**TABLE 5. ACTIONS BY THE UNITED STATES AND OTHER EXTERNAL ACTORS TO SUPPORT A PRO-POOR NONTRADITIONAL AGRICULTURAL EXPORT STRATEGY**

| Immediate Actions | Objectives |
|---|---|
| 1. Provide financial assistance to facilitate credit reform and strengthen agricultural extension. | 1. Establish more services for poor, small farmers. |
| 2. Provide technical assistance through public administration reform. | 2. Eliminate corruption that deprives rural areas of government services. |
| 3. Cease U.S. marketing orders on fruits, vegetables, and nuts. | 3. Establish access to the U.S. market unhindered by superficial standards. |
| 4. Cease ban on U.S. foreign aid to citrus growers. | 4. Support region's comparative advantage in the citrus trade. |
| 5. Improve the flow (quantity and timeliness) of information on changes in U.S. pesticide regulations. | 5. Reduce harmful pesticide practices and minimize unnecessary import detentions and rejections. |
| 6. End restrictions on U.S. foreign aid to developing production that may compete with domestic producers. | 6. Support efficient, equitable, and environmentally sound production wherever possible. |
| 7. Conclude GATT trade negotiations to liberalize trade. | 7. Quickly implement reductions in tariffs and nontariff barriers against tropical products as well as labor-intensive manufacturing goods. |

**TABLE 5.** (continued)

| Longer-Term Actions | Objectives |
|---|---|
| 1. Provide grants for improvements in rural infrastructure (especially roads and electrical grids). | 1. Eliminate production/marketing bottlenecks resulting from under-investment in rural infrastructure. |
| 2. Provide technical advice on the reform of agricultural ministries and subagencies. | 2. Eliminate corruption that deprives rural areas of government services. |
| 3. Reduce subsidies to domestic farmers that distort world markets. | 3. Establish reasonable world-price incentives for developing country farmers. |
| 4. Expand research on and dissemination of integrated pest-management technologies. | 4. Cut farm costs, reduce pesticide abuse, and control pest threats thereby making nontraditional agriculture possible for the poor. |
| 5. Support family planning and human-resource training programs. | 5. Increase the ability of poor people to take advantage of opportunities for better work and living standards, and reduce the population pressure on Central America's resource. |
| 6. Target research on nontraditional agricultural production problems, especially in Central American climates. | 6. Address the production problems faced by a large number of developing-country farmers rather than those of a small number of modern farms in industrial countries. |
| 7. Encourage private research and the development of substitutes for banned chemicals. | 7. Develop chemicals that are safe and useful in developing countries. |
| 8. Harmonize worldwide consumer safety standards as they relate to tradeable goods. | 8. Improve health in developing countries while minimizing trade conflicts that endanger income opportunities for small farmers. |

## Central American Action

If Central Americans are committed to implementing a more equitable agrarian development strategy, nontraditional agricultural exports can aid in reducing poverty without destroying the environment as much as the current types of production do. The key actions needed in the region to assist the poor in producing and exporting nontraditional crops are credit reform, improved agricultural extension, improved rural infrastructure, and reformed ministries of agriculture. Additional pro-poor, pro-environment policy changes include regulating export business practices, revising export tax incentives, opening public finances for inspection, regulating land tenure, and improving the poor's access to education and family planning services.

*COUNTRY-SPECIFIC POLICY CONCERNS.* Costa Rica is fortunate because most of these policy recommendations are not only palatable but also are already either partially in place or high on the agenda of national leaders. Perhaps, then, the nation's most valuable next step is to seek a balance in pursuing nontraditional production. Such agricultural exports should remain no more than a tool for its leaders' broader development goals. The potential for expanding exports is strong but not unbounded. Consequently, Costa Rica would be wise to channel as much of its present success as possible into developing the rest of its economy. The government should moderate its export promotion tax breaks and redirect its concerns to long-standing equity problems in rural areas. In so doing, special care should be taken that the privatization of governmental activities (perhaps laudable because of its efficiency) does not lead to the abandonment of important social goals for the countryside.

Guatemala's situation is one of both success and severe limitations. The undisputed achievements of a handful of producers shipping fresh vegetables out of Guatemala City's airport should become less of an exception and more the rule. Nontraditional agriculture presently remains somewhat marginal to development—even to export earnings. The country's leaders need to seek ways to broaden the base of this strategy, lest the striking income inequities grow. To do this will require a serious look at the operations of the Ministry of Agriculture, especially regarding rural extension and credit. In addition, the infrastructural problems with the telephone system, electricity, and highways—although not as severe as in Honduras—are still glaring impediments to most potential nontraditional crop producers. To embark on such changes, the nation's leaders will have to reverse their historic apprehensions about the highland Indians (race and class warfare—smoldering for decades—has been fueled by arbitrary police actions and other forms of discriminatory public and private activity). Development will come to a halt, poverty will continue to mount, and ecological disaster will follow if old fears dictate government policies in the 1990s. The prosperity of Guatemala's rich can no longer be separated from the fate of the western highlands.

In many ways Honduras has barely begun the process of exporting nontraditional crops. So many of the prerequisites for production and shipment are lacking that the exporters have had great difficulty establishing supply linkages. Some regions are so isolated that their only medium-term export prospects are sales across the border to other impoverished and isolated people in El Salvador or Nicaragua. Even farmers along the country's main highway suffer from major transportation delays because of the road's poor condition and the aging truck fleet. Government agricultural services cannot precede roadway building. Nontraditional exports from the highlands are merely a hope for the future. Thus tax incentives to highland nontraditional crop exporters at this stage would prove fruitless.

Lowland exports of tropical fruit and fish products have better near-term prospects. Consequently, improved transportation to the coast would help the poor find work in lowland ports. This would aid in alleviating poverty and in lessening environmental degradation, both of which would complement the longer-term actions needed to promote nontraditional agriculture.

## Industrial-Country Action

Although the preceding major policy recommendations for Central American nations are essential, the United States and other industrial countries can improve their own policies to enhance activities in Central America, thereby helping to improve the opportunities for prosperity, equity, and environmental conservation in the region (Table 5).

*U.S. TRADE.* Although generally favorable toward Central American trade, U.S. import policies could be more positive. Marketing orders should be ceased entirely. Health and sanitary import standards can be enhanced by moving toward uniform, federally established standards using a more rapid and predictable process of notifying Central American growers about chemical restrictions. Additionally, the clauses in foreign-aid legislation prohibiting assistance to competitors—such as foreign citrus producers—should be eliminated, or at least targeted at only "high-tech" manufacturing.

*INTERNATIONAL TRADE COOPERATION.* A successful and rapid conclusion of the Uruguay Round of multilateral trade negotiations through the General Agreement on Tariffs and Trade is the best way to ensure that global trade liberalization continues. To complement trade liberalization, U.S. government expenditures on domestic farm programs should be converted into income supports for farmers that are not tied to production levels. After the Round, governments should continue to press for greater global harmonization of consumer safety standards for imports. Strong and consistent food safety standards are vital to maintaining consumer confidence. Thus, the insistence of industrial countries on stringent import standards for health reasons makes sense for both the buyers and the sellers. Insufficient attention to safety issues will cause disruptive and abrupt trade bans. Predictable market access is critical to Central America's rural development.

*U.S. ASSISTANCE.* Restrictions regarding lending by the Agency for International Development directly to beneficiaries should be eased until credit reforms are completed. Additionally, USAID should assist with public administrative reforms in general. The agency should give more attention to the possible uses of integrated pest-management techniques as well as to appropriate agricultural research for the region's special problems. Natural resource management activities should focus as much on human resource development as on conserving the forests. Population planning and education programs are closely related to natural resource conservation.

## PRINCIPLES FOR ADVOCACY

Outright and absolute environmental protection is not feasible without providing impoverished people with survival alternatives. Above all else, Central Americans require production opportunities. Yet, production in the region is increasingly destroying the very natural systems on which it depends. Thus, environmentalists and development experts now share a goal of finding a path to sustainable development. Any policies intended to foster sustainability must be evaluated according to their effects on efficiency, equity, and natural resource conservation. To pursue any one of these three objectives but neglect the others will prove destructive to the environment, the people, and the region.

Nontraditional agricultural export strategies have been criticized as being overly devoted to efficiency, to the neglect of equity and environmentalism. Even if true in the past, it need not remain so. The challenge is to alter public and private practices to overcome the obstacles that presently prevent nontraditional agriculture from being equitable and environmentally sound. Ultimately, success in environmental terms will be achieved when nontraditional agricultural production and exports truly help alleviate poverty.

# Notes

[1] See James W. Fox, "Is the Caribbean Basin Initiative Working?" (AID/LAC/DP paper, October 31, 1989) for data showing the resounding success of nontraditional exports—both manufactured and agricultural.

[2] The size of manufacturing exports from Central America far exceeds nontraditional agriculture, but the growth rate of the latter is very high. This paper does not address the potential of manufacturing export growth to development in Central America, but the author has treated the subject elsewhere. See Stuart K. Tucker, "The Potential of Trade Expansion as a Generator of Added Employment in the Caribbean Basin," in *Migration Impacts of Trade and Foreign Investment,* Sergio Diaz-Briquets and Sidney Weintraub (eds.), (Boulder, CO: Westview Press, 1991).

[3] This theory is well expressed in *Trade Development,* USAID Policy Paper (Washington, DC: USAID, July 1986).

[4] Measured in terms of yield per hectare.

[5] The PROEXAG project (funded by USAID and run by Chemonics) has worked extensively with national export business associations to develop information on the wide variety of potential exports from Costa Rica, El Salvador, Guatemala, and Honduras.

[6] James W. Fox, "Feedback Loops and Economies of Scale: Achieving Export-Led Growth in the Caribbean Basin" USAID Bureau for Latin America and Caribbean Staff Working Paper No. 2 (Washington, DC: USAID, August 1990).

[7] The capital and land requirements discussed here are unpublished estimates compiled by USAID/Honduras and various export promotion business groups in Guatemala and Honduras and conveyed to the author during interviews in 1990.

[8] Lewis A. Fischer, "Assessment of Financial Aspects of Pest Control in Agriculture," *Journal of Financial Management and Analysis,* Vol. 2, No. 1 (January-June 1989), pp. 12-17.

[9] See Douglas L. Murray and Polly Hoppin, "Pesticides and Nontraditional Agriculture: A Coming Crisis for U.S. Development Policy in Latin America?" Texas Papers on Latin America, pre-publication working papers (Austin: University of Texas at Austin, 1990).

[10] See Robert G. Williams, *Export Agriculture and the Crisis in Central America* (Chapel Hill, NC: University of North Carolina Press, 1986) for discussion of the problems associated with traditional cash crops.

[11] Polly Hoppin, "Pesticide Use in Four Nontraditional Crops in Guatemala: Implications for Residues," Consortium for International Crop Protection (College Park, MD: University of Maryland, June 16, 1989), mimeograph.

[12] Ibid.

[13] H. Jeffrey Leonard (ed.), *Environment and the Poor: Development Strategies for Common Agenda,* U.S.-Third World Policy Perspectives No. 11 (New Brunswick, NJ: Transactions Publishers in cooperation with the Overseas Development Council, 1989); and Jeffrey H. Leonard, *Natural Resources and Economic Development in Central America* (Washington, DC: International Institute for Environment and Development, 1987).

[14] Central Bank of Costa Rica, data for March 1988 to September 1989.

[15] For an assessment of the nonagricultural aspects of the CBI program, especially its shortcomings, see the following works by Stuart K. Tucker: Statement on the Impact and Effectiveness of the Caribbean Basin Initiative Before the Subcommittee on Trade of the U.S. House Committee on Ways and Means, February 25, 1986; and "Trade Unshackled: Assessing the Value of the Caribbean Basin Initiative," in *Central American Recovery and Development: Task Force Report to the International Commission for Central American Recovery and Development,* William Ascher and Ann Hubbard (eds.) (Durham, NC: Duke University Press, 1989), pp. 357-392.

[16] This problem is illustrated by the blockage of an aid package intended to help Bolivian soybean producers. See Allan I. Mendelowitz, "Restrictions on U.S. Aid to Bolivia for Crop Development Competing with U.S. Agricultural Exports and Their Relationship to U.S. Anti-Drug Efforts," Testimony Before the Committee on Agriculture, Subcommittee on Department Operations, Research, and Foreign Agriculture, and Subcommittee on Wheat, Soybeans, and Feed Grains, House of Representatives (Washington, DC: United States General Accounting Office, June 27, 1990).

**ANNEX 1. CENTRAL AMERICA'S NONTRADITIONAL AGRICULTURAL EXPORTS ENTER DUTY-FREE, WHILE OTHER COUNTRIES FACE SOME BARRIERS**

| Harmonized Tariff Schedule (HTS) | Selected Items | Under U.S. CBI | Under MFN | Under GSP | Graduated from GSP |
|---|---|---|---|---|---|
| 0603 | Cut flowers | | | | |
| | Fresh miniature carnations | Free | 4.0% | Free | |
| | Fresh roses | Free | 8.0% | Free | |
| | Fresh chrysanthemums, standard carnations, anthuriums, and orchids | Free | 8.0% | Free | Colombia |
| | Other fresh cut flowers | Free | 8.0% | Free | |
| | Nonfresh cut flowers | Free | 5.0% | Free | |
| 0702 | Tomatoes, fresh or chilled | | | | |
| | 3/1-7/14 or 9/1-11/14 | Free | $0.046/kg | $0.046/kg | |
| | 7/15-8/31 | Free | $0.033/kg | $0.033/kg | |
| | 11/15-2/29 | Free | $0.033/kg | Free | Mexico |
| 0703 | Onions, fresh or chilled | | | | |
| | Onion sets | Free | $0.013/kg | Free | |
| | Garlic | Free | $0.017/kg | Free | |
| 0704 | Cabbage, etc., fresh or chilled | | | | |
| | Cauliflower and headed broccoli | | | | |
| | 6/5-10/15 | Free | 5.5% | Free | |
| | Other times: | | | | |
| | Not reduced in size | Free | 12.5% | Free | Mexico |
| | Cut or sliced | Free | 17.5% | Free | Mexico |
| | Brussels sprouts | Free | 25.0% | Free | Mexico |
| | But until 1/1/93 | Free | 12.5% | Free | Mexico |
| | Sprouting broccoli | Free | 25.0% | 25.0% | |
| 0705 | Lettuce and chicory, fresh or chilled | | | | |
| | Head lettuce | | | | |
| | 6/1-10/31 | Free | $0.0088/kg | Free | |

**ANNEX 1. CENTRAL AMERICA'S NONTRADITIONAL AGRICULTURAL EXPORTS ENTER DUTY-FREE, WHILE OTHER COUNTRIES FACE SOME BARRIERS** (continued)

| HTS | Selected Items | U.S. CBI | MFN | GSP | Graduated GSP |
|---|---|---|---|---|---|
| 0705 (continued) | Head lettuce | | | | |
| | Other times | Free | $0.044/kg | Free | Mexico |
| | Other lettuce | | | | |
| | 6/1-10/31 | Free | $0.0088/kg | Free | |
| | Other times | Free | $0.044/kg | Free | Mexico |
| 0707 | Cucumbers, fresh or chilled | | | | |
| | 12/1-2/29 | Free | $0.049/kg | Free | Mexico |
| | 3/1-4/30 | Free | $0.066/kg | Free | Mexico |
| | 5/1-6/30 | Free | $0.066/kg | Free | |
| | 7/1-8/31 | Free | $0.033/kg | Free | |
| 0708 | Leguminous vegetables, fresh or chilled | | | | |
| | Peas | | | | |
| | 7/1-9/30 | Free | $0.011/kg | Free | |
| | Peas | | | | |
| | Other times | Free | $0.044/kg | Free | Mexico |
| 0709 | Other vegetables, fresh or chilled | | | | |
| | Asparagus | | | | |
| | 9/15-11/15, (by air, and not reduced) | Free | 5.0% | 5.0% | |
| | Other times | Free | 25.0% | 25.0% | 25.0% |
| | Peppers | Free | $0.055/kg | Free | Mexico |
| | Spinach | Free | 25.0% | 25.0% | |
| | Chayote | Free | 12.5% | Free | |
| | Okra | Free | 25.0% | Free | |
| | Squash | Free | $0.024/kg | Free | Mexico |
| | Sweet corn | Free | 25.0% | 25.0% | |
| 0710 | Frozen vegetables | | | | |
| | Leguminous vegetables | | | | |

