that combines rapid rural appraisal with multiparty policy dialogues. The RRA teams work with municipal leaders to analyze local issues, while the dialogues involve national legislators and policymakers to address priorities identified during the initial municipal RRA exercises. Finally, the Environmental Law and Natural Resources Center (CEDARENA, a non-governmental organization) has had great success in using a similar approach to convene broadly participatory discussions of land use and land tenure laws.

A few practical lessons may be drawn from the experiences of these nongovernmental organizations. First, dialogue organizers must have credibility and legitimacy in the eyes of all of the proposed participants. Where no single institution has a sufficiently broad network of relationships, it may be appropriate to attempt a collaborative project involving more than one institution, each with different constituencies (as in the collaboration just described between Development Alternatives and CECADE).

Second, careful attention must be paid to developing any documents used as the basis for discussion. It helps to consult first with all of the prospective participants, to talk over their chief concerns about the topic or topics of the dialogue, to learn about their own implicit hypotheses and biases, and to discover areas in which they may be operating under different assumptions or using different language. The prior consultations also serve to engage everyone in the process—to awaken their interest in a debate to which they have contributed and from which they can expect practical results.

Some leveling of the playing field is appropriate. If a dialogue is to address, for example, the impact of export agriculture on rural communities, then subsistence farmers and rural development workers should be trained to use the economic policy language of national policymakers. Conversely, policymakers and other elites should learn how to communicate with local people to understand their points of view. Without these steps, disenfranchised groups may feel that they have been taken advantage of once again—used as window dressing in a lopsided "dialogue." Policymakers, meanwhile, may come away with reinforced notions of the futility of discussing serious issues with people who do not speak their language.

Once the groundwork is completed, all parties should be afforded a series of opportunities to meet and debate the issues. Successive issue papers, which incorporate consensus and discussion from previous dialogues and new research to clarify points of information, should be prepared for each event. Smaller representative working groups may be convened to deal with key ancillary concerns.

The objective of multiparty policy dialogues is to begin a process of pluralistic communication in which diverse elements of civil society have an opportunity to develop working relationships. Once communication begins, the prospects for constructive agreements are greatly enhanced. More important, the process can also increase the probability that resulting policy initiatives will enjoy broad support from a number of institutions, thereby enabling one to make flexible and creative adjustments as new programs and policies evolve.

Interagency Working Groups

Often, the efforts of one government agency are undermined by others within the same government. For example, initiatives to slow the rate of deforestation have been commonly frustrated by land-titling regulations that recognize the clearing of forest as an "improvement" or by banking regulations that assign no value to uncleared forest, offering perverse incentives for small farmers who need collateral for a production loan. In Costa Rica, the Ministry of Natural Resources, Energy, and Mines was created in 1987 to ensure greater coordination among policymakers in its three vice ministries. Four years later, there was still no operational mechanism for the routine coordination of policies and programs among the ministry's diverse executive authorities, each of which has its own enabling legislation. As a consequence, environmentally unsound electrification and mining projects could still be undertaken with little input from the vice ministry of natural resources.

Interagency conflicts are partially a consequence of the pressure in donor organizations to program large sums of development assistance quickly. In such an environment, one is deterred from involving institutional representatives who might not agree on a project's goals and methods. One way to minimize the propensity of public agencies to undermine each other's efforts is to use interagency working groups to discuss issues that involve the jurisdiction of several agencies. Chosen for their interest and expertise, the members of such gatherings may negotiate solutions to thorny institutional disputes that are unlikely to be resolved by stroke-ofthe-pen mandates from senior decisionmakers. The working groups need not be formal decisionmaking bodies, nor must they involve an unwieldy number of participants from a wide array of institutions to be effective, as do the multiparty policy dialogues. Often, it would be enough just to bring together a handful of mid-level managers on a regular basis to discuss how they can better collaborate. A focused, goal-oriented working group can be very useful in promoting institutional and political sustainability.¹⁰

Horizontal Communication Among Nongovernmental Organizations

The literature on rural extension programs in developing countries is replete with references to the obstacles to communication posed by the social and cultural differences between extensionists and the rural poor. In many cases, the barriers to communication are compounded by a history of flawed extension offerings. There is a well-founded skepticism among the poor about the utility of production packages and strategies developed and promoted by outsiders who have inadequate information from prospective users on such issues as farmers' attitudes toward risk, capital availability, and market access.

In Central America, a large and growing network of hundreds of community organizations and nongovernmental organizations has been working hard for decades, communicating directly with local communities to develop and introduce appropriate ideas for sustainable development in the region. Promoting more effective horizontal communication among these organizations offers one of the simplest and most cost-effective ways to disseminate valuable development practices.

The efforts of World Neighbors, a U.S.-based nongovernmental organization, offer an interesting example of horizontal communication. In the 1970s, the World Neighbors staff in Guatemala worked closely with poor farmers in indigenous communities to develop an approach to culturally and technologically appropriate agricultural changes that have produced impressive results. In dozens of applications, these techniques have more than doubled vields of subsistence crops in the span of a season or two, while halting erosion and substantially restoring soil fertility on environmentally fragile hillside farms. Described in Roland Bunch's Two Ears of Corn, the methodology relies on simple, direct communication with campesinos to identify factors that limit increased yields and to develop low-cost, environmentally sound technologies for removing those barriers.¹¹ The resulting lessons are then passed on by word of mouth, from farmer to farmer. Field staff recruited from the involved communities oversee a straightforward extension process in which locals using the new techniques demonstrate their gains to interested members of neighboring communities.

In recent years, World Neighbors and other independent nongovernmental organizations have begun to disseminate more aggressively this approach to innovation and extension, by sending small teams of trained local people to visit and talk with other community associations and nongovernmental groups in a number of countries. They rely on the simple eloquence of the methodology's proven effectiveness to persuade others to try it. In 1988, a partnership involving World Neighbors' team in Honduras and the Development and Peace Service (SEDEPAC, a prominent Mexican nongovernmental organization) introduced the approach to rural communities affiliated with the National Union of Small Farmers and Cattle Ranchers (UNAG, a popular organization then representing some 125,000 farming families in Nicaragua). With very modest donor resources, this partnership has resulted in the rapid diffusion of this sustainable development success story among thousands of the rural poor.

World Neighbors' experience is one of the many examples of how successful ideas developed by Central America's burgeoning network of nongovernmental organizations and other groups can be effectively and inexpensively disseminated throughout the region. In recent years, the Central American nongovernmental organization community has made progress in establishing national and regional associations of NGOs and community groups, which enhances the prospects for this sort of communication. For example, the Regional Network of Nongovernmental Conservation Organizations for the Sustainable Development of Central America (REDES) has recently begun to coordinate exchanges of information and technologies among the region's NGOs. The Central American Alliance of Development Organizations (Concertacion) has emerged as an insistent questioner of many fundamental assumptions of foreign aid and public policy. Support for enhanced communication among these associations and for efforts to integrate them into the policy process may be the most cost-effective way to promote popular participation in the management of sustainable development in Central America.

Training in Analytical and Managerial Skills

Many development projects display impressive initial success and then founder after their highly paid managers move on when international support ends. Institutional sustainability requires the training of local professionals with the analytical and managerial skills necessary to design, monitor, direct, and evaluate sustainable development programs. Instruction in such key areas as public administration, resource economics, program management and evaluation, strategic planning, and environmental impact analysis is critically needed.

One hopeful advancement is the recent venture by the Central American Institute of Business Administration (INCAE) to develop professional training programs in resource management. Arguably Latin America's best institution for training in private and public administration, INCAE now offers a series of seminars and executive training programs that will also be incorporated into its master's programs in business, economics, and public management. Beginning in 1992, it will offer a master's program in resource management for professionals from all over Latin America.

In addition to formal programs such as INCAE's, other efforts are needed. Once the Organization for Tropical Studies has completed its pilot program of teaching municipal leaders to use rapid rural appraisal in assessing their own sustainable development options, it may continue to work with REDES and other nongovernmental organizations to make instruction in these techniques more broadly available throughout Central America. Training programs in business analysis and administration also are needed for NGOs and popular organizations to enhance their abilities to prepare solid business appraisals of proposed development projects and to manage the projects effectively.

Finally, more support is needed in the areas of strategic planning and institutional development for Central American nongovernmental organizations. Most of these groups were founded by highly dedicated and enthusiastic promoters and activists. Such qualities are indispensable for organizations that operate on shoestring budgets and that are obliged to change their programs in response to the often capricious shifts in the interests of the international donor community. But all too often, NGOs lack fundamental skills for strategic planning and institutional development. In the United States, analogous nonprofit associations have access to a growing network of service groups that offer instruction in strategic planning, advocacy, fund raising, board governance, staff training, and a number of other institutional development skills. The time has come to establish similar training services for Central America's critically important development institutions.

Who Should Promote Rigor in Process?

Every institution genuinely interested in providing more effective development assistance is responsible for emphasizing process rigor in designing and implementing its programs. Still, it may be useful to think of a division of labor that assigns different tasks to different types of institutions to promote greater rigor in process.

Bilateral and multilateral organizations, and their host government counterpart agencies, can do a great deal to set the stage for more effective attention to process. Donors could make a difference by acknowledging the complex relationships within governments and societies that fix the parameters for project success. This may be done by using rapid rural appraisals or similar methods to obtain more regular and helpful monitoring information, by establishing interagency working groups to plan and monitor programs, and by using multiparty policy dialogues to engage all interested parties before erecting elaborate program designs.

Architects of development assistance programs must also consider whether the manner in which they specify program designs and objectives is conducive to greater effectiveness. An excessive preoccupation with and confidence in prior design rigor—closely specifying outcomes, benchmarks, cost parameters, and timetables—may cause the formal design to become more important than the search for workable solutions. Evaluations and monitoring will focus on the official benchmarks instead of asking difficult questions about effectiveness, beneficiary interest, and sustainability. More flexible measures of achievement that are not specified in terms of rigidly quantified targets may be more realistic tools for monitoring effectiveness. For example, a process-oriented evaluation might concentrate on *qualitative* appraisals of the ability and creativity of interagency working groups in anticipating and resolving obstacles and be less preoccupied with meeting formal targets for the number of seedlings planted or the volume of credit administered.

Bilateral and multilateral donors can also make a serious contribution by working more closely with and providing greater support to nongovernmental organizations in Central America. The NGOs can help to diversify the social reference points of development bureaucracies and provide more and better information on whether efforts are achieving useful results. In many cases, they may also prove to be more competent managers of development assistance funds than are public institutions.

Development organizations must make far greater attempts to consult with the public before, during, and after launching projects. Nevertheless, as long as politics looms so large among the considerations of development institutions, it is naive to expect that official development assistance agencies will be able to address the problems of process on their own. Greater accountability requires that citizens actively and effectively demand more responsive government programs. A strong and competent nongovernmental organization sector is essential for this task.

In the past, the Central American nongovernmental organization community often shied away from visible involvement in advocating policy reforms and government accountability. More recently, NGOs and popular organizations increasingly include policy-related issues on their agendas. These groups should continue to work constructively with the public sector, without losing their capacity to be objective. Toward this end, support from private donors (foundations, international private voluntary organizations, and others) will be essential. Governments and their official international contributors cannot be expected to underwrite critiques and independent monitoring of their own efforts, particularly when those efforts are motivated by political interests.

Private donors active in Central America should consider the extent to which their programs are explicitly addressing salient publicpolicy issues. Private contributors can support nongovernmental organizations' efforts to press governments for greater accountability and reforms that would be too sensitive for official aid agencies to finance. Direct support for policy dialogues, program monitoring, and other activities managed by independent NGOs and grassroots organizations can provide the sort of "bottom-up" pressure for accountability that is required for more responsible and effective development assistance programming.

