions, penalizes eco-

economic efficiency because financial entities will earn huge rents, derived from the abnormally high spreads that they maintain between the cost of funds and loan rates. The poor do not benefit from this situation. For this reason, it is imperative that price reform be accompanied by efforts to create an economic environment conducive to more competition and more access to markets by the rural poor. These conditions set the stage for rural financial entities to bring down the *explicit* transactions costs inherent in lending.

Reducing explicit transaction costs of lending is a very attractive option to ensure the economic viability of rural financial entities and increase the economic welfare of the rural population. What are the basic principles that should guide efforts to reduce them? As a general rule, the costs of lending should be commensurate with the size of the loan. What this entails for small rural loans is very low administrative costs as well as simplified

and streamlined procedures on loan application, approval, disbursement, and collection. These procedures can only be adopted if the entity is properly designed and if specific lending techniques are implemented. A successful approach to this task requires the following:

(a) The entity must be conveniently located to its clients. This proximity is a key ingredient that makes it possible to screen loan applicants and monitor repayment schedules more effectively. Loan applicant screening is one of the most difficult tasks. It is imperative that managers with personal knowledge of prior experience with local customers be recruited. They must also be given the responsibility of deciding whether to grant loans and their amounts. In this way, the problems associated with imperfect information can be handled more effectively.

(b) The fixed cost structure of the entity should also be compatible with the size of the market that it will serve. Since loans to rural borrowers are usually small, fixed costs should be minimized. For rural entities that serve large markets and are well endowed, the introduction of computerization and mechanization of loan accounts may be justified since these techniques lower administrative costs significantly. But for other entities that cannot afford to make this investment, other options are available to lower fixed costs. One is to take advantage of low-rent costs of vacant offices that may exist in public buildings. Another entails avoiding the payment of high fixed salaries to employees, relying instead on a system that makes wages earned proportional to loan recovery. Lastly, fixed costs can be lowered by using mobile banking services, which enable the entity to service several villages with a small number of employees.

(c) The entity must minimize the risk on loan default. Some of the techniques that have proved to be effective include: interest-rate rebates for prompt and timely repayment or penalties for delayed repayments; forced savings as collateral; and the prospect of repeated loans.

Which types of rural financial entities are more likely to successfully follow these

principles and apply the techniques that result in the reduction of the *explicit* transactions costs? In the Latin American context, the state development banks do not stand a good chance. Most of them are riddled by high rates of non-repayment and confront problems of poor management and political interference in credit decisions. Overhauling these entities may be prohibitively expensive, risky, and may be protracted. One interesting option is for rural customers to take matters into their own hands by setting up joint liability groups. This is known as "group lending" and can reduce transaction costs on credit by improving the process of screening applicants through lowering the costs of gathering information. Group lending can absorb some of the costs associated with loan approval and processing. These groups are instrumental in the selection of clients and can facilitate loan repayment through peer monitoring and enforcement. To succeed, groups must be generally small and homogenous.

Alternatively, commercial banks will be suited for lending to small rural borrowers only if they create specialized operations that shun costly lending technologies based on project appraisal and formal collateral. The Bank Rakyat Indonesia has implemented this strategy with enormous success for over a decade. In doing so, it has adapted its lending technologies to the needs of the marginalized clientele. Far more promising is the possibility for the rural clientele to establish their own financial entities. This approach holds the greatest potential. These entities may take the form of rural banks or credit cooperatives whose success will depend upon the adoption of the principles and procedures outlined above. Credit unions, in particular, can be very successful if they embrace sound management techniques and introduce demand-driven financial services, including the competitive pricing of deposits. And, as the case in Guatemala so vividly demonstrates, they can lead a campaign to foster badly needed financial reforms nationwide by setting an example. (For more details on this see *Technical Bulletin No. 4*)

A Final Word: Is There A Role For The Donor Community?

The answer, unequivocally, is yes. It is the objective of USAID, in particular, to support efforts that are conducive to increase the incomes of rural poor people in a manner that is sustainable economically, environmentally, and institutionally. This objective is clearly stated in the document "Making Markets Work for the Rural Poor," which presents an agenda to guide USAID in programming its assistance to support rural economic growth. The agenda's fundamental approach to raising the incomes of the rural poor is to reduce their transaction costs.

For USAID and other donors, the challenge is to design program actions that create three enabling conditions: participation, conducive policies, and effective organizations. For example, donors can: (a) support the formation of credit unions as an outlet for rural savings and as a source of lending for the rural poor and strengthen the capacity of existing credit unions to provide services effectively to their members; (b) promote the use of group lending and rotating funds as mechanisms for reducing the costs of financial intermediation in rural areas; (c) assist small entrepreneurs in organizing themselves to acquire training in financial management and other business skills; (d) assist indigenous non-governmental organizations involved in rural credit in the development and use of sound management practices; (e) assist government agencies in developing personnel practices that reward services to the marginalized clientele; (f) support the creation of market information services that enable the rural poor to make more informed marketing decisions; (g) develop an organizational framework for the introduction of transparent financial instruments that can spur financial intermediation in rural areas; (h) support the creation of a policy environment that encourages free association for all, including the rural poor; and, last but not least, (i) promote the strengthening and broadening of market liberalization policies initiated during the last decade.

Sources

Daly, Jorge L., Susan Corning and Amy Kim Buckner, "Rural Finance in Latin American Countries." LAC TECH Project. (December 1993).

"Making Markets Work for the Rural Poor: An Agenda to Advance Broadly Based, Sustainable Rural Economic Growth in Latin America and the Caribbean." Bureau for Latin America and the Caribbean, USAID. Draft (July 1994).

Other LAC TECH Publications

Technical Bulletins:

- No 1. *Food Security* (December 1992) - Roberta van Haeften,
No 2. *Property Registries* (July 1993) - Steve Hendrix
No 3. *Rural Poverty* (March 1994) - Roberta van Haeften
No 4. *Credit Unions* (May 1994) - Jorge Daly
No 5. *Agro-Exports and the Rural Poor* (August 1994) - Tim O'Hare
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Studies:

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Identifying the Key Variables, A Multivariate Analysis of The Cochabamba Rural Household Survey Data (May 1994) - James Riordan
The Cochabamba Rural Household Survey: Preliminary Findings - Debbie Caro, James Riordan, and Melissa Cable.

An Overview of the United States Avocado Market (April 1994) - Mihir Desai

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The U.S. Market for Specialty Coffee (March 1992) - Kenneth D. Weiss.

A Cross-Cutting Analysis of Agricultural Research, Extension and Education (AgREE) in Aid-Assisted Lac Countries (February 1992) - Kerry J. Byrnes.

Fruit and Vegetable Processing Options for the Latin American and Caribbean Region (May 1991)

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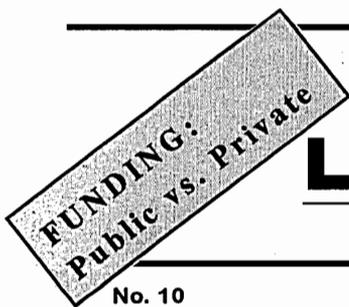
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LAC TECH BULLETIN

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Public, Private, & Independent Sectors in Sustainable Development

This bulletin, building on the effective organizations theme identified in the LAC Agenda (see note 1), considers how to divide responsibilities for sustainable development among the public, private, and independent sectors, based on considering how each sector mobilizes resources; differences between public goods and private goods, development activities and commercial activities, and public well-being and private gain; and key related concepts such as externalities, moral hazard, and appropriability. For illustrative purposes, these concepts are applied to one area of sustainable development, agricultural technology generation and transfer, although they also can be applied to other sectors. These considerations are offered to assist USAID strategists, program planners, and project designers in defining development assistance initiatives that effectively mobilize the public, private, and independent sectors in support of sustainable development goals and objectives. The author, Kerry J. Byrnes, is the LAC TECH Institutional Development Advisor, USDA/FAS/ICD/DRD/IIP.

This is the tenth in a series of technical papers published by the USAID Agriculture and Rural Development Technical Services (LAC TECH) project to disseminate technical products and findings of the project. See back page for more information.

Introduction

This bulletin reviews basic concepts that strategists, program planners, and project designers need to consider in thinking through the appropriate roles of the public, private, and independent sectors in sustainable development. While "the guiding criterion needs to be what will work,"¹ the outcome will be influenced by the multiple factors considered below.

Public, Private, and Independent Sectors

What makes the public, private, and independent sectors distinct from one another is that each sector mobilizes resources in its own unique way, as defined in Box 1.

Public and Private Goods²

Goods and services may be classified as private, public, or intermediate. The characteristics of "subtractability" and "excludabil-

Box 1. How Public, Private, and Independent Sectors Mobilize Resources (Source: Adapted from Korten, 1989)	
Sector	How Resources Are Mobilized
Public	Government commands resources, using coercion , where necessary, to back its demands. The capacity for coercion (e.g., generation of revenue through taxes) gives government a comparative advantage in providing such public goods as order and security. Yet public sector organizations can use public revenues to fund the delivery of private goods and services, albeit often less efficiently than these could be provided by the private sector. Examples of public sector organizations include governmental ministries and parastatals, national agricultural research institutes, and extension services, among others.
Private	For-profit businesses or commercial organizations obtain resources through exchange in the marketplace. Customers receive goods and services in exchange for paying cash to the provider of the good or service. Commercial firms market goods and services on a for-profit basis. Such organizations' market orientation, with a concern to minimize costs and maximize profits, gives them a comparative advantage to provide goods and services in a cost efficient manner that is essential for earning a profit on total sales.
Independent	Not-for-profit (non-profit) organizations depend on shared values to attract the voluntary labor and financial resources of people who are committed to the organization's vision of a better world. The capacity of a voluntary organization to mobilize resources toward the realization of shared values gives such an organization a comparative advantage as a catalyst of social innovation. At times, independent organizations market goods or services on a not-for-profit basis. Examples of independent sector organizations include foundations and non-governmental organizations (NGOs).

ity" determine whether a product (service) is closer to being a public or private good. The characteristic of subtractability applies when one person's use or consumption of a good reduces its value to others (e.g., the time spent by an extension agent show-

ing a farmer apply a fertilizer reduces the time available for the agent to help other farmers). The characteristic of excludability applies when access is denied to those who have not paid for the good (e.g., fertilizer once applied to a farmer's field may not be

applied to the field of another farmer).

As shown in Box 2, public goods are characterized by low subtractability and low excludability; in other words, a public good is “a good that, if available to any member of a society, is available to all members of the society.” In contrast, private goods are characterized by high subtractability and high excludability; in other words, a private good is “a good that, if consumed by one individual, cannot be consumed by another individual.” Other combinations of subtractability and excludability define possible types of intermediate goods (e.g., toll goods, common pool goods). Such intermediate goods fall between pure private goods and pure public goods. For simplicity’s sake, these intermediate goods are referred to here as group goods. A group good is “a good that, if available to any member of a group, is available to all members

of that group.” Box 2 provides examples of each type of good for agricultural technology generation and transfer.

To sum up: One may distinguish among public, private, and independent sectors by how/they mobilize resources, while the nature of a good itself defines whether it is a public, private, or intermediate (group) good.

Development Activities and Commercial Activities

Also useful in defining the appropriate roles for the public, private, and independent sectors are distinctions between development activities and commercial activities, and how these relate to the motivation (public well-being vs. private gain) for engaging in them. Box 3 identifies criteria to distinguish development from commercial activities, and criteria to distinguish public well-being from private gain. The criteria highlight

why organizations in the for-profit private sector engage predominantly in commercial activities and why concern for public well-being generally falls to the public and independent sectors. Box 4 provides instances of how motivations shape development and commercial activities.

Key Related Concepts

Externalities (“spillover” or “third-party” effects) occur when an individual, in rendering a service for which payment is received or consuming a service for which payment is made, also renders services (or disservices) to other persons for which payment cannot be exacted from the benefitted parties or compensation enforced on behalf of the injured parties. Generally, parties responsible for an externality do not take the positive or negative effects of their actions into consideration when deciding what levels of services to produce or consume. The existence of externalities commonly is cited as justification for the public sector (government) to intervene, via subsidization (or taxation) of activities, to raise (or lower) production or consumption to socially desirable levels. To illustrate, for-profit commercial firms tend to invest in research only where they see the potential for returns greater than research costs. In research areas with little potential for profit but with a likely favorable return for society at large, it typically falls to the public and independent sectors to make the investments that are needed. Examples include investment in research on food crops to

Box 2. Examples of How Subtractability and Excludability Define Whether a Good or Service Is a Public or Private Good
(Source: Adapted from workshop presentation by Gershon Feder, The World Bank)

H I G H S U B T R A C T A B I L I T Y	COMMON POOL GOODS Self-pollinated seed varieties	PRIVATE GOODS Most agricultural inputs: machinery, chemicals, hybrid seeds, biotechnology products, veterinary supplies, and pharmaceuticals
	PUBLIC GOODS General agricultural information: mass communication of information on prices and pest populations	TOLL GOODS Specialized agricultural information: cultural and production practices, farm management, marketing, and processing
Low	EXCLUDABILITY	High

raise per capita food production and thereby avert negative consequences such as famine, and investment in integrated pest management as an alternative to relying solely on pesticides to control pests.

Moral hazard arises in two instances: first, when consumers are unaware or are unable to assess the product they are buying (e.g., two fertilizers with different nitrogen percentages); and, second, when they can benefit from a group or public good without having to incur any of the costs or responsibilities associated with making that good or service available. The latter case is referred to as the "free rider" problem. Because the producer knows a product's true quality and the consumer does not, there is a risk the producer will pass on a sub-standard product to consumers who are unable to tell the difference. To avoid moral hazard problems, the public sector generally needs to monitor problematic areas or to impose quality standards. In situations of critical public significance, the state may need to take on the responsibility for providing a good or service. Where the state has no private competition, the door is open to potential abuse. In general, when

Box 3. Criteria for Distinguishing Between Development Activities and Commercial Activities, and Between Public Well-being and Private Gain
 [Source: John Lamb, Non-Traditional Agricultural Export Promotion (PROEXAG) Project]

Criterion	Development Activities	Commercial Activities
Timeframe Required to Realize Benefits	Long	Short
Certainty of Realizing Desired Outcome	Low	High
Dependence on Uncontrollable Factors	High	Low
Perceived Risk	High	Low

Criterion	Public Well-being	Private Gain
Ownership	Broad	Narrow
Level of Investment	High	Low
Measure of Success	Economic Return	Financial Return
Ability of Investor to Capture Benefits	Low	High
Range of Beneficiaries	Broad	Narrow
Externalities	Substantial	Few

the potential for moral hazard is present, there is a need for institutions (regulation, competition, communication, etc.) to provide assurance, that is, a reasonable expectation that the public, private, and independent sectors will behave in such a way as to minimize occurrence of moral hazard.

Appropriability refers to the extent to which investments in providing a good or service can be recovered through sale of the good or service. A technology's appropriability defines the extent to which the investments in developing it can be recovered through sales to users. Box 5 illustrates the concept of appropriability for different types of agricultural technology. For-profit firms have the incentive to produce mechanical and chemical technologies, since the technol-

ogy typically is embedded in manufactured goods sold to producers. Where the benefits of biological technologies are privately capturable (e.g., hybrid seeds), the private sector likewise has an incentive to invest. A technology generation and transfer system tends to work productively when the financial benefit of new technology is capturable by inventors and suppliers of the technology. Hence, the critical importance of intellectual property and patent law. Generally the public sector plays a major role in funding or executing the early stages of biological research (e.g., plant breeding to develop new varieties); for its part, the private sector (e.g., seed companies) looks for opportunities to capitalize on public-sector investments (e.g., by using parent varieties of seed to develop hybrid seeds that can be patented).