**ANNEX 1. CENTRAL AMERICA'S NONTRADITIONAL AGRICULTURAL EXPORTS ENTER DUTY-FREE, WHILE OTHER COUNTRIES FACE SOME BARRIERS** (continued)

| HTS | Selected Items | U.S. CBI | MFN | GSP | Graduated GSP |
|---|---|---|---|---|---|
| 0710 (continued) | Peas | | | | |
| | 7/1/-9/30 | Free | $0.022/kg | Free | |
| | Other times | Free | $0.044/kg | Free | |
| | Spinach | Free | 17.5% | 17.5% | |
| | Sweet corn | Free | 17.5% | 17.5% | |
| | Tomatoes | | | | |
| | 3/1-7/14 or 9/1-11/14 | Free | $0.046/kg | $0.046/kg | |
| | 7/15-8/31 | Free | $0.033/kg | $0.033/kg | |
| | 11/15-2/29 | Free | $0.33/kg | Free | |
| | Other, not reduced in size | | | | |
| | Brussels sprouts | Free | 25.0% | Free | |
| | But until 1/1/93 | Free | 12.5% | Free | |
| | Other | Free | 25.0% | Free | |
| | Other, reduced in size | | | | |
| | Asparagus | Free | 17.5% | 17.5% | |
| | Broccoli | Free | 17.5% | 17.5% | |
| | Brussels sprouts | Free | 17.5% | 17.5% | |
| | Cauliflower | Free | 17.5% | 17.5% | |
| | Okra | Free | 17.5% | 17.5% | |
| | Other | Free | 17.5% | 17.5% | |
| 0711 | Vegetables, provisionally preserved | | | | |
| | Onions | Free | 8.0% | Free | |
| | Cucumbers | Free | 12.0% | Free | |
| 0712 | Dried vegetables | | | | |
| | Onions | Free | 35.0% | 35.0% | |
| | Garlic | Free | 35.0% | 35.0% | |
| | Parsley | Free | 6.0% | Free | |
| | Tomatoes | Free | 13.0% | 13.0% | |

**ANNEX 1. CENTRAL AMERICA'S NONTRADITIONAL AGRICULTURAL EXPORTS ENTER DUTY-FREE, WHILE OTHER COUNTRIES FACE SOME BARRIERS** (continued)

| HTS | Selected Items | U.S. CBI | MFN | GSP | Graduated GSP |
|---|---|---|---|---|---|
| 0801 | Coconuts, brazil nuts, cashew nuts | | | | |
| | Coconuts | Free | Free | Free | |
| | Cashew nuts | Free | Free | Free | |
| 0802 | Other nuts | | | | |
| | Macadamia nuts | | | | |
| | In shell | Free | $0.029/kg | Free | |
| | Shelled | Free | $0.11/kg | $0.11/kg | |
| 0803 | Bananas or plantains | | | | |
| | Bananas | Free | Free | Free | |
| | Plantains, fresh | Free | Free | Free | |
| | Plantains, dried | Free | 3.0% | Free | |
| 0804 | Dates, figs, pineapples, avocados, mangoes, etc. | | | | |
| | Pineapples | | | | |
| | Not reduced, bulk | Free | $0.0064/kg | $0.0064/kg | |
| | Not reduced, crate | Free | $0.0131/kg | $0.0131/kg | |
| | Reduced | Free | $0.0055/kg | $0.0055/kg | |
| | Avocados | Free | $0.132/kg | $0.132/kg | |
| | Mangoes | | | | |
| | Fresh, 9/1-5/31 | Free | $0.0827/kg | Free | Mexico |
| | Fresh, other items | Free | $0.0827/kg | $0.0827/kg | |
| | Dried | Free | $0.033/kg | Free | |
| 0805 | Citrus fruit, fresh or dried | | | | |
| | Oranges | Free | $0.022/kg | $0.022/kg | |
| | Mandarins | Free | $0.022/kg | $0.022/kg | |
| | Lemons | Free | $0.0275/kg | $0.0275/kg | |
| | Limes | Free | $0.022/kg | $0.022/kg | |

**ANNEX 1. CENTRAL AMERICA'S NONTRADITIONAL AGRICULTURAL EXPORTS ENTER DUTY-FREE, WHILE OTHER COUNTRIES FACE SOME BARRIERS** (continued)

| HTS | Selected Items | U.S. CBI | MFN | GSP | Graduated GSP |
|---|---|---|---|---|---|
| 0805 (continued) | Grapefruit | | | | |
| | 8/1-9/30 | Free | $0.022/kg | $0.022/kg | |
| | 10/1-10/31 | Free | $0.018/kg | $0.018/kg | |
| | Other times | Free | $0.029/kg | $0.029/kg | |
| | Other | Free | 0.9% | Free | |
| 0806 | Grapes, fresh | | | | |
| | 2/15-3/31 | Free | $1.41/m$^3$ | $1.41/m$^3$ | |
| | 4/1-6/30 | Free | Free | Free | |
| | Other times | Free | $2.12/m$^3$ | $2.12/m$^3$ | |
| 0807 | Melons and papayas | | | | |
| | Cantaloupes | | | | |
| | 8/1-9/15 | Free | 20.0% | 20.0% | |
| | Other times | Free | 35.0% | Free | Mexico |
| | To 1991: 6/1-5/15 | Free | Free | Free | |
| | Watermelons | | | | |
| | 12/1-3/31 | Free | 20.0% | Free | |
| | Other times | Free | 20.0% | 20.0% | |
| | Papayas | Free | 8.5% | 8.5% | |
| 0808 | Apples, pears, and quinces, fresh | | | | |
| | Apples | Free | Free | Free | |
| | Pears and quinces | | | | |
| | 4/1-6/30 | Free | Free | Free | |
| | Other times | Free | $0.011/kg | $0.011/kg | |
| 0809 | Apricots, cherries, peaches, plums, and sloes, fresh | | | | |
| | Peaches | | | | |
| | 6/1-11/30 | Free | $0.004/kg | $0.004/kg | |
| | Other times | Free | Free | Free | |

**ANNEX 1. CENTRAL AMERICA'S NONTRADITIONAL AGRICULTURAL EXPORTS ENTER DUTY-FREE, WHILE OTHER COUNTRIES FACE SOME BARRIERS** (continued)

| HTS | Selected Items | U.S. CBI | MFN | GSP | Graduated GSP |
|---|---|---|---|---|---|
| 0809 (continued) | Plums | | | | |
| | 1/1-5/3 | Free | Free | | |
| | Other times | Free | $0.011/kg | $0.011/kg | |
| 0810 | Other fruit, fresh | | | | |
| | Strawberries | | | | |
| | 6/15-9/15 | Free | $0.004/kg | $0.004/kg | |
| | Other times | Free | $0.017/kg | $0.017/kg | |
| | Raspberries, blackberries, mulberries, loganberries | | | | |
| | 9/1-6/30 | Free | $0.007/kg | $0.007/kg | |
| | Other times | Free | Free | Free | |
| | Cranberries, blueberries | Free | Free | | |
| | Kiwi fruit | Free | Free | Free | |
| 0811 | Fruit and nuts, frozen | | | | |
| | Strawberries | Free | 14.0% | Free | Mexico |
| | Raspberries, blackberries, loganberries | Free | 7.0% | Free | |
| 0904 | Pepper | | | | |
| | Black | Free | Free | Free | |
| | Crushed or ground | Free | Free | Free | |
| | Capsicum (hot) | | | | |
| | Paprika | Free | $0.03/kg | Free | |
| | Anaheim and ancho | Free | $0.11/kg | $0.11/kg | |
| | Other not ground | Free | $0.055/kg | Free | |
| | Other ground | Free | $0.0112/kg | Free | |
| | Pimenta | Free | Free | Free | |

Source: Extracted directly from the U.S. Harmonized Tariff Schedule, 1990.

Chapter Five

# Land Taxation, the Poor, and Sustainable Development

*John D. Strasma and Rafael Celis*

## INTRODUCTION

Land policies are at the very heart of the problems of poverty, deforestation, and agricultural productivity in Central America. Despite land reforms in several countries, much arable land remains in holdings that are too large or too small for efficient production. Present policies create perverse incentives that cause much land to be over- or underutilized. Some of those policies, though well intended, actually discourage investment and induce low productivity, deforestation, squatting, and violence.

One implicit policy with damaging repercussions has been *not* having an effective land tax. Because land taxes are low, city dwellers can easily afford to own land as a speculative investment, inflation hedge, or for weekend relaxing. And because these nonfarmers bid up the price of land, the landless worker or small farmer can't afford to buy it. Without the revenue generated by effective land taxes, local governments are impoverished, unable to provide needed roads, schools, and other services to any residents, including the poor.

Land taxes are one of the most effective potential policy measures now available in Central America to reduce both poverty and the destruction of natural resources in a manner compatible with sustainable development. Land-tax reform, already under way in Costa Rica, is a feasible solution elsewhere. If land values are established with community input, and if revenues are earmarked to local governments, infrastructure, and schools, a land tax could promote decentralization and participatory democracy, while increasing production and reducing poverty. In this chapter we analyze the present taxation of agricultural lands in Central America, finding it both inadequate and counterproductive.

Land taxes alone would not solve all problems. More direct land redistribution programs are also needed. Major land reforms were implemented in El Salvador and Nicaragua during the 1980s, as were modest experiments in Guatemala. Significant redistribution efforts in Costa Rica, Honduras, and Panama took place in the 1960s and 1970s. All were successful, in part, although the executing agencies were short on resources. The programs did not adequately define the rights and responsibilities of the beneficiaries, and none of these reforms reached the majority of the rural poor.

The next stage of land reforms—a land taxation process friendly to both the rural poor and the environment—is overdue. It is time for governments to treat the landless as potential small farmers in market economies, rather than as permanent political clients dependent on underfunded, paternalistic government agencies.

The first major step needed throughout Central America is a cadastral survey, or an inventory of land, to 1) more clearly define rights to land and 2) demarcate holdings—state lands (protected and not) and private holdings (be they large or small, cooperatively or individually held). Governments must define the land available for squatting and the trees that may and may not be cut.

This chapter also examines the potential relationship between agrarian reforms and pressure on fragile lands. Those with the power to use the land tend to do so with only short-term profits in mind. Existing laws, regulations, and policies largely encourage this shortsightedness; laws that do take a longer view are seldom implemented.

An alternative strategy is needed, one in favor of both the poor and natural resources. A modern land survey and tax are key parts of this strategy. To implement them, we suggest a list of the decisions and steps required. If these are completed, land surveys and land taxation would become effective instruments for initiating sustainable development in Central America.

## POVERTY, POPULATION, AND FRAGILE LANDS

Central America's food productivity is not keeping pace with its population growth of nearly 3 percent a year. Highly productive lands in Central America are fully occupied, so people move into marginal areas or overcultivate arable lands. Vast stretches of dry and humid tropical forest in Guatemala, for example, are rapidly being settled by landless families from overpopulated farming regions. In Panama and El Salvador, once-productive coffee lands have become low-yield areas because soil conservation is not practiced.[1]

At the same time, a few hundred cattle graze on some large estates in flat valleys with good soils suitable for intensive cropping. Absentee ownership explains some of these cases, while other owners have neither the knowledge nor the capital to switch to crop farming. Yet as a result of tradition, peer pressure, or inertia, land is not sold even when it is not used productively. As long as land taxes are low, this pattern can continue for years.

On the nearby hillsides, hundreds of poor tenant farmers struggle to raise crops. To survive, they cut down the remaining trees and plant a few more rows of maize. Springs dry up, trees die, and soon the farmers find it harder than ever to find firewood. Wild animals vanish, removing a source of protein and cash income. This all contributes to a vicious cycle of poverty and environmental degradation, especially notable in El Salvador, southeastern Guatemala, and in the Tatumla, Sabacuante, and Río Grande watersheds of Honduras.

Field studies done for this chapter in the Jutiapa area of Guatemala found that most land is owned by small landlords who traditionally rent to even poorer tenants on a year-to-year basis. Neither has any incentive to use soil conservation practices, and they don't. Tenants do not have tenure security that would encourage them to make such investments in the land. And, though "living fences" are good sources of forage and firewood, landowners do not plant trees because, they say, the tenants "steal" them. Such a standoff is counterproductive for all concerned.

Land policies in Guatemala and elsewhere in Central America are often inappropriate relics of times when populations were smaller. Although land reforms and resettlement programs provided some relief, they have largely exhausted their potential under present political and economic climates. More appropriate policies, such as a land tax, could encourage landlords to sell some parcels outright, on credit, to their present tenants. The buyers would then pay taxes, but as owners they would also have a reason to plant trees, grow improved varieties, and care about the land they would leave to their children.

## OVERVIEW OF LAND AND TAX POLICIES IN CENTRAL AMERICA

No single policy has caused all these problems; no one policy change can cure them. Deficient registries of public lands, counterproductive policies with respect to squatting, and inadequate rural credit all play roles. However, a major responsibility lies in the inadequacy of land taxation.

Throughout Central America, land taxes are too low. Rates in Wisconsin, for instance, average about 2 percent of the market value of land and buildings every year[2]; in Central America, they are much lower. Partly because real-estate taxes are low, land is expensive and beyond the reach of the landless. Moreover, local governments forgo an ideal revenue source.

## Taxation in Central America

Tax burdens overall, like land taxes specifically, are relatively light in Central America, especially for the very rich. Total taxes are under 20 percent of gross domestic product (GDP) in Central America, compared to around 30 percent of GDP in industrialized nations.[3] Indirect taxes on sales, value added, or transactions are much more important than direct taxes on income and wealth. They are also highly regressive. Although indirect taxes often exempt subsistence foods, they usually hit soap, matches, work clothes, fuel, and similar basics. Yet they seldom reach the major expenses of the rich.[4]

Table 1 shows estimated tax burdens and tax structures for Central American countries in 1989. The highest total tax level was that of Costa Rica, at $235 per capita, or 14 percent of GDP. Nicaraguans paid $124 per capita in taxes, but because incomes were lower, the relative burden was higher, at almost 18 percent of GDP. The lowest tax burdens in the area were in El Salvador and Guatemala; at $83 and $68 per capita, respectively, both countries' overall tax levels were equivalent to less than 8 percent of GDP.

Credible data for the total tax burden of Central American farmers do not exist. Production, trade, and net incomes are more heavily taxed throughout the region than are property or capital. Most of the taxes are paid by commercial farmers who buy fertilizer and pesticides, and who produce for export or for the national market. Those who own land but do not produce a great deal with it pay very little. One tax falls mainly on some of the wealthy farmers: the export tax on coffee and other traditional exports such as cotton, cocoa, and sugar.[5] These taxes, as well as discriminatory exchange rates, fall heavily on producers and not at all on those whose lands are unproductive.

## The Region's Land-Tax Experiments

Land taxes are not a novel idea in Central America, but they have fallen into disuse through neglect.[6] *Costa Rica's* tax on urban and rural real estate produced some 20 percent of total government revenues until 1960.[7] Assessed values were not indexed for inflation, so despite rate increases, land taxes generated only 1 percent of revenues by 1989.[8] The

**TABLE 1. CENTRAL GOVERNMENT TAX LEVELS, 1989**

| Country | GDP Per Capita (dollars) | Taxes Per Capita (dollars) | Taxes Per GDP (percent) |
|---|---|---|---|
| Costa Rica | 1,659 | 235 | 14.2 |
| El Salvador | 1,074 | 83 | 7.7 |
| Guatemala | 888 | 68 | 7.7 |
| Honduras | 913 | 121 | 13.2 |
| Nicaragua | 694 | 124 | 17.8 |
| Panama | 1,890 | 172 | 9.1 |

Source: Data calculated from *Economic and Social Progress in Latin America* (Washington, DC: Inter-American Development Bank, 1991), Statistical Appendix.

tax is progressive, from 0.36 percent of assessed value over about $1,600 to 1.41 percent on properties assessed at more than $30,000.

*El Salvador's* land tax in the 1970s was 1 percent a year on values that were declared by landowners. (To the dismay of many owners, the values they declared in 1976 and 1977 were the main basis for compensation payments in the land reforms of 1980.[9]) In 1986, under President José Napoléon Duarte, this tax was replaced by a tax on net wealth, including business capital as well as real estate. Real-estate values in the new tax are still those declared by owners; in any case, the market has been depressed by the civil war. A modern unit value land-tax system (described later in this chapter) could be a solid revenue source as peace returns to El Salvador.

*Guatemala's* land tax has a base rate of 0.3 percent a year. However, implementation is poor and tax values are so far below market values that the actual tax is less than $0.25 per acre per year.[10] The tax contributes little revenue and has no perceptible impact on the decisions made by landowners. Guatemala also has a punitive tax rate (more than 5 percent) that is supposed to be applied to "idle" land. However, there is no credible evidence that it has ever been used except as a way to harm political enemies or to bargain over the price of land that the government sought to acquire.[11]

*Honduras* has a land tax, with revenues earmarked for use by the municipalities. Assessments lag far behind market prices, as they are not indexed for inflation or economic growth. The rate is so low (0.1 percent per year) that it is one of the smallest sources of municipal revenues.[12] Recently, a national cadastral office successfully revalued real estate in several municipalities. The rate remains extremely low, but the increased tax base paid for the reassessment in the first year.[13]

Honduras is also reforming the basic municipal statutes to facilitate decentralization of the public sector. One draft bill raises the land-tax rate to 1.0 percent a year on market values.[14] Revenue would go to the local government, after deducting the expenses of the cadastral survey. Two percent would be better; with that rate and accurate values, local governments could provide badly needed infrastructure, services to residents, and protection of natural resources. At a 1 percent rate, local governments might still need some subsidies from the central government, itself financially strapped.

In *Nicaragua* inflation rendered assessed values meaningless by 1990. Moreover, just before yielding to the Chamorro administration, the Sandinista regime transferred many state-seized mansions and other prime real estate to some of its own leaders, as well as farms and urban housing projects to its followers and some of the poor. Conflicts over the ownership of such properties impede rational discussion of other land policies, including taxes.

*Panama* also has a land tax. However, taxable values are far below market values, and no serious efforts have been made to modernize the tax.