INSTITUTIONAL REFORMS IN DELIVERING DEVELOPMENT ASSISTANCE

As this chapter has discussed, one of the principal problems with official development assistance is the pressure to program large sums of aid to conform with fundamentally political objectives. The "obligation to obligate"—to move the money out the door before the end of the fiscal period—also leads to the funding of ineffective megaprojects.¹² Such pressures place a premium on design rigor and naturally tend to diminish the participation of contrary or dissenting voices in the planning and implementation of an aid program. The narrowly defined government-to-government mode of most bilateral assistance, and the similarly poor relationships of multilateral development finance institutions, have greatly limited the prospects for more creative efforts that pay appropriate attention to feedback and participation. If we are to focus adequately on process rigor, we must reform the delivery of bilateral and multilateral development assistance to the region.

U.S. Bilateral Assistance

Much of the public discussion about reforming development assistance focuses on ideas for improving the effectiveness of regional cooperation and multilateral aid. This concentration on multilateralism is particularly appropriate in regions, such as Central America, that have recently suffered from military conflicts in which one or more of the principal bilateral aid providers has been involved. As Anthony Lake of Mount Holyoke College has observed: "By definition, societies emerging from internal military conflict are highly charged politically. Assistance from multilateral agencies is much less likely to run afoul of lingering resentments than is aid from the former patrons of one side or another."¹³ Accordingly, the reform of U.S. assistance to Central America should include a search for ways to channel more of the aid through multilateral channels.

Multilateral institutions have their own limitations, however, and cannot bear the entire burden of managing the aid flows that should be directed toward Central America. Moreover, the United States continues to have legitimate national interests (as well as distinctive strengths) that do not always coincide with those of multilateral institutions. Indeed, there is a strong case to be made that more diversity is needed in approaches to development assistance, rather than the potentially homogenizing effect of processing all aid through a handful of multilateral organizations.

Nevertheless, a growing chorus of critics is justifiably concerned about the effectiveness of current U.S. assistance to the region.¹⁴ The U.S. Agency for International Development (USAID), in particular, deserves thorough and critical scrutiny. Increasingly, it is guided by short-term political concerns, lacks a coherent long-range vision of development, and is subordinated in policy discussions to the U.S. State Department, the National Security Council, and other executive bodies. With its hands tied by legislative earmarks and other procedural shackles, the agency is ill-suited to monopolize the management of U.S. bilateral development assistance as it has in the past.

An interesting alternative proposed by the Overseas Development Council would be to establish a Sustainable Development Fund (SDF). The fund would distribute U.S. bilateral monies to a diverse community of recipients working on development priorities jointly chosen by the Congress and the Executive Branch.¹⁵ A donor, rather than an operational agency, the fund would be able to support directly the activities of recipient governments, national and international nongovernmental organizations, private profit-making firms, international organizations, and USAID itself. As the fund became established with a solid professional staff and a known track record, its share of U.S. bilateral funding would increase, while the share allocated through the agency would diminish.

The Sustainable Development Fund represents an important conceptual advance in the structuring of U.S. bilateral assistance. Staffed by experienced professionals, who respond to a limited set of developmental priorities and are given the latitude to deal with a more varied set of grantees, the fund would be able to act more creatively than USAID does. It would also have greater independence from short-term foreign policy interests. Prospective grantees would be called upon to compete for U.S. bilateral assistance in a more open marketplace of ideas and initiatives. Freed from some of the political and bureaucratic constraints that limit USAID's scope, relationships, and effectiveness, the fund would be far better qualified to support the type of creative, process-oriented experiments discussed earlier in this chapter.

An older, time-proven idea may also merit increased support. The Inter-American Foundation (IAF) is a U.S. government agency founded in 1969 as an alternative "people-to-people" model for delivering development assistance. Staffed largely by field representatives with hands-on, grassroots development experience, the foundation specializes in making relatively small grants directly to nongovernmental organizations and popular organizations. Over the past 20 years, it has funded a large number of the more productive innovations generated by the Latin American NGO community. In recent years, its board and senior management have on occasion shown themselves to be unfortunately vulnerable to the influence of narrow U.S. foreign policy thinking. Nonetheless, the foundation's solid and experienced professional field staff has maintained the institution's credibility as a good-faith partner in grassroots development experiments. If it can continue to resist pressures to subordinate its program to short-term foreign policy interests, the Inter-American Foundation will merit a substantial increase in staff levels and financial support in any restructuring of U.S. foreign aid to Central America.

Finally, some aspects of the debt-for-nature elements of the Enterprise for the Americas Initiative (EAI) announced by President George Bush in mid-1990 represent an important step forward in U.S. assistance for sustainable development activities in Central America. If they comply with specified economic policy prescriptions, Latin American countries may negotiate to reduce their bilateral debt with the United States through debt-swap mechanisms. The proceeds can then be applied to capitalize environmental trust funds in the debtor countries. Resources from these trust funds would then be used to support initiatives that link resource conservation with economic development. Grants may be made from the funds to local, national, or regional nongovernmental organizations, to community organizations, and—"in exceptional circumstances"—to agencies of the national government.

Significantly, the Enterprise for the Americas Initiative specifies that a majority of the members of the trust funds' governing boards must represent environmental and community development nongovernmental organizations of the recipient country. Properly implemented, this requirement could improve process rigor in the region's sustainable development efforts. If the funding decisions are made by a genuinely representative body, the grantees will have clear incentives to respond to public interests. To ensure appropriately plural representation, EAI administrators should allow existing national associations of environmental and development nongovernmental organizations to help name the nongovernmental organization members to these boards, and they should resist the temptation to select only participants who are politically acceptable to the U.S. government.

The Enterprise for the Americas Initiative is notable for linking two fundamental development priorities in Latin America: debt reduction and the generation of capital for sustainable development investments. Although the macroeconomic significance of the EAI-based debt reduction should not be exaggerated (current service payments on all of Latin America's bilateral debts to all creditors amount to only 10 percent of the region's annual payments of principal and interest), it is a step in the right direction. Economist Richard Feinberg has noted that the impact of this measure could be greatly increased if other bilateral creditors, particularly those in the Paris Club, chose to match the terms of the initiative's debt-reduction scheme.¹⁶ Forgiveness of Central America's P.L. 480 debt to the United States as of October 1990 under current EAI provisions could generate nearly \$250 million worth of capital for national environmental trusts in Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua. Nevertheless, as a bilateral program, the Enterprise for the Americas Initiative is heir to all the shortcomings and the concomitant risks of politicization of this type of aid. One amendment to the current EAI proposal might improve its effectiveness and demonstrate the United States' good faith and interest in promoting multilateral approaches to Central American development. The United States should amend the initiative to specify that a substantial proportion of the debt-for-nature revenues, now earmarked for the national trusts, be allocated to a new multilaterally supported Central American Fund.

A New Proposal: The Central American Fund

Many of the thorniest problems of environmental protection in Central America transcend national boundaries (see Arias and Nations, Chapter 1), and there is a growing constituency for approaching reconstruction and development in the region in a multilateral fashion. Moreover, many essential tasks—such as professional training programs—are best done on a regional basis, to exploit economies of scale, to optimize the use of scarce human resources, and to promote greater interaction among individuals from different countries. In its 1989 report, the International Commission for Central American Recovery and Development urged the adoption of "... the principle of symmetrical multilateralism, where donor and recipient countries and international organizations can coordinate aid policies and programs."17 To this end, the governments of Central America, the international nongovernmental organization community, and official development assistance institutions (bilateral and multilateral) should work together to establish a multilateral Central American Fund (CAF) that would be designed to avoid the pitfalls of many other development assistance efforts.

The Central American Fund would receive aid from public and private sources in a number of countries and channel it to development projects in Central America. As with the EAI's trust funds, grants could be made to local, national, or regional nongovernmental organizations, as well as to community organizations and government agencies. A central priority of the fund would be to promote initiatives that reflect an appropriate measure of concern for the process rigor defined earlier. It might also make investments in more conventional projects (rural credit schemes, national park development, production programs, etc.), providing that these ventures were designed to include suitable mechanisms for feedback and citizen participation.

But, as a funding institution, the Central American Fund's most compelling priority would be to provide support specifically for participation-enhancing and process-focused activities. It should function as a clearinghouse and financial resource for promoting creative thinking about development assistance effectiveness and not attempt to replicate the missions of other institutions better suited for supporting more conventional development projects.

The Central American Fund should be governed by an international board of directors that represents participating nations and different elements of civil society. Some representation of donor governments and multilateral financial institutions may be inevitable, but their numbers should be kept to a minimum. Delegates or nominees of donor governments and multilateral institutions should never make up more than a third of the board's membership. On the other hand, representatives of national governments in Central America are both desirable and inevitable. Their involvement would help to engage those governments in the fund's process-oriented program. Nevertheless, the mission of the Central American Fund requires that a much broader voice be given to interests not traditionally considered. Accordingly, the majority of the members of its governing board should represent nongovernmental groups in the region, including NGOs, businesses, cooperatives, and community and producers' organizations. The initial nongovernmental representatives should be chosen through broad and open consultative processes.

The staff of the Central American Fund should be an interdisciplinary group of experienced professionals who broadly reflect the interests of the nations participating in the fund. A majority of staff members should be Central American nationals, although the CAF should draw as much as possible on existing expertise, regardless of nationality. To the maximum extent feasible, they should have hands-on development experience.

To ensure accountability to its represented interests, the Central American Fund board should oversee and authorize staff selection. To safeguard program coherence, however, responsibility for all but the largest grants (for example, those of more than \$500,000) should be delegated to the fund's chief executive officer. The board should restrict its direct involvement in program decisions to defining missions and values and to periodically reviewing and approving staff-proposed strategies and grants.

Several options exist for underwriting the Central American Fund's initially modest financial requirements. Earmarking part of the necessary funds that may result from the EAI debt-swap mechanisms may be one source. The allocation of a mere 10 percent of the \$250 million projected, matched by funds from other sources, would provide adequate start-up capital.

Debt-swap programs with other bilateral and multilateral donors could also generate substantial additional capital. As of October 1990, the Central American Bank for Economic Integration (BCIE) held a portfolio of more than \$700 million in foreign debt, of which 63 percent stemmed from bilateral loans from the United States, Germany, Mexico, and Venezuela, and another 19.5 percent came from multilateral loans. Extension of debt-swap opportunities for some or all of this BCIE-held debt could create a substantial pool for supporting the Central American Fund and other regional development programs.

Debt-swap proceeds, however, should not be the Central American Fund's sole financial source, as they do not really offer much-needed inflows of new capital to the region. Such monies ultimately come from the coffers of debtor governments. In addition, national legislatures are often not consulted when portions of national budgets are allocated directly from central banks to debt-swap programs. Although the uses of the funds thus created may be laudable, it would be ironic to place too much confidence in such a nondemocratic fiscal process precisely at a time when Central America is attempting to build accountable democratic institutions.

To increase and diversify the donor base, new capital should also be solicited from multilateral and bilateral aid programs, private foundations, and international nongovernmental organizations. Special efforts should be made to persuade the Japanese and Europeans to contribute to the Central American Fund.

CONCLUSION

During the last few years, the people of Central America have dared to hope that peace will soon return to their region. The imminence of a Central America without war offers the prospect that these societies at last can begin to focus their skills and resources on building both democratic institutions and healthier, more equitable economies. Nevertheless, the hopeful signs of peace are accompanied by the prospect of a disturbing decline in the levels of international development assistance available for the region in the 1990s. It would appear that the diminishing importance of Central America on the geopolitical agendas of major donor nations may be all too promptly reflected in the allocation of fewer development assistance funds.

More aid, not less, is needed now as the region rebuilds and as its fledgling democracies attempt to consolidate their early gains. The levels of international assistance, however, are ultimately far less important than the manner in which that aid is bestowed and managed. Conventional approaches to development assistance—with their narrow focus on the technical tasks at hand, their mistaken assumptions about how much they can know and control, their distorting overlay of political objectives, and their limitations on participation—will not meet the challenge. Predictably, conventional programs will continue to fail in achieving their developmental objectives. More important, at this moment in history, if such programs do not promote greater accountability and broader citizen participation in decisions about development aid, they will also fail to take advantage of the window of political opportunity now open for the growth of democracy in the region.