In contrast to mechanical, chemical, and some biological technologies, managerial technology (i.e., know-how) is rarely patentable, easily replicable, and basically a public good. Therefore, managerial technology generally is a focus of public and independent sector attention, especially to transfer

Box 4. Examples of How Public Well-being vs. Private Gain Shapes Development and Commercial Activities
 [Source: John Lamb, Non-Traditional Agricultural Export Promotion (PROEXAG) Project]

	Public Well-being	Private Gain
Development Activities	Public Health	Bio-tech Research
Commercial Activities	Electric Company	Coffee Exports

such technology to diverse disadvantaged social and economic groups such as limited resource farmers.

In general, if market size is large and technology appropriable, the private sector normally will be particularly disposed to invest in technology generation and transfer. If market size is small and technology non-appropriable, the opposite will be true, and the only viable mechanism for investment in research is likely to be the public or independent sectors. If the expected market size is large and the technologies are non-appropriable, the public sector may be able to make market entry

attractive for the private sector by offering policy incentives (e.g., sharing public sector research at no cost).

Summary

This report has reviewed factors to consider in determining appropriate roles for the public, private, and independent sectors as actors in sustainable development initiatives, highlighting each sector's comparative advantage as a good or service provider. Sustainable development will not proceed if public, private and independent sectors work at cross purposes; the public, private, and independent sectors must work in a mutu-

ally supportive fashion, each doing what it can do best. This can be facilitated by increasing the opportunities for each sector to participate in the areas in which it has a comparative advantage, while allowing competition for resources to serve as an incentive for adherence to performance standards and delivery of results. To this end, the challenge is to identify how USAID resources and programs can serve as catalysts to unleash each sector's potential to play a supporting role. This requires a balanced strategy that plays to the comparative advantage of each sector, getting each to function on behalf of the primary goal--sustainable development.

Box 5. Impact of Appropriability on Comparative Advantage for Public and Private Investment in Agricultural Research
(Source: Adapted from Chapman, 1990, and Falconi, 1992)

Technology	Examples	Comparative Advantage
Mechanical	Includes planting, cultivating, harvesting, and post-harvesting equipment and processes: motor-driven (tractor), animal-driven (plow), and hand-driven (tools)	Private Sector -- Investments in research on the generation of mechanical technology are made mainly by the private sector because this sector can recover research investment costs by selling the products and information that result from this research.
Chemical	Fertilizers Fungicides, herbicides Insecticides, nematicides Replacement of older chemicals	Private Sector -- Investments in research on the generation of chemical technology are made mainly by the private sector because this technology can be commercialized through the sale of agrochemical products that embody the technology. Thus, the private sector can recover the costs of its investment.
Biological	Hybrid seed varieties Vaccines Biotechnology Inoculants Hormones Open-pollinated seed varieties Organic fertilizers Biological pest control Livestock, germ plasm	Private Sector -- Much biological technology is not intrinsically appropriable, because copying is possible and patenting is difficult. The patentability of biotechnology products can be an important factor in encouraging the private sector to invest. Public Sector -- Public sector investments in research on biological technology tends to be limited to open-pollinated seed varieties and technologies with low appropriability.
Managerial	Crop and livestock managerial technologies and processes	Public Sector -- Investments in research on the generation of managerial technology are made mainly by the public sector; ownership is non-appropriable and the technology is available to all without reducing the supply available to others.

Note: Some technological research (e.g., on post-harvest technology, food processing technology, and biotechnology) can be carried out in both the public and private sectors.

Notes

¹"Making Markets Work for the Rural Poor: An Agenda to Advance Broadly Based, Sustainable Rural Economic Growth in Latin America and the Caribbean." Washington, D.C.: Bureau for Latin America and the Caribbean, U.S. Agency for International Development. September 1994.

²This section is based on a series of World Bank-sponsored papers prepared for the International Symposium on Public and Private Sector Roles in the Provision of Agricultural Support Services, May 17-19, 1993; San José, Costa Rica (see Schwartz and Zijp, 1993; and Umali, Feder, and De Haan, 1993).

References

Byrnes, Kerry J.

"Privatized Technology Generation and Transfer: One Small Step for CARDI, One Giant Leap for Caribbean Agriculture." Prepared for the Caribbean Agricultural Research and Development Institute (CARDI) and USAID Regional Development Office for the Caribbean (RDO/C), October 6, 1992.

Chapman, James A.

"A Strategy for Joint Public and Private Sector Participation in Agricultural Technology Generation and Transfer." Prepared for the Philippine Agricultural and Natural Resources Strategy Project. Washington, D.C.: Chemonics International Consulting Division.

Falconi, Cesar A.

"Public and Private Sector Interactions in Agricultural Research in Less-Developed Countries: The Case of Ecuador." Discussion Paper No. 92-13, International Service for National Agricultural Research (ISNAR), The Hague.

Goodman, John B., and Gary W. Loveman

"Does Privatization Serve the Public Interest?" *Harvard Business Review*, November-December, pp. 26-38.

Korten, David C.

"Voluntary Organizations and the Challenge of Sustainable Development." Manila, Philippines, Institute for Development Research (IDR).

Schwartz, Lisa A., and Willem Zijp

"Public and Private Roles in the Delivery of Extension Services." Paper presented at the International Symposium on Public and Private Sector Roles in the Provision of Agricultural Support Services, San José, Costa Rica, May 17-19, 1993.

Umali, Dina L., Gershon Feder, and Cornelis De Haan

"Public and Private Sector Roles in the Delivery of Livestock Services." Paper presented at the "International Symposium on Public and Private Sector Roles in the Provision of Agricultural Support Services," San José, Costa Rica, May 17-19, 1993.

Wortman, Sterling, and Ralph W. Cummings, Jr.

To Feed This World: The Challenge and the Strategy. Baltimore: The Johns Hopkins University Press.

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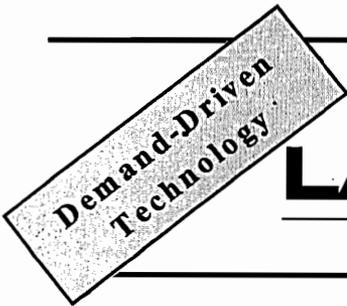
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LAC TECH BULLETIN



No. 11

February 1995

Strategic Opportunities for Development Assistance in Agricultural Research, Extension, and Education: Latin America and the Caribbean

The U.S. Agency for International Development (USAID) is now reassessing its role in supporting international agricultural research, strengthening national agricultural research systems, and facilitating host country technology-system links with U.S. agricultural research systems. Sustainable agricultural research, extension, and education systems can play a key role in reducing rural poor transaction costs (USAID, 1994a) in accessing productivity-increasing technologies, thereby enhancing opportunity for the rural poor to access markets and improve income. To this end, this bulletin identifies four strategic opportunities for USAID to foster the emergence of demand-driven (market-led and client-oriented) agricultural technology generation and transfer capacity as an integral component of a Mission's programming for broadly-based, sustainable rural economic growth (USAID, 1994b). The author, Kerry J. Byrnes, is the LAC TECH Institutional Development Advisor, USDA/FAS/ICD/DRD/IIP.

This is the 11th in a series of technical papers published by the USAID, LAC Agriculture and Natural Resource Management Technical Services (LAC TECH II) project to disseminate technical products and findings of the project. See back page for more information.

I. Introduction

USAID and its predecessors have helped strengthen agricultural research, extension, and education in the LAC region since the early 1940s. Despite many successes from the 1940s to 1970s, declines in funding for agricultural research, extension, and education in the 1980s, combined with ineffi-

cient public-sector agricultural research and extension organizations, led to a drop in the region's overall technology generation and transfer capacity and weakened agriculture's ability to contribute to food security, agricultural trade, and economic growth. These trends contributed to declines in per capita food production and increased reliance on cereal

imports, not to mention adverse environmental impacts (Byrnes, 1992).

II. Demand-Driven Agricultural Technology Generation and Transfer

The LAC region now faces an urgent need to increase the productivity and sustainability of food and export-crop production systems. Although the decline in the region's technology generation and transfer capacity is one explanation for declines in per capita food production, the root cause is lack of effective farmer demand for productivity-increasing

Research generates knowledge and technology through public (policy-oriented) research, private (profit-oriented) research, and academic (discipline-oriented) research.

Extension transfers technology to rural agricultural producers through public or private organizations.

Education develops the trained human resources needed to develop more productive and sustainable technologies, transfer them to farmers, and train human resources.

technology, often deriving from policy constraints, especially price and marketing controls for basic food crops. The net result is that farmers perceive weak market demand for their products; hence there is a lack of farmer demand for productivity-increasing technology. Ultimately, the return on investment in agricultural research, extension, and education will be influenced heavily by agricultural policies that define the opportunities for investment in technology by farmers and the environment for public and private investment in technology generation and transfer.

Once farmers see real market opportunities, they are more than willing to invest in productivity-increasing and sustainable technology. Experience under the Central American Non-Traditional Agricultural Export Promotion (PROEXAG) project is testimony to the market-responsiveness of producers in the region. Market requirements for quality tropical fruits and vegetables created grower demand not only for improved production and post-harvest handling technology but also for integrated pest management technologies to meet phytosanitary requirements. This demand-driven dynamic applies not only to nontraditional export crops but also to traditional export and food-security crops.

Improved agricultural technology can facilitate expanded domestic demand, higher value-added by domestic resources, and entry into export markets. In turn, dynamic agricultural markets require technological progress and innovation. This can be facilitated

by public-sector intervention, particularly when the objective is to expand opportunity for small

Demand-driven technology generation and transfer is market-led and client-oriented.

farmers to benefit from improved technology. Thus, a productive and sustainable agricultural technology system is essential for ensuring that the rural poor have access to technologies that can increase agricultural productivity and farm income, while conserving and enhancing the natural resource base.

The "lesson learned" is that knowledge of market demand -- as well as production, post-harvest handling, and marketing constraints -- is essential to developing technologies that farmers will be able and willing to adopt. If agricultural research is to have a practical payoff, agricultural producers must have a greater voice in identifying research problems, setting research agendas, and allocating research resources. Success in developing productivity-increasing, environmentally-sustainable technologies that meet farmers' income needs is essential to mobilize the funding for research, extension, and educational institutions to provide technology generation and transfer services on a sustainable basis. How each country can most effectively develop self-sustaining institutions depends on its specific conditions, but a market-led and client-oriented focus is essential.

A market-led and client-oriented focus in agricultural research, extension, and education depends on establishing four *conditions*:

- Incentives to invest in the supply and use of productivity-increasing technology.
- Autonomy of and adequate budget support for the public-sector components of a country's agricultural research, extension, and education system.
- Active private-sector involvement in designing, implementing, and evaluating technology generation and transfer activities.
- Market-led and client-oriented technology generation and transfer program selection criteria.

Opportunities to establish and strengthen these conditions are considered below.

III. Opportunities to Strengthen Research, Extension, and Education

USAID Missions that identify the decline in agricultural technology generation and transfer capacity as a threat to achieving Mission strategic objectives, and define demand-driven (market-led and client-oriented) technology generation and transfer as essential for achieving these objectives, will find the opportunities identified below useful in identifying and designing appropriate programmatic actions.

A. Incentives to Invest in Productivity-Increasing Technology

Donors and development

assistance agencies can assist countries to create incentives for investment in strengthening technology generation and transfer capacity by:

- Promoting the emergence of a market-oriented trade and investment environment through appropriate policies, legislation, and institutions.
- Including agricultural technology generation and transfer for sustainable agriculture and natural resource management in a donor's policy dialogue agenda with host country public and private sectors, and making revitalization of a country's agricultural research, extension, and educational system a cornerstone of a donor's **non-project sector assistance (NPSA)** program.
- Identifying priority needs for adaptive, applied, strategic, and basic research, and how research needs in each of these areas might change under a liberalized national or regional market and agricultural policy environment.
- Encouraging the host country:
 - To establish a legal mechanism for members of commodity groups to vote on whether to establish commodity checkoff systems to generate resources (from market sales) that can be used to fund private or publicly-executed agricultural research.
 - To develop the legal framework to allow public agricultural research, extension, and education organizations to contract their services to other public and private parties.

-- To allow universities and their faculties, where otherwise currently prohibited, to receive research grants from private firms, consult for those firms, and participate in publicly-funded competitive grants programs.

-- To place greater priority on research productivity as a criterion for promoting staff in universities and public-sector research institutes.

-- To shift public expenditures away from applied or adaptive research and toward strategic and basic research, leaving the former as an opportunity for private-sector investment and the latter as a priority investment for the public sector.

-- To fund public investment in agricultural research in key areas (e.g., subsistence food crops, integrated pest management, natural resource management) where the private sector does not perceive that there is an incentive to provide the required technology through research or imports.

Important questions to address in building an incentive structure for investment in agricultural research include: What kinds of research should be undertaken by the national agricultural research systems (NARSs) and the International Agricultural Research Centers (IARCs)? How can links between the NARSs, IARCs, and agricultural research systems in the United States be strengthened? How can the private sector be more effectively mobilized in support of agricultural research, extension, and education?

B. Autonomy and Budget Support for Ag REE System's Public Sector Components

Establishing the autonomy of and providing adequate budget support for the public-sector components of a host country's agricultural research, extension, and education (Ag REE) system are issues that need to be addressed in donor policy dialogue and non-project sector assistance programs. Specific actions to establish this condition include:

- Support assessments of a host country's research, extension, and educational system to identify opportunities to address technology needs for food-security, traditional-export, and nontraditional export crops, as well as technology needs in the livestock, forestry, and fisheries sub-sectors.
- Facilitate dialogue to develop public and private sector consensus on:
 - The need for demand-driven agricultural technology generation and transfer;
 - Functional and organizational requirements for demand-driven technology generation and transfer;
 - The appropriate roles of the private and public sectors, given their comparative advantages, in technology generation and transfer; and
 - The potential for privatizing selected functions of public-sector components of a host country's agricultural technology generation and transfer system.
- Develop an action plan and timetable for implementing institutional changes in the host country's agricultural research, extension, and education system.

- Identify and mobilize private, public, and donor resources to carry out the action plan.
- Encourage public research entities to increase their research funding through non-budgetary income sources -- for example, through contracts and sale of research products.
- Improve the efficiency of public research expenditures through competitive bidding for funds, with awards to the most responsive competitors, whether public or private.
- Assist private and public organizations to establish endowments to fund research, with endowment funds complementing the traditional allocation of funds from ministries and other government agencies.
- Use endowment funds to channel support, on a competitive basis, to public and private non-profit organizations (e.g., NGOs) to address research, technology transfer, and/or training needs.

C. Private-Sector Involvement in Agricultural Technology Generation and Transfer

Increased private-sector involvement in designing, implementing, and evaluating technology generation and transfer is essential for demand-driven agricultural research, extension, and education. Specific steps include:

- Develop mechanisms -- for example, research advisory committees -- for private-sector producers to participate in

identifying research problems and priorities, setting research agendas, and allocating research resources.

- Encourage the public sector to contract research to the private sector and to tap research capability within universities, especially where talent in biology, medical, and engineering departments can be mobilized to assist in solving agricultural technology problems.
- Assist private-sector agricultural research organizations to design client-oriented technical assistance that integrates agricultural research, extension, and marketing.
- Exploit opportunities for sharing research expenses by establishing joint projects in technology generation and transfer, with projects submitted by the private sector developed in conjunction with public research centers.
- Stimulate the influx of funds from new sources for research, especially from private firms and producer associations (e.g., through tax incentives).
- Foster creation and consolidation of research and development centers of excellence by facilitating scientific exchange of highly qualified researchers between public and private organizations.
- Establish incentive systems for awarding monetary bonuses to researchers based on farmer and peer review of research results and the degree to which these results have led to technology adopted by

farmers, are responding to **urgent** producer needs, and/or are judged by research peers as a **creative** scientific contribution to the R&D process.

- Assist the public and private sectors in identifying and accessing funding support for short- and long-term training in cases where Ag REE systems are short on scientific capabilities.
- Establish or strengthen "centers of excellence" in host countries' higher agricultural education systems, particularly when the institutions in question can serve as regional "centers of excellence"-- for example, the Pan American Agricultural School in Honduras as a regional center of excellence in integrated pest management (IPM).