Table 2 compares the revenue importance of taxes on property—including land, buildings, inheritances, and motor vehicles—to other types of taxes in Central America. Urban real-estate taxes probably generate more than half of total property taxes. No figures are available for rural land taxes alone, but they are clearly insignificant as a share of total national tax revenues.

The region's tax structure, as portrayed in Table 2, merits a few further clarifications. First, for El Salvador and Panama taxes on property include a tax on net wealth. Since real estate is the biggest component of net wealth and a tax on wealth is the easiest to enforce, this has all the virtues of a real-estate tax plus the advantage of equity vis-à-vis wealthy people holding other types of capital assets. Adequate assessment would require all the techniques of modern real-estate taxation.

Traditional exports like coffee, sugar, and cotton are taxed heavily. But Table 2 does not reflect all discriminatory policies that affect farmers. For instance, farmers often suffer under multiple exchange rates. The coffee exporter gets fewer pesos or colones per dollar earned than he would if there were a uniform exchange rate. Farmers who sell in the domestic market can be adversely affected by price ceilings on basic grains or by cheap, imported grains and dried milk "dumped" by European countries and the United States. Both policies lower prices, discourage production, and reduce farmers' incomes.

Land-tax revenues are also low because of special exemptions. For example, under Costa Rica's National Reforestation Law, lands replanted

**TABLE 2. TAX STRUCTURES IN CENTRAL AMERICA, 1989** (percent)

| Country | Total Tax Revenue as Share of GDP[a] | Property Taxes[b] | Net Income Taxes[c] | Sales and Production | Import and Export Taxes |
|---|---|---|---|---|---|
| Costa Rica | 14.2 | 1.1 | 16.1 | 50.0 | 31.2 |
| El Salvador | 7.7 | 4.3 | 23.0 | 19.6 | 18.7 |
| Guatemala | 7.7 | 2.2 | 22.1 | 42.4 | 24.9 |
| Honduras | 13.2 | 1.1 | 29.0 | 35.5 | 36.7 |
| Nicaragua | 17.8 | 1.3 | 23.1 | 59.8 | 11.8 |
| Panama | 9.1 | 7.7 | 35.8 | 21.8 | 15.7 |

[a]Does not include certain stamp and miscellaneous taxes, so the totals are less than 100 percent.
[b]Taxes on real estate, motor vehicles, and inheritances.
[c]Taxes on income and profits, plus social security taxes.

Source: Data calculated from *Economic and Social Progress in Latin America* (Washington, DC: Inter-American Development Bank, 1991), Statistical Appendix.

with timber-yielding trees or fruit trees are exempted from the property tax as an incentive. Individuals and corporations in Costa Rica also are exempted from the income tax on profits from the sale of products derived from such plantations.[15]

Finally, the tax revenues shown in Table 2 do not capture local contributions of labor, money, or material to maintain roads, schools, and services. For example, some land redistribution beneficiaries in Costa Rica taxed themselves to keep an access road in minimum repair, because neither the Ministry of Public Works nor the municipal government would do so.[16] Local residents routinely organize raffles or other benefit events to support rural schools and community services.

## NONREVENUE ADVANTAGES OF LAND TAXES

An annual tax on rural land intrigues economists. It is a fixed expense that raises the cost of holding property idle for speculation. Any significant tax is relatively onerous to an owner who earns little income from his land. If he invests and works to increase its productivity and income, the land tax does not increase, so the burden becomes relatively lighter.

Modern tax assessment requires a cadastral survey that estimates the potential yield of a hectare of each soil type. The resulting tax should encourage owners to rent or sell land from which they derive little income. The increased supply of land will naturally depress land prices or make sellers offer better terms. As a result, the relatively poor will find it easier to buy or rent land with which they can raise their income by much more than the yearly tax.

The land tax also is preferable to a tax on agricultural production or exports, from the government's point of view. Most tax incentives cut revenues. Land taxes can generate substantial revenues—yet they do not penalize the most productive, as do taxes on agricultural commodities or exports.

A significant land tax also makes tax incentives more effective. All Central American countries offer exemptions from the land tax for approved investments. But the tax is so low to begin with that the exemption makes little difference to the investor's rate of return. A higher tax makes an exemption much more attractive.

A well-designed tax could also help resolve the Nicaraguan land disputes:

- Taxes paid by whoever wins ownership could help compensate the dispossessed.
- A high tax would drive down market values and, hence, the amount of compensation that is needed.
- A land tax that is progressive, according to total holdings, could make some former owners less insistent that all of their land be returned.
- A heavy tax on market value, progressive for total holdings and retroactive to the beginning of the Chamorro administration, might induce some Sandinista leaders to return some of the real estate they seized for themselves.[17]
- A nominal flat fee, for instance, of $5 a year for all holdings worth less than $1,000 would simplify administration. It would confirm the rights of the poor, while assuring them that they would not be taxed heavily on tiny parcels or urban shacks that are often their only real security.

## Why Are Land Taxes Not More Widely Used?

Given these advantages, why doesn't Central America have heavy land taxes? There are four reasons:

1) Until recently, assessment was costly and took years.

2) Landowners, with the World Bank and International Monetary Fund (IMF) as allies, hope to repeal export taxes without having to accept land taxes.

3) Developing-country governments covered deficits by borrowing, mostly from abroad.

4) Leaders preferred to centralize their power, by allocating annual grants to local governments instead of permitting them to assess their own taxes.[18]

This situation changed drastically in the last decade. Voluntary net new lending to Central America by commercial banks dried up. To secure external funds, developing countries now must embrace official lenders' structural adjustment programs, which require more taxes and reduced deficits.

For instance, during the 1980s the World Bank and some other aid agencies urged various countries to adopt land-tax reform as a trade-off for lower export taxes and lower taxes on farm income. There are no success stories yet. In Argentina the government promised just such a reform and the World Bank funded a cadastral survey. The legislature refused to create a new federal land tax, partly because the trade-off fell apart. Instead, the federal government, desperate for revenues, wanted to continue taxing agricultural exports directly or via unrealistic exchange rates. Because that would have raised taxes on farmers without comparable sacrifice by others, it did not pass at that time.

With Dutch funding and technical assistance, Costa Rica began a national reassessment in 1990. It plans to reassess all urban and rural property in the capital city and adjacent areas, at market values, by 1995.[19] The Honduran National Cadastral Survey Office reassessed land values in several municipalities a few years ago but has no funds or staff to extend this work.

## PROBLEMS AND ACCOMPLISHMENTS OF LAND REFORMS IN CENTRAL AMERICA

Every Central American nation has tried some kind of land redistribution program. Costa Rica, Guatemala, Honduras, and Panama created government agencies to buy land for impoverished laborers and poor subsistence farmers, often after they had seized private farms.[20] El Salvador and Nicaragua expropriated many large farms and redistributed them to their workers through land reforms. Separately, tenants in El Salvador were allowed to buy the small parcels they had rented in March 1980, at tax values and with long payment terms, whether or not landlords wanted to sell.

In all these programs the stated goals included increased productivity, employment, and democracy through processes that allowed the landless laborer to escape poverty through access to formerly underutilized land. Essentially, each effort signed up 5 to 20 percent of the rural families either as "provisional" title holders or as members of collective production enterprises. In every country, most of the "beneficiaries" were better off than before. However, because their rights and obligations were poorly defined, many felt insecure and subject to arbitrary cancellation and eviction by the agency staff at any time. In most cases the beneficiaries were supposed to repay the government for the land received, but collection efforts have been weak and the programs have had to be highly subsidized. In all cases the government wanted to reduce conflict over land, but it also sought political loyalty and support from beneficiaries.

What are the major lessons that can be drawn from Central American land reforms and land programs?[21] First, no one seriously disputes that they were needed: idle land and idle workers were highly visible, and market processes were not stimulating their productive use. Second, none of the experiments solved all of the national needs to increase production, reduce rural poverty, or give all the landless access to land. Third, all were "top-down" efforts, centralized, overstaffed, and underfunded, with a strong dose of paternalism by planners and staff.

The reforms in El Salvador and Nicaragua illustrate some of the problems and accomplishments of land reform. The programs benefited around 20 percent of the rural labor force, but a substantial number of landless people remain. One reason is that reforms generally transferred the expropriated farms to the resident laborers. *Minifundistas* (those with too little land to support themselves), migrant workers, and many others were left out.

## State Farms Versus Individual Parcels

In Nicaragua the land reform agency initially insisted that expropriated farms be operated by the state, to maintain production of export cash crops such as coffee and cotton.[22] In El Salvador there were two separate land reforms in 1980. All farms of more than 500 hectares were expropriated by the Salvadoran Institute of Agrarian Transformation (ISTA) in March 1980. The workers were told that the land belonged to them, but in fact ISTA insisted that each farm remain a production unit. Plans and decisions were made by a committee elected by the workers, but veto power was exercised by an ISTA functionary who did not even live on the farm. Many beneficiaries felt they had merely changed employers.

On most of the expropriated farms, output per hectare remained near the national average levels. This was short of the potential, given the above-average quality of much of the land formerly owned by large holders. The government insisted that large units were needed for scale economies and for political reasons.[23] Unfortunately, the war, theft, inefficiency, and incompetence by some cooperative managers and state functionaries made many farms unprofitable. Doubting that the land would ever really be theirs, members of the profitable cooperatives mostly voted to take the profits in improved housing and benefits, rather than paying off the land debt.[24]

In the second part of the Salvadoran reform of 1980, tenants tilling small plots were allowed to buy them, at the value declared by the owner for property tax purposes three years earlier. The agency in charge of that part of the reform, the National Financial Agency for Agrarian Transformation (FINATA) was less dogmatic about imposing collectivism. Having made their own decisions as renters, few of the ex-tenants were willing to pool land and submit to collective farming. By 1990 some 38,000 new owners had received individual titles and had paid all or most of the purchase price. Most of their plots are on steep slopes, and one now sees some land-conserving investment in terraces, erosion control, and tree crops.[25] When they were tenants on year-to-year leases, these same families had no incentive to make these investments. Now they do.

A third Salvadoran land reform began in 1992 with implementation of the U.N.-sponsored Peace Agreements. All remaining land in holdings over 245 hectares is being expropriated, and other private land is being purchased to settle the demobilized guerrillas and soldiers on terms similar to those of the 1980 land reforms.

## Other Issues in Land Redistribution Programs

The Honduran, Guatemalan, and Costa Rican land distribution programs resembled Nicaragua's and El Salvador's expropriation of larger farms. In Costa Rica and Honduras the government usually intervened after workers had occupied a farm; there and in Guatemala the land was supposed to be sold to the workers at low prices and on long payment terms. In practice, those participating in the programs in all five countries have had to struggle twice: first to gain possession of the land, and then to secure actual full ownership of it, free of state tutelage.

*CLIMBING THE "TENURE LADDER."* Many state functionaries do not see the landless as future small farmers who could learn to make important decisions for themselves. Few urban politicians grasp the concept of the "tenure ladder" so familiar in the successful growth of U.S. agriculture. That is, a young man starts as a laborer for his father, then works for a neighbor, and then rents some land. If successful, he saves and in time buys property of his own. If unsuccessful, he continues as a laborer or tenant, or moves to town.

Central American land programs expect all participants to remain on their assigned plots, going directly from being landless laborers to being operators, individually or in groups. The unsuccessful are not encouraged to leave, even though other landless are ready and eager to enter in their places. Cynics might suspect that as long as some workers are clearly not ready to run farms of their own, the agency staff envision permanent employment for themselves as supervisors or advisors.

*USE RIGHTS OF LAND, BUT NOT OWNERSHIP.* In all five Central American countries many politicians did not want to actually transfer land to the landless. They viewed the landless as political supporters, to whom they would prefer to give the *use* of the property but to whom they would deny legal *ownership*. Nor were the politicians willing to allow beneficiaries the right to transfer the land to someone else without permission, as an owner could. Therefore, even though most of the reform laws and land redistribution programs stated that the land would be sold to beneficiaries, the agencies were consistently slow to set prices for the land and made no serious effort to collect payments. Many participants insisted on making payments and then found that the title they received was little more than the right to continue using that parcel as long as they did so personally. Land *does* change hands frequently among small farmers in Central America, despite regulations and laws to the contrary in all of the land programs. Some farmers suffer accidents or have family problems and must stop working their land. Others simply decide they want to work elsewhere. Yet, until recently, all of the programs forbade beneficiaries from reselling the land they had received without agency permission. Such permission was seldom granted. When it was forthcoming, agency staff wanted to choose the next family to use the plot, even if a third family offered to pay more. The *campesinos* quickly learned not to ask, but just to sell their "rights" to someone else, illegally, behind the back of the land agency.

Paternalistic politicians claim that the freedom to sell will lead to a reconcentration of land into large farms; however, there is no evidence that this is the case.[26] If the poor have easy access to the land market, the buyers will be other *campesinos*. Large ranchers do not want to pay "retail" prices to buy small parcels.[27]

*RECENT TRENDS TOWARD TITLING.* In the last three years, under pressure from the beneficiaries and external aid agencies, most of the land programs have grudgingly allowed some beneficiaries to "graduate" to independence. Under President Alfredo Cristiani some Salvadoran cooperatives have finally received titles and independence and are paying for the land. In Costa Rica, Honduras, and El Salvador titles have been issued to many squatters and other beneficiaries, though the number of titles actually issued tends to lag far behind announced goals. To keep the pressure on, the U.S. Agency for International Development (USAID) in Costa Rica now reimburses survey and registry expenses of that government's Institute for Agrarian Development (IDA) only for titles actually issued to beneficiaries. A similar approach was used successfully in El Salvador.

Although the trend is toward guaranteeing beneficiaries' clear, unambiguous ownership status like that of any other property owner, paternalism lingers. For instance, under the pretext of "preventing *minifundia*" (i.e., farms too small to employ a family), Honduran law forbids the issuing of titles to squatters who occupy fewer than 1 hectare of public land. In some densely populated areas, this excludes most squatters, even if they grow vegetables or other labor-intensive crops very efficiently.[28] Again, without legal security, the squatters may hesitate to invest in soil conservation. In effect, the society tells them they are second-class citizens, not worthy to be landowners.

Paternalism also lingers in Costa Rica, where beneficiaries of land programs who sell their parcels may only do so with permission from the board of directors of IDA, the land agency in San José. Getting permission requires time, travel, and a lawyer. If a beneficiary cannot farm his parcel and wants to sell to another small farmer who will farm it, this should be facilitated, not made more difficult. Approval should be available locally and granted automatically, at least if the buyer is another *campesino*.

## LAND MARKETS AND LAND BANKS AS A PROPOSED SOLUTION FOR THE LANDLESS

Land reform is an episode in a nation's history. It is complete when two things happen: 1) the small farmer beneficiaries finally obtain clear, secure rights to their plots, free of government supervision; and 2) the state announces that it will not be expropriating any more large holdings for redistribution. Some countries—Japan, Taiwan, and Egypt—completed the cycle in a few years. Bolivia, Costa Rica, Honduras, Nicaragua, and El Salvador took a decade or more. The People's Republic of China took 30 years, and Russia and Mexico have just started to wrap up their 70-year-old reforms.

In every Central American country, when the land reform or land redistribution program ends, there are still large numbers of rural poor who want property on which to support themselves. Donor agencies sometimes suggest that the poor could buy land, instead of seizing a piece of the scarce remaining public forests. That can only work, however, if property prices are reasonable in relation to the income that can be earned by farming a purchased parcel, and if there is some efficient, low-cost mechanism by which buyers and sellers can finance the sale.

When land ownership confers privileges, such as cheap credit or the ability to evade taxes on other sources of income, the wealthy bid up property prices beyond what the landless can afford to pay with their earnings from farming.[29] A heavy land tax would make it expensive to hold property unproductively, so some present owners would become eager to sell, thus lowering the price of land.

In effect, the landless poor would buy land on installments, paying a reasonable price to the seller and thereafter a tax to the state. However, even if land prices fall enough to allow a buyer to pay for the land from farm earnings, some kind of financial mechanism for land purchase is needed.

For instance, sellers can agree to finance the buyers by accepting payments over years (as with land contracts in the United States). Or a new or existing bank can offer long-term mortgage loans to the poor, for the specific purpose of buying a small parcel of land to farm. Given the shortage of long-term savings in Central America, such a *campesino* land mortgage bank would probably need external funds to start. Donor agencies, however, are well aware that, under existing farm credit programs in Central America, neither the rich nor the poor have good repayment records.

Thus, to enable the small farmers of Central America to buy land in the market, any such mortgage loan program must break with the past. If loans are not collected on time, with interest rates that keep up with inflation, initial capital will be quickly dissipated, and there will be no funds with which to finance other poor and landless persons wanting to buy parcels to farm.[30]

## SQUATTERS AND TREES

The world press often presents a picture in which fragile tropical forest lands are being devastated by poverty-stricken squatters who move in, slash and burn the forest, and eke out an existence by raising traditional corn, frijoles, and root crops. The squatters are portrayed as desperate, with no alternative way to find land to farm. This is sometimes the case, but often it is not that simple.

Even after an area is declared "protected," it remains vulnerable. It was recently reported that there are only six government guards in Costa Rica to safeguard seven different protected areas.[31] And during a time of government retrenchment, it is unlikely that more guards will be hired. Moreover, few of the areas are clearly fenced and posted. Thus, in the unlikely case that squatters are caught, they (and the lumber companies or cattlemen behind them) could readily argue that they were unaware of the land's protected status.