One of the criticisms made by many serious development professionals has been that broader citizen participation is 1) difficult to achieve, and 2) not cost-effective. Although it may indeed be hard to achieve, the tools for greater process rigor presented in this chapter offer some promising ways to start. However, limiting participation in the interests of cost-effectiveness ranks as one of the most egregious examples of false economy in the history of social thought and public policy. The question is not whether development programs can afford the luxury of full citizen representation, but whether—given the track record of conventional, nonparticipatory approaches—we can afford *not* to promote greater participation.

The task of increasing citizen involvement is a daunting one that will require immense effort and even greater political will. Some improvements can be made by existing development institutions as they think critically about how they operate. Other solutions will require institutional reforms and even new institutions that are designed to call upon ideas, efforts, and resources from a more representative array of citizen interests. Bilateral ventures such as the Sustainable Development Fund and the Enterprise for the Americas Initiative are sorely needed to improve the effectiveness of the United States' bilateral assistance to the region.

Even more important, however, are creative, new attempts to develop better multilateral approaches to the delivery of development aid. The Central American Fund proposed in this chapter offers one such option. Supported by a number of nations, overseen by a socially diverse and representative board, and staffed by seasoned professionals from different countries and disciplines, the fund would make it possible to deliver increasing flows of assistance in ways that would be more conducive to sound, flexible, and democratically managed development.

¹ The International Commission for Central American Recovery and Development, *Poverty, Conflict and Hope: A Turning Point in Central America* (Durham, NC: Duke University Press, 1989).

² For an interesting critique of the conventional model, see Norman Uphoff, "Paraprojects as New Modes of International Development Assistance," World Development, Vol. 18, No. 10, 1990, pp. 1401-11.

³ Neil Jamieson, "The Paradigmatic Significance of Rapid Rural Appraisal," Proceedings of the 1985 International Conference on Rapid Rural Appraisal (Thailand: Khon Kaen University, 1987), pp. 88-102.

⁴ Ibid, p. 95.

⁵ Poverty, Conflict and Hope, op. cit.

⁶ The concept of rigor in process has much in common with David Korten's "learning process approach," which may be familiar to many readers. For more on his ideas, see David Korten, "Community Organization and Rural Development: A Learning Process Approach," *Public Administration Review*, Vol. 40, No. 5 (September-October 1980), pp. 480-511.

⁷ This description of RRA is adapted from Gordon R. Conway and Edward B. Barbier, After The Green Revolution: Sustainable Agriculture for Development (London: Earthscan Publications, Ltd., 1990), pp. 177ff. Also see Jennifer A. McCracken, Jules N. Pretty, and Gordon R. Conway, An Introduction to Rapid Rural Appraisal for Agricultural Development [London: International Institute for Environment and Development (IIED), 1988] for a general introduction and an annotated bibliography. The IIED has established an international network to disseminate information on RRA and its cousin, participatory rural appraisal. Finally, a helpful how-to-do-it review is presented in Participatory Rural Appraisal Handbook: Conducting PRAs in Kenya, Jointly prepared by the National Environment Secretariat of the Government of Kenya, Clark University, Egerton University, and the Center for International Development and Environment of the World Resources Institute, Natural Resources Management Support Series, Vol. 1 (February 1990).

⁸ Korten, op cit., pp. 480-511.

⁹ L. David Brown of the Institute for Development Research and the Boston University School of Management presents examples of organizations attempting to promote such interactions and an interesting analysis of these organizations' functions and dynamics. See L. David Brown, "Bridging Organizations and Sustainable Development," paper prepared for the Conference on Social Innovations and Global Management, Case Western Reserve University, November 13-15, 1989.

¹⁰ For an illuminating discussion of an effective working group in action, see Frances F. Korten, "The Working Group as a Catalyst for Organization Change," in *Transforming a Bureaucracy: The Experience of the Philippine National Irrigation Association*, ed. Frances F. Korten and Robert Y. Siy, Jr. (West Hartford, CT: Kumarian Press, 1988). Another source for examples and discussion of working groups is Barbara Gray, *Collaborating: Finding Common Ground for Multiparty Problems* (San Francisco, CA: Jossey-Bass, 1989).

¹¹ Roland Bunch, Two Ears of Corn: A Guide to People-Centered Agricultural Improvement (Oklahoma City: World Neighbors, 1982).

¹² Uphoff, op. cit.

¹³ Anthony Lake, "Overview: After the Wars—What Kind of Peace?" After the Wars: Reconstruction in Afghanistan, Indochina, Central America, Southern Africa, and the Horn of Africa, U.S.-Third World Policy Perspectives, No. 16 (New Brunswick, NJ: Transaction Publishers in cooperation with the Overseas Development Council, 1990), p. 23.

¹⁴ For an interesting discussion of some alternatives, to which the analysis in this section is indebted, see John W. Sewell and Peter M. Storm, "United States Budget for a New World Order: Promoting National Security and Advancing America's Interests Abroad" (Washington, DC: Overseas Development Council, 1991).

¹⁵ Ibid, pp. 6, 23-24.

¹⁶ Richard E. Feinberg, "The Enterprise for the Americas Initiative," Testimony presented to the Subcommittee on Western Hemisphere Affairs and the Subcommittee on International Economic Policy and Trade, Committee on Foreign Affairs, U.S. House of Representatives, Washington, DC, February 27, 1991.

¹⁷ Poverty, Conflict, and Hope, op. cit., p. 84.

Inventing Institutions for Conservation: Lessons from Costa Rica

Alvaro Umaña and Katrina Brandon

INTRODUCTION

Costa Rica has a worldwide reputation as a leader in conservation—a reputation that is attributable, in part, to the nation's immense array of protected areas. Nearly 27 percent of Costa Rica is safeguarded to some degree. Areas having absolute protection, such as national parks and biological reserves, encompass more than 6,000 square kilometers, or 12 percent of the entire country. These lands constitute the core of the nation's system of protected areas, and they are generally thought to be the most biologically diverse.¹ To a large degree, the system is patterned on the U.S. model of national parks.²

Protected areas other than parks, such as forest reserves, protected zones, wildlife refuges, and Indian reserves, make up nearly 15 percent of the country's landmass. They are mostly privately owned (or communally owned in the case of Indian reserves) and are generally classified as multiple-use areas that are protected by law and can be used only subject to certain restrictions. In addition, they are often populated and have both a high forestry development and conservation potential.

All of these wilderness areas combined shelter most of the nation's 208 species of mammals, 850 species of birds, 160 species of amphibians, 200 species of reptiles, and 130 species of freshwater fish, as well as an estimated 25,000 species of insects. It is estimated that if Costa Rica succeeds in protecting these lands, it will preserve nearly 95 percent of its flora and fauna, which represents about 5 percent of all the plant and animal species currently known to exist on the planet.

By the mid-1980s, Costa Rica had taken steps to establish a framework that would link the protected areas with both national- and local-level needs. The first initiatives centered around creating and adapting institutions, both public and private, that would administer the processes needed to improve the existing parks system. Among the basic changes needed were consolidating and protecting the national parks system, enhancing the national significance of conservation, integrating park management with the needs of the surrounding communities, and developing funding mechanisms for conservation and natural resource management.

These measures were essential to reshaping conservation and to establishing a new framework that would support "sustainable development" throughout Costa Rica. This chapter describes how that nation adapted existing institutions and created new ones to integrate conservation with the development process. In light of the Costa Rican experience, each country should invent its own institutional structures for conservation. These new institutions must link conservation and development at national and regional levels, as well as in the minds of the rural poor, who often bear the ultimate costs of conserving their nation's resource base.

COSTA RICA'S SYSTEM OF PROTECTED AREAS

Starting in 1969, Costa Rica began developing a system of protected areas that today encompasses more than 70 sites, including national parks, biological reserves, wildlife refuges, protected zones, and forest reserves. They include both public and private lands that embrace more than one-quarter of Costa Rica. For the first decade, Costa Rica's government emphasized the creation of parks and protected areas. This period was characterized by a rapid increase in the system's number and size of areas. and by increased support to the National Park Service, especially in the late 1970s. The creation of this system was not without problems. Costa Rican law requires that once an area is declared a national park it must be expropriated, and the government must pay the owner fair-market value. Yet, in many cases, the government lacked the funds to pay landowners, and the process of expropriation and payment lagged far behind park declarations. For example, it took nearly 20 years for the government to reimburse landowners whose properties were expropriated to create Cahuita National Park. The lack of prompt settlement for expropriated lands created high levels of mistrust toward park officials and a resentment of government policies in much of the country.

One institution created in 1978 to support the parks was the National Parks Foundation (NPF), which was initiated by the government but is an independent and private nonprofit foundation. The NPF is dedicated to planning, managing, protecting, and developing national parks and reserves. During the 1969-1979 period, it began playing an important role by supporting the government in the acquisition and management of protected areas as well as by attracting international resources from other governments and conservation organizations. One of the NPF's most significant undertakings was its successful campaign to extend Braulio Carrillo Park. Sponsored by the NPF, this international fund-raising activity was a joint effort with the Organization for Tropical Studies (a consortium of U.S. universities that conducts research in Costa Rica) and The Nature Conservancy (a U.S.-based nongovernmental conservation organization).

Despite the rapid increase in the number of parks and reserves during the 1970s, the Costa Rican government lacked the resources to protect them. Colonization and deforestation were widespread in wildlands adjacent to parks and reserves, often the results of roads built to reach previously inaccessible areas. In some parts of Costa Rica, such as the Talamanca region, local populations that had been there for centuries began clearing lands to prove ownership, as squatters rapidly moved in following road construction.

After its initial expansion, the parks system entered a period of relative decline in the early 1980s, which was attributable to many interrelated factors. First, although the parks existed on paper, little money was available to manage or protect them, in large part because of the concurrent economic crisis. Second, there were absolutely no budgetary allocations for land purchases. A high inflation rate meant that, although there were the same nominal financial resources, the buying power was substantially reduced. Finally, staff levels fell after Costa Rica imposed a government-wide hiring freeze as part of its structural adjustment loans with the International Monetary Fund (IMF). Coordination among government agencies responsible for managing these areas was historically poor, and it diminished further with fewer funds and lower staff morale.

The country's fiscal strain—which reduced social programs and business expansion, and increased poverty—also exacerbated the threats to protected areas from development and logging pressures. For example, gold miners invaded Corcovado National Park in 1985. Many of these people were actually displaced workers from abandoned banana plantations. As the government was unable to stop the invasion, several hundred people began panning for gold, a process that severely damages rivers through sedimentation and mercury pollution. For several months, both the National Park Service and the central government were unable to control the park. Finally, a court order forced the police to evict the gold miners, after compensatory benefits were negotiated between the outgoing government and the nearly 800 miners and their families. Because the government was unable to deter such actions, its ability to manage the parks was diminished in the eyes of the public. This led to increased encroachment.

During the 1980s, serious land-tenure and management problems were evident in many of the protected areas not designated as parks. For example, forest reserves, which are 80 percent privately owned and account for almost 4,000 square kilometers, began rapidly deteriorating because of poor timber-extraction techniques. In addition, the park system did not provide for replanting and forest regeneration, which would ensure replacement of the portions harvested or maintain the forest close to its natural conditions. Coordination between the forest service, which manages most of the remaining conservation areas, and the National Park Service was relatively poor.

Many of these multiple-use protected areas served as "buffer zones" between developed areas and parks and reserves. As destructive forest exploitation and unsustainable development patterns increased in these areas, their value as buffers to the national parks declined. Landtenure problems particularly affected La Amistad, Tortuguero, Braulio Carrillo, Corcovado, and Arenal National Parks. Land-tenure and management problems also plagued much of the 2,800 square kilometers of Indian reserves.