Linking national research programs with the international scientific community stimulates and supports public, private, and academic researchers. These links can be fostered through meetings, joint research, study tours, or other activities facilitating communication and networking of scientists. However, the United States fails to capture the benefits of joint research and scientific exchange if adequate funding is not provided for U.S. universities to continue participating in research with the host-country institutions with which they worked under USAID contracts. The potential value of joint research to the United States and developing countries is enhanced if host-country researchers have access to up-to-date libraries with the latest scientific literature. These problems can be addressed through measures that:

- Provide targeted funding to support proven and promising agricultural scientists to participate in international scientific meetings and to communicate electronically with colleagues and data bases.

- Develop a funding mechanism to provide support for agricultural libraries to acquire scientific reference materials -- journals, books, CD-ROMs, etc.

D. Market-Led and Client-Oriented Technology Program Selection Criteria

Developing a market-led and client-oriented program depends on formulating program selection criteria that include, *inter alia*, anticipated market environment; expected costs and benefits of program alternatives; relative importance of crops, needs and abilities of client groups; and mix of public and private funding required for sustaining technology generation and transfer. Opportunities to carry out technology generation and transfer based on market-oriented program selection criteria include projects that:

- Develop a research agenda, based on market- and commodity-system analyses to identify market opportunities, pinpoint constraints, and estimate expected benefits and costs of alternative investments in research aimed at removing or relaxing the identified constraints.

- Tailor research programs to the specific requirements of the crops and commodity groups identified in the research agenda.

- Determine the specific needs and capabilities of the different client groups for whom the research is to be conducted -- for example, small, traditional food producers vs. medium-to-large, mechanized producers of export crops.

- Develop alternative fund-capturing mechanisms, based on the specific mix of public and private funding required for sustainable agricultural research, extension, and education.

- Assist private-sector agricultural research and nontraditional agricultural export support organizations to develop mechanisms for cost recovery -- for example, checkoffs on grower exports, input sales, and credit repayments.

- Facilitate development of a mechanism to fund agricultural research through a competitive research grants program.

- Use existing funds for agricultural research to leverage additional research funds that may be available from other sources.

This condition's *raison d'être* lies in the need to reduce the perceived

costs of obtaining practical research results. The days of financing a public research establishment just because it is there are over; simply showing high historical rates of return to investment in agricultural research is no longer a convincing argument when anyone can observe that unproductive facilities inhabited by unproductive scientists abound. This is why host-country governments cut public-sector research budgets and why the private sector did not push for their restoration. The challenge now is to build constituency support for research, extension, and education by fostering public and private commitment to revitalizing the funding of agricultural technology generation and transfer. The opportunities identified here for investment in agricultural technology generation and transfer have a common objective: to make technology generation and transfer more cost-effective by making the end product -- knowledge, technology, and talent -- more useful to farmers and other agricultural producers. This can be achieved by defining research agendas on the basis of demand; that is, by identifying the results sought -- specific technologies to help specific clients compete in specific markets -- and then searching for the most cost-effective means of achieving those results.

References

Byrnes, Kerry J.

- 1992 **A Cross-Cutting Analysis of Agricultural Research, Extension, and Education (Ag REE) in A.I.D.-Assisted LAC Countries (Volume I: Technical Report & Volume II: Annexes).** Washington, D.C.: Rural Development Division, Office of Rural Development, Bureau for Latin America and the Caribbean, U.S. Agency for International Development.

United States Agency for International Development (USAID)

- 1994a **Making Markets Work for the Rural Poor: An Agenda to Advance Broadly Based, Sustainable Rural Economic Growth in Latin America and the Caribbean.** Washington, D.C.: Bureau for Latin America and the Caribbean, U.S. Agency for International Development. September 1994.
- 1994b **Strategies for Sustainable Development.** Washington, D.C.: U.S. Agency for International Development.
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**Title III:
How It Works**

LAC TECH BULLETIN

No. 12

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This analysis is based on the author's experience with the design and review of grant food aid (Public Law 480, Title III) programs in the LAC region in USAID under the new food aid legislation (the Agricultural Trade and Development Act of 1990) which took effect on

January 1, 1991. Roberta van Haeften, the author, is the Food Policy Advisor with the Latin American Bureau of USAID.

This is the twelfth in a series of technical papers published by the US-AID Agricultural Development and Technical Services project (LAC TECH). See back page for subscription and other information.

Background on the U.S. Food Assistance Program

Traditionally food aid has been categorized according to its objective: **program food aid** for general balance of payments support; **project food aid** to provide income transfers and to support nutrition improvement and economic development activities that are expected to have an impact over the medium to longer term; and **emergency food aid** for direct short-term relief. The United States provides program food aid under Titles I and III of the current food assistance legislation and project and emergency food aid under Title II (see Figure 1).

Program food aid is provided to governments, whereas the recipients of project and emergency food aid are private voluntary organizations and cooperatives and international organizations such as the World Food Program. U.S. emergency and project food assistance is provided as a grant. Program food aid has also had a relatively large grant component, because of the concessional terms at which it

has been made available. These terms (grace periods, interest rates, currency of repayment) have been changed over the years. In 1990 the new food assistance legislation divided program food aid into Title III, which became a grant program, and Title I, which remained a concessional loan program (see discussion in the following section).

Program food aid traditionally was monetized. That is, the commodities provided by the United States were sold in the domestic markets of recipient countries and the local currency proceeds retained by recipient governments to be used for development purposes. Food made available under Title II, on the other hand, traditionally was distributed to designated beneficiaries identified as being in need of food assistance. These distinctions have become less clear, however. Some Title II food is also monetized, for example, most often to help PVOs cover the costs of logistics and complementary inputs. In addition, the new legislation allows Title III food to be used as food in direct feeding programs or in the development of food reserves. The practice of

using local currencies to help support economic development project activities, begun under Title I, has also continued as a feature of Title III programs.

Program Food Aid and the 1990 Food Assistance Legislation

Over the years the emphasis in the U.S. food assistance program has shifted from surplus-disposal and geopolitical objectives to the utilization of U.S. agricultural surpluses to support development objectives. The majority of U.S. food assistance has been provided in the form of program food aid, which for many years was jointly managed by the Department of Agriculture (USDA) and the Agency for International Development (USAID).

Dramatic changes were made in U.S. program food aid with the passage of the Agricultural Trade and Development Act of 1990, however, which created two separate program food aid categories with separate objectives and management structures:

Figure 1 - Basic Characteristics of the U.S. PL 480 Food Assistance Program

Titles	Objectives	Country Eligibility Criteria	Recipients	Terms	Degree of Monetization	U.S. Management Agencies
Title I	Balance of Payments	Shortage of Foreign Exchange	Governments	Concessional	100%	USDA
Title II	Relief/ Development Projects	Emergency/ Food Needy Beneficiaries	PVOs/ World Food Program	Grant	Partial	USAID
Title III	Balance of Payments/ Policy Reform/ Development Projects	Poverty/ Food Deficit	Governments	Grant	Usually 100%	USAID

- ◆ Title I, managed by USDA and providing food on a concessional loan basis to achieve U.S. market development objectives, and
- ◆ Title III, managed by USAID and providing food on a grant basis to achieve economic development objectives.

The objective of these reforms was to separate the market-development interests of the U.S. government (the concern of USDA) from its economic development interests (the concern of USAID) and to provide clearer lines of authorities and responsibilities between USDA and USAID.

The legislation also tried to tailor program food assistance to the needs of developing countries. It did that by creating a separate grant program (Title III) that is restricted to only the neediest developing countries -- countries that need to import food to meet the calorie needs of their people, would have difficulty in paying for commercial imports due to foreign exchange constraints, and have relatively large numbers of their population suffering from hunger and malnutrition (see the discussion below for more details on this aspect of the program). To be eligible for the concessional loan (Title I) program, on the other hand, countries only have to show that they would have difficulty in amassing the foreign exchange needed to pay for the needed food imports.

Establishing Food Security as a Unifying Objective

One of the criticisms of the old program food aid was that it failed to have an effect on reducing food insecurity and hunger in recipient countries except by adding to aggregate food supplies. The new legislation, to avoid this criticism, specifically requires that Title III programs (as well as those under Titles I and II) be designed to improve food security in the recipient countries.

The legislation defines food security as "access by all people at all times to sufficient food and nutrition for a healthy and productive life." The USAID definition (announced in USAID's 1992 Policy Determination #19) is similar, including a strong emphasis on the importance of the accessibility of food or effective demand. This contrasts with earlier definitions which focused more narrowly on food availability or supply. The Policy Determination went on to distinguish three elements that are key to the attainment of food security -- availability, access and utilization (see LAC TECH Bulletin #8 for a more detailed discussion of food security concepts).

Focusing Title III Grant Food Assistance on Needier Countries

Another objective of the 1990 legislation was to concentrate more of the food resources, especially the grant resources, in the neediest countries. The legislation does this by limiting Title III eligibility to countries that meet the *poverty* criterion established by the World Bank for Civil Works Preference for providing financial assistance. This cutoff point has increased each year from \$580 per person in FY91 to \$635 in FY94, for example. The legislation also gives the AID Administrator discretion to provide grant food aid to additional countries if they qualify as *food-deficit* countries and provides detailed guidance on the elements and performance levels to be used in making this determination (see Figure 2).

Need, however, was not to be the only criterion to be used in determining priorities among countries. The legislation also requires the Agency to give priority to countries that "demonstrate the capacity to use food assistance effectively," "have demonstrated a commitment to policies to promote food security," and "have a long-term plan for broad-based economic growth."

Giving Greater Emphasis to Policy Reforms as a Means to Promote Food Security

The 1990 law gave USAID considerable flexibility in designing Title III programs, allowing Title III resources to be used as balance of payments assistance to support policy reform, and allowing the commodities themselves (1) to be sold and the sales proceeds used for specific economic development activities, for sector support, or to support policy reform; (2) to be distributed in direct feeding programs; and/or (3) to be used to establish emergency food reserves. The emphasis of USAID/Washington was on the first mechanism -- the use of Title III programs to achieve policy reforms in the recipient countries, a thrust that was strongly embraced by the LAC Bureau.

This emphasis on policy reform continued a trend which began in 1967 with the introduction of the concept of "self-help." Some LAC missions (Honduras, for example) had already been using the requirements for self-help measures under the 1967 amendment to the food aid legislation as a basis for dialoguing on policy reforms, but the 1990 legislation and USAID guidance expanded this approach to all missions with Title III programs. The new

Figure 2 - Criteria To Be Used In Determining Eligibility for Title III Grant Food Assistance

Poverty Criterion - Countries that qualify under this criterion have per capita incomes at or below the level needed to qualify for the World Bank's Civil Works Preference Program.

Food Deficit Criterion -- Countries that qualify under this criterion::

- ◆ Have daily per capita calorie supplies of less than 2,300 calories per person per day, and
- ◆ Are unable to meet their food security requirements through domestic production or imports due to a shortage of foreign exchange, and
- ◆ Have mortality rates for children under five years of age in excess of 100 per 1,000 births.

Figure 3 - Eligible LAC Countries and Approved Title III Programs

FY91	FY92	FY93	FY94	FY95
Bolivia	Bolivia	Bolivia	Bolivia	Bolivia
Guyana	Guyana	Guatemala	Guatemala	<u>Guyana</u>
Haiti	Haiti	<u>Guyana</u>	<u>Guyana</u>	Haiti
Honduras	Honduras	Haiti	Haiti	Honduras
<u>Peru</u>	<u>Peru</u>	Honduras	Honduras	Nicaragua
		Nicaragua	Nicaragua	
		<u>Peru</u>	<u>Peru</u>	

Underlined countries have/had approved Title III programs in the year in question.

Figure 4 - Types of Policy Reforms Included in LAC Title III Programs

Although each of the LAC Title III programs is unique, they have a number of common objectives. These include the following:

To remove price distortions in the economy and restore profitability and growth to the agricultural sector.

- ◆ **Price and trade policy reforms:** Honduras -- removal of retail price controls, reduction of tariffs and removal of controls on trade in agricultural products. Peru -- reduction of surcharges on major agricultural imports, including wheat. Guyana -- reduction in taxes and tariffs on selected primary agricultural products.
- ◆ **Tax policy reforms:** Guyana -- reduction of consumption taxes on food.
- ◆ **Food aid policy reforms:** Nicaragua -- all food donations destined to be monetized sold at market prices in order to eliminate one source of price-disincentive effects.

To remove underlying constraints to growth in the agricultural sector, including those that increase farmers' access to important inputs such as technology, information, land, water and finance.

- ◆ **Agricultural technology:** Peru -- five public sector agricultural research facilities transferred to the private sector; also passage of a seed law institutionalizing and legalizing the private seed multiplication and certification system.
- ◆ **Land:** Honduras -- redefinition of land tenure policies and laws to give greater security of land tenure, improve the land titling process and facilitate the functioning of land markets. Guyana -- development of a new land policy for leasing/selling state lands. Bolivia -- progress on the development of a new legal framework for land tenure.
- ◆ **Water:** Guyana and Peru -- progress on the development of a legal and regulatory framework for the establishment and collection of water users' fees and user maintenance of drainage and irrigation systems.
- ◆ **Information:** Honduras, Nicaragua and Peru -- development of a market information system for agricultural products.

To strengthen markets, for example, by increasing the role of the private sector in food markets, and otherwise to increase the efficiency and reduce the costs of marketing food.

- ◆ **Privatization:** Honduras -- privatization of a number of government-owned entities, including the grain facilities owned by the government grain stabilization agency (IHMA), the national seed production facility, a government owned dairy plant and two government-owned sugar mills. Nicaragua -- sale or lease of all the facilities owned by the state marketing company (ENABAS), including all its grain storage and handling facilities. Peru -- reduction in the role of the state trading organization (ENCI).

To develop/expand the coverage of safety-net programs designed to provide targeted assistance to poor and food insecure households during the process of economic adjustment, including those adversely affected by the elimination of generalized food subsidies.

- ◆ **Labor intensive public works:** Nicaragua -- expansion of the government's labor-intensive public works program and the allocation of more resources to areas outside of Managua, where more of the country's poverty and food insecurity was located. Peru -- focus of the government social safety-net expenditures on the extremely poor.

To improve the nutritional quality of food and/or the nutritional effects of food through improvements in the quality and availability of primary health care, potable water and sanitation services.

- ◆ **Food fortification:** Guyana -- fortification of the wheat imported under the program, as a means of reducing iron deficiency anemia.
- ◆ **Primary health care:** Nicaragua -- improvements in the coverage and delivery of primary health care, including an increase in GON resources spent on primary health care. Peru -- nationwide implementation of a selection method for targeting Ministry of Health resources on children at high risk of malnutrition.

To improve the management of natural resources and increase environmental protection.

- ◆ **Environmental protection:** Bolivia and Honduras -- establishment of a national environment fund and the development of a new legal and regulatory framework for protecting bio-diversity and for encouraging natural resources conservation.
- ◆ **Forestry:** Bolivia and Honduras -- changes in institutions and incentives designed to encourage a more sustainable use of forestry resources.