A few squatters are "professionals," who form groups to seize land and use their political skills to pressure the government to buy it for them. Some then actually farm their assigned parcels, while others sell their rights. In other instances lumber companies have reportedly encouraged the poor to invade fragile, old-growth tropical hardwood forests. Despite laws and decrees that forbid the cutting of these trees, drivers on Central American roads often encounter trucks with the huge trunks being hauled to sawmills. Ranchers also encourage squatters to cut forests so more grazing land will be created. Banana companies and commercial farmers encourage squatting and clearing to buy the cleared land cheaply for export crops.

In some cases, laws and credit policies actually encourage commercial farmers seeking more land for new export crops to clear old-growth forests. For example, Costa Rican law allows the granting of titles to public land only after it has been cleared, even if that is forbidden by other laws.[32] The government actually contributes to the problem of deforestation—each time it establishes a new protected area, it pays existing settlers about twice as much per hectare for cleared land as it does for forested areas. Moreover, the government announces new "protected" areas before it marks the boundaries or determines who already resides there. Squatters rush in and remove the very trees that the government seeks to protect, in order to sell "their" land for the highest possible price.[33]

Central American agrarian law also favors deforestation by squatters and others. Forest lands, for example, are regarded as unimproved and underutilized. Agrarian law defines the clearing of forests as an improvement because it prepares the land for raising crops or grazing cattle, which would be "productive."

Another unintended perversity of Central American agrarian law is illustrated by a Costa Rican law that requires victims to pay for the destruction of their own forests in certain circumstances. If squatters escape notice for 90 days (or persuade agrarian judges that they have done so), then they must be paid for the labor of cutting down trees, even if it was done without permission and against the wishes of the forest's lawful owner.

If squatters escape notice for a full year, Costa Rican lawyers advise clients that it is almost impossible to evict them.[34] Groups of squatters can petition the IDA to buy the land they have invaded, on their behalf. Once the property has been seized by squatters, the owner is under considerable pressure to sell cheaply, because no one but IDA will even consider buying the land. Thus absentee owners may pay a very high price for failing to guard their holdings.[35]

## AGRICULTURAL CREDIT: A MARKET OR A WELFARE SYSTEM?

Agricultural credit policies have also contributed to both deforestation and poverty in Central America.[36] Until recently, large landowners could easily obtain large loans to finance expansion of cattle raising to export beef, while small farmers had serious problems obtaining credit. More recently, financing has been relatively abundant for those planning to go into nontraditional export crops. But, as Stuart Tucker points out in Chapter 4, poor, small farmers also typically are at a disadvantage in access to credit for these new ventures.

## Attitudes and Traditions of Lenders and Borrowers

Debts related to farms and farming, unfortunately, are not taken very seriously in Central America. Both the law and populist politicians presume that borrowers are worthy souls; if they do not repay, surely it is because they are unable to do so, and their loans should be refinanced, not foreclosed. Besides, banks find it expensive to serve small borrowers; if a landless family does find land it can buy or rent, it will still have trouble securing a source of production credit at a reasonable cost. The state agricultural development banks serve a few small farmers, because that is their mandate, but poor loan recoveries and high costs cause them to be chronically short of loanable funds.

It should be noted that large borrowers are typically no better as clients. Farmers with substantial holdings are seldom more creditworthy than are the small farmers; they often use the legislative process and personal influence to avoid repaying bank loans.[37]

## Land Transfers on Credit Are Impeded

Central American countries' credit regulations also hamper the *campesino* who wants to sell a parcel to another small farmer. Even after *campesinos* have full title, which makes it legal to sell their parcels without permission, it is usually illegal to obtain a mortgage on land that was ever held by the land agency.

The theory behind this rule is apparently that if the poor could mortgage their land, they might borrow, and if they did borrow, they might be unable to repay, and so they would lose their land. Therefore, the poor should not be allowed to mortgage their land even if that is the only way they can secure credit at all.

Yet by definition, a poor person is unlikely to be able to pay cash for a piece of farmland. If buyers are not allowed to mortgage land to the sellers, they will not be able to purchase the land at all. Without mortgages, sellers have no effective way to collect unpaid balances. Thus, the anti-mortgage rule means that *campesinos* who want to sell their parcels cannot sell to other *campesinos*. Instead, they must sell to the rich, who can pay in cash.

## Rental of Small Parcels

In most countries, people too poor to buy land do rent it, sometimes from the wealthy, but sometimes from other poor families. Central

American land distribution programs forbid beneficiaries to rent their assigned parcels, because rental has been defined ideologically as "exploitation." Yet there are accidents, illness, and other emergency situations in which farmers are unable to till their land. Why should they not be allowed to rent it to others, especially if the land is the original farmer's only possible source of income? Though illegal, rental is frequent. Nevertheless, both parties run considerable risk of detection and punishment by expulsion of both without compensation.

Rental is a well-established form of tenure in Central America and elsewhere. It is often a first step toward land ownership by a young farmer. Land taxes pressure large owners to rent or sell underutilized lands; ideological bans on rentals prevent one of these options and should be repealed, as Honduras did in early 1992.

### Environmentally Friendly Leases

The traditional precarious rentals, in which tenants are moved to a new parcel every year, discourage conservation. We found ample evidence of this in Guatemala, as already mentioned. Instead, leases should specify longer-term rentals, perhaps with renewal automatic except in specified situations.[38] Owners and tenants should be encouraged to share soil conservation investment costs, with incentives to farm in a sustainable manner.

Rent legislation can be problematic when there is great population pressure on farmland. Salvadoran tenants were enabled to buy whatever parcel they rented in 1980, at its tax value, whether the owner wished to sell or not. Field research showed that this led to tree planting and terracing—investments no year-to-year tenant would have undertaken.[39] However, owners became unwilling to rent other land to other tenants, lest a new law be passed and they lose more property.

## TREES, TENURE, AND TAXES: A SUGGESTED STRATEGY

The land situation described in the preceding pages needs reform urgently. Some potential cropland is grossly underutilized, while hillside parcels are eroded and abused because tenure laws, customs, and regulations do not allow poor farmers access to better lands. Squatters are tolerated, discouraging long-term investment by owners, and squatters have incentives to cut trees—especially the old-growth tropical hardwoods in recently announced protected areas. There are tax and credit incentives to plant trees, but only in plantations. Yet it is the mixed tropical forest with its many old-growth hardwoods that offers most of the environmental benefits and biological diversity the world needs. Little has come from piecemeal efforts to date; an overall strategy is needed.

## Cadastral Survey

The essential first step of a strategy to address these problems would be a cadastral survey or inventory of all rural land. Maps or air photos would be clearly marked to show where the boundaries of property units are, and markers on the ground would make them evident to all comers. Conflicting claims of land rights would be identified, and a land court or other mechanism created or improved to resolve them justly and expeditiously.[40] The participants in state land programs would have clearly defined terms on which they could buy full, negotiable, legal title to the land they till.

## Focus on Employment

Employment must have a central role in a development strategy that both protects tropical forests and is pro-poor. Unemployed, landless laborers need to see a future for themselves in the protection rather than the destruction of forests. Part of the revenues from an effective land tax could be used to hire the poor as forest guards instead of letting them continue to eke out a living as poachers and land invaders. In short, policies need to make protecting trees more attractive than stealing them. One promising strategy is to arrange state forestry management on the basis of long-term maximization of employment. For instance, certain pines in Honduras should not be harvested more frequently than every 20 years because this cycle permits the extraction of resin, cones, and firewood, in addition to lumber. On such a rotation, jobs are maximized in the long run at the sawmills and in the forests. Currently, sawmill owners often have the sole power to decide land use; they tend to harvest trees too often, to neglect by-products that they cannot market, or to charge resin tappers high fees to enter the forests, forcing the tappers more deeply into poverty.[41]

## Rights and Responsibilities of Lumber Companies

Central American lumber companies do not pay taxes on illegal operations, though they may pay bribes to corrupt officials. When they are granted legal concessions, sawmills pay very little for the forests over which the state has given them monopoly power. A modern land tax would define rights more clearly and could easily support a system under which the tax rate is lower when the forest is managed in a sustainable way, and much higher when it is exploited thoughtlessly.

Throughout Central America, local and national governments are deeply mired in deficits, unable to provide necessary services or to implement environmentally friendly policies if they cost more than present policies. The game has no clear rules; boundaries are ill-defined, as are the rights of land program beneficiaries. The traditional rights of squatters undermine the stable legal guarantees needed to encourage investment in reforestation and other renewable forest products. Thus Central America needs to expand the definition and legal protection of the rights of all landholders, large and small.

## Definition of Small Farmer Rights in Land Programs

All beneficiaries of government land redistribution programs should have a legal right to buy the land assigned to them and become independent. They might be required to prove some effort and competence; the U.S. Homestead Program of a century ago required settlers to qualify for title by living on the parcel and cultivating at least 20 percent of the land assigned them within the first five years.[42]

## Protecting Forests with Tax Credits

To protect the remaining old-growth forests, Central American governments should not only identify and demarcate them but also establish clear "carrot-and-stick" rules. Forests qualifying as old growth could be taxed more lightly than cutover land, by giving the owner a tax credit for keeping the forest intact and extracting products only on a sustained-yield basis. However, the annual tax credits would be provisional, subject to immediate and cumulative repayment if the forests were ever clear cut. Enforcement would probably require annual aerial photography, as well as a legal lien on the properties themselves and on any logs cut from them.[43]

## Land Taxes

A modern land tax could contribute to the combination of political will and real resources needed to support cadastral surveys, definitions of rights to land, and the protection of forests.

Tax reform would involve a partnership. The national government would supply technical supervision and a legal framework to ensure universal, equitable application of the tax. Local staff would handle the actual assessment of individual farms and the collection of the tax proceeds. Above all, interested citizens would be invited to participate in the processes of setting relative taxable unit values and of deciding how the money raised by the tax should be spent.

This tax reform program is a package of policies that each country could finance on its own. Yet financial help is available through external agencies interested in supporting inventories and definitions of land and land rights. Along with creating a fair tax based on land, it is time to make it much easier for small farmers and laborers to buy or rent land through the market. Then, at last, it will be time to repeal laws and customs that encourage squatting on public and private lands.

## CREATION OF A MODERN LAND TAX

The creation of a modern tax on land and buildings is well understood.[44] Basically, two parallel efforts are required: an inventory and a valuation. First, information from aerial photos and maps is combined with existing data from the land registry on the legal ownership of land and on improvements such as buildings, roads, fences, drainage systems, and other structures that increase the land's value. These data are supplemented with information from owners and from field visits. The end product is a geographic information system and property registry—the basis for establishing and defending all rights to land.

Second, the economic value of the land is estimated. New land taxes or major reforms no longer attempt to determine the market value of each property; that costs too much, and the result will be challenged in the courts. Instead, a modern land-tax reform is based on a system of estimated average or normal unit values for typical types of land and improvements.

To start, a country's ministry of agriculture staff prepares a typology of soil types, as well as typical improvements in each province or zone. A map is prepared, showing approximate boundaries of the main soil types. This can be done quickly and inexpensively, based on photo interpretation, previous soil studies, and spot field checks.

### Citizen Participation in Setting Unit Values

Local participation in establishing relative land values may be critical to the political acceptability of a land tax. In each region real-estate brokers, commercial farmers, attorneys, bankers, and anyone else with an opinion should be invited to review a tax service proposal on land unit values and suggest modifications. It is essential to the success of the tax system that all influential citizens feel that their voices were heard in the process of deciding values assigned to various classes of soils.

Also, the community is in the best position to define the effect on land values of access or lack of access to a paved road. Technical land-tax staff should facilitate the meetings, and, based on local information, develop unit values per hectare and adjustments for the quality and distance of roads to the nearest market. These proposals, along with any written dissents by the citizenry, are subjected to a similar process at the national level, involving national organizations, until some consensus is reached on relative unit values among provinces.

The highly successful Chilean land-tax reassessment of 1965 pioneered the methods just described. In that case the President of the Republic made the final decision on disputed unit values, making some small adjustments suggested by dissenters. In another country the decisionmaker might be the supreme court or the legislature. The important point is that at all levels there be citizen participation in defining unit values.

## Preparation of the Actual Tax Roll

Finally, the two efforts—the cadastral survey and the tables of unit values—are merged by computer to create the tax roll. A statement is issued to each identified landowner specifying the location and size of the property, the area of each soil type, and the quality and distance of access to a market. Buildings and other taxable improvements are described by size, type of construction, and quality (average, above average, or below average). For urban property, location values depend on the street or neighborhood.

After discrepancies reported by owners are resolved, the actual tax bills are prepared. Areas of land and buildings are multiplied by unit values to produce tax values, and by the tax rate to produce the amount of tax due.

## Eliminating Traditional Appeals

Readers accustomed to individual property valuations in the United States or other industrial countries can appreciate the justice and efficiency of the unit value system. Unlike older systems that try to estimate values for each property, the unit system is simple and fair among neighbors. Above all, costs are reduced because the courts are not clogged with costly appeals.

In the unit value system the appeals are heard in the setting of unit values, and not on the values assigned individual properties. Unit values apply equally to everyone in like circumstances. Once the tax bills are sent out, owners can only appeal administrative errors as to area, soil type, or the like—all readily verified and stable from year to year.

Finally, provisions must be made for continual updating of the cadastral survey. Land transfers must be recorded, and unit values must be adjusted yearly for inflation and for new bridges, roads, or other changes in the economic value of land.

In short, an environmentally friendly development strategy requires financing. A modern land tax not only can provide the resources with which to address many local problems, but can also be an instrument to provide powerful incentives and accurate information about land rights. This tax would be levied on the market value of the land and adjusted to provide clear incentives to protect existing old-growth forests and reforestation projects.

The actual tax rate may be decided by law or may be left to local governments to set according to their budgets. However, acceptability of a land tax depends greatly on the feeling that the relative values assigned each farm (or urban property) are fair. This is accomplished by the unit value method—thus increasing the political viability of a land program to protect both people and the environment.

## REVENUE POTENTIAL OF A MODERN LAND TAX

So few developing countries have created a modern land tax that it is difficult to project potential revenues. In Chile's very successful reform of 1963-65, the revenue was roughly tripled—an increase amounting to about 2 percent of GDP.

Few countries have any comprehensive estimates of the national capital stock, but many have estimates of the contribution of the agricultural and urban housing sectors to their GDP. One can attempt to approximate the amount of exempted property, the amount of property eligible for tax reductions, and the ratio of market value that will actually be achieved by the assessment process. The proposed tax rate can then be applied to this calculation.

For example, if national planners believe that the value added by agriculture accounts for about 40 percent of GDP, and that net income in agriculture is about one-half of the value added for land, one-quarter for labor, and one-quarter for machinery and inventories not subject to a land tax, then one can make a crude estimate of potential revenue. On the assumptions stated, the revenue potential might be between 2.5 and 3.0 percent of GDP from agricultural land; urban real estate would probably yield a similar amount.[45] Of course, the share of rural and urban property in total national wealth varies greatly among countries, and so the potential revenue from a land-tax system will also differ.

In practice, revenue potential would also be estimated by extrapolating from existing land taxes, inadequate though they are. And once a serious cadastral survey is under way, it quickly becomes possible to make refined estimates generated by the survey itself. It is also necessary to adjust revenue estimates to allow for any trade-offs; that is, if export taxes are to be repealed when a land tax is created, total revenues will rise less. And if the land-tax revenues are earmarked largely for local governments, central governments will be able to reduce annual grants—so the land-tax revenue will not be all gain for local governments. It will, however, give them greater autonomy and decisionmaking power.

## USES OF THE NEW REVENUE

Land-tax revenues are usually assigned to local governments, which use the monies to finance roads, bridges, and community services of obvious need and benefit to the community. This is the practice in Chile, the United States, and in other countries with a modern tax. It would also be possible, however, to earmark part of the tax for certain other uses. For instance, one-half of the proceeds might be paid into a land bank to provide the landless and small farmers with mortgage loans to purchase land.

When revenues are used to meet local needs, the taxes enjoy a greater degree of political support. The land bank could be required to lend at least 80 percent of the land-tax revenues in the municipality from which they came. This would be popular with the landless, who need credit to buy land, and with the sellers, who want more of the purchase price in cash than the poor can pay. The remaining revenues, as well as funds obtained from international agencies and bilateral donors, would be available to increase the loanable funds for the poorest areas of the country.

Finally, to enhance the environmentally friendly aspect of the land tax, revenues should never be used to build roads into protected areas, although improving access to other areas should be a priority. As "matching" or "counterpart" funds, land-tax proceeds could also leverage significant external resources to finance conservation plans for environmentally threatened lands.[46]

## CONCLUSION

Land-tax reform is needed throughout Central America. Technological advances make it possible to identify rural properties efficiently and to arrive at approximate unit values in an equitable manner as part of a cadastral survey. Reform is feasible because external donor agencies are willing to help finance the necessary land inventory survey, and because part of the resultant tax proceeds can and should be allocated to pay for maintaining and updating the land records and valuations.

The economic advantages of land taxation are well known. The tax is relatively onerous for owners who do not cultivate their farmland. For those who invest and manage their land relatively well, the tax is much gentler than existing taxes on sales, production, and export, which would be replaced in whole or in part.