By 1986, when Oscar Arias was elected president, protected areas exceeded 12,000 square kilometers—equivalent to 24 percent of the country's landmass. The Costa Rican government had expropriated and paid for nearly 80 percent of the land for all parks and biological reserves. However, if deforestation rates in Costa Rica (among Latin America's highest) remained constant, only forests within protected areas would still exist by the year 2000. There was no working management system to maintain the parks and other protected areas, and fixed costs of managing existing resources consumed 90 percent of the funds for conservation. At \$4.4 billion, the country's foreign debt was one of the world's highest in per capita terms, so prospects of attracting new resources to expand or improve conservation were limited. In short, the incoming administration was confronted with serious problems in the natural resource sector. In addition, the gold-miners problem had started to attract considerable press attention, which added an element of urgency and crisis to the situation.

REORGANIZATION OF CONSERVATION MANAGEMENT

The Arias administration's tenure marked the revitalization of conservation in Costa Rica, which was characterized by consolidation of efforts and managerial reforms. One of its most important challenges was to slow the nationwide deforestation rate and improve park management while providing economic benefits to local populations. The guiding concept for reorganizing the management of protected areas was the need to give meaning to the rhetoric of sustainable development, especially for the people living in buffer zones. This meant developing a link between absolutely protected government-held lands (12 percent of the country) and privately held protected areas (15 percent). Providing options for people to sustain themselves in the buffer zones was seen as the key; if local populations learned that they could survive and prosper from the existence of parks and protected areas, they would stop destroying the forests. The government wanted to support these buffer-area populations to turn them into frontline defenders of the parks.

It was clear that both the government and the public would have to perceive natural resource management and conservation as higher priorities than had previously been the case. A management system to oversee the protected areas was required, as was a means of linking all the areas. The Costa Rican government needed greater credibility in its protection efforts. In addition, new funds would be required to pay for the process of consolidation and sustainable development.

Prior to the election, Oscar Arias and his advisors (including Alvaro Umaña, co-author of this chapter) developed a plan to accomplish these objectives. The plan 1) consolidated power for conservation into a new ministry; 2) developed a new system that was decentralized and that would serve to link and manage both the protected areas and the buffer zones; 3) created new financing mechanisms so that objectives could be met without draining scarce economic resources; and 4) developed the technical capacity to describe and catalogue the species (and their potential uses) that compose Costa Rica's tremendous biological diversity. These steps are described in the following section.

Consolidating Power for Conservation

The Ministry of Natural Resources, Energy, and Mines (MIRENEM) was established one month after the Arias administration took office. The new bureaucracy gave greater power and legitimacy to natural resource management, raising it to the level of other economic sectors. It also fulfilled the need for an integrated approach that would improve the stewardship of all of Costa Rica's natural assets, including parks and reserves, watersheds, hydroelectric generating capacity, and such nonrenewable resources as hydrocarbons and minerals. MIRENEM was charged with developing integrated policies for the sustainable management of all the nation's natural wealth.

At the policy level the ministry developed key strategies to:

promote an integrated approach to the management of protected areas and buffer zones;

- single out biological diversity as a key management objective; and
- start the process of defining a national strategy for sustainable development with a long-term perspective that would highlight the role of renewable resources and biological diversity.

The functions that were consolidated within the new ministry had previously been split between the Ministry of Energy and Mines and the Ministry of Agriculture. Two units of the Ministry of Agriculture (MAG)—the National Park Service (NPS) and the General Forestry Directorate (DGF)—were transferred to MIRENEM.³ The agriculture ministry felt that the forestry department was politically important since the authority to grant or refuse forestry permits and to distribute fiscal incentives for reforestation served as a strong power base. Those who benefited from the permits and incentives were often among the most economically powerful people in Costa Rica. They could act as advocates for, as well as a pressure group on, the Ministry of Agriculture when necessary. Despite opposition, the forestry department became part of MIRENEM. This transfer was of great importance for conservation.

The consolidation gave MIRENEM authority over all of the country's protected areas. Although the new ministry began operations after Arias was elected, it did not have formal approval from the Costa Rican Congress until the administration changed four years later. (President Arias's direct support for the creation of MIRENEM was not matched by support from the opposition-controlled Congress, which did not formally approve its establishment until eight days after Oscar Arias left office in 1990.)

Could an "unofficial" ministry affect changes? The answer is an unequivocal yes. Although the authority to formally *create* MIRENEM rested with the Congress, the Arias administration was still able to establish a completely legitimate, functioning ministry through the exercise of power. The authority for creating the new ministry, and for declaring a minister, was legally valid because the Energy and Mines segment of MIRENEM was previously a ministry. And the control of the park service and the forestry department was possible because their budgets were transferred to MIRENEM. In short, although there was no law approving the establishment of MIRENEM, everyone knew that the new ministry had the direct support of the president. The remaining challenge was to strengthen the role of conservation in the absence of new legislation.

REACHING BEYOND THE BORDER. One of the primary concerns of MIRENEM was how to manage a mosaic of more than 60 different protected areas, including national parks, Indian and forest reserves, biological reserves, wildlife refuges, and protected zones as well as their adjoining buffer lands. The system was badly underfunded, threats to all of the protected areas were serious, and the gold-mining problem continued to deteriorate.

Shortly after the creation of MIRENEM, the gold miners threatened to reinvade the park if they were not compensated immediately. In an unprecedented action, the Costa Rican Congress approved compensation, both in-kind and cash payments. This eventually cost the Costa Rican government almost \$3 million and nearly tripled the yearly budget of the National Park Service. It also diverted sorely needed resources away from park management.

This second incident with the gold miners reminded MIRENEM that borders were not enough to defend the parks and that, at least conceptually, the current boundaries had to be extended. MIRENEM felt it had to create structures that, first, would make local populations sympathetic to the existence of parks and protected areas and, second, would help them see the direct potential benefits of such lands. The result hoped for was the wiser use of protected areas. MIRENEM began developing new programs that reached beyond park boundaries. For example, it created gold-miners co-ops outside parks to stop the miners' invasions.

Although both the forestry department and the park service were housed in MIRENEM, the new minister lacked the authority to combine them, in part because of the unusual status of MIRENEM itself. The two agencies were subject to different governing laws, so they could not be fused. However, no law stated that personnel from the two agencies could not be united. MIRENEM began urging regional personnel from the two divisions to work together to start the integration process.

MIRENEM also developed a National Conservation Strategy (NCS) for sustainable development nationwide, not just in conservation but in all sectors—including energy, agriculture, education, and industry. The NCS could not be implemented solely by governmental fiat. Instead, it required agreement—both legal and in terms of public support—at all levels of society through hundreds of different decisions both at the national and local level. The NCS laid out a process to achieve that official and popular ratification. The successful outcome of the process demonstrated that the Arias administration did assign major importance to implementing sustainable development principles through a wholly democratic process.

Decentralized Management of Protected Areas

The new vision espoused by MIRENEM stressed that protected areas could best be conserved if they were part of the strategy for integrated, sustainable development of rural areas.

In 1987, MIRENEM proposed the creation of a National System of Conservation Areas (SINAC) to begin a process that would integrate protected areas' management and decentralize much of the decisionmaking power to regional levels. Under SINAC, nine Regional Conservation Units (URCs), sometimes called "megaparks," were established throughout the country: Guanacaste, Arenal, Bajo Tempisque, Sí-a-Paz, Cordillera Volcánica Central, Pacífico Central, La Amistad, Península de Osa, and Parques Marinos (see Map 1).

Each URC was composed of areas in one of three land-use categories. First, the "core" areas were those that were subject to absolute protection, such as national parks. Then there were buffer zones—often forests or indigenous reserves—that were multiple-use areas. In some cases, the buffer zones were biologically significant lands under extreme threat, often from new settlement pressures. In other cases, the buffers were already highly populated or had already been converted to agriculture. Finally, lands already in production, such as agricultural areas, also were included in the URCs (see Map 2).

Each URC was headed by a director, who was responsible not only for park management but also for community outreach. To meet outreach objectives, each URC undertook a planning process to define how ecologically and economically sustainable activities could be initiated. Local participation was promoted to ensure that the communities had a voice in the management of protected areas. Thus, committees composed of local leaders and government officials were organized for each region. Scientific and tourism interests were also integrated into the planning process.

The horizontal integration proposed under the URC system emphasized conservation. It was an attempt to respond, at least initially, to the lack of coordination between the forestry department and the park service. It also served to address the more serious and frequent problem of insufficient intergovernmental coordination, leading different national government agencies to unintentionally undermine conservation efforts on a regular basis. For example, the Ministry of Public Works and Transport often built roads near protected areas. New settlers and illegal loggers usually followed; in a short time deforestation near the new roads was significant.

Each URC director was responsible for coordinating the plans of other government agencies within the region, as well as the potential environmental impacts of those actions. For the first time, there was a way to identify and mitigate potentially adverse impacts. The different agencies also began to develop new activities that were responsive to the needs of the local populations and addressed rural poverty. Although low by Central American standards, the existing level of poverty in Costa Rica made it essential that management of protected areas be linked with incomegenerating activities outside the core protected areas of the URCs.⁴





Staff of each URC was responsible for developing plans for its region that would not only identify or integrate local community views, but also coordinate regional and national budgets, scientific research plans, and government actions. URC directors began working with local conservation groups, community organizations, and both international and local nongovernmental organizations to incorporate local initiatives, scientists, nature tourism interests, and private conservation efforts in the planning process of the regional units. Government agencies having jurisdiction in each URC began identifying mechanisms to coordinate their activities with one another and with local populations.

Involving local people in the planning process was viewed as essential. For URCs to work over the long term, they had to offer something to nearby communities. In addition, it was hoped that local participation would help to identify what potential economic benefits the protected areas could provide to each URC. Local involvement also developed a new generation of advocates for the environment—at the local level. In many cases, it was difficult to identify appropriate groups to work with or how to work with them. Neither the park service nor the forestry department had a great amount of experience in dealing with rural people.

Potential avenues for participation differed in each URC. Some, such as Arenal and Tortuguero, had well-defined local organizations that were able to identify clearly the priorities in their regions. In other areas, such as the Talamanca region, there was no single group that represented all the interests of the population. Including them in the participatory process was difficult, because it meant coordinating numerous groups with differing views.

Although the creation of the URC system was well received by many international organizations, it was seriously criticized within the Costa Rican government. Objections from the Ministry of Planning (MIDEPLAN), which is officially charged with all national economic planning, were the most significant. This ministry felt that the URC system instituted a regional process that bypassed MIDEPLAN's administrative and planning divisions. MIRENEM successfully argued that the URCs were not "planning" areas but "implementation" units, and it retained management of the protected areas.

As explained earlier, oversight of the URC system was delegated by MIRENEM to the National System of Conservation Areas (SINAC), which is made up of the directors of each URC, and the executive director of the National Biodiversity Institute, as well as representatives from MIRENEM, MIDEPLAN, and the National Parks Foundation. However, SINAC was responsible for reviewing the progress in each of the URCs. It controlled the planning and budgeting process and set priorities for the URC system. SINAC was sometimes criticized for not decentralizing to the extent anticipated. Following the creation of MIRENEM, it took almost three years to implement the URC system. The planning process for the URCs was ongoing. By the third year, committees in each URC were established and were meeting regularly. When the Arias administration left office, the structure for a unified management system that attempted to reconcile the needs of local people with a national goal of preserving biological diversity was in place.⁵ Since 1988, the system has adjusted to changing priorities in both conservation and development but the structure remains essentially unchanged.⁶

New Financing Mechanisms

Without a fresh infusion of funds, MIRENEM and the URC system would have accomplished little. The economic crisis of the 1980s left insufficient money to improve the management of protected areas. While the crisis with the gold miners increased the need to protect other areas from potential invasions, it also drained scarce economic resources even further when the Costa Rican Congress ordered the National Park Service to compensate the miners. In addition, the terms of the structural adjustment loans that Costa Rica had negotiated with the International Monetary Fund (IMF) had led to cutbacks in public-sector employment. As a result, there were fewer people to implement anything—particularly an ambitious and labor-intensive undertaking such as establishment of the URCs.