Figure 5 - Examples of the Ways in Which Local Currencies Generated by LAC Title III Programs Were Used

Local currencies generated through the sales of commodities imported under LAC Title III programs have been used to support a variety of different types of activities. Examples of these are:

Agricultural research:

- ◆ Bolivia -- applied agricultural research on wheat and other crops
- ◆ Honduras -- an endowment for an agricultural research foundation to work on higher-value crops
- ◆ Peru -- applied research by the International Potato Center

Services to small farmers:

- ◆ Bolivia and Peru -- credit and extension to small farmers
- ◆ Bolivia and Honduras -- assistance to small farmers to help them increase non-traditional agricultural exports.
- ◆ Bolivia, Honduras and Nicaragua -- support for farmer organizations
- ◆ Peru -- support to new rural banking system providing financing to small farmers, traders and microentrepreneurs

Agribusiness development:

- ◆ Bolivia and Guyana -- micro-enterprise loans
- ◆ Honduras -- agribusiness development and value-added processing for small farmers
- ◆ Nicaragua -- privatization of state-owned enterprises

Productive infrastructure:

- ◆ Bolivia, Guyana and Peru -- rural access roads
- ◆ Honduras and Peru -- irrigation systems
- ◆ Guyana -- sea wall defenses and drainage and irrigation

Safety-net programs:

- ◆ Honduras -- food coupon program for poor households
- ◆ Haiti, Guyana, Nicaragua and Peru -- labor-intensive, productive infrastructure projects

PVOs/NGOs:

- ◆ Bolivia, Haiti, Honduras and Peru -- logistical and program support to Title II programs
- ◆ Bolivia, Guyana, Haiti, Honduras, Nicaragua and Peru -- support to indigenous NGOs

Health and related activities:

- ◆ Bolivia, Nicaragua and Peru -- child immunizations and other child survival activities
- ◆ Bolivia, Guyana and Peru -- construction of water and sanitation facilities and rural health facilities

Environment:

- ◆ Bolivia and Honduras -- increased area under sustainable land-use and forestry-management practices
- ◆ Bolivia and Honduras -- Environmental Protection Fund
- ◆ Bolivia -- trust fund for management of national parks

Policy analysis and data collection:

- ◆ Honduras -- analysis of agricultural policy options and impacts
- ◆ Honduras -- agricultural census, production surveys, poverty surveys, health and nutrition survey
- ◆ Guyana -- nutrition, labor and agricultural surveys
- ◆ Nicaragua -- poverty survey, basic grains and livestock survey

legislation also permitted the development of multi-year programs. This, together with the fact that governments would no longer have to commit themselves to paying for these imports, was expected to increase greatly the incentives on the part of the recipient governments to undertake the types of development-oriented economic policy reforms included in these agreements.

The 1990 law also authorized the use of the local currencies generated by the sales of program food imports to support development activities agreed to by the U.S. and recipient governments. This, however, was a continuation of what was already a common feature of earlier U.S. program food aid.

Participation of LAC Countries in the Title III Grant Program

Expectations were that the majority of the countries in the Latin American and Caribbean (LAC) region that had been receiving program food aid would fall into the USDA-managed Title I category (program food aid on a concessional loan basis), and that the number of LAC countries in the Title III category would decrease over time. This would leave Title III grant food aid resources for the relatively poorer countries in Africa and Asia. At the aggregate level, per capita incomes for the low- and middle-income countries in the LAC region are certainly much higher than in other regions, averaging \$2,180 in 1990 in comparison to \$340 for Sub-Saharan Africa, \$600 for East Asia and the Pacific and \$330 for South Asia. However, a number of countries have continued to qualify on the basis of the *poverty criterion* (Haiti, Honduras, Guyana and Nicaragua) and several on the basis of the *food-deficit criterion* (Bolivia, Guatemala and Peru) (see Figure 3).

In fact, the number of LAC countries eligible for Title III grant program food aid increased during the first several years of the new program. Per capita incomes had declined in a number of these countries due to the poor performance of their economies at the end of the 1980s, and per capita food availabilities and per capita food production had declined in an even larger number of countries (see LACTECH Bulletin #1 for a more detailed description of the food security trends in the USAID-Assisted LAC countries during the 1980s). All LAC Title III countries, with the exception of Guyana (which is one of the poorest and most indebted of the LAC countries) were and are food-deficit countries.

LAC Experience with Title III Programs

Missions in the LAC region have used policy reform agendas in combination with local currency expenditures to promote improved food security in recipient countries. They have worked closely with host country governments to identify the major policy obstacles (constraints) to improving food security and then have proposed and negotiated policy conditionalities with the recipient governments to remove those constraints. In the LAC region, these reform agendas have focused on sectoral reforms, primarily in the agricultural sector, and they have been closely integrated with the macroeconomic and other sectoral activities supported by dollar resources. The typical program includes several sets of policy reforms phased over several years, with detailed performance indicators (also referred to as benchmarks) for each year of the program.

LAC Missions have also worked with recipient governments to determine how the local currencies generated by the sale of the Title III food imports will be used -- what sectors and projects they will finance. The difference in the current program is that the local currency uses, like the policy reforms, are focused on the objective of improving food security.

Each LAC Title III program is unique. This is because (1) agricultural development and food security problems, (2) the policy reforms that the countries have agreed to, and (3) the other programs of USAID Missions and other donors vary from country to country. These programs do contain some common themes, however.

Increasing Agricultural Production and Productivity -- All LAC Title III programs include reforms designed to increase agricultural production and productivity in the recipient countries. Some have been designed to remove price distortions in the economy, thereby restoring profitability and growth to the agricultural sector; others have focused on some of the underlying constraints to growth in the agricultural sector, including those that constrain farmers' access to important inputs such as technology, information, water and finance (see further discussion in Figure 4). Local currency expenditures were also focused on these objectives, with resources being used to support agricultural research, agribusiness development, and the development of productive infrastructure (see the discussion in Figure 5).

Improving Household Food Access -- Since

the root cause of food insecurity in most LAC countries is lack of purchasing power -- or poverty -- increasing the income of poor households so that they can afford to purchase adequate diets is another objective of a number of the LAC Title III programs. This objective has overlapped with the first objective in some of the LAC countries where the agricultural sector holds the key to increasing the incomes of the poorest and most food-insecure households. The Title III programs in Honduras and Nicaragua, for example, were focused on reforming agricultural price policies in order to increase the incomes of farm households who were the major group of poor and food-insecure persons in both countries. Increasing agricultural production, including both basic staples and export crops, was the means selected, because it was the quickest and least costly. The objectives, however, were increased incomes for rural households and, because poor households typically spend a large portion of any increases in income on food, improved food security.

Strengthening Private Markets -- Special emphasis is given in the legislation to the use of Title III resources to promote the privatization of the food and agricultural distribution systems in the least developed countries. Title III programs in Honduras, Nicaragua and Peru have been used to encourage governments to reduce their role in food marketing -- by selling and/or leasing government-owned facilities. LAC Title III programs have also been used to encourage governments to facilitate the strengthening of private sector markets, through such measures as the development of market information systems (Nicaragua and Peru).

Supporting Safety Nets -- Several LAC programs were designed to contribute to the alleviation of temporary food insecurity due to economic adjustments by helping countries develop/maintain a safety net for their poorest populations. In Nicaragua, this was achieved through a provision in the policy reform matrix requiring the government to devote more of its own budgetary resources to provide temporary jobs to the unemployed on productive public works projects. In Honduras, Title III local currencies were used to provide support to a food coupon program targeted to poor and food-insecure households, and in Peru, they supported an emergency employment program and other efforts to integrate persons displaced by years of terrorism and civil strife into their former communities.

Improving Health and Nutrition -- A provision was included in the Guyana program requiring the fortification of the flour pro-

duced with the wheat imported under the program as a means of reducing iron deficiency anemia, which is a major nutrition problem in the country. The Nicaragua program was designed to support reforms that are expected to increase the availability of primary health care to the poor, in the belief that better health is necessary to insure that increases in food are translated into improved nutrition. Similar reasoning was used to justify allocating local currencies in several other programs to improving health services, immunizations, in particular, and expanding access to potable water and sanitation services (Bolivia, Guyana, Peru).

Improving Natural Resources Management and the Environment - Two programs (Bolivia and Honduras) were also designed to improve the management of natural resources, recognizing that food security in the longer term is dependent on the sustainable use of countries' natural resource bases.

Program Performance and Impact

Performance -- The LAC Title III programs have been quite successful in encouraging recipient countries to undertake policy reforms conducive to improved food security. A large percentage of the benchmarks included in each of the agreements were achieved.

Factors that contributed to program success included the existence of other complementary programs. These included macroeconomic and sectoral loans from the international financial institutions, and economic support (ESF) and development assistance (DA) grants from USAID. Projects designed to help countries analyze their policy problems and assess the impacts of alternative policy reform options have been particularly useful in furthering successful policy dialogues. Leverage is not the only thing that convinces countries to make important policy changes; in situations of need, it may be much more difficult to leverage change with food rather than with cash. Informed self-interest on the part of a country's policy makers, which policy dialogue backed up by analysis can influence, is as or more important.

Impact -- Title III programs are complex; their impact does not happen all at once and complex mechanisms are involved. Some impacts are immediate; some can be seen in

the short-to-medium term; and some may not become visible until a number of years after the program has ended.

Since the Title III countries are basically food-deficit countries, Title III programs have an immediate impact on food availability and on food prices (increased availability moderates the upward pressure on prices). In cases where government and/or program resources have been used to finance safety-net activities (Honduras, Guyana, Nicaragua, Peru), these programs have also had an important and relatively quick impact on the incomes of poor, food-insecure people.

The impact of reforms in price and trade policies (the elimination of retail price controls and the reduction of tariffs and elimination of non-tariff barriers) can also be seen in the space of a year or two, as they were in Honduras. Here, reforms in price and trade policies, encouraged by a combination of IFI International Finance Institutions), ESF and Title III policy dialogue and supported by DA-financed policy analysis, showed up in increases in farmgate prices, increased agricultural production and exports, and an apparent decline in poverty in rural areas.

Other types of reforms are more complex and time-consuming to design, win acceptance of and implement, and they take longer to have a people-level impact. Examples include changes in the laws and regulations governing land ownership and use; the development of markets for land, water and finance that are efficient as well as accessible to small farmers; and reforms necessary to encourage productivity-enhancing technical and institutional change in the agricultural and health sectors. These types of reforms are difficult to achieve but can be essential to improved food security in the longer term.

Future of the Title III Program

The conditions under which the U.S. food assistance program operates have changed since 1954. The United States no longer has agricultural surpluses over and above its commercial exports. And U.S. Government funding for food aid is now subject to the same budget constraints as the other forms of development assistance. These factors, coupled with the growing number of emergencies in the world, have resulted in a decline in the amount of food available for development

uses. Only \$157 million was appropriated for Title III in FY95 (excluding rescissions) compared to \$368 million in FY91.

USAID has responded to this more constrained environment by trying to limit the allocation of the food assistance programs it manages (Titles II and III) to a smaller group of neediest countries and to focus the program on a narrower set of objectives and activities. In 1994, it tried to reduce the number of countries eligible for Title III resources in FY95 by subjecting the countries eligible for the program under the criteria established in the legislation to an additional food-needs test. And in 1995, the Agency issued a new "Food Aid and Food Security Policy Paper" that narrows the definition of food security in the food aid context. In the Title III context, this means that the Agency will now give priority to programs that have "*direct linkages to increased agricultural production and consumption.*"

At present, it does not look like the Title III program will survive current efforts to reduce the size of the U.S. budget deficit. Title III, it is said, is particularly vulnerable because it has no domestic constituency.

To those who have witnessed first hand the impact of Title III programs in the LAC region, this will be a disappointment. For a program that was just initiated in 1991, the LAC Title III program has accomplished a significant number of its performance objectives with respect to policy reforms in the recipient countries. And the program has demonstrated that it has a number of important advantages, including the following:

- ◆ Title III programs can be a cost-effective way of providing food assistance to poor countries with aggregate food gaps.
- ◆ Title III programs require a *quid pro quo* from recipient governments in the form of policy reforms.
- ◆ Title III programs are flexible and multi-dimensional. That is, their policy-reform component can be used to get at underlying constraints to food security, while the local currencies can be used to support activities related to the reforms as well as those that have a more direct and immediate impact on poor people, including programs implemented by PVOs/NGOs.

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The views expressed in the LAC TECH bulletins are solely those of the authors and do not necessarily represent the views of USAID. For information about LAC TECH or to receive additional copies of this Bulletin, contact John Becker, USAID Project Officer.

How the USAID/Bolivia PL-480 Title II Food Program Supports Neighborhood Empowerment

This is the 13th in a series of technical bulletins by the U. S. Agency for International Development's (USAID) LAC Agriculture and Natural Resource Management Technical Services (LAC TECH II) project. The authors: Jonathan Sleeper is Deputy Agriculture Officer at the USAID Mission in Bolivia in charge of PL-480 Programs. Charles Patterson is Director of Strategies for International Development, a newly formed PVO. This Bulletin is the first to be drafted by a field officer. It also is the first--among others to come--to describe how participatory approaches to development are used successfully in programs in the region.

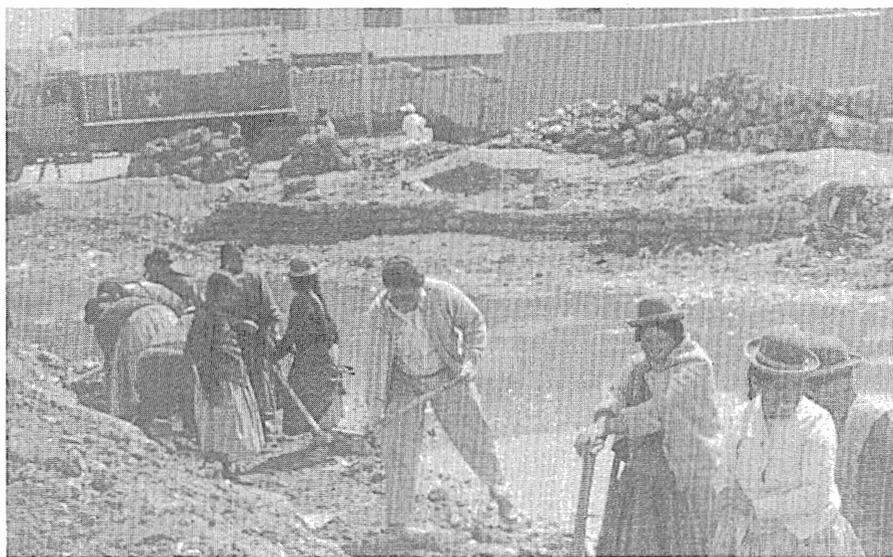
Food-for-Work under the Title II program continues to be an extremely important "safety net" for the very poorest in urban areas displaced by structural adjustment and economic stabilization programs, and for building badly-needed public infrastructure for poor people. In Bolivia, however, it has had an additional effect: empowerment of poor neighborhoods and their increased participation in decision-making in the mayor's office.

Benancia Mamani is a 40-year-old Aymara woman who recently migrated to the city of El Alto from the Altiplano, the 13,000-foot plateau surrounded by the Andes mountains, where her husband Juan was a miner. Benancia, Juan and their four children live in a one-room adobe hut in Bolívar, a marginal area of the city. Juan is usually absent during the day working, or more commonly, seeking menial day-labor.

Bolívar, named after a famous tin mine which went bust in the early 1980s, is populated mostly by unemployed ex-miners. In this neighborhood—like most areas of El Alto—there are few public services: the streets are muddy, filled with potholes, and criss-crossed with open sewers; access to po-

table water is difficult, electrification is limited, garbage collection is rare and there are few local playgrounds or community parks. More than two million

people live in similar conditions in the marginal areas of the major cities and towns in the Altiplano and Inter-Andean Valleys of Bolivia.



Under the USAID/Bolivia food for work program, neighbors work together to improve drainage of human waste in marginal urban areas.

Construction of Public Infrastructure in Poor Neighborhoods Is an Important Benefit of Food for Work Programs

Every year, the USAID/Bolivia Title II Urban Food for Work (UFFW) program provides temporary employment for about 150,000 persons with virtually no alternative sources of income living in the marginal areas of Bolivia's major cities and secondary towns. Over \$200 million of public infrastructure was constructed under the program since 1989, including 1,700 km. of street and road paving, 750 km. of potable water systems and 900 km. of sewage systems, mostly in poor neighborhoods.