Politically, land taxation provides revenues for local services and infrastructure investment. It may also lead taxpayers to demand of their officials a degree of accountability that is missing when municipalities are funded by grants from the central government. In addition, the consensus building needed to define unit values of land and various kinds of construction encourage participation in local democracy.

Land taxation contributes greatly to protecting the environment by requiring an inventory of natural resources, defining rights, and identifying occupants and owners. Land taxes also provide revenues to help meet local expenses. Costs will vary widely from place to place; however, in fragile land areas, they may well include forest guards and small ecotourism facilities to give the poor a stake in preserving the natural resources that tourists come to experience. Finally, when the land tax is high enough to be noticeable to owners, exemptions from it for environmentally sound practices become valuable incentives.

Land taxes are no panacea, but they can be a significant policy tool to help solve the problems of poverty, underdevelopment, and environmental destruction.

# Notes

[1] For a description of the relationship between poverty and environment, see H. Jeffrey Leonard, *Environment and The Poor: Development Strategies for a Common Agenda*, U.S.-Third World Policy Perspectives No. 11 (New Brunswick, NJ: Transaction Publishers in cooperation with the Overseas Development Council, 1989).

[2] Some U.S. states apply lower tax rates or lower assessment-to-market value ratios to farmland than to commercial or industrial property. Even after these reductions, the average U.S. farm owner paid $5.22 per acre in property taxes in 1990. The rate in Wisconsin, which taxes all real estate alike, averaged $17.16/acre in 1990; that was 2.14 percent of full market value. See U.S. Dept. of Agriculture, *Farm Real Estate Developments* (Washington, DC: USDA, June 1991), pp. 27-32.

[3] World Bank, *World Development Report, 1988* (New York: Oxford University Press, 1988).

[4] Some examples of such major luxury items bought by the rich but rarely taxed are private school tuition fees, fees paid to private clinics and doctors, travel abroad, goods purchased while abroad and not taxed upon return, the cost of building mansions, and clothing made by dressmakers and tailors rather than bought in stores.

[5] The *World Development Report, 1988* treats taxation and the need for tax reform in developing countries in considerable depth, op. cit.

[6] Land taxes normally include the value of buildings and other improvements, although a good theoretical case can be made for the temporary exemption of productive improvements as an incentive.

[7] Food and Agricultural Organization (FAO), *Examen de las Politicas y Estrategias para el Desarrollo Rural* (San José, Costa Rica: FAO, April 1985), p. 21.

[8] John D. Strasma, "Agricultural Taxation in Costa Rica," paper presented at the International Seminar on Real Property and Land as Tax Base for Development, Taiwan, November 14-17, 1988. Reprint available from the Land Tenure Center, University of Wisconsin, Madison, WI 53706.

[9] John D. Strasma, Peter Gore, Jeffrey Nash, and Refugio I. Rochin, *Evaluation of El Salvador's Land Reforms* (San Salvador: USAID, 1983). Reprint available from the Land Tenure Center, University of Wisconsin, Madison, WI 53706. Most owners of large farms appear to have declared values for land tax purposes considerably below the actual market values in 1976 and 1977. Fewer than 10 percent appear to have anticipated land reform or sought larger bank loans with their farms as collateral, the usual reasons that landowners would declare more than true market value for land tax purposes.

[10] The highest rate is only 2.5 quetzales per hectare, well under $1.00. By way of comparison, an average Wisconsin farmer would pay land taxes of about $60 per hectare ($24/acre) per year, though the market value of his land is well under that of the best Guatemalan farm land.

[11] John D. Strasma, James R. Alm, Eric N. Shearer, and Alfred Waldstein, *The Impact of Agricultural Land Revenue Systems on Agricultural Land Usage in Developing Countries* (Burlington, VT: Associates in Rural Development, 1987).

[12] John D. Strasma, "Tributación Agrícola en Honduras," paper presented at the International Seminar on Land Taxation and Land Markets, Tegucigalpa, Honduras, August 1990. Reprint available in English or Spanish from the Land Tenure Center, University of Wisconsin, Madison, WI 53706.

[13] Bureau of the Land Survey, "Exposición Cadastral a los Miembros del Consejo Superior de Planificación Económica," (Tegucigalpa, Honduras: Bureau of the Land Survey, February 13, 1988).

[14] By way of comparison, local property tax rates in Wisconsin average about 2.0 percent a year on market values.

[15] Law 6184, November 29, 1977, quoted in *Investor's Guide to Costa Rica* (San José, Costa Rica: Costa Rican-American Chamber of Commerce, November 1989), p. 150.

[16] John D. Strasma and Robert Waugh, *Agrarian Reform, Land Purchase and Productivity* (San José, Costa Rica: USAID, 1984). Construction of the road was financed with a grant from USAID. The Ministry of Public Works was supposed to maintain it but did not, considering this road a low priority in times of budget cuts. The municipality refused to maintain the road, because by law the beneficiaries of the land distribution program were exempt from the land tax. Many beneficiaries paid their share willingly, but a few "free loaded," refusing to pay. The efficient and logical answer is to have land program beneficiaries pay taxes on their parcels just like any other owners.

[17] A progressive tax on each person's holdings is worth study in Nicaragua because of the conflictive land situation. Normally, it is much wiser to tax each parcel by itself at a fixed rate. Then each municipality taxes land in its own jurisdiction; this is much simpler to assess, bill, and collect.

[18] See Jonathan Skinner, "If Agricultural Taxation Is So Efficient, Why Is It So Rarely Used?" paper presented at the Conference on Rural Organization and Credit Markets, Annapolis, MD, June 1989. Skinner gives a fifth reason. He sees taxes on income and exports as a form of partnership or risk sharing between government and producers. We have yet to find farmers in land-tax countries who would prefer to pay export or income taxes instead of land taxes of equal average amount per year, for the risk-sharing or insurance element that is theoretically present in output-based taxes. Anyhow, governments routinely forgive land tax due in drought-stricken or other disaster areas, so in practice there is partial insurance even under a land tax.

[19] Ministry of Justice and The Kingdom of the Netherlands, Bureau for International Assistance, project and first quarterly report, San José, Costa Rica, 1991.

[20] Even Belize has a program, based in part on the failed effort by The Coca Cola Company to buy up about 10 percent of the farmland for citrus plantations.

[21] Each country's reform has been studied carefully by various scholars. The best recent surveys are in William C. Thiesenhusen (ed.), *Searching for Agrarian Reform in Latin America* (Boston: Unwin Hyman, 1988).

[22] David Kaimovitz, "The Role of Decentralization in the Recent Nicaraguan Agrarian Reform" and Nola Reinhardt, "Contrast and Congruence in the Agrarian Reforms of El Salvador and Nicaragua," in Thiesenhusen, ibid.

[23] Antonio Morales Ehrlich, who became the head of the Salvadoran land reform agency (ISTA) after the murder of José Rodolfo Viera, was a strong and effective proponent of this view despite an overwhelming desire of the beneficiaries to farm in individual parcels or small cooperatives. In the Chilean land reform of 1966-1970, in contrast, the Christian Democrats let the beneficiaries themselves decide among individual parcels, collectives, or hybrids, after three years of experience working together.

[24] John D. Strasma, "What Does it Mean to be a Beneficiary? Rights and Responsibilities of Members of Land Reform Cooperatives in El Salvador," Staff Paper No. 203 (Madison, WI: University of Wisconsin, 1986).

[25] John D. Strasma, *The Debt Situation of Land Reform Beneficiaries in El Salvador, 1990* (Madison, WI: University of Wisconsin, 1990).

[26] Alexander Coles, "Land Markets and Titling Programs in Honduras," unpublished doctoral dissertation, University of Wisconsin, Madison, WI, 1990.

[27] Ironically, bans on sales *cause* reconcentration. They force the poor to borrow from village merchants instead of selling their parcels. If unable to repay, they turn their land over to the merchants, just what lawmakers tried to prevent by forbidding land transfers without permission of the reform agency.

[28] Coles, op. cit.

[29] Hans Binswanger and Miranda Elgin describe this problem eloquently in "Reflections on Land Reform and Farm Size," in Carl K. Eicher and John M. Staatz, *Agricultural Development in the Third World*, 2nd ed. (Baltimore: The Johns Hopkins University Press, 1990), pp. 343-54.

[30] For specific examples of successful credit programs, see John D. Strasma, "Making Land Banks Viable," Staff Paper No. 242 (Madison, WI: Department of Agricultural Economics, 1990). A key element is recognition that not every rural worker is cut out to be a farm owner/operator and that unsuccessful farmers can and should sell their interests to another *campesino*, rather than waiting passively for a bailout or foreclosure.

[31] For detailed accounts of these problems, see the January 1991 issue of *Tapir Tracks*, the quarterly newsletter of the Monteverde Conservation League, Costa Rica.

[32] Ernest Lutz and Herman Daly, *Incentives, Regulations and Sustainable Land Use in Costa Rica* (Washington, DC: World Bank, July 1990), p. 7.

[33] Ibid.

[34] For examples, see almost any issue of the *Tico Times*, an English-language weekly published in San José.

[35] An owner who does hire guards may also face criminal charges if the guards use violence to repel squatters; there are problems of this sort currently in the Pavones area in southern Costa Rica, see *Tico Times* (April and May 1991).

[36] Dale Adams and Claudio Gonzalez-Vega have led efforts to analyze the problems of agricultural credit programs in developing countries. For example, see Claudio Gonzalez-Vega, "On the Viability of Agricultural Development Banks: The Case of the Banco Nacional de Costa Rica" (Columbus, OH: Department of Agricultural Economics, Ohio State University, May 1990) ESO No. 1735.

[37] Costa Rican cattle ranchers recently won enactment of a law forcing banks to renew overdue debts, at interest well below expected inflation. This left the banks close to insolvency, and the legislature did not replenish their capital. Naturally, no banker there has the slightest interest in making new loans to farmers, large or small.

[38] Brazil recently changed policy and now encourages land rentals. Priority is given to credit for tenants who sign graduated leases for at least five years. In one popular model, no rent is payable the first year while the tenant clears the brush and plants the first crop, but thereafter the tenant pays a cash rent indexed for inflation.

[39] Strasma, Gore, Nash, and Rochin, op. cit.

[40] Agrarian tribunals have been highly successful in several countries and are being studied intensely by specialists in agrarian law in Central America. Typically, they use two non-lawyer members who know a great deal about farming in the region, plus one lawyer who presides and sees to it that the statutes are carried out.

[41] Denise Stanley, "Demystifying the Tragedy of the Commons," in *Grassroots Development: The Journal of The Inter-American Foundation,* Vol. 15, No. 3, 1991, pp. 26-35.

[42] The Homestead Act of 1862 gave farmers clear title to up to 160 acres of public lands free, after they lived on it and cultivated at least part of it for five years. Settlers who changed their minds sold their rights to others, who stuck it out and obtained titles.

[43] Similar measures are used in some U.S. states, such as Wisconsin, to discourage the subdivision of farms near cities. The land is taxed at its use value in farming, rather than its market value for housing. If converted, the accumulated tax difference is due and payable immediately, with interest.

[44] For instance, the International Association of Assessing Officers and the Lincoln Institute of Land Policy held a major world conference and training program on land taxation in Cambridge, Massachusetts, in September 1991. A detailed chapter on the creation of a modern land tax appears in Strasma, Alm, Shearer, and Waldstein, op. cit.

[45] That is, gross domestic product (GDP) $\times$ 0.40 $\times$ 0.5 = 0.20 $\times$ GDP. Capitalize this at the interest-rate estimate appropriate for the sector; if this were 10 percent, the capital value of the land would be estimated as 0.20 $\times$ 1/0.10, or 2.00 $\times$ GDP. If the assessment process expected to achieve 90 percent of market value, on average, then the tax base would be about 1.80 $\times$ GDP. If about 10 percent of the property would be exempt (religious, government, the poor, etc.) and another 10 percent would be exempt under incentive provisions, the base falls to 1.80 $\times$ 0.8, or 1.44 $\times$ GDP. Finally, if the proposed tax rate were to be 2 percent a year, the revenue estimate would be 1.44 GDP $\times$ 0.02, or just under 3 percent of annual GDP.

[46] See, for instance, World Resources Institute, *Natural Endowments: Financing Resource Conservation for Development,* project report commissioned by the United Nations Development Programme (Washington, DC: World Resources Institute, 1989).

# Part IV

# Appendix

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Cynthia Knowles

## FIGURE 1. POPULATION GROWTH IN CENTRAL AMERICA[a]

At the present rate, the population of Central America will double in 28 years. Because of the extension of agricultural practices that erode and deplete the land–in particular, cattle ranching–there is much less arable land available today than there was 30 years ago. Yet, the same land surface that supported about 12 million people in 1960 may have to support over 60 million people in 2025. Raising the standard of living for the rural poor, while protecting a tiny, overused resource base, is Central America's key environmental challenge.

| | Belize | Costa Rica | El Salvador | Guatemala | Honduras | Nicaragua | Panama | Central America | United States |
|---|---|---|---|---|---|---|---|---|---|
| Population Estimate 1991 (millions) | 0.2 | 3.1 | 5.4 | 9.5 | 5.3 | 3.9 | 2.5 | 29.9 | 252.8 |
| Population 1960 (millions) | 0.1 | 1.2 | 2.6 | 4 | 1.9 | 1.5 | 1.1 | 12.4 | 180.7 |
| Population Projected to 2025 (millions) | 0.5 | 5.6 | 9.4 | 21.7 | 11.5 | 8.2 | 3.9 | 60.7 | 333.7 |
| Population Density (per square mile) | 26 | 159 | 656 | 225 | 122 | 77 | 83 | 151 | 68 |
| Annual Natural Increase[b] (percent) | 3.3 | 2.4 | 2.8 | 3 | 3.1 | 3.4 | 2.1 | 2.5 | 0.8 |
| Birth Rate (per 1,000 population) | 38 | 28 | 35 | 38 | 39 | 42 | 26 | 31 | 17 |
| Death Rate (per 1,000 population) | 6 | 4 | 8 | 8 | 8 | 8 | 5 | 6 | 9 |
| Married Women Using Modern Contraceptive Methods (percent) | -- | 58 | 45 | 19 | 31 | 23 | 54 | 42 | 69 |
| Population "Doubling Time" at Current Rate of Increase (years) | 21 | 28 | 25 | 23 | 23 | 21 | 34 | 28 | 88 |

[a]Unless otherwise noted data is from late 1980s.
[b]Population growth rate excluding migration.

Sources: Population Reference Bureau, Inc., *1991 World Population Data Sheet* (Washington, DC: Population Reference Bureau, 1991); and World Resources Institute, *World Resources 1990-1991* (New York: Oxford University Press, 1990), Table 16.1, p. 254.

## FIGURE 2. URBANIZATION IN CENTRAL AMERICA

Forty-six percent of the population of Central America lives in urban areas, far less than in the rest of Latin America (76 percent). Nevertheless, the urban population is growing rapidly–compounding at rates between 2.9 and 5.6 percent a year for the past 30 years. If cities absorb the region's rapidly growing population, massive increases in already severe urban poverty are highly likely.

| | Largest City and Its Population | Urban Population 1991 (millions) | Urban Population 1960 (percent of total) | Urban Population 1990 (percent of total) | Average Annual Urban Population Change, 1960-1990 (percent) |
|---|---|---|---|---|---|
| Costa Rica | San José (275,000) | 1.6 | 37 | 54 | 4.3 |
| El Salvador | San Salvador (336,000) | 2.4 | 38 | 44 | 2.9 |
| Guatemala | Guatemala City (754,000) | 3.9 | 33 | 42 | 3.7 |
| Honduras | Tegucigalpa (598,000) | 2.2 | 23 | 44 | 5.6 |
| Nicaragua | Managua (608,000) | 2.3 | 40 | 60 | 4.7 |
| Panama | Panama City (424,000) | 1.3 | 41 | 55 | 3.5 |

Note: San José, Tegucigalpa, Managua, and Panama City are estimates.

Sources: World Resources Institute, *World Resources 1990-1991* (New York: Oxford University Press, 1990), Tables 16.1 and 17.2, p. 254; major city figures from J. W. Wilkie, E.C. Ochoa, and D.E. Lorey (eds.), *Statistical Abstract on Latin America*, Vol. 28 (Los Angeles: Latin American Center Publications, University of California, 1990), p. 127.

**FIGURE 3. BASIC ECONOMIC INDICATORS: GROWTH, DEBT, AND TRADE, 1991**

The countries of Central America maintain heavy debt burdens relative to their GDP and export earnings. Despite spotty resurgence of growth in the 1990s, countries such as Nicaragua, Honduras, and Costa Rica have debts greater than or nearly equal to their GDP.