Furthermore, the government still needed to pay landowners whose properties had been expropriated and converted into parks or reserves. Thus, a major effort was started to reduce the number of "inholdings" (i.e., expropriated lands within parks for which compensation is still due to the owners) and to avoid creating new parks without providing financing for land purchases.⁷ Between 1986 and 1990, more than 1 billion colones (some \$12 million) was paid for land purchases from budgeted funds, donations, and debt swaps. The number of inholdings was reduced to 10 percent of parklands.

New parks—such as Guanacaste and Arenal—were established using financing mechanisms proposed by MIRENEM: a debt-for-nature program, and, as part of this, an intensive international fund-raising effort, as well as privatizing the financing.

DEBT-FOR-NATURE SWAPS. In 1986, informal negotiations between MIRENEM and the Central Bank of Costa Rica led to agreement on a debt swap mechanism. Over the next two years, the Central Bank approved five different swap agreements or quotas.

In 1987, MIRENEM proposed a debt-for-nature program for which the Central Bank approved the first of these quotas.⁸ Various donors contributed over \$900,000—equivalent to \$5.4 million of Costa Rica's debt—which generated \$4 million in local currency bonds which could be used for conservation projects.⁹

In 1988 Costa Rica proposed the second quota, a specific debt-fornature swap, to be used for sustainable development activities. In this case, the government of the Netherlands provided financial support and a swap was completed that generated \$9.9 million in local currency.¹⁰

Shortly after negotiations started with the Dutch, a parallel effort was undertaken with the Swedish government to complete and endow Guanacaste National Park—a major conservation project in northern Costa Rica. Swedish students and private conservation groups actively supported the project; the swap supported by the Swedish public and private sources generated over \$17 million in local currency that could be used for conservation. Two subsequent swaps generated additional funds for conservation.

In all, over \$12 million in grants and donations were used to purchase nearly \$80 million of Costa Rica's debt and generate over \$42 million in local currency bonds for conservation. The net result was that the Central Bank provided three colones in bonds for each colon donated to Costa Rica.¹¹

Costa Rica worked aggressively to obtain donations from friendly governments that would be increased through debt-swap mechanisms. With the active participation of MIRENEM and the Ministry of Planning, as well as the personal support of President Arias, debt swaps elicited strong support in Europe. Additional funds from a variety of donors, primarily U.S. environmental groups and foundations, were converted into local currency bonds from other swaps.

PRIVATIZING URC FINANCING. Another unique feature in the financing of the URC system was that Costa Rica moved control of the funding to the National Parks Foundation (NPF), which is legally a private institution. The Central Bank approved a program that was to be authorized by MIRENEM and carried out through the NPF. All of the money except the Dutch donation was channeled to the URCs through the foundation, which is responsible for receiving contributions and assuring responsible financial accounting and management. Donors were encouraged to identify a specific URC they wished to fund. MIRENEM believed that contributors would be more likely to make long-term commitments to specific lands, where they could see both the challenges and the yearly progress, rather than to a general, country-wide conservation fund. And it was obvious that long-term funding would be needed before sustainable development activities could be implemented in particular URCs. Whenever possible, endowments were created with debt-swap monies to ensure long-term funding for a variety of projects. Another unique feature of the program was that a wide variety of activities could be supported in each URC with the funds: management of protected areas, environmental education, ecological and scientific tourism, and sustainable forestry, as well as purchases made purely for land preservation.

The basic advantage in having the funds channeled through the National Parks Foundation was that it offered increased flexibility and responsiveness. Under Costa Rican law, MIRENEM would have had to budget all expenditures prior to receiving funds or else all donations would have gone to the government's general fund. But, as a private organization, the NPF could receive funds from external sources and then decide, with the URCs, how best to allocate the monies. The intent was to allow URC committees to decide, in conjunction with local communities, what the most urgent needs were at any given point in time.¹²

Using these financing mechanisms, MIRENEM was able to attract substantial resources and thus generate some \$100 million for natural resource management, energy, and mines. The debt swaps were worth about \$40 million in local currency alone. No other government ministry attracted as much external funding or technical assistance during the period.

However, there have been some problems with the privatization of the URC system. So far, it has not been possible to identify major donors for all of the URCs. In some cases, substantial delays have occurred in securing approval for funds promised by multinational and binational donors. But, overall, the mechanisms for attracting major funding were put into place and successfully captured substantial amounts of money for conservation.

Assessing Costa Rica's Biological Diversity

A final critical element in the policy reform was the adoption of scientific criteria and their integration in the URC planning process—a process that included the participation of specialized technical and scientific groups. The country has a prodigious number of organizations and individuals interested in tropical science, all of whom are keenly interested in improved management of the country's protected areas. This could eventually prove vital to maintaining biological diversity (biodiversity).

Costa Rica is probably the world's largest center of tropical research, with hundreds of scientists carrying on research programs there every year. For example, the Organization for Tropical Studies (OTS)—a prominent scientific research and tropical educational center—represents a consortium of more than 40 U.S. and Costa Rican universities. Each year visiting researchers and students spend more than 30,000 person-days in Costa Rica participating in the organization's programs. In a sense, OTS is one of the largest tourist agencies in the country. But beyond the economic benefits OTS generates through nature tourism, its researchers produce a wealth of scientific information. Yet the results of most scientific research were leaving the country along with the researchers.

To capture as much information as possible, a biological diversity program was formally established within MIRENEM. The local and international scientific communities were incorporated both at the national level, through this program, and at the regional level, through participation in the URC planning process. Thus, Costa Rica was able to base many of its decisions about protected areas on specialized scientific knowledge.

President Arias established a planning commission to explore how a national center for biological diversity could be established. Based on the commission's recommendations, the National Biodiversity Institute (INBIO) was created by presidential decree as a private, nonprofit organization in the fall of 1989. Its objectives are to conduct an inventory of the diversity of the nation's life forms and to analyze the central and potential contributions of biodiversity to society and development. In addition to collecting and identifying Costa Rica's species, INBIO has begun determining the distribution, abundance, habits, and habitats of the species. Because of Costa Rica's small size and enormous variety of habitats, it may be possible to succeed in this task of assessing the country's biodiversity. Beyond simply cataloguing species, INBIO will be analyzing various ways in which this biological wealth can be used to generate socio-economic development.

The creation of INBIO is intended to benefit the country at all levels—from local to national. As part of the data-collection process, INBIO is training people who live in the buffer zones as parataxonomists (people taught to identify species, but lacking the formal education). It eventually hopes to train almost 200 people as parataxonomists throughout Costa Rica. The products ultimately identified because of these efforts are expected to create employment for rural people and to provide economic justification for keeping wildlands intact. At the national level, the discovery of a single major pharmaceutical product could generate enough income for Costa Rica to pay for the management of all the nation's protected areas.

INTEGRATING CONSERVATION INTO THE DEVELOPMENT PROCESS

Costa Rica faced many of the problems common to developing countries trying to manage its natural resource base and develop a system of parks and reserves. In 1986, the country's ability to manage the existing system of parks and protected areas was limited. Overlapping and unclear jurisdictions, serious funding and personnel shortages, an inability of environmental agencies to coordinate with each other or with other agencies, and environmental agencies with insufficient power (compared to that of other government ministries) were major factors inhibiting the government's ability to manage protected areas. Because of clashes between local people and park management agencies, there was a serious "image problem"; people did not expect effective management. As a result, encroaching into and logging of protected areas were increasing.

If anything, Costa Rica's international reputation as a country committed to preserving biological diversity through its parks system made solving these problems more urgent and more difficult. Although the international community held the parks system in high regard, within the country—and especially in rural areas—there was a feeling that the parks served only the "gringo tourists," at the expense of local needs. Any strategy had to solve the system's real problems in a way that would win both international and local approval.

This would not be possible unless new administrative structures were created that would give greater importance to the role of conservation in, rather than apart from, the development process. It meant altering the way decisions were made about natural resources, at both national and local levels, which in turn required significant bureaucratic changes to integrate conservation more effectively into development planning.

Latin America encompasses more than 70 million hectares of protected areas that offer an uncommon challenge to prove that conservation and development can be combined. Costa Rica provides one example of how a country is trying to do this. The key actions (the establishment of MIRENEM, INBIO, and the URC system, as well as creative financing) all result from Costa Rica's unique needs and circumstances. As such, these particular institutions are not necessarily transferable to other countries. But these *kinds* of institutions and their underlying conservation objectives are necessary to further conservation in other Central American countries. The table lists the actions undertaken in Costa Rica to attain specific conservation objectives.

The actions and the processes that other countries will need to follow may be very different from those followed by Costa Rica. Yet many countries have the same *objectives*. Thus, Costa Rica can serve as a model by demonstrating one way of implementing much-needed reforms that can help create institutions for conservation.

Consolidation and Coordination of Institutions

Costa Rica's first step—the creation of MIRENEM—served to put conservation on a par with other government agencies, thereby giving greater power and credibility to natural resource management. It allowed

TABLE 1. ACTIONS AND THEIR IMPLICIT Conservation objectives

- 1) Consolidation and coordination of institutions: creation of MIRENEM
 - increase legitimacy and power for natural resource management and conservation
 - consolidate natural resource and conservation agencies
 - clarify jurisdictional boundaries
 - improve governmental coordination and planning of natural resource use
 - initiate sector-wide planning linking conservation and development through the National Conservation Strategy
- 2) Decentralization of park management: development of the URC system
 - improve intersectoral coordination for each region
 - increase local participation in resource planning and use
 - create vertical linkages between local people and government within each region
 - decentralize decisionmaking authority to regional levels
 - demonstrate the direct links between conservation and natural resource use and development practices and policies at local levels
- 3) New financing mechanisms launched
 - attract funds for conservation through creative mechanisms (e.g., debt swap)
 - align donors with a particular region to ensure long-term funding commitment
 - decentralize control of funds to regional levels to improve the quality of decisionmaking; and
 - privatize overall debt-swap funding through the National Parks Foundation to ensure greater participation
- Linking tropical science to conservation planning: creation of the National Biodiversity Institute (INBIO)
 - systematize and capture research and development activities under way nationwide
 - link tropical research to protected areas system and its management
 - identify economically valuable species and ways to generate rural income
 - provide an official mechanism for public/private sector collaboration on research and development

the government to consolidate management functions scattered among different agencies into one ministry. Although the legal integration of these agencies (e.g., the forestry department and the National Park Service) was not possible, President Arias's support made creative solutions to these obstacles possible. MIRENEM could keep separate budgets to meet legal requirements but integrate staff to meet practical needs with authority.

The same problems and needs with respect to natural resource management exist in many other countries. What Costa Rica did—consolidating and enhancing the power given to natural resource management—is possible, and needed, in many other nations. The way Costa Rica did it, and the speed with which such changes were made, may be difficult to achieve in other countries. However, to the extent it is possible, the establishment of strong natural resource management and environmental agencies should be encouraged.

Nicaragua has recently transformed its natural resource management agency into a ministry. It hopes that, as was the case in Costa Rica, 1) a minister can more effectively represent the case for natural resource management than can an agency head, and that 2) the consolidation of different management agencies into one ministry will lead to improved coordination. Other Central American countries are moving in this direction and beginning to combine wildlife and park agencies, for example. But the kind of sweeping reform achieved in Costa Rica—linking the park management agency, the wildlife service, the forestry department, the mining sector, and the energy department—has yet to be made elsewhere.

Decentralization of Park Management

Many Latin American countries have acted to protect their natural heritage by establishing a system of protected areas. Some countries, such as Costa Rica, started the process a few decades ago, while others have moved more recently. Throughout Central America "officially gazetted protected areas have increased from only 30 in 1970 to more than 230 by 1990."¹³ Many of these newly established parks and equivalent reserves rival those of some developed nations in their ecological representation and the percentage of land protected. However, in most countries it is easier to legally guarantee park protection on paper than to guard against encroachment by loggers, ranchers, poachers, farmers, and squatters. It is estimated that nearly three-quarters of the protected areas in Latin America are not effectively safeguarded, and that an even larger percentage lack long-term management plans and financial resources needed to guarantee their perpetuity.