Benancia and her neighbors have tried hard to convince the mayor's office to provide public services to their neighborhood. However, the municipal budget is very thin because of the weakness of financial control and tax administration, and there are bigger, more influential neighborhoods, many that voted for the mayor's political party, with more clout in obtaining services. The projects that do get financed by the municipality tend to be projects which for Benancia and her neighbors are essentially useless—e.g., plazas and park areas located downtown.

Benancia and her neighbors belong to the Bolívar Neighborhood Association (*Junta Vecinal*). Most neighborhoods in El Alto and other cities in the Altiplano have neighborhood organizations that usually meet once a month. The topic of conversation is always about how to improve the neighborhood.

"They don't talk about the corruption trial going on in the parliament, or about the value of democratic participation, or about

over to use the empty lot across the street as a toilet—it is unsanitary and sets a bad example for our children. We have been trying for ten years to get the municipality to help us construct a sewer line."

"The residents of El Alto don't like to pay taxes," says Pinzino. "Tax revenue goes into the city's

voter registration," says Salvatore Pinzino, USAID PSC Food for Peace officer in USAID/Bolivia. "The topic of conversation usually is something like the following: Every morning, the folks from the next neighborhood come

willing to pay for the materials for a public work or service that they themselves use. Under the Title II program, they gather in public meetings and decide by vote to help pay for the materials for a work that they themselves choose."

Faced with continued lack of response from the municipality to their requests for assistance, Benancia's neighborhood group sought help from one of the PVOs working with the USAID/Bolivia Title II program. A PVO representative met with the neighborhood group and helped them develop a list of priority projects they wanted in their neighborhood. Invariably, in the marginal areas of the major cities across Bolivia, the most important items in the list are: sewerage; potable water;



Sometimes community meetings take hours before the list of priority projects is developed.

treasury; nobody knows how it's spent, and it rarely comes back in public works and services. But residents of the poor *barrios* are

cobblestoning of streets; curbs and sidewalks; and community centers or school improvements. After long debate, Benancia's neighbor-

hood group decided that they really wanted a sewer line, but couldn't afford the \$30.00 per family for sewer pipes. They settled on cobblestoning several streets of their neighborhoods because of the lower cash outlay.

The PVO representative then went to the mayor's office with the president of the Bolívar Neighborhood Association, and explained to the mayor's technical staff that if the municipality could find enough funds for gasoline and the use of a dump truck to bring stones from the river, the PVO would provide the labor to cobblestone the streets in Bolívar, using Title II food to pay for the work.

The mayor's office was quick to understand the advantage of this approach: by using food to pay

laborers, it could extend its already meager budgetary resources for public works by as much as a third. The mayor's office gave



Stonepaving of streets is a high priority for poor neighborhoods.

the Bolívar request greater priority in its annual budget, because Bolívar had a resource to offer—labor—which represented constituent votes as well. Many poor neighborhoods in the marginal areas of Bolivia's cities are now given priority in municipal public works projects because of this extra resource—food paid for labor—which the neighborhood can

offer through the Title II PVO.

Benancia and her neighborhood group did not stop with the cobblestoning of the streets. After two more long meetings, they decided to pay the \$30.00 per family for the installation of the sewer in their neighborhood. It took a lot of time because every neighbor had to agree to pay his or her share from their meager incomes.

A new process has started. Before, poor communities had little or no say in municipal decision-making. Now, because they can bring a resource to the bargaining table—food for work—local groups are having a greater say in the decisions affecting their neighborhoods in municipalities that tra-

Increasing the Food Security Impact

The USAID/Bolivia Title II Urban Food for Work program was originally designed to provide a "safety net" for the urban poor in order to cushion the effects of the structural adjustment and economic stabilization policies adopted by the government in 1986. About 20,000 tons of food each year is given to workers in the program, in a country with a per capita deficit of at least 150 calories per day. The program has two effects on the food security of the urban poor: (1) it improves direct access to food by the nutritionally vulnerable; and (2) many infrastructure projects, such as potable water and sewage systems, indirectly contribute to better family health and nutrient utilization. After the U.S. Congress amended Public Law 480 in 1990 to include a stronger emphasis on food security, the Mission asked the cooperating sponsors to take actions that would improve the food security impact of the program, including: provision of hot lunches, day-care centers, first-aid and better tools for the workers; requesting that the municipalities and not the workers pay the "container fee" (beneficiary contribution); and increased targeting of poor neighborhoods. Use of the food by grass-roots organizations in these neighborhoods as a means of eliciting more public works from the municipalities was an unanticipated benefit of the program.

ditionally offered only weak representation and inadequate resources. Greater participation by neighborhood groups in turn elicits more citizen-provided resources, such as in-kind support or self-imposed "taxes" to implement local projects. Mayors' offices are beginning to look beyond just meeting the needs of members of their political parties and to think in terms of assisting the entire community.

Additional technical assistance can greatly enhance this process, according to a recent evaluation of the pilot program (Peter, Natiello, Evaluation of the Amended PVO Management Support Project (511-0578), USAID/Bolivia, September 1993). Workshops for the neighborhood association on how to select, design, plan, implement and supervise public infrastructure

and service projects can improve democratic knowledge and practices among beneficiary communities. The average resident participating in the program with his or her neighborhood association thus becomes more knowledgeable about such things as: consideration of an idea or proposal; ensuing debate, compromise, and the vote; rules of order; as well as better understanding of the roles of the constituent, the politician and the public servant. Workshops on the fundamentals of urban planning and municipal finance can help both residents and middle-level municipal officials reach more informed solutions to local problems, better leverage municipal resources and achieve more transparency and accountability in municipal government. The result is a strengthening of poor people's democratic knowl-

edge, attitudes and practices.

Food security should always be the overriding goal of any Title II program. The USAID/Bolivia Title II urban food-for-work program supplements the family diets of the very poorest urban dwellers. It also supports the construction of badly needed water and sanitation infrastructure in poor neighborhoods. However, the Bolivia program shows that urban food for work can have the additional effect of promoting empowerment of poor neighborhoods. This "empowerment effect" is an important application of the Agency's democracy initiative. By encouraging local participation in the process of acquiring municipal goods and services for poor neighborhoods, the Bolivia program also supports the Agency's New Partnerships Initiative.

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The views expressed in the LAC TECH Bulletins are solely those of the authors and do not necessarily represent the views of USAID. For information about LAC TECH II, contact John Becker, USAID Project Officer. To receive additional copies of the Bulletin, contact Raquel Cramer Publications Project Assistant (Internet: RCramer@USAID.gov).

The food security situation in the LAC region in 1990 was described in the first LAC TECH Technical Bulletin. This Bulletin updates that analysis to 1992, the latest year for which consistent data are available from FAO for all the LAC countries. The composition of the USAID-assisted LAC countries is changed to reflect changes in USAID's portfolio. The countries in this analysis include the 12 USAID Sustainable Development countries: Bolivia, the Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Nicaragua, Paraguay and Peru. The definition of "adequate" food supplies is the same one used in the previous analysis: 2,300 calories per person per day, which is the minimum used in the 1990 Farm Bill.

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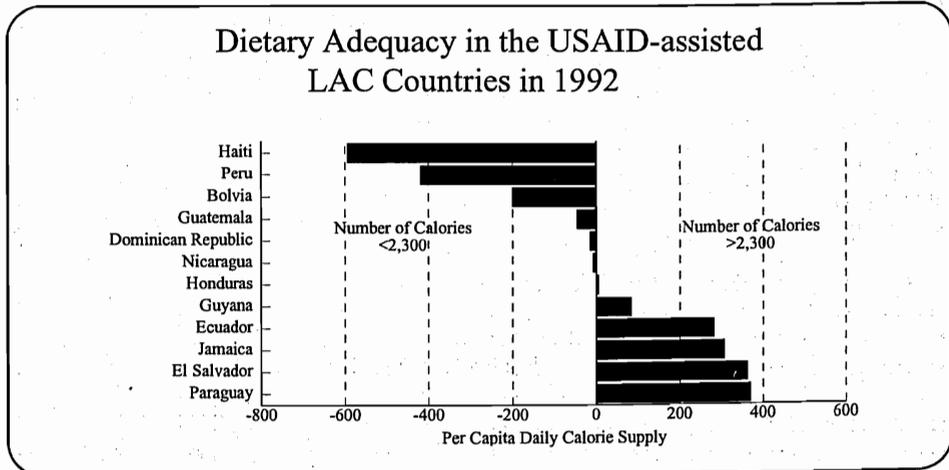
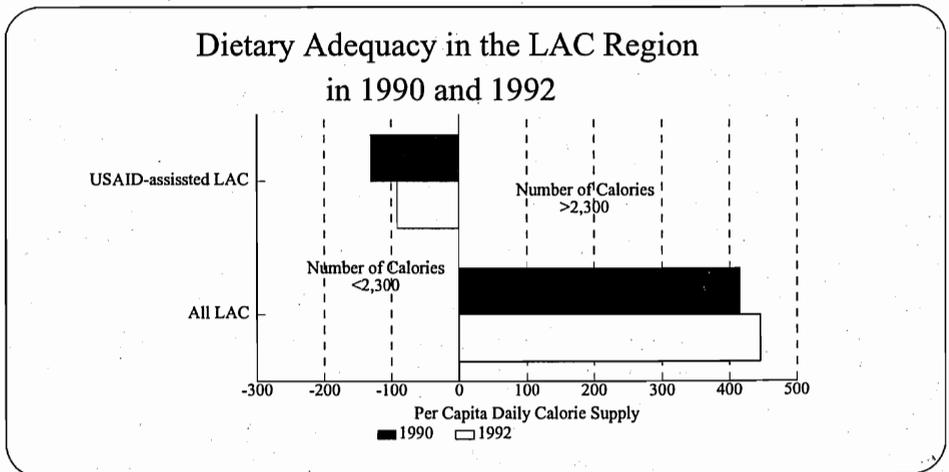
Regional Averages Are Misleading

The supply of calories available for human consumption in the LAC region increased during the early 1990s. Still, there is a big difference between the adequacy of available calories for the region as a whole and that in the USAID-assisted LAC countries. Daily per capita calorie supplies in the LAC region as a whole comfortably exceeded the 2,300 calories minimum in 1990 and 1992 -- by over 400 calories, in fact. The USAID-assisted LAC countries, on the other hand, had a calorie deficit in both years: a shortfall of over 130 calories in 1990 and over 90 calories in 1992.

National Food Supplies Remain Inadequate

In 1992 the supply of calories at the national level was inadequate in six of the USAID-assisted LAC countries -- Haiti, Peru, Bolivia, Guatemala, the Dominican Republic and Nicaragua. Two countries -- Haiti and Peru -- had major shortfalls of more than 400 calories per person per day in 1992. A third country -- Bolivia -- had a shortfall of over 200 calories. All three of these countries also experienced major shortfalls in 1990.

The five countries that were close to the minimum -- Guatemala, Guyana, the Dominican Republic, Nicaragua and Honduras -- are also food-insecure, because they are still very vulnerable to the negative effects of drops in domestic production and/or the availability of foreign exchange. Only four countries -- Ecuador, Jamaica, El Salvador and Paraguay -- with calorie supplies over 200 calories per person per day above the cut-off point -- could be said to be



food secure, at least in terms of aggregate national supplies.

LAC countries means that poor households actually have less access to calorie supplies than suggested by these national averages.

National averages can also be misleading. Poverty and inequities in income distribution in the

Per Capita Food Supplies Decline

Calorie supplies per person grew in the LAC region as a whole during the first two years of the 1990s. However, they dropped in six of the USAID-assisted LAC countries: the Dominican Republic, Guatemala, Haiti, Nicaragua, Peru and Paraguay. These trends are worrisome, because all these countries, with the exception of Paraguay, have per capita calorie supplies below the 2,300 minimum. Guatemala had the biggest drop (over 100 calories per person per day), although the declines probably were the most serious in Haiti (56 calories) and Peru (43 calories), where daily per capita calorie availability already was below 2,000 at the end of the 1980s. Calorie supplies increased significantly (by almost 10 percent) during the first two years of the 1990s in Bolivia and El Salvador. In the case of Bolivia, however, this rate of growth was not sufficient to enable it to meet minimum requirements.

Per Capita Food Production Declines

Per capita food production declined during the first several years of the 1990s in eight of the USAID-assisted LAC countries -- Haiti, Peru, Nicaragua, Guatemala, Honduras, the Dominican Republic, Bolivia and Paraguay. These trends are particularly worrisome in the first seven countries, because they are still subject to food gaps at the national level.

Two countries -- Guyana and Jamaica -- have done better in the early 1990s, experiencing an increase in food production per capita in contrast to their negative performance in the 1980s. Three countries -- the Dominican Republic, Guatemala and Paraguay -- have done worse in the 1990s. That is, growth in per capita food production turned negative. And per capita food production continued to decline in another three countries -- Haiti, Honduras and Nicaragua.

Food Imports Increase

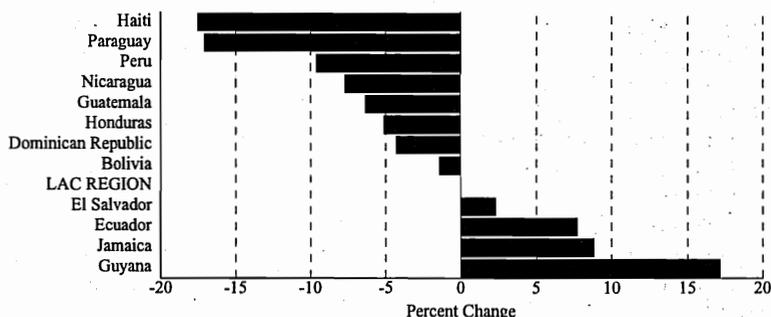
Food imports (measured in value terms and calculated on a per capita basis) increased in ten of the USAID-assisted LAC countries in the first several years of the 1990s. In eight of these countries -- Bolivia, the Dominican Republic, Guatemala, Haiti, Honduras, Nicaragua, Paraguay and Peru -- increases in per capita food imports helped make up for the declines in per capita food production. El Salvador and Guyana were the only USAID-assisted LAC countries to experience increases in both per capita food production and per capita imports. Ecuador and Jamaica experienced increases in per capita food production but decreases in per capita imports.

Dietary Adequacy in 1991/92 and Rates of Growth in Per Capita Food Supplies Between 1989/90 and 1991/92

	Less Than 2,300	More Than 2,300
Positive Rate of Growth	Bolivia	Ecuador El Salvador Guyana Honduras Jamaica LAC REGION
Negative Rate of Growth	Dominican Republic Guatemala Haiti Nicaragua Peru	Paraguay

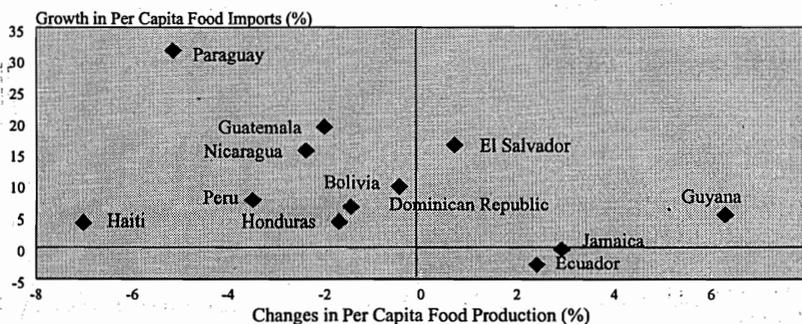
Changes in Per Capita Food Production

(1989/90 to 1992/93)



Sources of Growth in Food Supplies

(1989/90 to 1992/93)



Food Imports Supply an Important Share of National Calories

Food imports account for an important share of national calorie supplies in many USAID-assisted LAC countries. Seven countries -- the Dominican Republic, El Salvador, Guyana, Haiti, Jamaica, Nicaragua and Peru -- obtained 25 percent or more of their national calorie supplies from imported foods in 1991/92. Jamaica was at one extreme, with almost 60 percent of its calorie supplies coming from imported foods; Paraguay was at the other extreme, with less than 4 percent.