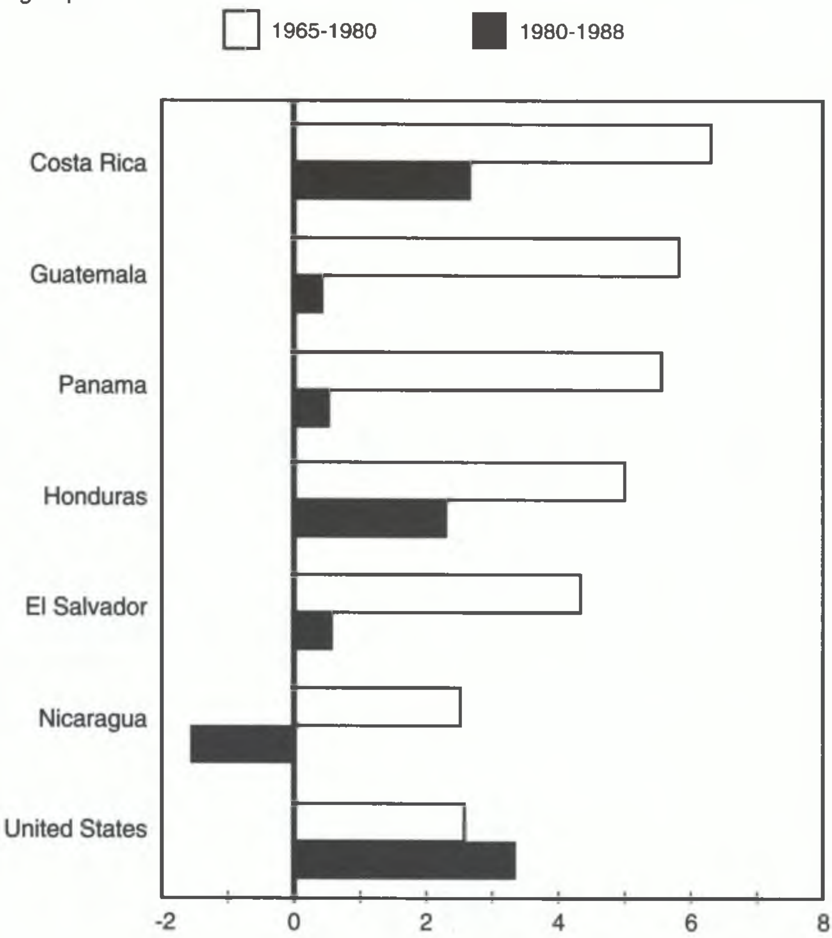
| | Costa Rica | El Salvador | Guatemala | Honduras | Nicaragua | Panama |
|---|---|---|---|---|---|---|
| GDP ($ millions) | 4,870 | 6,022 | 8,642 | 2,967 | 2,594 | 5,062 |
| GDP Per Capita ($) | 1,933 | 961 | 750 | 403 | 879 | 1,960 |
| Consumer Price Inflation (annual average percent) | 28.7 | 14.5 | 36.9 | 34 | n.a. | 1.4 |
| Value of Exports ($ millions) | 1,580 | 620 | 1,250 | 925 | 300 | 4,100 |
| Value of Imports ($ millions) | 1,820 | 1,275 | 1,650 | 995 | 650 | 4,700 |
| External Debt ($ millions) | 4,050 | 2,200 | 2,700 | 3,150 | 9,205 | 6,700 |

Notes: Data for 1991 are estimates; data for Nicaragua are estimates for 1989-1990, based on available data.

Sources: Economist Intelligence Unit (EIU), *Guatemala, El Salvador, Honduras: Country Report*, No. 1 (London: Business International Ltd., 1992), pp. 3, 5, 7; EIU, *Nicaragua, Costa Rica, Panama: Country Report*, No. 1, (London: Business International Ltd., 1992), pp. 3, 5, 7; and World Bank, *World Development Report 1991* (New York: Oxford University Press, 1991), p. 245.

**FIGURE 4. GROWTH IN GDP SLOWS: THE "LOST DECADE" IN CENTRAL AMERICA**
(average annual growth, percent)

After strong growth in GDP from 1965 through 1980, the 1980s were generally an economic disaster for Central America. The United States, by contrast, grew faster in the 1980s than the 1970s. While recovery is beginning in the 1990s, it is uneven among countries and within social groups.




Note: For Guatemala and El Salvador, GDP and its components are at purchaser values.

Source: World Bank, *World Development Report 1990* (New York: Oxford University Press, 1990), Table 2, p. 180

## FIGURE 5. U.S. AID TO CENTRAL AMERICA BY EXPENDITURE 1978-1990 ($ millions)

U.S. military and economic assistance to Central America has decreased since its peak in 1985. Increases in overall assistance during the 1980s were largely accounted for by growth in Economic Support Funds, which now account for about half of overall assistance.

| Year | Economic Support Funds | Military Assistance | Food Aid | Development Assistance | Total |
|---|---|---|---|---|---|
| 1978 | 0 | 4 | 9 | 75 | 88 |
| 1979 | 8 | 4 | 20 | 96 | 128 |
| 1980 | 10 | 10 | 34 | 144 | 198 |
| 1981 | 102 | 45 | 74 | 113 | 334 |
| 1982 | 177 | 121 | 75 | 133 | 506 |
| 1983 | 373 | 138 | 96 | 171 | 778 |
| 1984 | 290 | 304 | 105 | 132 | 831 |
| 1985 | 767 | 245 | 116 | 326 | 1,454 |
| 1986 | 458 | 200 | 111 | 272 | 1,041 |
| 1987 | 684 | 184 | 85 | 310 | 1,263 |
| 1988 | 458 | 133 | 97 | 236 | 924 |
| 1989 | 474 | 137 | 99 | 219 | 929 |
| 1990 | 425 | 172 | 97 | 238 | 932 |
| 1991 | 513 | 102 | 149 | 164 | 928 |
| 1992 | 380 | 112 | 123 | 189 | 804 |
| 1993 | 345 | 53 | 108 | 183 | 689 |

Source: Congressional Research Service (CRS), *Central America: Major Trends in U.S. Foreign Assistance Fiscal 1978 to Fiscal 1990* (Washington, DC: CRS, 1990), p. 61, and various updates.

**FIGURE 6. U.S. AID TO CENTRAL AMERICA BY COUNTRY, 1978-1991** ($ millions)

The buildup of U.S. aid to the region began in 1979 and peaked in 1985. El Salvador (with 18 percent of the region's population) still accounts for about half of all U.S. aid.

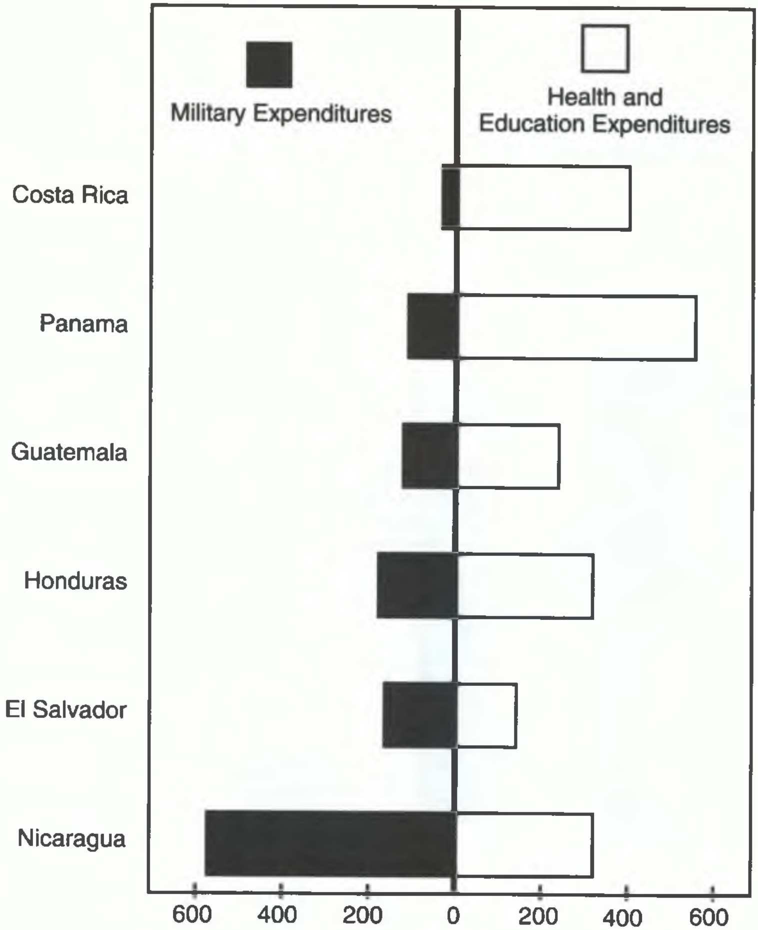
| Year | El Salvador | Costa Rica | Guatemala | Honduras | Nicaragua | Panama | Belize |
|---|---|---|---|---|---|---|---|
| 1978 | 11 | 8 | 11 | 19 | 14 | 23 | 1 |
| 1979 | 10 | 17 | 24 | 30 | 21 | 22 | 1 |
| 1980 | 65 | 16 | 14 | 58 | 39 | 3 | 1 |
| 1981 | 156 | 17 | 20 | 56 | 62 | 12 | 1 |
| 1982 | 280 | 57 | 16 | 112 | 8 | 18 | 1 |
| 1983 | 327 | 217 | 30 | 154 | – | 13 | 18 |
| 1984 | 413 | 182 | 19 | 171 | – | 25 | 6 |
| 1985 | 571 | 220 | 99 | 297 | 1 | 80 | 25 |
| 1986 | 437 | 154 | 115 | 191 | – | 34 | 12 |
| 1987 | 556 | 180 | 182 | 255 | – | 13 | 16 |
| 1988 | 402 | 106 | 147 | 199 | – | 2 | 11 |
| 1989 | 396 | 118 | 158 | 187 | 3 | 1 | 11 |
| 1990 | 390 | 89 | 165 | 215 | 1 | 1 | 13 |
| 1991 | 292 | 54 | 90 | 151 | 262 | 58 | n.a. |
| 1992 | 294 | 43 | 85 | 132 | 205 | 58 | n.a. |

Notes: Data may not add due to rounding; – indicates less than $1 million; n.a. indicates not available.

Source: Congressional Research Service, *Central America: Major Trends in U.S. Foreign Assistance Fiscal 1978 to Fiscal 1990* (Washington, DC: CRS, 1990), pp. 59-64, and various updates.

**FIGURE 7. MILITARY EXPENDITURES TO HEALTH AND EDUCATION EXPENDITURES, 1987** ($ millions)

In the late 1980s, military expenditure was about 6 percent of health and education expenditure in Costa Rica, but 126 percent of health and education expenditure in El Salvador, and 180 percent in Nicaragua. With the end of the fighting in Nicaragua and El Salvador, Central America now has a historic opportunity to reverse its spending priorities.




Source: R. L. Sivard, *World Military and Social Expenditures 1991* (Washington, DC: World Priorities, 1991), Table II, p. 51.

## FIGURE 8. INFLATION IN GUATEMALA: WHY THE POOR ARE POORER THAN EVER (quetzales)

In Guatemala, the cost of just about everything that poor people consume has skyrocketed–but wages have not increased with prices. In the countryside, a rural worker earns approximately 10 quetzales ($2) per day, about the same as 10 years ago.

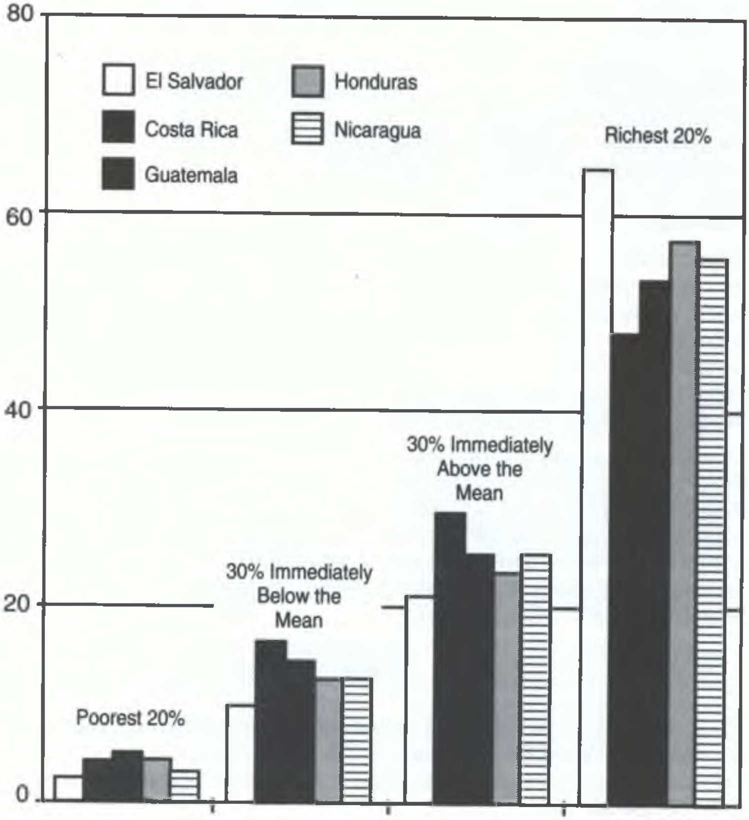
| Item | Cost December 1989 (quetzales) | Cost October 1991 (quetzales) |
|---|---|---|
| Tortillas (1 pound) | 0.56 | 1.01 |
| Eggs (1 dozen) | 2.37 | 4.30 |
| Black Beans (1 pound) | 0.90 | 1.43 |
| Coca Cola (1 soda) | 0.54 | 1.09 |
| Sugar (1 pound) | 0.39 | 0.95 |
| Tomatoes (1 pound) | 0.57 | 1.31 |
| Powdered Milk (1 pound) | 5.21 | 10.78 |
| Public Bus Fare | 0.20 | 0.40 |

Note: Prices in Guatemala City only. Exchange rates were 5.24 quetzales per $1 in December 1989 and 5.10 quetzales per $1 in October 1991.

Sources: Instituto Nacional de Estadística, *Indice de Precios al Consumidor,* Boletín No. 50 (Guatemala: Instituto Nacional de Estadística, November 1991); and Instituto Nacional de Estadística, *Compendio Estadística sobre Variables Económico Sociales Año* 1990 (Guatemala City: Instituto Nacional de Estadistica, 1990).

**FIGURE 9. DISTRIBUTION OF INCOME** (percent)

The distribution of income was skewed in every country in Central America in 1980, and available country studies suggest that the situation generally stayed the same or worsened during the disastrous 1980s. If economic growth resumes in the 1990s, it is likely to continue to benefit the wealthier segments of the population disproportionately, and income disparities are likely to widen.




Source: Economic Commission for Latin America and the Caribbean, "Central America: Bases for a Reactivation and Development Policy," *CEPAL Review*, No. 28 (April 1986), Table 4, p. 9.

## FIGURE 10. POVERTY IN CENTRAL AMERICA

In rural Central America, between 34 and 84 percent of the population is poor or extremely poor (see chart A). In urban areas, some 14 to 58 percent live in poverty (see chart B). However, data on poverty in Central America is uneven at best. The most commonly used definitions of poverty are based on income per capita. The World Bank defines persons who are "poor" as those with per capita incomes of less than \$370 per year and "extremely poor" persons as those with per capita incomes of less than \$275 per year.[1]

It is extremely difficult to measure individual or family incomes, much less the distribution of these incomes within countries. Poor families typically have a large number of very small, nonmonetary sources of income (e.g., in-kind income from agricultural labor, unpaid work contributed by children or the elderly). Census techniques seldom aggregate and measure the multiple, minuscule incomes of the poor; and if they do, country-to-country comparisons are at best rough approximations. Further distortions are introduced when local incomes are converted into dollar quantities that can be compared or aggregated.

Site-specific studies of poverty are usually more meaningful than national, regional, or global estimates. For more narrowly focused studies, many indicators other than per capita income are commonly used—for example, the proportion of income recipients earning less than a constant minimum wage, the proportion of families consuming a certain number of calories, or the proportion of families whose income can purchase a certain standard of living or minimal basket of goods.

The Central American and Panamanian Institute for Nutrition (INCAP)[2] distinguishes between "poor" and "extremely poor" with a definition that is based on a family's capacity to purchase a minimal standard of nutrition. INCAP's poverty estimates for countries and the region as a whole are based on extrapolation from smaller samples. These estimates are slightly higher than World Bank country figures.[3]

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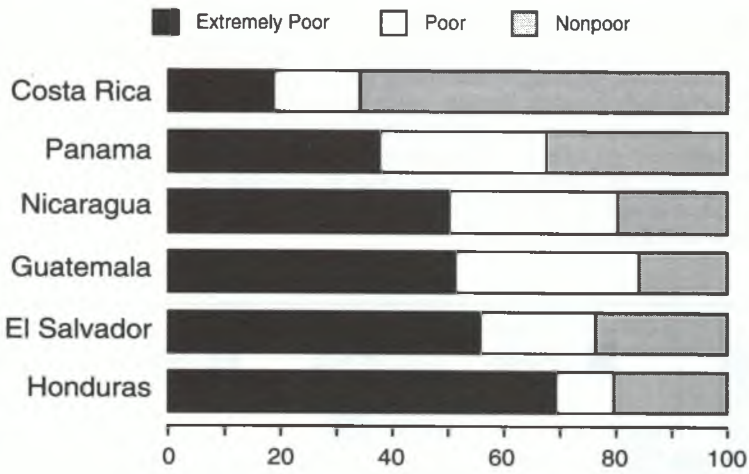
[1] For a discussion of some basic definitions of poverty and alternative indicators, see World Bank, "What Do We Know About the Poor?" *World Development Report 1990* (New York: Oxford University Press, 1990), pp. 24-38.