In many nations, parks and reserves are administered by a central bureaucracy, often without adequate knowledge of local conditions or sensitivity to local cultures. The parks are policed by rangers who distrust local people and perceive them as threats. Far from being sympathetic to conservation objectives, rural communities often see national parks and reserves as enemies or threats to their future. The fact that governments have had to evict poor people living in or near biologically significant areas to create parks only ensures that relations between parks and local communities are seldom positive.

Creating the URC system in Costa Rica required careful balancing of many competing interests. The system was intended to ensure that conservation policies give priority to rural development and to the basic needs of neighboring communities. This was seen as essential for the longterm survival of the URC units. Within the units, projects that provide *multiple benefits*—social, economic, and ecological—and encourage the protection of irreplaceable natural resources were given high priority, followed by efforts that would promote sustainable solutions to rural problems. The vision was that the URCs would allow the entire spectrum of needs to be addressed—from consolidating national parks and reserves to providing sustainable livelihoods for local people.

The URC system was designed to forge links between government agencies and sectors such as planning, health, and public works. It was also created to encourage an interchange between the government and local communities. It decentralized the decisionmaking power to these communities in the hope that local people would become better managers of the resources in their URC if they participated in an inclusive decisionmaking process that involved diverse interest groups in each region. Although the system was in place by 1990, the processes that will make "sustainable development" work-such as local participation, actual decentralization of decisionmaking, integration and coordination of government programs, and integration of conservation and development needs-will not function at maximum effectiveness for years. It is too early to see clear results from such an ambitious undertaking. However, linking conservation and development in biologically significant areas through participatory approaches is now being seen as one of a very few options for preserving biological diversity.¹⁴

Costa Ricans are literate and comfortable expressing strong opinions to the government without fear of reprisals. The URC system, at least in theory, could open the floodgates for endless citizen demands for the government to act on a host of sensitive issues: land tenure, services, and the generation of rural employment. Because the rural poor are unafraid to make such requests and the government is willing to listen, there is reason to hope that the system could be successful. As the URC system begins to function, the government may be unable to respond to all of the demands that arise across the country. But to achieve change, local populations must articulate their needs. And, at the same time, the ways in which protected areas can meet or hinder these needs must be determined.

A number of limited experiments, resembling individual URC units, are under way elsewhere in Central America. No *system* for an entire nation has been adopted; in most countries, the closest parallels to the URCs are cases in which governments have turned over responsibility for a specific protected area to a nongovernmental organization (NGO). For example, in Guatemala, an NGO called Defensores de la Naturaleza (Defenders of Nature) took over management of the Sierras de las Minas Biosphere Reserve in 1990. The Guatemalan government is likely to relinquish management of other protected areas to different NGOs. In principle, these groups may begin encouraging not only increased local participation in the management process, but improved coordination between government and private sectors as well. The Honduran government also has turned over management of protected areas to two different nongovernmental organizations.

Conservation initiatives under way in Guatemala and Honduras—if pushed beyond the protection of single sites—could lead to the creation of a URC system similar to that of Costa Rica. In other nations, a national system could be established by the government. Costa Rica's URCs will provide a great deal of information to countries on both the effectiveness and inherent limitations of such a system. The essential ingredient will be persuading nations to move beyond the rhetoric of encouragement to actually beginning the processes of participation and decisionmaking. The URC system highlights the need for improved intergovernmental coordination and simultaneous planning for protected areas and buffer zones.

New Financing Mechanisms

Financing to support conservation is needed in virtually all countries. Few nations will be able to attract the levels of external resources that Costa Rica has. But securing additional funds for conservation through mechanisms such as debt swaps could be greatly expanded throughout Central America.¹⁵ The barriers to these arrangements their inflationary potential, the difficulty in defining an acceptable "package" of financial terms for swaps, the scarcity of donors, finding local and international nongovernmental organizations able and willing to participate, and the limited capacity of many organizations to absorb large amounts of additional financing—can be surmounted in most cases.

The extent to which other Central American governments would be willing to create regionally based endowments for conservation is unknown, but there is a clear indication that many are interested. In Nicaragua, the government established the National Commission for the Environment and Land-Use Planning (CONAMOR), an interinstitutional commission on the environment and land use that is housed in the economics ministry. Among its responsibilities are developing priorities for foreignaid assistance and soliciting debt-for-nature swaps.¹⁶

The Costa Rican government encouraged the "privatization" of funds to finance conservation in the country. To follow suit, other governments must be willing to lose direct control of substantial amounts of money generated through debt swaps by helping to secure and then turn over management of these funds to a freestanding nongovernmental organization, such as the National Parks Foundation. It is uncertain that other governments will be willing to follow Costa Rica's example. But lack of government initiative does not mean that innovative financing mechanisms cannot be developed.

For example, World Wildlife Fund-United States and three Guatemalan NGOs have agreed to establish the Trust Fund for Conservation in Guatemala. The fund would be endowed with an initial debt swap of \$1 million, to be increased up to \$5 million. Interest from the fund will be used to endow permanently a variety of projects throughout Guatemala, from technical studies to site-specific projects. The trust's board is composed of representatives from World Wildlife Fund and from the Guatemalan NGOs. It also includes a nonvoting government representative. The board may be increased to nine voting members.

In Costa Rica, this money is administered by regionally based committees, which greatly enhances the opportunity for local groups to act on their own decisions. Such a system limits the transferability of the Costa Rican experience to countries willing to delegate decisionmaking authority below national levels. But it is possible that the initiatives under way in Guatemala and Honduras aimed at decentralizing park management will lead to greater local and regional control over financing.

Linking Tropical Science to Conservation Planning

The creation of the National Biodiversity Institute (INBIO) in Costa Rica resulted from the need to consolidate in-country technical expertise in tropical science, as well as to stop the loss of scientific research and knowledge. Through INBIO, Costa Rica has embarked on an unprecedented systematics and ecological exercise with the expectation that the findings will 1) augment national pride and knowledge, and 2) bring substantial revenues that will help link conservation and economic development. But with a largely literate population, good universities, and in-country scientific groups, Costa Rica begins this exercise from a position of strength, relative to many developing nations. It also has long been a magnet for tropical research.

The creation of INBIO is the one aspect of reorganization of natural resource management that could most easily be replicated in other countries. Although its implementation depends on locating large amounts of outside support, it is the least "political" of the initiatives that Costa Rica undertook. At present, no other institution comparable to this institute exists elsewhere in the world. Thus, Costa Rica's experience in establishing INBIO, gathering biological data, training parataxonomists, and working with private-sector companies could be transferred elsewhere.

CONCLUSION

Costa Rica's efforts demonstrate that sustainable development will require creativity, innovation, and the capacity to implement new programs and policies. In many cases, this will mean adapting or establishing the institutional structures to implement new processes, reforms, and laws that link conservation and development. These institutions should be flexible, yet able to control effectively natural resource use. They should be able to forge bonds between different government sectors and create new alliances within regions. And, finally, they should be willing to encourage widespread local participation and decentralize decisionmaking to local and regional levels.

Costa Rica made a variety of changes in *how* natural resources and conservation are administered within the country. All of these reforms were designed to decentralize decisionmaking. Only a small part of what ultimately will be required for the nation to match the "sustainable development vision" set forth in the National Conservation Strategy has been accomplished thus far. But the fact that such a vision exists, and that a national government has embraced it and set out goals for achieving it, is significant. The Costa Rican government has set a standard by which others can be judged in the future. It is also noteworthy that Costa Rica has shown the creativity and initiative to promote actively a system that will lead to change. The basic structure is in place to reflect the enhanced role of conservation as a necessary component of development.

Notes

³ Although the Ministry of Agriculture did not lose the park service, it did not want to part with the forestry department. There were also discussions about transferring the Fisheries Agency from the Ministry of Agriculture to MIRENEM. But in the ensuing bargaining process that was needed to create MIRENEM, fisheries remained in the agriculture ministry.

⁴ Although Costa Rica's rural quality of life is above that of other Central America countries, estimates for the 1980s suggested that 20 percent of the rural population lived in absolute poverty, over half lived in poverty. See H. Jeffrey Leonard, *Natural Resources and Economic Development in Central America* (Washington, DC: International Institute for Environment and Development, 1987), p. 76.

⁵ In May 1991, MIRENEM sent a draft law to congress to reform the National Parks and Forestry laws and to consolidate legally the National System of Conservation Areas.

 $^{6}\,$ The Calderon government did, however, change the name to Regional Conservation Areas (ARCs).

¹ These strictly protected areas will be called "parks" throughout the chapter; other protected mixed-use areas, and parks generally, will be referred to as protected areas.

² These protected areas are significant because of the unique ecosystems and flora and fauna that they contain, which in many cases, are found nowhere else in the world. Enforcement of regulations regarding permissible uses is strongest in these areas, and in most cases, the only types of uses allowed are controlled tourism and scientific research.

⁷ In June 1991, the Costa Rican Supreme Court ruled that land expropriated by the government and converted to parks without payment to the owners would revert to the people who owned it prior to its expropriation.

⁸ In this arrangement foreign-currency-denominated obligations are to be repaid to their holders in local currency, or with local-currency-denominated instruments, on the condition that the proceeds *will* be used to purchase equity in some predefined domestic investment project.

⁹ Debt-for-nature swaps are similar to debt-for-equity swaps. Typically, an international organization purchases a country's foreign debt at its disounted market value. The title for this debt is exchanged for new domestic currency obligations that are used to finance conservation programs. The specific terms of this program were 75 percent of face value, 25 percent average interest, and five-year maturity.

¹⁰ These were converted by Costa Rica's Central Bank at 33 percent of face value, but with a maturation of four years maximum and interest rates at 15 percent per annum.

¹¹ The alchemy of debt-for-nature swaps means that the colones injected into the economy by local currency bonds can have a significant inflationary effect. To minimize the inflationary impact, the bonds are non-negotiable and only interest and principal payments are monetized bonds, or less than 50 percent of face value. From this perspective, the Central Bank of Costa Rica and the orginal donor have shared the discount obtained in the purchase of debt titles in secondary markets. If titles are purchased for close to 15 cents on the dollar, the Central Bank can match the grant on a three to one basis and still pay less than 50 percent of the face value of the title, thereby reducing future interest payments on this amount.

¹² Another example of the use of debt-swap funds was the Dutch Sustainable Development Debt Swap, described elsewhere. The purpose of the swap was to create an endowment for reforestation and sustainable development with social interest groups such as cooperatives and farmers' organizations throughout Costa Rica. From 1989 to 1990 nearly 4,000 hectares were planted by these groups using funds generated by interest payments on the local currency bonds. The bonds are held in an escrow account, and the utilization of interest payments was determined jointly by MIRENEM and MIDEPLAN, in consultation with the Dutch Government. These local resources have also been used to strengthen a variety of local nongovernmental organizations. The endowment has also created employment for more than 500 individual beneficiaries.

¹³ Steve Cornelius, "Wildlife Conservation in Central America: Will it Survive the 90's?" Proceedings of the North American Wildlife and Natural Resource Conference, *Transactions*, Vol. 56, pp. 40-49.

¹⁴ M. Wells and K. Brandon, *People and Parks: Linking Protected Area Management with Local Communities* (Washington, DC: World Bank, 1992).

¹⁵ The Costa Rican experience has already served as a model for debt swaps in Ecuador, the Dominican Republic, and most recently in Mexico and Brazil.

¹⁶ Cornelius, op. cit., p. 12.