Food aid accounts for an important share of food imports (in terms of calories) in a number of these countries. Four countries -- Bolivia, Guyana, Honduras and Nicaragua -- relied on food aid for half or more of their imported calorie supplies in 1991/92. Guyana, Jamaica and Nicaragua were the most reliant on food aid imports (with approximately 20 percent of their calorie supplies coming from food aid) and Para-

Food Aid Makes Key Contribution to Dietary Adequacy

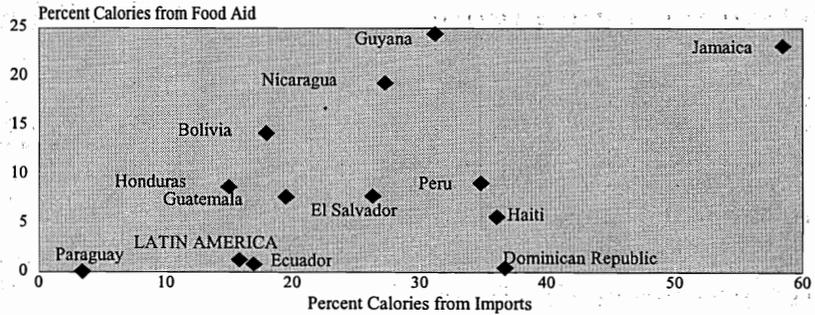
Another way to gauge the importance of food aid is to determine the number of calories per person that would be available in the absence of food aid (of all types from all donors). If food aid had not been made available in 1991/92, two additional USAID-assisted LAC countries would have joined the ranks of the food insecure -- Honduras (with a deficit of 190 calories) and Jamaica (with a deficit of 315 calories). Daily per capita food deficits would also have increased to almost 700 calories in Haiti, to over 400 calories per person per day in Bolivia, Nicaragua and Peru, and to 200-plus calories per person per day in Guatemala. In other words, if food aid had not been made available in 1991/92, only three of the USAID-assisted LAC countries -- Ecuador, El Salvador and Paraguay -- would have had adequate calorie supplies. Of

Import Capacity is Constrained

Increased reliance on food imports is not a bad thing if countries can afford to pay for them. The USAID-assisted LAC countries have limited import capacity, however. That is, they are spending more on imports of goods and services than they are earning from exports of goods and services. This is at the same time that many of these countries are becoming more reliant on food imports to meet their calorie needs. (Data for Haiti were unavailable.)

Importance of Food Imports in 1991/92

(Including Food Aid)



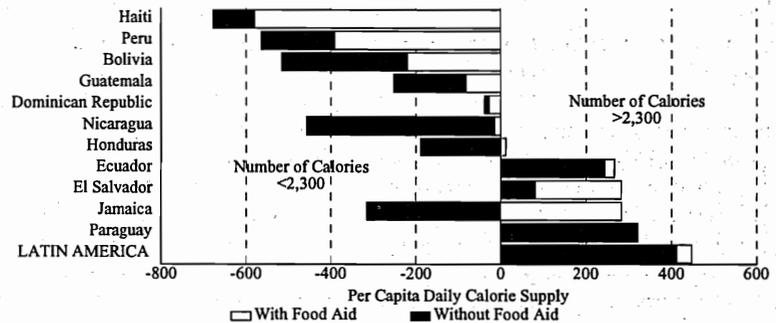
guay the least. Guyana is a unique case; it produces sufficient calories from rice, but exports rice and imports wheat, and is eligible for food aid due to its poverty and high levels of international indebtedness.

All the USAID-assisted LAC countries, with the exception of Guyana, became more dependent on imports to meet their calorie needs dur-

ing the first two years of the 1990s. Five of these countries -- Bolivia, Guatemala, Jamaica, Nicaragua and Peru -- were more dependent on food aid in 1991/92 than at the end of the 1980s.

Dietary Adequacy in 1991/92

With and Without Food Aid

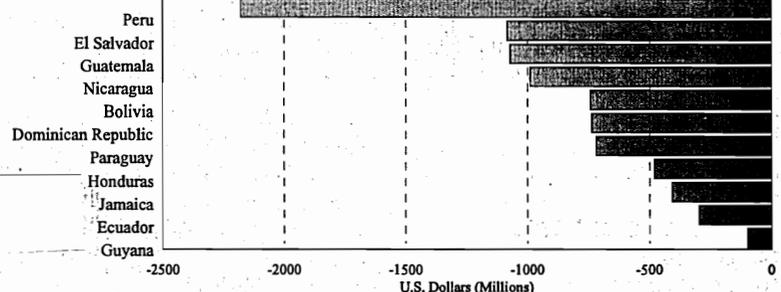


these three, only Ecuador and Paraguay would have had supplies sufficiently above the 2,300 calorie-minimum to characterize the country as

having achieved national food security in aggregate terms. (Guyana is a unique case and is not included in this analysis.)

Import Capacity in 1992/93

(Total Exports Minus Total Imports)

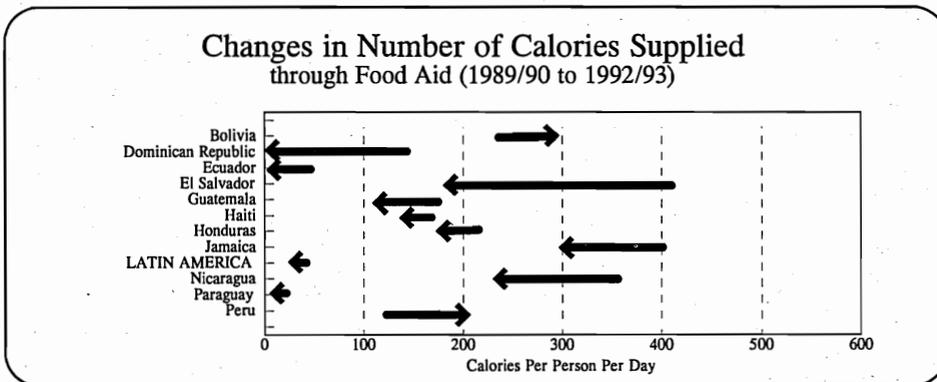
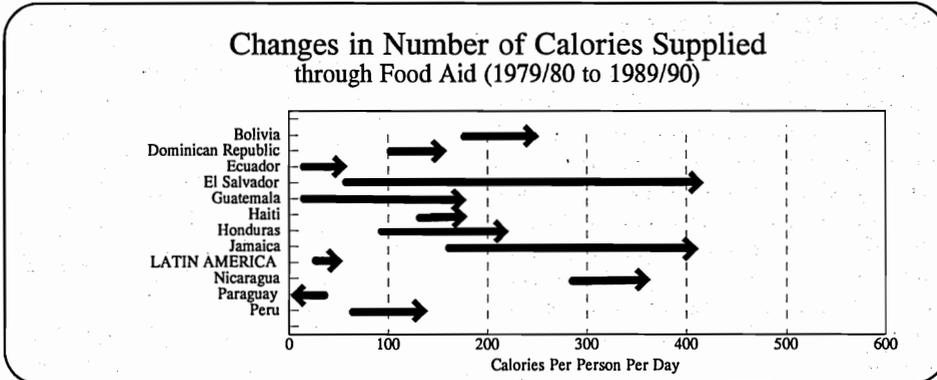


Importance of Food Aid Declines

Food aid became more important as a resource to the USAID-assisted LAC countries in the 1980s. The number of calories supplied by food aid increased in 10 of the 12 USAID-assisted LAC countries. Increases in El Salvador and Jamaica were fairly dramatic: in 1989/90, El Salvador received an additional 344 calories per person per day from food aid and Jamaica an extra 232 calories.

This trend was reversed in the early 1990s. The number of calories per person supplied by food aid declined between 1989/90 and 1992/93 in nine of the USAID-assisted LAC countries: the Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Nicaragua and Paraguay. The declines in some countries were significant: 106 calories per person per day in Nicaragua, 135 in the Dominican Republic and 211 in El Salvador.

(Guyana is a unique case and is not included in these analyses.)



Summary: The Challenge of Food Security

Food insecurity still is a serious problem in the majority of the USAID-assisted LAC countries. This fact is masked by regional averages. Per capita calories are near or below the minimum in the majority of the countries. Per capita food production is declining in many countries; food imports are increasing in most; and the great majority are more reliant on imports to help meet their national calorie needs. This would not be a problem if countries could afford to pay for these imports. However, the import capacity of the majority of the USAID-assisted LAC countries also is limited. The availability of food assistance in the 1980s helped many of these countries prevent calorie supplies from dropping farther, but food aid supplies are getting tighter and the amount available to the LAC countries already has declined.

The economic policy reforms undertaken in many of the USAID-assisted LAC countries are essential for sustainable food security. These reforms have promoted economic growth, including increases in agricultural production in countries where the internal terms of trade have improved for the agricultural sector. By dismantling protectionist policies, these reforms also have increased the vulnerability of countries to the increasing price instability in international food markets. The last time many of these countries were faced with major price spikes in international food markets, their reaction was to increase government controls over agricultural markets -- domestic as well as international. A similar response now, in the name of protecting domestic food security, also would have negative long-term consequences, interfering with countries' progress in modernizing their agricultural sectors and with the movement in the hemisphere toward further economic integration.

Food security in the USAID-assisted LAC countries also is a problem at the household and individual level. Poverty is at the heart of the food security problem in these countries. Therefore, part of the solution to food insecurity is for poorer households to earn more income so they can compete more effectively for available calorie supplies. Given the highly skewed income distribution in these countries, poor households actually have less access to calorie supplies than national averages suggest. Food security also is a problem at the individual level, as attested to by the high rates of chronic malnutrition among children in many countries. Some of the malnutrition is due to a lack of access to food. But, lack of access to health services and to adequate water and sanitation facilities as well as poor child feeding practices, also are major causes of chronic malnutrition in these countries.

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Peru Food Security Strategy

LAC TECH BULLETIN

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In 1994, members of LAC TECH (James Riordan, Roberta van Haften, and Jorge Daly) teamed with researchers from Peru's Universidad del Pacifico to prepare a Food Security Strategy for Peru. The team was asked to examine the status of food security in Peru, to identify major obstacles to improving food security, and to define appropriate policy and program responses.

The Peru Mission sponsored the development of the Strategy not only to guide its own programs, but also -- and more importantly -- to serve the Government of Peru, non-governmental organizations, and the entire donor community. Each of these parties was consulted extensively during the

preparation of the Strategy, and each will be looked to as an active partner in making it operational.

The Strategy uses the definition of food security popularized by the World Bank and accepted increasingly internationally, that is, *access by all people at all times to enough food for an active and healthy life*. In line with this definition, the Strategy examines three dimensions of food security: availability, access, and utilization. Given the sweep of this view of food security, project tasks were daunting, ranging from an assessment of macroeconomic policies, to an examination of the workings of Peru's productive and social sectors, to attempts

to understand the dynamics of intra-household behavior.

The Strategy is being disseminated in this form because it has relevance to a broader audience. The approach developed not only allows one to think through the challenge of food security in a comprehensive way but also provides an example of how to set policy and program priorities for economic growth that are inclusive of the poor's concerns.

I. Diagnosis of the Food Security Problem in Peru

Poverty is the Root Cause of Food Insecurity

Poverty, or lack of purchasing power at the household level, is the root cause of food insecurity in Peru. Poverty contributes to food insecurity by restricting people's access to the amount and quality of food they need to lead healthy and productive lives. Poverty also constrains people's access to services

such as health, water and sanitation, and education that also contribute to food security -- for example, by helping to improve the biological utilization of food in the short, medium, and long terms.

Poverty and lack of purchasing power also are the ultimate cause of low levels of food availability in Peru. If Peru's poor households had enough purchasing power to

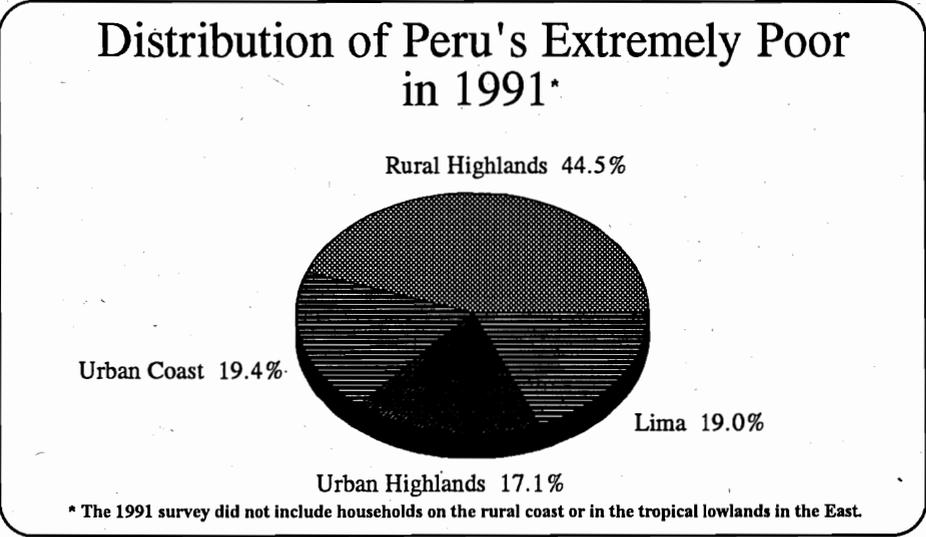
translate their nutritional needs into effective demand for food, domestic food production would increase or foreign exchange would be used to pay for the food imports required to make up the gap between total food needs and domestic production.

Poverty Is Chronic and Widespread

Poverty, which has been a serious problem in Peru for many years, continues to be chronic and widespread. In 1991, about one of every five Peruvians was "extremely poor," that is, with a total income below the cost of a nutritionally adequate diet. Additionally, one of every two Peruvians was "poor," that is, able to afford adequate diets, but not minimum amounts of other basic necessities.

The Incidence of Poverty, Especially Extreme Poverty, Is Highest in Rural Areas

From the perspective of food security, it is the extremely poor who are the most im-



portant, since by definition, they are the people who are least likely to have adequate diets. Extreme poverty in Peru has been and still is primarily a rural problem. It also is primarily a problem in the highlands of the Andes. Forty-five percent of all the extremely poor people in Peru (almost 1.6 million) live in the rural areas in the highlands. The incidence of poverty and extreme poverty also is much higher there. Two-thirds of rural households in the highlands are poor and almost 50 percent are extremely poor. In Lima, in contrast, only ten percent of households fall into the extremely poor category. On the other hand, even though Lima is the area of the country least affected by poverty in relative terms, it is so big that in 1991 it contained an estimated 37 percent of all poor Peruvians -- approximately 3.2 million people.

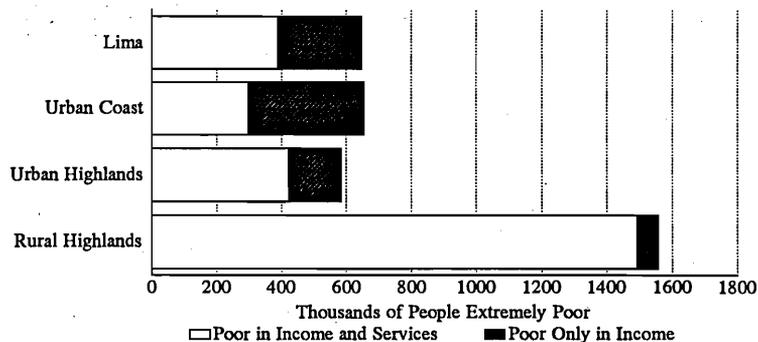
Independently of location, poverty is also concentrated among Peru's non-Spanish speaking population. More than three-fourths of non-Spanish speakers are poor, and 55 percent are extremely poor.