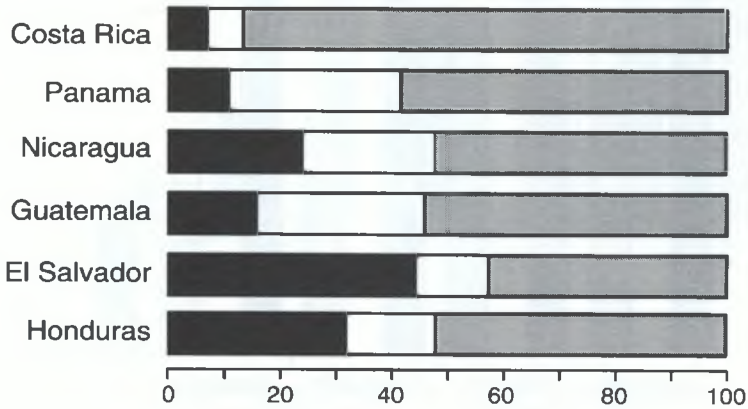
[2] INCAP, Análisis de la Situación Alimentaria Nutricional en Centroamérica y Panama (Guatemala City: INCAP, June 1989), Vol. 1.

[3] United Nations Development Programme, "Population Below Poverty Line, 1977-1986," *Human Development Report* 1990 (New York: Oxford University Press, 1990), Table 3, pp. 132-33.

**A. DISTRIBUTION OF RURAL POVERTY** (percent of rural population)




**B. DISTRIBUTION OF URBAN POVERTY** (percent of urban population)

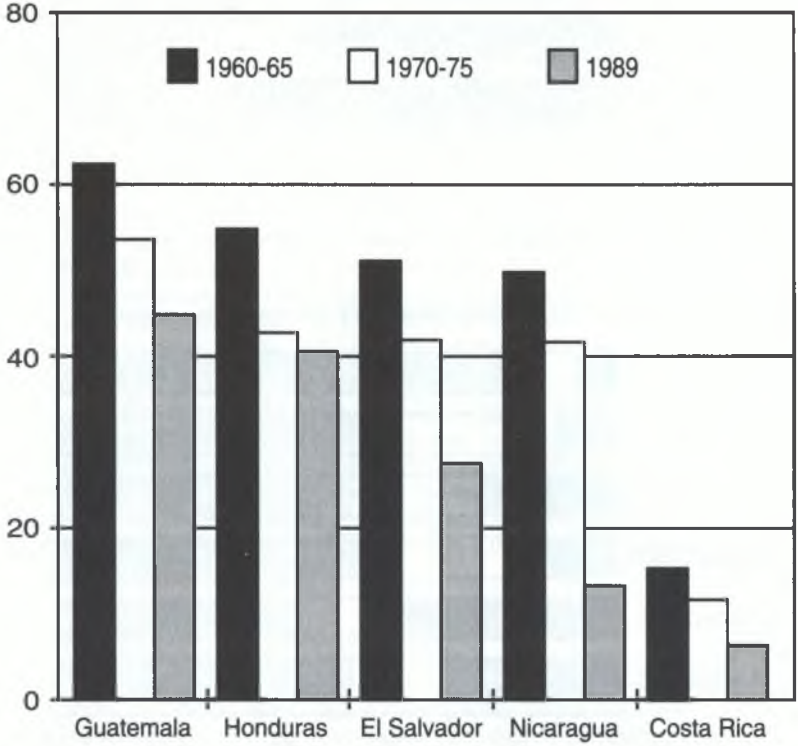



Note: Data for Belize not available.

Source: Central American and Panamanian Institute for Nutrition (INCAP), Análisis de la Situación Alimentaria Nutricional en Centroamérica y Panama (Guatemala City: INCAP, June 1989), Chapter II, Vol. 1.

**FIGURE 11. ILLITERACY IN CENTRAL AMERICA, 1960-1989** (percent)

All countries in Central America have made substantial strides against illiteracy during the past 30 years, but there are significant differences among countries. Nicaragua has made the most progress, Costa Rica has nearly achieved universal literacy, while Guatemala and Honduras have far to go. Illiteracy is linked to environmental stress through the effects of education on population growth. In El Salvador, for example, women 35 to 44 years old with no education have an average of 6.2 children, while women in this age group with more than 10 years of education have an average of 2.2 children.

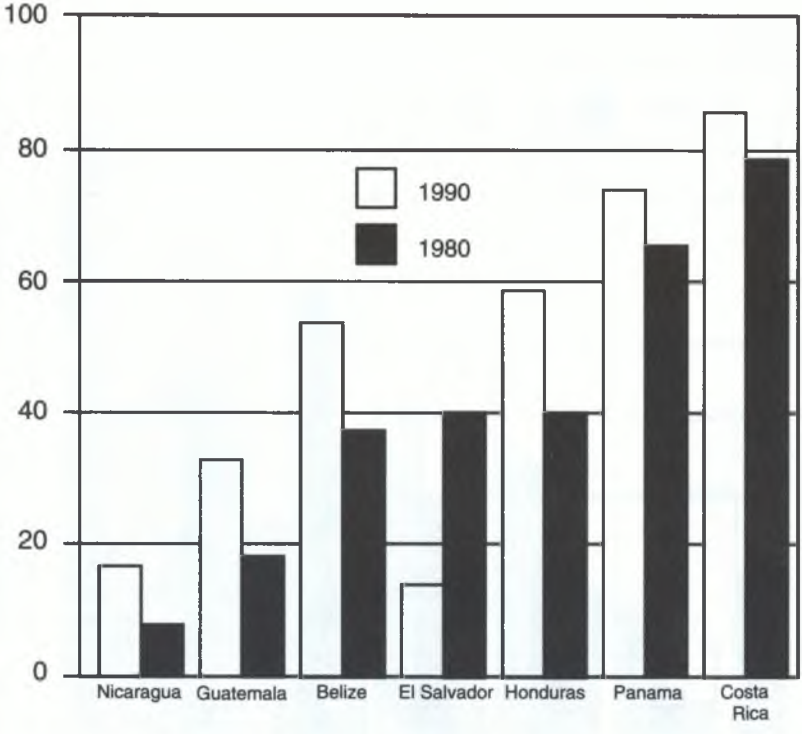



Note: Data for Nicaragua 1989 from United Nations Development Programme, *Human Development Report* (New York: Oxford University Press, 1990).

Sources: World Bank, *Social Indicators of Development 1989* (Baltimore, MD: Johns Hopkins University Press, 1989), pp. 71, 93,125,135, 227, 239; and *Family Health Survey, El Salvador 1988* (San Salvador: Asociación Demográfica Salvadoreña and Center for Disease Control, 1989), Table 3.2.

**FIGURE 12. RURAL ACCESS TO POTABLE WATER, 1980 and 1990**
(percent of population)

Access to safe drinking water generally improved in Central America during the 1980s. Still, six out of ten rural Central Americans do not have reasonable access to potable water.[a]

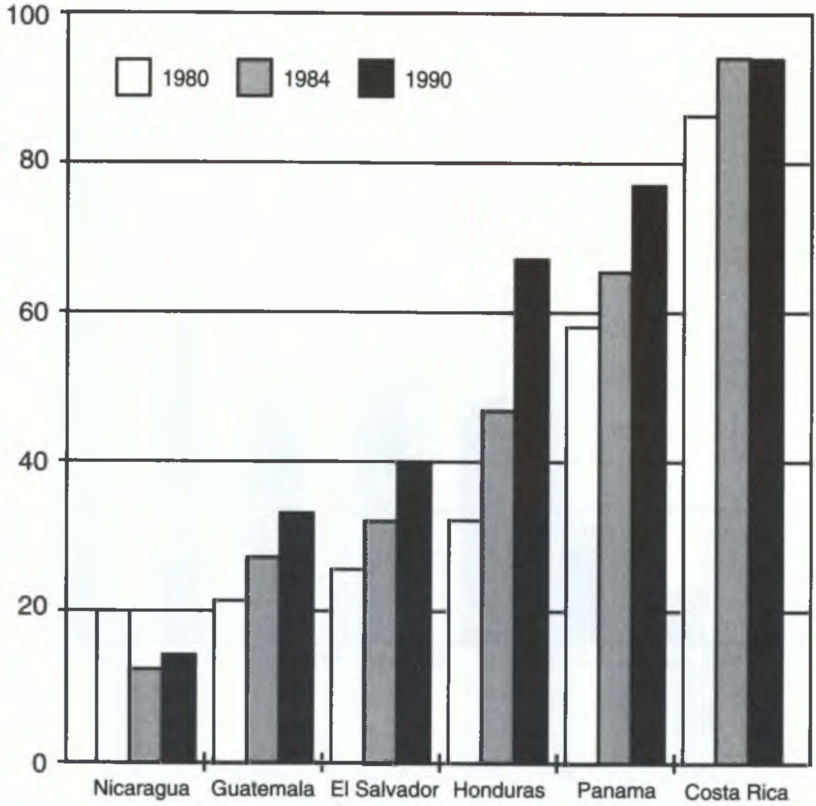



[a] Potable water is defined as treated surface water or untreated but uncontaminated water such as that from springs, sanitary wells, and protected boreholes.

Source: CDM and Associates, *Planning for Water and Sanitation Programs in Central America,* Field Report No. 334 (Washington, DC: USAID, 1991), Table 1, p. 17.

**FIGURE 13. RURAL ACCESS TO SANITATION, 1980-1990**
(percent of population)

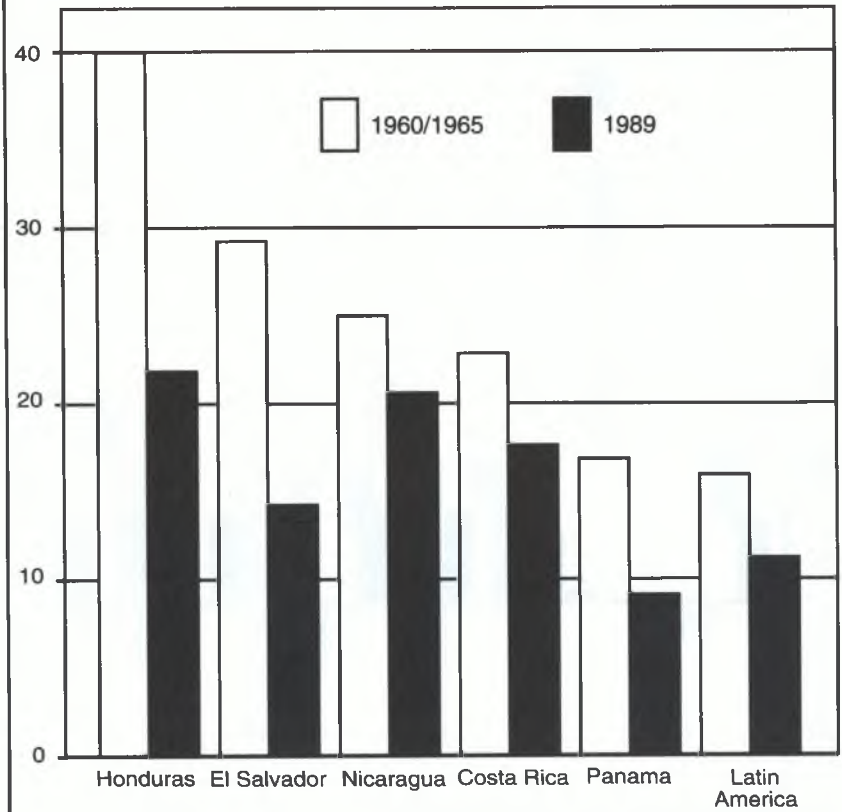
Development agencies, nongovernmental organizations, and governments placed great effort in improving sanitation in rural areas during the 1980s. Overall, coverage in Central America went up from one-third to nearly one-half the rural population.




Source: CDM and Associates, *Planning for Water and Sanitation Programs in Central America,* Field Report No. 334 (Washington, DC: USAID, 1991), Table 2, p. 18.

**FIGURE 14. AGRICULTURE'S CONTRIBUTION TO GDP, 1960/65 AND 1989** (percent of GNP)

Agriculture accounts for only about 20-25 pecent of total GDP in most countries of the region, although more than 50 percent of Central America's population is rural. Moreover, agriculture's importance to the economy is shrinking as the service sector grows.

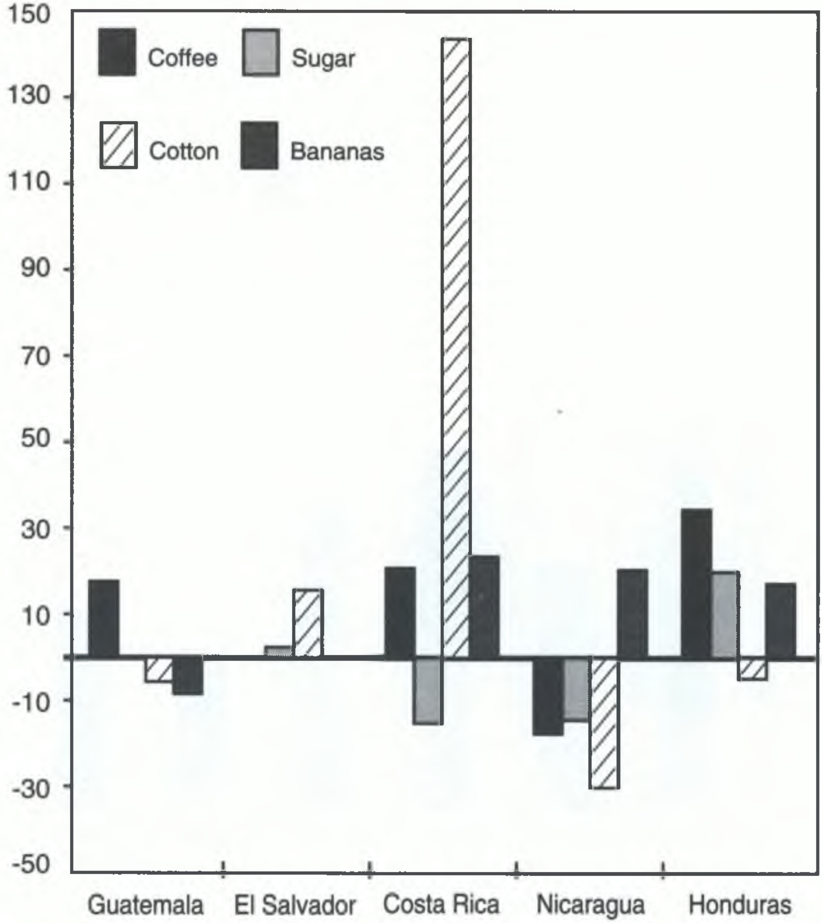



Note: Latin America data include the Carabbean.

Source: World Bank, *Social Indicators of Development 1989* (Baltimore, MD: Johns Hopkins University Press, 1989), pp. 71, 93, 135, 227, 239; U.S. figures from World Bank, *World Development Report 1991* (New York: Oxford University Press, 1991), Table 3, p. 233.

**FIGURE 15. CHANGE IN YIELDS OF TRADITIONAL AGRICULTURAL EXPORT CROPS, 1981-1987** (percent change per hectare)

Yields for most traditional agricultural exports were stagnant in the 1980s, especially in Nicaragua.

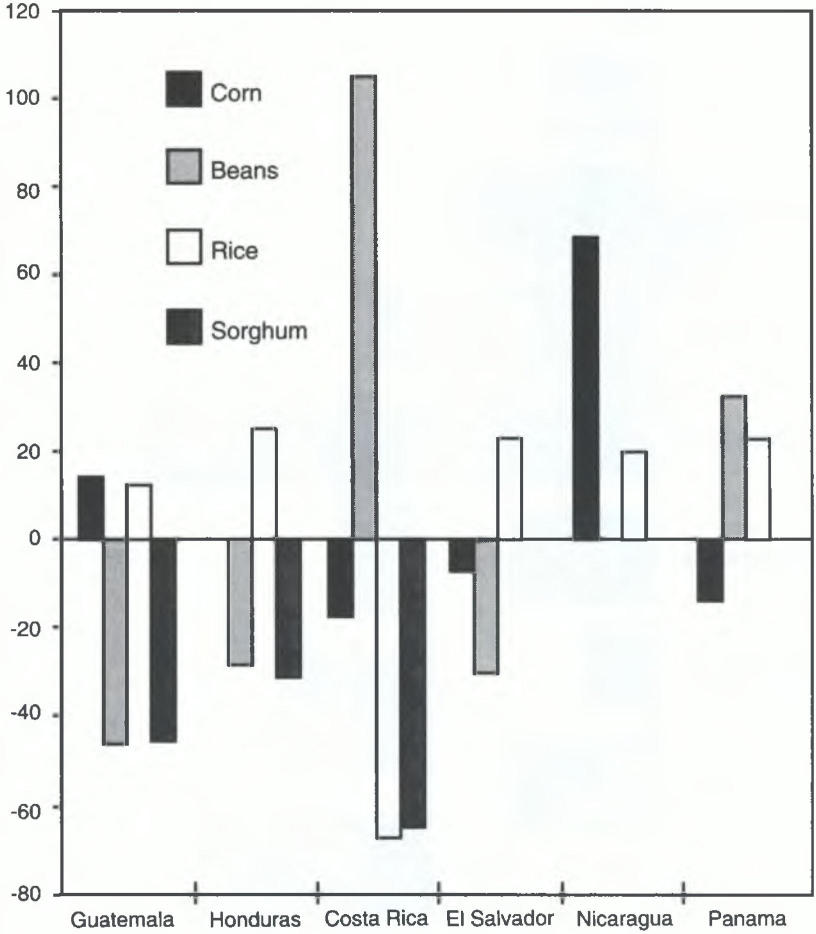



Note: Coffee and banana data for El Salvador and sugar data for Guatemala are not available.