Equity and the Environment in the Promotion of Nontraditional Agricultural Exports

Stuart K. Tucker

INTRODUCTION

In the field of development, diversification of exports is today's rallying cry, and Central America has finally responded by pursuing an export-led development strategy.¹ One thrust of this approach is rapid expansion of labor-intensive manufacturing exports, especially clothing, footwear, handbags, handicrafts, and wood products.² Yet, for these largely agrarian societies, new, nontraditional agricultural exports not only must play the primary role but also are now touted by aid donors and recipients as pivotal to the region's development strategy for the rest of the century. Most of the efforts of external aid donors will be aimed at assisting this approach.³

Central America's five major traditional export crops (coffee, cotton, beef, bananas, and sugar) face volatile world prices, stagnation in demand, and a world of foreign competitors. Meanwhile, other Central American agricultural crops, particularly fruits and vegetables, offer the prospect of growing markets and fewer competitors. Because the five traditional export crops dominated the economy for many decades, the newcomers are being called "nontraditionals." They mainly include winter vegetables and fruits, nuts, exotic tropical fruits, and ornamental plants and flowers, most of which are shipped overseas fresh or chilled.

This chapter argues that diversification into nontraditional agricultural exports can be good for development, in theory. However, if current policies continue, such exports will tend to intensify both existing income inequities and environmental damage.

The export of nontraditional crops is a necessary element of a successful medium-term development strategy for Central American countries. Producing corn and beans for domestic consumption offers little chance of alleviating poverty, as the population is growing far faster than is the productivity of these crops.⁴ Commercial cash crops may offer the kind of economic opportunities needed to improve the human condition, but only if global supply and demand favor continued production growth. On the other hand, nontraditional agricultural exports provide large returns on investments and can yield high earnings in the future. Certainly, a community's income from producing export crops would far exceed what is required to buy food for those people who once grew the food crops but have switched to cultivating nontraditionals.

If Central America's rural poor are to sustain the environment, while simultaneously escaping their poverty, they will need alternative sources of income that are derived from existing agricultural lands. Limited production choices lead the poor to destroy and pollute their surroundings. At the same time, environmental degradation undermines the ability of impoverished people to support themselves. If properly designed, a nontraditional export strategy offers hope that this vicious cycle can be broken.

There are pitfalls to this strategy. The production and export of nontraditional agricultural crops is neither environmentally nor socially neutral. The so-called new panacea could be a pandora's box, releasing numerous ills into developing societies: food-import dependency, uncertain export markets for producers of the new crops, environmental damage from new cropping patterns, income inequities, concentration of land holdings as well-to-do farmers acquire property for growing nontraditional products, over delegation of government-agency authority to private actors, and diversion of U.S. foreign aid away from the social needs of the many and toward commercial profits for the few.

Unless current policies are dramatically altered, the pressure to increase nontraditional agricultural exports may exacerbate rural povertyand thereby indirectly contribute to environmental degradation. Central Americans and their aid donors need to implement policies that will strike a balance between efficiency, equity, and environmental conservation. To pursue any one of them and neglect the others will lead to nonviable production choices. The challenge is to alter public and private practices to overcome the obstacles that currently prevent nontraditional agriculture from benefiting everyone and being environmentally sound.

This chapter discusses the social and environmental concerns surrounding nontraditional agricultural exports, particularly in Costa Rica, Guatemala, and Honduras. Policies are analyzed and recommended to establishing a strategy for the export of nontraditional agricultural crops that includes the alleviation of poverty.

THE PROMISE OF NONTRADITIONAL CROPS

When viewed from the perspective of reducing rural poverty, nontraditional agricultural exports seem to be ideal. A large number of crops are being investigated for their potential as exports.⁵ The varying climate and seasonal requirements of these products give farmers many choices of what to cultivate. Consequently, for poor farmers with scarce capital and little resources, nontraditional alternatives hold the promise of a higher income than do the domestic food crops they have previously grown. In fact, the number of new crops being developed in Costa Rica, Guatemala, and Honduras is impressive (see Table 1).

The majority of nontraditional agricultural exports are off-season fruits and vegetables that sell well in the United States from October to March. In industrial countries the primary markets for this produce are airlines, luxury hotels and restaurants, and upper-income families in major cities (although the growth in U.S. demand for many of these products appears to be broadening because of rising health consciousness).

Tropical fruits, such as pineapples, passion fruits, melons, limes, and oranges, have been exported for decades. However, winter fruits grown in the highlands, such as strawberries, blackberries, raspberries, and boysenberries, are relatively new exports, as are off-season vegetables—mainly snow peas, broccoli, squash, and brussel sprouts. Even some of the farmers in remote sections of western Honduras are growing apples and pears for shipment to neighboring El Salvador. In efforts to diversify from coffee trees to a similar type of crop, nut trees (macadamia, for instance) have been introduced throughout Central America. Costa Rica has capitalized on its biological diversity by entering the business of shipping flower seeds and live plants to American and European plant markets.

In Costa Rica, where nontraditional agricultural crops are being most rapidly adopted, export success has been striking. Although production started from a small base, Costa Rican vegetable and fruit exports (excluding bananas) to the United States achieved a growth rate of 31.5 percent annually from 1983 to 1990 (see Table 2). If current trends prevail in Costa Rica's trade with the United States, in 1996 the country's fruit and vegetable exports alone will surpass the combined total for its major traditional agricultural exports of coffee, sugar, bananas, and beef. In addition, Costa Rican ornamental plant shipments to the United States

	Costa Rica	Guatemala	Honduras
Vegetables			
Asparagus	•	•	•
Black pepper	•		•
Broccoli	•	٠	
Brussel sprouts		•	
Cabbage		•	
Cauliflower	•	•	
Chayotes (vegetable pears)	•	•	•
Chile peppers	•		•
Cucumpers		•	•
Endive and lettuce		•	
Gariic Miniaturo cauash			0
Miniature squasit Miniature com			0
Onions			0
Parslev			
Small cucumbers		•	
Snow peas		•	0
Spinach		•	
Tomatoes	•	•	•
Fruits			
Apples			•
Aromatic fruit trees			•
Avocados			•
Blackberries and blueberries		٠	0
Citrus fruits, including oranges	•	•	•
Coconuts	•		
Grapes	_	•	
Mangoes	•	•	•
Meions	•	•	•
Peaches			•
Pears		•	•
Pinesonles		•	
Plums	•		
Strawberries			
Watermelons	•	•	•
Other			
Cacao	•		•
Cashews			0
Cut flowers	•	•	•
Macadamias	•	•	
Ornamental ferns	•		
Rice		•	
Vanilla		•	
rucca	•		

112 The Promotion of Nontraditional Agricultural Exports

TABLE 2. CENTRAL	AMERICAN	NONTRADITIONAL	AGRICULTURA	L EXPORTS TO THE	E UNITED STATES
	1	983		1990	Annual Average
Export Values	(\$ millions)	(percent of all exports)	(\$ millions)	(percent of all exports)	Percentage Change ^a 1983-1990
Costa Rica	14.5	3.2	98.5	9.8	31.5
Guatemala	16.0	4.0	53.8	6.8	18.9
Honduras	12.3	2.8	23.8	4.8	9.9
Total, Above	42.8	3.3	176.1	7.7	22.4
Total, Central America	49.6	2.8	208.2	8.0	22.3
	1	983		1989	
Physical Volume	('000 cwt)	(percent of which pineapples)	('000 cwt)	(percent of which pineapples)	Percentage Change ^a 1983-89
Costa Rica	95	88.4	2147	55.5	68 1
Guatemala	145	2.8	938	0.0	36.5
Honduras	742	89.8	1425	21.2	11.5
Total, Above	982	76.8	4510	33.1	28.9
Total, Central America	1007	74.9	4827	31.0	29.8

Note: Data do not include bananas.

Source: U.S. Department of Commerce and U.S. Department of Agriculture, unpublished data.

rose at a rate of 17.3 percent annually from 1983 to 1989. The growth rates for all of these nontraditional products far exceed the 3.6 percent annual growth achieved by the nation's primary traditional export crops.⁶

Advantages of Nontraditional Crops for the Poor

In theory, nontraditional agricultural products assist in alleviating rural poverty in three significant ways. First, and most valuable, is that such crops can be produced where the poor live—in the highlands and transitional watershed areas—and most can be grown on small plots. Because of the varying seasons, it is possible to rotate different crops throughout the year, thus helping to preserve soil nutrients and reduce erosion. In this way poor people may be able to intercrop nontraditionals with their usual corn and beans. The extra income helps them to stay on their parcels of land, despite economic and environmental pressures to leave.

Second, nontraditional agricultural production provides employment for the landless during harvest time, as pickers and packers. Delicate fruits, vegetables, and flowers are not as amenable to mechanical harvesting as traditional crops are, and picking is labor-intensive work. Women also can play a greater role in this stage of production, because manual dexterity, not strength, is the necessary attribute. As more women have numbered among the landless poor since 1980, nontraditional agriculture fulfills a crucial socioeconomic role by providing much-needed employment.

Third, many of these new crops mature relatively quickly. Unlike coffee trees, most nontraditional plants do not require years of growth before a significant harvest allows farmers to recover their initial investments. Production experiments can be conducted involving only a shortterm gamble, thereby encouraging even hesitant poor farmers to investigate export crops. Thus, entrance into international production entails less risk than do other cash crops.

OBSTACLES TO EASING POVERTY THROUGH NONTRADITIONAL AGRICULTURE

Despite the potential benefits for Central America of cultivating nontraditional crops, there are a number of problems associated with their production, marketing, and export that create doubts about the likelihood that such agriculture will help reduce poverty. Businessmen throughout the region cite transportation, credit, and pesticide residue regulations in foreign markets as the most significant problems, but no one's list stops with these three. Rich producers can afford to find ways past such bottlenecks, but for the poor the problems may be insurmountable. In the near term the focus on nontraditional crops may actually exacerbate poverty. The role of U.S. and regional public policy will be crucial in overcoming these problems.

Adopting New Crops

Making the decision to gamble on new and different crops is certainly the first obstacle to switching to nontraditional agriculture. Farmers need to know about the available seed varieties and their cultivation requirements. Worldwide agricultural studies generally concentrate on food crops or on temperate zone crops, devoting scant resources to nontraditional cash crops, especially those that can be grown in the tropics by poor people. Most agricultural research is conducted within universities of the industrialized world, where the major concerns are not productivity on volcanic hillsides in Central America. Moreover, research efforts of the region's institutes and governments are frequently underfunded. Although there has been progress in Central America to encourage greater investigation of nontraditional plants [for example, at the Tropical Agricultural Research and Training Centre (CATIE) in Costa Rica], dissemination of these efforts into rural areas has been slow; benefits extend primarily to farmers with large holdings.

Throughout the region agricultural extension services are inadequately funded and irrelevant to the needs of most poor farmers. In practice, "extension information" is frequently offered by local store owners who convey self-serving data provided by manufacturers of agricultural inputs such as fertilizers. Too few lessons have been widely taught regarding successful low-input or traditional production techniques (i.e., using little water, fertilizer, or other chemicals). Programs such as *Campesino a Campesino* in Nicaragua, in which small farmers disseminate information and teach others how to experiment with low-input farming, have not been replicated on a larger scale. Although these programs emphasize subsistence crops, they also provide small-scale farmers with a basis upon which to expand into nontraditional cash crops.

The most successful producers of nontraditional crops are those who have access to appropriate information on such crops. Often large exporters aided by foreign investors assist growers. The pattern developing throughout Central America is that production information originates abroad and gradually reaches the villages—but only when large growers and intermediate shippers find that such knowledge sharing can be useful to establishing supplier networks. The U.S. Agency for International Development (USAID) has attempted to finance the dissemination of such information, but efforts in the 1980s largely bypassed rural subsistence farmers. Farmers' cooperatives exist in some places, meeting the needs of small-scale cultivators for appropriate information. However, even co-ops are heavily dependent on help from exporters.

Even if farmers are aware of production methods for a nontraditional crop, market timing is crucial. For example, until recently Guatemalan growers of winter vegetables were highly dependent on the price and quantity estimates of a handful of shippers (who for the most part did not make up a "competitive" market). Small farmers' ignorance of prices in Miami led to frequent cases of price fraud in winter vegetable sales. However, by establishing their own export cooperative, a group of farmers in the central highlands near Guatemala City was able to improve competition when its crops were purchased by intermediaries. The group's efforts forced commercial middlemen to give growers better prices (and not just to the co-op). This phenomenon—of imperfect competition among middlemen—is repeated for virtually every type of nontraditional agricultural export. Yet there are also too few "success stories" about introducing real competition for the products of small growers.