Extreme Poverty, Especially in Rural Areas, Is Exacerbated by a Lack of Access to Basic Services

Most extremely poor Peruvians lack not only cash income but also access to important public services such as water, sanitation, and education. This has a negative influence, both direct and indirect, on their food security. By far the largest numbers of the extremely poor live in the rural highlands, and the great majority -- approximately 1.5 million people -- lack access to basic services as well as income.

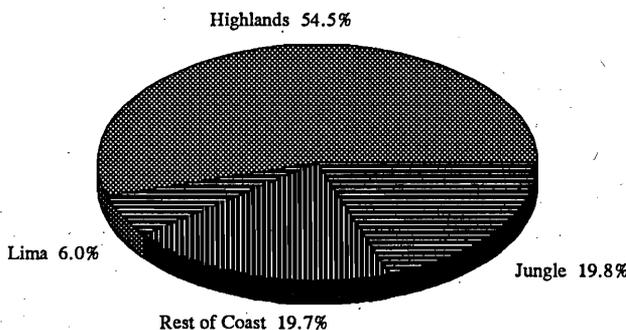
In fact, extremely poor households that live in the highlands lack access to basic services across the board. For example, about two-thirds of the heads of extremely poor households have no more than a primary education, in contrast to about one-third in non-poor households. Among the poor in the rural highlands, the proportion rises to almost three-quarters. In the rural highlands, less than half the population had access to a public water system, compared to 90 percent in other areas, and 55 percent for the extremely poor as a whole. Less than 30 percent of the extremely poor had access to a public sewerage system, compared to slightly over 60 percent of the total population. The rest either used latrines (40 percent) or lacked facilities entirely (30 percent). In the rural highlands, a striking 50 percent lacked facilities.

Distribution of Extremely Poor Households by Region and Nature of Poverty



By definition, Peru's extremely poor do not have enough income to afford a nutritionally adequate diet. Most also lack access to one or more basic services -- education, water, sanitation. This phenomenon is especially pronounced in the rural highlands.

Distribution of Chronically Malnourished Children in Peru in 1991



Chronic Malnutrition Also Is a Serious Problem

Chronic malnutrition among children under five also is a serious problem in Peru. The best indicator of a chronic malnutrition problem is the height-for-age of children under five. When children do not get adequate amounts of nutrition during their first few years of life (regardless of whether the cause is a lack of food, poor household feeding practices, or poor biological utilization due to illnesses), their growth is retarded. These nutritional insults to young children are particularly important, because young children are never able to recuperate fully from growth lost during those years. The critical period is the weaning period -- between six and 36 months. Even if the children in question receive sufficient calo-

ries after the weaning period, there is not enough catch-up growth to compensate for the early deprivation.

In Peru, more than a third of children under five suffer from chronic malnutrition (i.e., they are too short for their age). This too is primarily a rural problem and a problem in the highlands. More than half of the children living in rural areas (53.4 percent) and more than half of children living in the highlands (51.6 percent) suffer from chronic malnutrition. In Lima, the corresponding figure is 11.2 percent. To put it another way, more than half of the chronically malnourished children live in the highlands and only six percent in Lima.

II. Obstacles to Improving Food Security in Peru

The Strategy identifies a number of key constraints to food security in Peru -- constraints that affect food availability, access, and utilization.

The first set of constraints stems from the historical legacy of:

- Inconsistent economic policy;
- Rent-seeking behavior;
- Unpredictable "rules of the game"; and
- Weak state institutions.

Other institutional and economic constraints to improving food security include:

- Problems in financing future fiscal expansion;
- A very high current account deficit;
- Slow growth of exports;
- A market rate of the *sol* higher than its parity rate;
- A fragile financial sector; and
- An extremely skewed income distribution.

Constraints in the productive sectors that affect food security negatively include the following:

- Low profitability of agriculture;
- Poor prospects for extending cultivation;
- Sub-optimal use of agricultural technology;
- Inadequate water rights legislation;
- Domination of the agricultural work force by "*informales*";
- Problems in the resolution of land disputes;
- Scarce formal financing of agricultural activities;
- Adverse effects of coca cultivation;
- Geographical isolation that impedes market integration;
- Inadequate marketing systems; and
- Counterproductive agricultural import surcharges.

There also are important constraints in the social sectors, including:

- Lack of coordination among a multiplicity of social service providers and programs;
- Lack of a comprehensive strategy for addressing Peru's food security problems;
- A decline in the availability of public sector financing for social sector programs;
- An excessive reliance on food assistance;
- Insufficient attention to complementary health and education programs;
- Geographical and cultural barriers to the delivery of social services;
- Poor targeting of social sector investments and services;
- Institutional constraints affecting public sector delivery of health care services, especially primary health care; and
- Institutional constraints affecting primary educational attainment, especially in the highlands.

III. A Food Security Strategy for Peru

The Strategy consists of four elements: (1) key findings and general directions, (2) a vision for Peru, (3) principles for setting priorities, and (4) the Strategy itself.

(1) Key Findings

Improving Access Is Central to the Improvement of Food Security in Peru

Of the three dimensions of food security, lack of access is the root cause of food insecurity in Peru. In other words, Peru's food insecurity is more than anything else a question of poverty. If poverty can be alleviated, lack of availability and poor utilization can be addressed as well. As a result, the Strategy attaches highest priority to bringing about sustainable increases in the incomes of Peru's poor.

A Focus on the Malnourished Also Is Necessary

Poverty alleviation is a medium- to long-run phenomenon. In the short to medium run, large numbers of Peruvians will con-

tinue to be malnourished or at nutritional risk. In particular, substantial numbers of young children will continue to be vulnerable to irreversible physiological damage unless measures are taken to enable them to benefit from whatever food to which the incomes of their households give them access. As a consequence, the Strategy's primary focus on income generation for the poor is complemented by a focus on utilization, especially on Peru's most nutritionally vulnerable population, children less than three years of age either currently malnourished or at high nutritional risk.

Increasing Food Availability, Although Not Central, Still Is Important

The absence of an explicit focus on food availability is not to discount its impor-

tance. Again, lack of food access -- that is, lack of purchasing power -- is the fundamental cause of lack of food availability in Peru. If Peru's poor were not poor, that is, if they could translate their nutritional needs into effective demand for food, food availability would increase markedly. Still, initiatives to increase farm productivity and to facilitate the marketing of domestic and imported food commodities offer substantial promise for raising the incomes of Peru's extremely poor, and thus are ranked among the Strategy's highest programmatic priorities.

Raising Labor Productivity Is Central to Improving Access

The root cause of poverty in Peru is low labor productivity, which in turn reflects inadequate investment in human and material capital and poorly developed public

policies and institutions. From a food security perspective, policies and program actions that raise the productivity of currently poor people -- and tilt the pattern of Peru's economic growth more toward labor intensity -- call for the highest level of attention.

(2) Vision of Peru in 2010

It is one thing to list constraints to food security; it is another to suggest appropriate solutions. Different responses to the constraints identified will have different consequences. It therefore is important to have a clear idea of what Peru ideally will be like in 15 years if things go reasonably well between now and then. With such a vision, more informed decisions can be made on priorities for policy and program responses.

A realistically optimistic vision of Peru in 2010 arguably would have the following characteristics:

- Extreme poverty will have declined substantially, but recognizable pockets still will exist in the rural highlands and in the *barrios marginales* (squatter settlements) of Lima.
- The pressure of population on agricultural land will decrease, especially in the highlands. A marked consolidation of land holdings will have taken place, but not on anywhere near the scale prior to the land reform.
- The population that abandons farming, together with the natural increase of today's rural population, will be absorbed principally in secondary and tertiary cities throughout Peru, that is, in the 33 cities currently of 20,000 to 100,000 people, as well as in other provincial and district towns that grow to that size. Lima will grow, but its rate of growth will slow considerably. In contrast, migration to cities in the tropical lowlands will accelerate. In sum, Peru's population will become more urbanized, but less concentrated in the capital city.
- Primary agriculture will grow, but less rapidly than other sectors. Backward and forward linkages with primary agriculture will take on much more significance. Peru's secondary and tertiary cities will be the base of expanded and more efficient agricultural input, processing, and marketing industries. In short, primary agriculture and its ancillary industries will be modern and productive.
- Social sector investments likewise will be concentrated increasingly in second-

ary and tertiary cities. Basic education, primary health, and nutrition services will be adequate to meet population growth in those locales. Realistically, budgets will not be adequate to meet the social sector service needs of people in isolated rural areas.

- The primary public investment in rural areas will continue to be roads, both trunk roads to connect secondary and tertiary cities with primary cities and access roads to connect previously isolated areas with secondary and tertiary cities. These investments will promote not only increased agricultural production, but also growth in agricultural value added, increased economic activity in other secondary and tertiary sectors, and more broadly based use of education and health services.
- The growth of secondary and tertiary cities will bring with it decentralization of economic power. The power of the purse will shift markedly away from Lima. Local governments will become much more active protagonists of development.
- Peru will become a much more active exporter of agricultural and other products. Currently non-traditional exports will take on much more relative importance. Through increased involvement in free-trade arrangements, Peru will specialize in areas where it has comparative advantage. In other words, it will be less food self-sufficient but more food secure.
- Peru's growth trajectory will become more steady. In contrast to the historical pattern of boom and bust, Peru will grow more modestly than in some recent years, but more predictably.

(3) Principles for Setting Future Food Security Priorities

The diagnosis of Peru's food security problem, the examination of constraints to food security, and the specification of a vision for Peru in 2010 have important implications for the kinds of policy and program priorities it makes sense to support to attack food insecurity. Prior to listing the specific priorities, therefore, it is useful to summarize key considerations for guiding the process:

- Firm, coherent monetary and fiscal policy has been essential to put Peru's economic house back in order and to restore public confidence in economic policy-making. There now must be no turning back.

- Peru's economic future hinges on increasing exports. At least in the short and medium term, however, Peru's pattern of export growth likely will be capital-intensive. Unless investments are made to increase the productivity of substantial numbers of Peru's poor, there is a danger that future growth will be narrowly based. *From a food security perspective, therefore, investments that raise the productivity of currently poor people -- and tilt the balance more toward labor intensity -- call for the highest level of attention. Among other things, education -- and especially basic education -- will be essential.*
- Peru's legacy of activism by the state has been exacerbated by government, non-governmental, and donor responses to the economic crises of recent years. The result is a climate of "asistencialismo," which is antithetical to a long-term poverty-alleviation strategy. Although the economic crises of the last decade have called for direct delivery of goods and services to target beneficiaries, the time has come to reintegrate the poor as active participants in the market economy. The challenge is not to substitute for market forces but to make markets work for the poor.
- The magnitude of Peru's food security problem is so enormous and the resources available to address it so meager that hard choices must be made among many worthy policy and program options. Focus is not a luxury; it is a necessity.
- Whatever one chooses to do, do it well. If the ideal policy or program is not doable, go with one that is. It is better to implement a secondary priority well than to take on what is unrealistic;
- *As important as access of the poor to social services may be, even more basic is their access to income opportunities.* Peru's capacity to deliver health and education services to its poor population will be limited by low levels of national income for the foreseeable future. To break out of this dilemma, highest priority must be given to the generation of economic opportunities for the poor so that they can earn higher household incomes and, thus, directly or indirectly, finance broadly based social services.
- Increasing income involves more than increasing production. More fundamentally, it is a function of markets. Unless there are markets to absorb increases in

production, emphasizing productivity alone will be counterproductive. That lesson is true not only for national economies, in which one defies the laws of comparative advantage at one's own peril, but also for local economies. In Peru, the dilemma is especially pronounced in the highlands, where markets are small and price-sensitive. *For the bulk of the country's currently poor people, connections with markets are essential. And, in the highlands, that means roads.*

- *It is one thing to identify and describe who the poor are. It is another to define appropriate programmatic responses to assist the poor in bettering their lot.* There appears little doubt that the country's most food insecure population is concentrated in the rural highlands and is engaged primarily in agriculture. Still, that description does not necessarily imply that the best programmatic response to its development dilemma is simply to raise agricultural productivity in those areas. In fact, existing population ratios are already too high for a productivity-increasing strategy -- by itself -- to generate sufficient incomes to lift households in the highlands above the poverty line. In addition, the resource base of the areas in question is too frag-

ile to support much additional population pressure in any case. Such considerations suggest, therefore, that it probably is advisable to think of program responses outside the areas of poverty themselves.

- The aspiration of a typical small subsistence farmer is not to continue as a small subsistence farmer; it is either to become a larger farmer or to move out of farming entirely.
- If one's focal point is agriculture, one thinks primarily of agricultural solutions to development problems. If one's focal point is rural people, one is struck by the importance of non-farm activities as contributors to total rural household incomes. As a practical matter, farm sizes in much of Peru simply are not large enough for even the most successful of agricultural production strategies to lift most poor households out of food insecurity.
- *A logical place to look for income and employment opportunities for currently poor rural people is in the secondary and tertiary cities that can provide services to and add value to the production of their respective countrysides.* A

strategy of decentralization to secondary and tertiary cities not only is a way to deflect growing population pressures in Lima; it also is a logical outgrowth of thinking through what "rural" development must entail in coming years. Not only are secondary and tertiary cities likely focal points of backward and forward linkage industries with agriculture; they also are appropriate destinations for future government investments in health, education, and other social services.

(4) Recommended Policy and Program Priorities for Food Security in Peru

The Strategy outlines a package of policies and program actions that will contribute to improvement of food security in Peru. Among the more important recommendations are:

- *Give priority to Peru's most food-insecure people, that is, its extremely poor.* Target populations living primarily in the country's rural highlands.
- *Give income generation primacy* and be open to opportunities for income genera-

Proposed Priority of Different Action Programs

Higher Priority	Same Priority	Lower Priority
<ul style="list-style-type: none"> • Trunk and access roads • Small-scale irrigation • Management skills • Market information • Production technology • Soil conservation and productivity enhancement in ecologically vulnerable areas • Microenterprise revolving funds • Basic education • Targeted maternal/child health and nutrition • Iron and Vitamin A fortification of wheat 	<ul style="list-style-type: none"> • School buildings • Health centers and posts • Public water and wastewater facilities 	<ul style="list-style-type: none"> • Large-scale irrigation • Subsidized school breakfasts • Subsidized feeding at community kitchens • Subsidized milk distribution • Community meeting facilities

tion wherever those opportunities may present themselves. To put it negatively, do not restrict one's set of options *a priori* to any one sector, including the sector in which a target population currently is engaged. Further, recognize that, geographically, the most promising income opportunities may be found in locales other than those in which the extremely poor now reside. As a particular case in point, a logical place to look for income and employment opportunities for currently poor rural people is in the secondary and tertiary cities that can provide services to and add to the production of their respective countryside.

- Focus public sector investments in productive infrastructure on public goods with high rates of return. Specifically, *continue to increase the proportion of the public sector budget dedicated to construction and maintenance of both trunk and access roads, especially in the highlands of the Andes.* The ability of currently food-insecure households in the highlands to take advantage of income opportunities hinges directly on their connections with other than local markets.
- *Complement the focus on income generation with nutrition programs for Peru's most vulnerable populations, especially poor pregnant and lactating mothers and children less than six years old.*
- *Focus social sector expenditures, both investments in infrastructure and delivery of services, on basic education and primary health care, especially in secondary and tertiary cities in the highlands.*
- Introduce more focus into USAID/Peru's future PL 480 program by *limiting Title*

II projects essentially to income-generation and tightly targeted nutrition programs that are likely to result in demonstrable impacts for extremely poor households.

- *Fortify imported wheat* with iron, Vitamin A, and other nutrients to combat iron-deficiency anemia and other micronutrient deficiencies.

The relative priority proposed for major kinds of action programs currently sponsored by Peruvian Government institutions, non-governmental organizations, and donors is summarized in the table on the previous page. Although the listing of the programs is not comprehensive, it is illustrative of the range of programs currently in force.