Source: SIECA, *Series Estadísticas Seleccionadas de Centroamérica*, No. 22 (Guatemala City: SIECA, April 1989), Tables 31-38.

**FIGURE 16. CHANGES IN YIELDS OF BASIC FOOD CROPS, 1981-1987**
(percent change in yield per hectare)

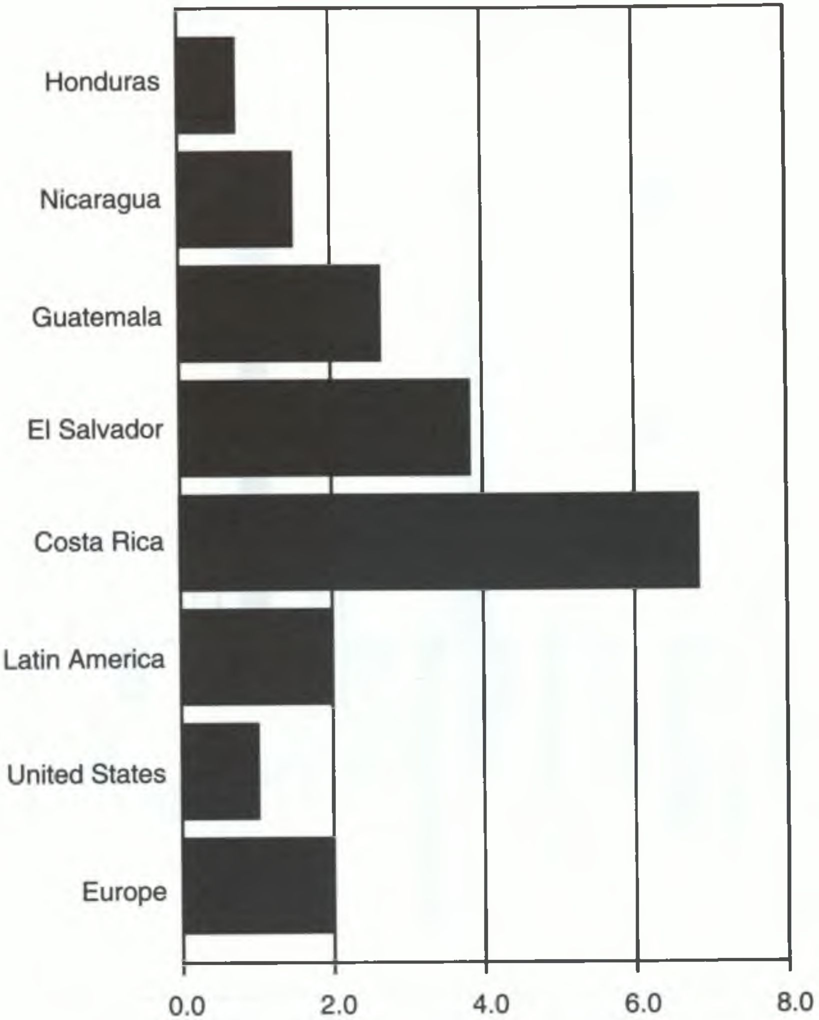
With the exception of corn in Nicaragua and beans in Costa Rica, yields of most basic food crops declined in Central America during the 1980s.




Note: Honduras, El Salvador, Nicaragua, and Panama do not show data for food crops where change in yield is zero.

Source: SIECA, *Series Estadísticas Seleccionadas de Centroamérica*, No. 22 (Guatemala City: SIECA, April 1989), Tables 31-38.

**FIGURE 17. COMPARISON OF PESTICIDE USE[a]** (grams per hectare)

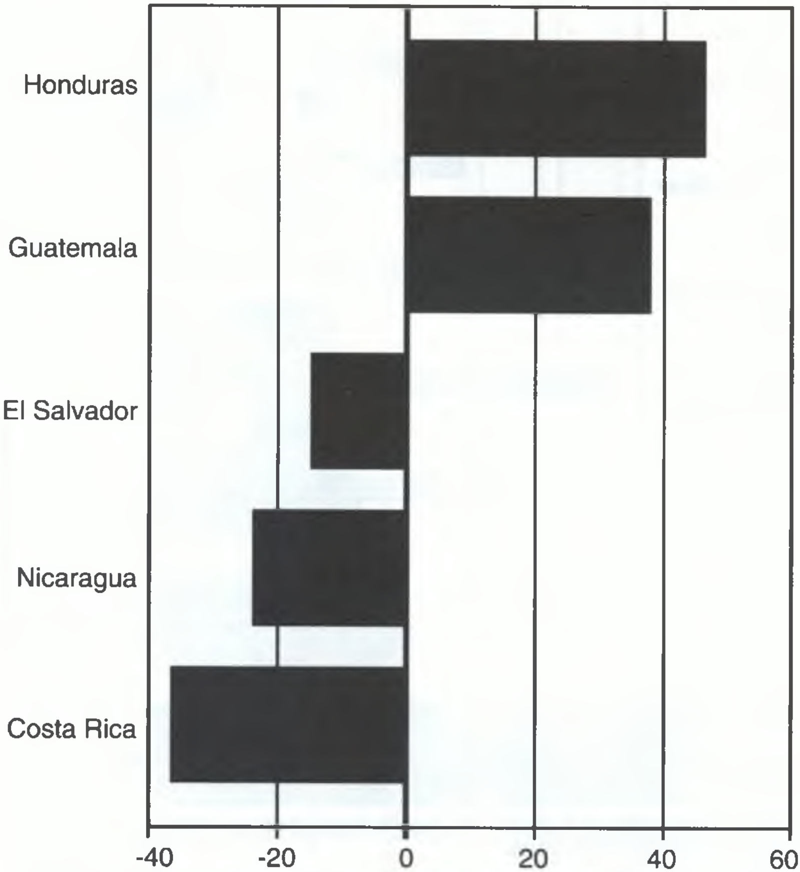



[a]Data from early 1980s.

Source: World Resources Institute, *World Resources 1990-1991* (New York: Oxford University Press, 1990) Table 18.2; General Accounting Office, *Food Safety and Quality* (Washington, DC: GAO, 1989), Appendix 1.

**FIGURE 18. CHANGES IN SIZE OF NATIONAL CATTLE HERDS, 1971-1988** (percent change in number of cattle)

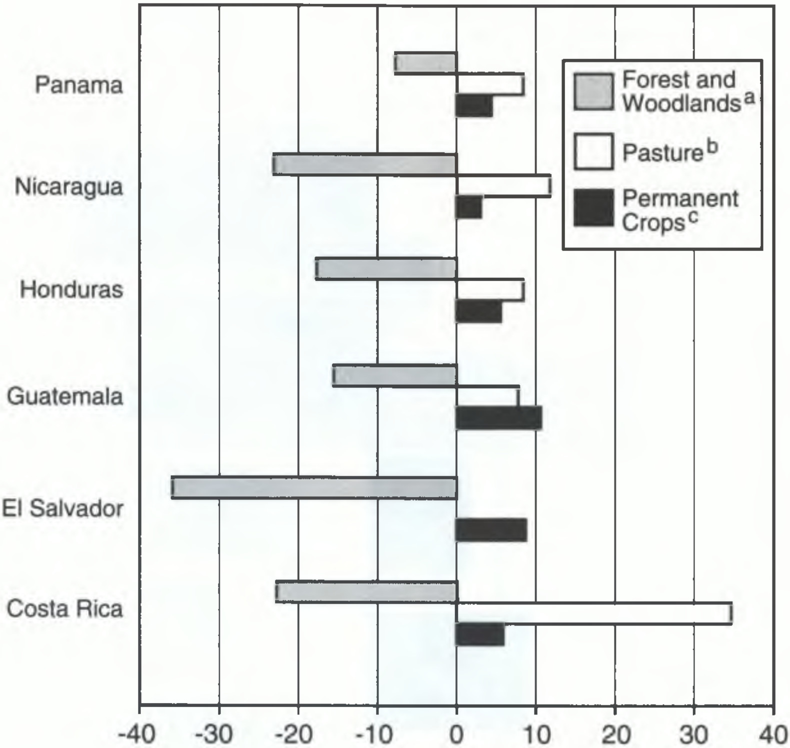
In Honduras and Guatemala, cattle herds have expanded over the past 20 years in part because of continuing availability of cheap forest land for pastures. In Costa Rica and El Salvador--where available forest lands are now nearly exhausted--cattle herds are diminishing. Cattle ranching in Nicaragua slowed with the war but is resuming with post-war colonization, settlement, and repatriation programs. Low international beef prices are further depressing herd size.




Source: SIECA, *Series Estadísticas Seleccionadas de Centroamérica*, No.22 (Guatemala City, SIECA, April 1989), Tables 31–38, 61.

**FIGURE 19. TRENDS IN LAND USE 1975-1977 TO 1985-1987** (percent)

Central America's forests have been converted to pasture and permanent crops at an extraodinary rate. In just a decade, about 20 percent of remaining forests disappeared. In El Salvador, forests are almost completely gone.




Note: Percent change in pasture land in El Salvador equals zero.

[a] Forest and woodlands includes uncultivated land, grassland not used for pasture, built-on areas, wetlands, and roads.

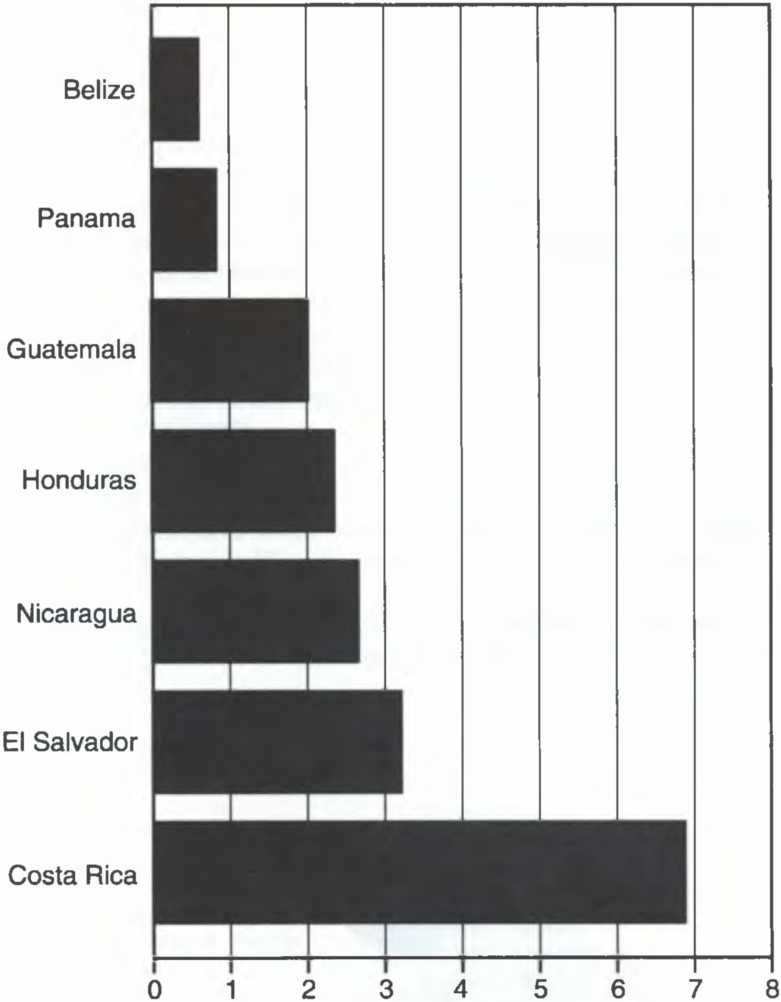
[b] Permanent pasture is land used five or more years for forage, including natural and cultivated crops.

[c] Permanent cropland includes land under temporary and permanent crops, temporary meadows, market and kitchen gardens, and temporary fallow.

Source: World Resources Institute, *World Resources 1990–1991* (New York: Oxford University Press, 1990), Table 17.1, p. 267.

**FIGURE 20. AVERAGE ANNUAL DEFORESTATION IN CENTRAL AMERICA IN THE 1980s** (percent of total forest area)

Costa Rica still had the region's highest rate of deforestation during the 1980s, despite its innovative programs in the creation of protected areas.




Source: World Resources Institute, *World Resources 1990-1991* (New York: Oxford University Press, 1990), Table 3.1, p. 42.

# About the Overseas Development Council

The Overseas Development Council's programs focus on U.S. relations with developing countries in five broad policy areas: U.S. foreign policy and developing countries in a post-Cold War era; international finance and easing the debt crisis; international trade beyond the Uruguay Round; development strategies and development cooperation; and environment and development.

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# THE PREMISE AND THE PROMISE: Free Trade in the Americas

Sylvia Saborio and contributors

The vision of a hemispheric system of free trade charts a bold new course for U.S.-Latin American relations that promises to transform the economic and political landscape of the hemisphere well into the twenty-first century. In this volume, analysts from the United States, Latin America, and Canada explore the dynamics of the process under way in the Western Hemisphere today, what features free trade areas ought to have, how the process of regional integration ought to proceed, and how the regional architecture ought to relate to the international trading system.

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# AFTER THE WARS:

## Reconstruction in Afghanistan, Indochina, Central America, Southern Africa, and the Horn of Africa

Anthony Lake and contributors

After a decade or more of fighting and destruction in various regions of the world, new policies in Washington and Moscow as well as the fatigue on the ground are producing openings, at least, for peace. Negotiations are at different stages regarding Afghanistan, Indochina, Central America, Southern Africa, and the Horn of Africa—but all share new possibilities for peace.

This volume analyzes the prospects for post-war reconstruction and development in these regions, tackling the difficult quandaries they face individually and collectively: Among realistic potential alternatives, what kind of new political structures can best manage post-war reconstruction/development? Which economic policies would be most effective in maintaining peace and political coalitions? Should the focus be on the reconstruction of pre-war economic life or on creating new patterns of development? What are the prospects for democracy and human rights?

The authors thus consider the relationship of economic planning and likely political realities: For example, might diplomats seeking to stitch together a fragile coalition to end the fighting also be creating a government that cannot make the hard economic choices necessary for sustained peace? Might economists calling for post-war economic programs that are theoretically sound but politically unsustainable threaten a tenuous peace?

**CONTENTS:**



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# FRAGILE COALITIONS:

## The Politics of Economic Adjustment

Joan M. Nelson and contributors

The global economic crisis of the 1980s forced most developing nations into a simultaneous quest for short-run economic stabilization and longer-run structural reforms. Effective adjustment is at least as much a political as an economic challenge. But political dimensions of adjustment have been much less carefully analyzed than have the economic issues.

Governments in developing countries must balance pressures from external agencies seeking more rapid adjustment in return for financial support, and the demands of domestic political groups often opposing such reforms. How do internal pressures shape external bargaining? and conversely, how does external influence shape domestic political maneuvering? Growing emphasis on "adjustment with a human face" poses additional questions: Do increased equity and political acceptability go hand-in-hand? or do more pro-poor measures add to the political difficulties of adjustment? The capacity of the state itself to implement measures varies widely among nations. How can external agencies take such differences more fully into account? The hopeful trend toward democratic openings in many countries raises further, crucial issues: What special political risks and opportunities confront governments struggling simultaneously with adjustment and democratization? The contributors to this volume explore these issues and their policy implications for the United States and for the international organizations that seek to promote adjustment efforts.

**CONTENTS:**



**Joan M. Nelson** is a senior associate at the ODC. She has been a consultant for the World Bank, USAID, and the IMF, as well as a staff member of USAID. She has taught at the Massachusetts Institute of Technology, the Johns Hopkins University School of Advanced International Studies, and Princeton University's Woodrow Wilson School.

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# ENVIRONMENT AND THE POOR: Development Strategies For A Common Agenda

H. Jeffrey Leonard and contributors

Few aspects of development are as complex and urgent as the need to reconcile antipoverty and pro-environmental goals. Do both of these important goals—poverty alleviation and environmental sustainability—come in the same package? Or are there necessary trade-offs and must painful choices be made?

A basic premise of this volume is that environmental degradation and intractable poverty are often especially pronounced in particular ecological and social settings across the developing world. These twin crises of development and the environment can and must be addressed jointly. But they require differentiated strategies for the kinds of physical environments in which poor people live. This study explores these concerns in relation to irrigated areas, arid zones, moist tropical forests, hillside areas, urban centers, and unique ecological settings.

The overview chapter highlights recent efforts to advance land and natural resource management, and some of the real and perceived conflicts between alleviating poverty and protecting the environment in the design and implementation of developing policy. The chapters that follow offer economic investment and natural resource management options for reducing poverty and maintaining ecological balance for six different areas of the developing world.

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