Applicability of the Strategy to Other Countries

Much of the ground broken in the Strategy for Peru may have applicability in other countries. Advantages offered by the approach include:

- The comprehensiveness of the Strategy, which views food aid in a broad poverty-alleviation and development context and allows pertinent actors to see how they fit in that context;
- Its analytical framework, which searches for root causes to food security problems and coherent responses to those problems;
- Its usefulness as a paradigm for making tough choices among competing resource allocation alternatives; and
- The consultation and active involvement of a broad range of key food security actors.

LAC TECH is a regional support project managed by the Office of Regional Sustainable Development, USAID Bureau for the Latin America and the Caribbean (LAC/RSD/BBEG). The project provides support services to USAID missions and LAC Bureau in agriculture and natural resources management. The views expressed in the LAC TECH Bulletins are solely those of the authors and do not necessarily represent the views of USAID.

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Legal Structures for the Management of Land-Based Common Property Natural Resources in Latin America

Tropical forests in developing countries have declined in area by fifty percent this century. Each year, the world continues to lose about 11 million hectares of forest resources, an area about the size of Pennsylvania. To stem the tide, governments have created new institutions to defend forest land and other common property natural resources.

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The sustainability of such initiatives depends in part on their legal institutional framework. Perhaps nowhere is this more important than in indigenous areas of Central and South America, where land issues are complex: common property or community property is commonplace. Indigenous communities are of increasing political importance and the international donor agenda is full of resource management issues. This bulletin defines and addresses the legal structures for the management of land-based common property natural resources in Latin America.

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Land-based Common Property

"Commons" and "open access" resources are terms typically found in the literature on natural resources in Latin America. The "commons" is a term originated from English feudalism. A pasture on which all landholders of a village had a right to graze their stock, or a forest where all members could gather wood are examples of "commons." Member rights were a function of the ownership of the land used for residential or farming purposes. This right was called a "right of commons." A commons was owned by the feudal lord (not the community), but subject to the use rights of others. Today, the commons that remain in England are publicly owned.

"Commons" was used rather loosely in the social science literature until 1968, when the "tragedy of the commons" was introduced. Accordingly, a commons eventually would be overused and degraded as a consequence of each user's incentive to use as much as possible. (Garrett Hardin)

Some social scientists argue that a commons does not involve unregulated use. Most commons limit use in that only community members have rights to them. For example, many commons have community rules limiting seasons for grazing or limiting types of livestock. The tragedy, therefore, is not inevitable but only occurs if there is a failure to create or enforce limits on use. A new distinction was introduced: open access. Open access places no limits on use while common property is controlled use.

Communal Land Tenure

"Communal land tenure" is a term developed by Western social scientists to describe non-Western property systems. It is often confused with common property. Communal land tenure, often used in Africa and Asia, describes tenure with a large amount of community control over land use. The community (a village or a descent group like a clan or lineage) owns the land and allocates it to its members for cultivation making members' rights "use rights." Use rights are long-term rights for individuals or house-

holds to use the land. They may include inheritance rights, but do not necessarily include rights to sell the land. In fact, the community may retain the right to reallocate land holdings among its members. Part of the community's land may also be used as commons. A "communal land tenure system" usually includes both use rights allocated to households or individuals and common property in other resources, such as forests and grazing land.

Common Property and Natural Resource Management

Sustainable natural resource management can be a function of who has use rights to what asset and on what basis. Property law thus defines which persons have rights to cut trees, fish streams or use irrigation water, and what responsibilities users have with respect to those resources. Under a common property structure, these rights and responsibilities are clearly defined. However, with open access resources there is no responsibility to refrain from overuse.

Huastec Agroforestry on Common Property in Mexico

In Mexico, approximately 37 million hectares of land are covered by forests. This represents roughly 20 percent of total land area—more than twice the amount of land dedicated to agriculture. About one-third of Mexico's rural population of 10 million live on these forested lands, and about 70 percent of the forest resources are on lands designated as *ejido* and *comunidad*.

The Mestizo Huastecs live in the southeastern part of the state of San Luis Potosí, Mexico. Ancestral occupancy of this region dates back 3000 years. The Huastec operate communities and *ejidos*, but most live on their own landholdings which range from one to 15 hectares. By meeting farm family needs and allowing for forest regeneration and the protection of natural resources for future use, the Huastec-managed agro-system is sustainable. The Huastecs primary source of cash income is the sale of raw sugar or coffee. They also sell honey, fruits and a variety of other minor products (milk, eggs, poultry, wood). For their own use,

they produce maize, a variety of domesticated and wild foods, construction materials, herbal medicines, craft materials and fuelwood.

The Huastec create patches of *télom*, or managed primary and secondary forests mixed with introduced species like coffee. Some are cycled into *milpa* swiddens, a type of agroforestry that integrates maize production with secondary forests in Middle America. Although each *télom* is a mere 0.25 to 3 ha. in size, when viewed from a distance the groves appear to be quite extensive. One farmer's *télom* borders another creating managed forest groves of irregular shape covering an area of 25 hectares or more. Some *téloms* have been recently established while others have existed for at least 80 years, indicating that the land use is sustainable. By placing each *télom* side by side, the Huastec created *de facto* common property out of individual holdings.

Adapted from FAO, *Common Forest Resource Management*, 200-4 (1993).

Typically, common property has been associated with low income societies, and many experts assume that the ownership structure of common property somehow caused this poverty. Empirical research suggests, however, that the reason that low-value resources are more likely to be managed as common property is that they furnish insufficient economic surplus to afford a more expensive private property structure. Since fragile lands are usually the least economically viable,

resource management becomes critical. Common property approaches can be a low-cost management structure for such resources.

Common Property and the Legal System

Western property law does recognize certain types of co-ownership: marriage, for example. Often, Western property law allows multiple persons to

own assets together by allowing them to form new institutions with legal "personality." This new institution may take the form of a partnership or corporation or other legal entity. The law then treats them as a single legal person leaving the ownership of the property in question. The rules about how the benefits of the property are divided and how the property is managed then become part of marital law, the law of partnerships or the law of corporations, not property law.

Indigenous Property in Panama and Costa Rica

In Panama and Costa Rica, the Constitution, Civil Code and the Agrarian Code are the key documents which govern common property ownership. Article 123 of the Panamanian constitution guarantees indigenous communities reserves of land and collective ownership necessary for the economic and social well-being. Indigenous land (*comarca*) is subject to special legislation for indigenous communities.

The Government of Panama's and the community's concept of the *comarca* do not often correspond. From the government's perspective, the *comarca* is created by an administrative act of government, owing its origin to the North American notion of a reserve. From the community's perspective, a reserve and a *comarca* are not synonyms. Both terms refer to a defined physical space where indigenous communities live. However a *comarca* implies land, administrative political division, and recognition of indig-

enous lands by the state. The "reserve" is protection of these lands and a limitation against non-indigenous persons from entering. As a result, a reserve is respect for a culture.

In Costa Rica, an indigenous reserve is the definition most often associated with common property ownership, as described in the *Ley Indígena*. This arrangement is very similar to the U.S. concept of a reserve.

In both Panama and Costa Rica, there are various options in the civil code for the management of common property. Indigenous development associations (management entities of indigenous reserves), other associations, federations, and confederations have legal personality and obey strict legal formality requiring a constitution, bylaws and other formalities. Foundations and unions represent other options.

Recent changes in property law in countries like Honduras, Ecuador, Mexico, Peru and Nicaragua confirm the need to reexamine legal structures for land use and management and revisit the state of law regarding common property in Latin America. The philosophy underlying recent changes appears to be that law should not dictate any single structure (as many agrarian reforms did in trying to impose collective forms of management), but rather give property holders choice of western or more traditionally indigenous tenure arrangements. Thus, indigenous groups can manage their property according to arrangements they are most comfortable with.

Legal Structures

Many studies refer to the need for community-based natural resource management. This literature assumes that communities, rather than central government, are better placed to manage the resources in a sustainable manner. According to this view, a local management structure is better able to police resource use, and, in theory, creates incentives to ensure sustainability. Such legal structures can take the form of partnerships, trusts, corporations, municipalities, churches, not-for-profit organizations, unions, federations, etc. All of these could be considered potential organizational forms for the "community."

However, with rare exception there is no description of how to organize such an environmentally friendly "community." In fact, there is no definition of the term from a legal perspective. Does it refer to the mayoralty? A church? A corporation? A partnership of individuals? A cooperative? Without practical guidance, a management entity cannot be created to govern resource use.

So how does the legal system understand the community-based entity? These concepts often have been defined locally over centuries, leading to the equivalent of indigenous or local law on community resource management. Nevertheless, the dominant cultures, such as the Spanish in much of Latin America, the Portuguese in Brazil, and the English, French and Dutch in the Caribbean,

brought with them their own legal concepts and imposed them on the local citizens. Today, communities are attempting to fit local indigenous practice into a legal structure designed and established by another dominant culture.

Since only entities with legal "personal-

tainability. Trees, like minerals and water, have their own economic rules. Tree planting is a very long-term investment. Studies have found that where there is primary or direct tenure (as in direct ownership of land via a purchase or inheritance), there generally is more care for and planting of trees. Where

Conflict Resolution in Brazil

Brazil handles disputes in a fairly formal manner. Conflicts with the national government must be addressed in federal courts, while conflicts with state or municipal government can be addressed in State courts. For disputes among community members, the entity's constitution and bylaws are followed. Individual directors or managers may be personally liable for any action taken without proper authorization by the community, known as *ultra-vires* acts.

ity" can own property under present rules, the practical challenge has been to identify the most akin European entity with legal "personality." In Kenya, for example, the English took the analogy of a "trust" to form a legal structure for managing property. Common property was considered to be held in trust for community members. The trust itself then detailed the rules for use. Similarly, in the United States, Native Americans' lands were transformed into "reservations," in which the Federal Government acted as trustee to manage the lands for the benefit of the local residents. Land was said to be held in trust for the Native Americans.

An issue which emerged from this process has to do with the role of law itself: should law lead social change (a positivist approach), or should it reinforce existing structure? A poor correspondence between the original indigenous structure and its newer more formalistic cousin may lead to reform, or may cause confusion and breakdown. Similarly, the imposition of an entirely foreign structure on an existing community may liberate the system or disrupt it entirely.

If we assume a positivist approach, the question then becomes: what should the structure be? We still do not have sufficient information to dictate a single management structure or the exact linkages between tenure form and resource sus-

tenure is secondary (as in the case for renters, or groups borrowing land), investment in trees is lower. Furthermore, where there is uncertainty, occupants tend to invest even less. Uncertainty may occur, for example, where there is inconclusive division of property among heirs. *Therefore, legal structures should seek primary rather than secondary interests.*

Another issue in the selection of legal structures for community-based management of common property is the role of women. Will women have only secondary rights, with primary rights vested in husbands? Men often are the "heads of household," and consequently assume all primary rights. Such a structure may undercut incentives for women to plant trees or care for resources even where the whole household has adequate economic incentive. *Consequently, structures which allow for joint primary ownership might be preferred over ones in which women have only secondary interests.*

A legal structure should clarify who owns what elements of land. Often, in customary systems, land ownership is different from ownership of trees or minerals. Others may have use rights on a seasonal basis. In cases where trees serve multiple uses, this adds another layer of complexity. Lumping all rights into a single entity may obliterate

ate the more nuanced practice of local inhabitants. When different interests are represented, legal structures and management become increasingly more complex. A change in legal structure will affect groups differently. *So any attempt to formalize customary practice should take into consideration the often complex and nuanced system already in place, rather than consolidate all interests in the hands of a single owner.*

Common Property Legal Structure and Dispute Resolution

The choice of legal structure will to some degree indicate how a community will handle its disputes, both internal and external. In Latin America, national governments often maintain the rights to assign "community" rights to outsiders. This occurs with frequency in forestry and mining concessions on indigenous lands. Colonization and agrarian reform have created uncertainty by taking indigenous or community property and offering little protection.

Internal and external disputes are usually governed in very formalistic fashion in most Latin American jurisdictions. Rights and responsibilities are enforced by court order and defined in formal corporate constitutions and bylaws.

An alternative to this structure is to vest all relevant property rights in the community. Disputes with central government over mineral rights access or other interests therefore would be resolved in favor of the community. This outcome would result even when it were in the best interests of the nation to grant a concession to an outside entity, or grant no con-

cession at all. It is conceivable that local communities, if left in exclusive control, could maximize the use of resources in their favor, rather than use them in a sustainable manner. For example, communities suffering from severe poverty or debt would be tempted to liquidate their resources to address immediate needs. In this situation, where resource use maximization is not sustainable, there is potential conflict. Even in countries like Bolivia which are actively engaging in decentralization efforts, these issues may yet be on the horizon.

Rather than vesting all rights in the community, some countries experiment with a compromise solution, a sort of co-management model where law seeks to reinforce local practice while allowing for national interests to be taken into consideration. In these cases, national law provides a framework for resource usage. These approaches make the law fit the practice rather than dictate it or force practice to adapt to a European legal structure.

Promoting Land-based Common Property Natural Resource Management

Choosing a legal structure for community-based common property natural resource management is a complex process. Local and national governments, donors and local communities themselves need to consider the following: options in community control versus government control; the role of primary and secondary interest holders; and incentive structures. Preference of one legal structure over another may have a profound impact on sustainability. The choice should be made with consideration to the

possible options and effects. It should be noted that assignment of private property rights might not always be the best way to promote sustainable natural resource management.

Although the most obvious organizational structure for common property management might be a reserve, design of a management entity also needs to consider more traditional organizational forms such as nonprofit organizations, commercial partnerships, corporations, trusts and foundations. Typical substantive variations may include: (1) land belonging to the government, with use rights based only in tradition; (2) land quasi-owned by a traditional use group; (3) land owned by a group but managed by a consensus of all owners; or (4) land corporately owned but controlled by a manager. Either way, the entity should reflect the complexity already found in community relationships and promote primary interests in common property for both men and women. It should also provide sufficient guarantees to the national government that the community will manage the assets sustainably, not just in the interest of the locals. Finally, the community will require bylaws for settlement of internal disputes.

Attempts to reinforce local practice via law in Panama

Panamanian indigenous communities often address management concerns and disputes through their elected leaders. Leaders of various communities form an indigenous congress to address matters of broad concern to the communities. Internal disputes within a *comarca* are often resolved by these authorities, although other officials from Agrarian Reform and civil authorities remained involved.

References:

Daniel W. Bromley, *Making the Commons Work: Theory, Practice and Policy* (1992).

John Bruce, "A Review of Tenure Terminology" (Land Tenure Center report, 1993).

Lizbeth Espinoza E. and Irene Murillo R., "Estructuras Legales para el Manejo de los Recursos Naturales de Propiedad Común Basada en la Tierra" (Informal publication from the Centro de Derecho Ambiental y de los Recursos Naturales—CEDARENA, June 1994).

Nancy Forster and J. David Stanfield, "Tenure Regimes and Forest Management: Case Studies in Latin America" (Land Tenure Center Paper 147, 1993).

Steven W. Lawry, "Tenure Policy toward Common Property Natural Resources" (Land Tenure Center Paper 134, 1989).

Owen J. Lynch and Kirk Talbott, *Balancing Acts: Community-based Forest Management and National Law in Asia and the Pacific* (1995).

José Mendoza Acosta, "Estructuras Legales que regulan la Propiedad Común de la tierra: Panamá" (Informal manuscript from the Centro de Desarrollo Indígena - Panamá, 1994).

Maria Christina Napolitano, Legal Memorandum entitled "Suggestion for Evaluation of Legal Structures for the Management of Land Based Common Property Natural Resources in Brazil" (September 28, 1994).

Elinor Ostrom, Roy Gardner & James Walker, *Rules, Games and Common-Pool Resources* (1994).

Ellen Frankel Paul, Fred D. Miller & Jeffrey Paul, *Property Rights* (1994).

Carol Rose, *Property & Persuasion: Essays on the History, Theory and Rhetoric of Ownership* (1994).

Laurel L. Rose, "Disputes in Common Property Regimes (CPRs)" (Land Tenure Center Report, 1992).

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