Another problem concerns estimating the quantity that the market will demand. Generally, farmers take all the risks during the growing season and then must find exporters to purchase their produce at harvest time. The volatility and risk in nontraditional production creates a chaotic situation for growers; they have no guarantees that they will locate a buyer who will export. Because the local market demands very low amounts of nontraditional crops, it can absorb only large quantities of such produce at a fraction of the price an exporter will pay. Growers will incur large losses if the export buyers cannot sell their crops and, consequently, decide not to purchase their crops. Poor farmers have the least access to information to make judgements about market demand for nontraditional produce.

With the most sought-after export crops, such uncertainties can be reduced through guaranteed purchase agreements between exporters (who supply the production inputs) and farmers (who promise to deliver the harvest to them). However, in an imperfectly competitive market, this innovation has been distorted by pricing schemes that discriminate against the small farmer. Exporters claim that these purchase agreements are the only way to ensure the quality and quantity controls necessary for export shipments, but the result is that they exclude the poorest farmers from export sales opportunities.

Production Problems

The need for capital and for information on cultivating nontraditional crops presents all but insurmountable obstacles to significant increases in the production of nontraditional exports by poor farmers in Central America.

INITIAL CAPITAL REQUIREMENTS. There is a striking contrast between the initial capital investment needs of traditional and nontraditional crops. Using traditional methods, a Honduran grower of corn or beans requires about \$130-160 per hectare annually.⁷ Using more modern techniques to produce corn or beans, the farmer needs about \$190 per hectare—an increment within the range of an innovative small-scale farmer. The jump to nontraditional crops, however, is a quantum leap. For example, the cost of growing cucumbers, grapefruits, pineapples, and cantaloupes under traditional methods is about \$1,000 per hectare. In contrast, high-vielding, high-quality technological techniques for cultivating pineapples and cantaloupe can require \$2,000 to \$4,000 per hectare. Guatemalan growers of raspberries and blackberries must invest about \$1,000 per hectare, if they plant a minimum of 10 hectares. Strawberries cost about \$3,000. Asparagus is considered a "starter" crop by Guatemalan export promoters. Yet, the minimum requirements are estimated to be 20 hectares and \$520 per hectare (and the rate of return is much smaller than that for the more capital-intensive crops). These high initial investments may not daunt medium-sized coffee growers, who typically expect to spend close to \$2,000 per hectare in initial capital and need more than \$700 per hectare in annual working capital. (And they then must wait several years before the coffee trees reach maturity.) However, investments of this magnitude are beyond the reach of poor farmers accustomed to raising corn and beans.

Such large capital requirements have not impeded relatively welldo-to investors in Costa Rica (foreigners and banks account for about half the investments in the nation's production of nontraditional crops). Elsewhere, growers seek dependable credit. In fact, in Honduras and Guatemala the primary problem for farmers is the failure of credit markets. The high rates of return that growers can reasonably anticipate should be sufficient to garner investor or banker support. Nevertheless, governmental credit institutions in these two countries have been unable to respond adequately. They have cumbersome loan authorization processes; they are too centralized to be available to farmers in most of the countryside; they do not have the information necessary to assess the risks that growers encounter; and they are short of funds. In some cases corruption and theft in the national agricultural institutions are privately acknowledged to be rampant. The result is that loan approval can take up to a year (arriving too late for the short growing cycles associated with nontraditional crops), and most of the recipients are not the small, poor farmers who most need the credit.

LAND REQUIREMENTS. In addition to capital scarcity, a major obstacle for poor farmers is the inequitable distribution of land and the difficulties of acquiring or renting land. Most nontraditional agricultural exports need little land, but some of the crops that require the least amount of initial capital unfortunately do require large areas of land. For example, the Honduran honeydew melon industry has one of the lowest capital per hectare investment requirements (about \$250) and one of the highest rates of return. However, a minimum of 500 hectares of land must be sown for the crop to be financially viable. Farms of such size are not typical. To avoid this problem, the melon exporters have actively sought to finance large numbers of neighboring, small-scale growers, binding them into two-way contracts covering supplies and purchasing of output.

OTHER INPUT PROBLEMS. Other production components can be costly as well. For instance, the cost of seed and seedlings is higher for nontraditional crops. However, much of the working capital costs are for technology-intensive inputs (such as irrigation, fertilizers, pesticides, and refrigerated storage) and labor-intensive harvesting and packing.

Nontraditional vegetable crops need more water than do corn and beans and some traditional cash crops, such as cattle and coffee. However, where water is plentiful, transportation often is a problem. As a result, most Guatemalan nontraditional production is being developed near ports and airports, far from low-cost water sources. And Guatemala's remote, water-rich western highlands have yet to see the introduction of more than a few nontraditional exports. Micro-irrigation and roads are expensive, and often infeasible, solutions for the poor.

The lack of reliable electricity is another infrastructural limitation. Many nontraditional exports must be refrigerated. Rural areas in Guatemala and Honduras are exceedingly isolated from dependable electrical grids and refrigerated storage and transport vehicles.

Usually, nontraditional crops also are grown using many chemicals—fertilizers, herbicides, and pesticides—that ward off diseases, pests, and promote growth with more precise timing. Most of these chemicals are available throughout the region. However, the foreign exchange crises that recently plagued Guatemala and Honduras caused the price of these substances to rise faster than final crop prices were rising in local currency. The rural poor, especially when they are far from the main roads, usually cannot afford even minimal amounts of chemicals.

More cost-effective practices—such as integrated pest-management schemes (using fewer pesticides) and nonchemical fertilizing methods—are relatively underutilized in most parts of Central America, though their potential savings could be enormous.⁸ Among the underused methods are several techniques that build up the biomass (plant and animal matter) in eroded soil. They include creating rock barriers and planting grasses and trees to improve the water absorption; terracing and contour plowing to stabilize soils; and, especially, growing nitrogen-fixing plant varieties (velvet beans, for example) that can add tons of biomass as well as nitrogen to the soil. These techniques enhance the soil without using chemicals and work well combined with traditional food crops—for instance, intercropping corn, velvet beans, and small experimental quantities of nontraditional vegetable crops. Rural farmers can easily understand these methods, which have been strongly supported by organizations such as World Neighbors, a group that encourages site-specific experimentation with low-input agriculture in Honduras, Guatemala, and Nicaragua.

Unfortunately, the same ignorance that leaves these highly practical techniques untried also leads to abuse of pesticides. As a result, incorrect applications cause local environmental contamination and health hazards and force exporters or customs officials in importing countries to reject produce. Not surprisingly, the technology involved in nontraditional agricultural production is not matched by efforts to improve the education of poor farmers. Private sector and nongovernmental organization activity to increase the access of the poor to appropriate crop-production technologies is only thinly evident in each country.

Marketing Problems

Once a nontraditional crop is harvested, farmers face a series of obstacles in transporting and exporting their produce. First, packaging requirements for fresh or chilled nontraditional produce can be quite specific to the crop involved (such as size-graded containers or packages that allow periodic spraying with water in transit). The industry is so new that there is little choice among packaging suppliers. In addition, it is far from competitive or highly integrated with the export marketers. As a result, small farmers face unfair pricing practices.

Second, Central America's antiquated telephone systems compound these market imperfections. Small-scale producers cannot easily seek out alternatives because of their isolation from business communications networks.

The third and by far most significant barrier to nontraditional agriculture is the weak transportation network. An inability to get goods to the market in a timely manner is the death knell for a fresh-food farmer's business. Throughout Central America, roads that can bear truck traffic are poor or nonexistent. Refrigerated truck services are expensive (when they are available). External transportation links are also underdeveloped, with few local airlines operating freight planes. Foreign refrigerated air shipping services do not pass through the region at convenient times, being geared more for transport away from the United States than into it. Finally, existing Central American national airlines have successfully pressed for regulations that make it difficult for cargo planes returning empty from points in the south to obtain landing permits, although their rates would certainly be low for shipments north to the United States.

ENVIRONMENTAL IMPACTS

The environmental impacts of agricultural production come in two major forms: *direct effects*, which depend upon the specific crop and growing techniques; and even more substantial *indirect effects*, when rural poverty triggers short-sighted production choices aimed purely at survival.

Direct Production Concerns

Much has been made of the problems associated with pesticide use to grow both traditional and nontraditional agricultural products for export.⁹ The rate of pesticide use and abuse is high in Central America. (See Appendix, Figure 17.) Producers who cannot afford the chemicals are often incapable of competing in the international marketplace. On the environmental side, strong evidence exists that pesticides applied on nontraditional crops are excessive and likely to cause resistance in the pest populations. Moreover, because of pesticide applications later in the growing cycle than recommended, many harvests retain unacceptable pesticide residues, which result in numerous detentions at the borders of importing countries.

The promotion of nontraditional exports is not the source of pesticide abuse. First, the pattern of pesticide use antedates the interest in nontraditional agriculture. In fact, many traditional crops—especially cotton, bananas, and coffee—have been grown in ways that have contaminated soils with high levels of chemical residues.¹⁰ Indeed, nontraditional tree crops actually can rejuvenate degraded lands over time, by putting nutrients back in the soil.

Second, where producers continue to abuse their land, the behavior has been found to be better correlated with low education and low awareness rather than with the type of crop. 11

Third, where chemical abuses continue with nontraditional crops, the production structure and relationships with purchasers explain the problem more than do the specific requirements of the crop being cultivated. In particular, individual growers (small or large) have worse records than do those who are in cooperatives or associated with export contracting. The implication of this last pattern is that, as exporters' concerns about pesticides increase, the least-educated, least-organized farmers are the ones who lose contracts, thereby reinforcing the unequal gains among nontraditional producers.¹²

Finally, Central American pesticide laws in general are not lax (with the exception of Honduras). Of course, in many countries, enforcement is difficult. Substantial amounts of chemicals are illegally repackaged in poorly identified containers before being distributed to producers. In such cases the suppliers, not the growers, should be blamed for the misapplications.

Another concern regarding the environmental impact of nontraditional production is that it will cause over-intensive use of land. This fear is largely unfounded. Because of crop rotation and higher profits, farmers should find fewer, not more, reasons to overuse their land or extend production into marginal areas or forests. On the grounds of preventing soil erosion and deforestation, nontraditional agriculture should have a net environmental benefit. This is especially true when cattle ranching (often land-expensive) is replaced by nontraditional tree crops, which is now occurring in overgrazed areas of Costa Rica. Indeed, nontraditionals can be an economical way to reclaim cattle pastures. Furthermore, the soil needs of the new crops require farmers to replenish the soil nutrients they cannot be grown by slash-and-burn techniques that diminish land quality after short periods of cultivation.

On the other hand, the irrigation and chemical needs of many nontraditional crops can lead to runoff of pollution into waterways. This is a less significant concern in the many water-abundant regions in Guatemala and Costa Rica, where the toxicity of chemicals is usually diluted to nonhazardous levels, but it cannot be so easily ignored elsewhere.

The largest environmental pitfall of nontraditional crops is the potential for the rural poor to still cultivate such crops using damaging techniques, even though they have little prospect for securing export contracts. Unless these poor farmers receive the information they need to grow the crops in an environmentally sound manner, the produce they sell locally will most certainly be highly contaminated.

In principle, the private sector has an interest in assisting with the dissemination of production information to the poor who will be the growers of their country's exports. Supply contracts with poor farmers may overcome the tendency of such growers to cultivate contaminated produce. The danger is that the private sector may instead concentrate export efforts among the largest producers. This may be bad for the environment if it leads to forms of land-ownership (such as share-cropping) that do not involve the producers in direct concern for ecological stewardship of the land. (For a more detailed discussion of land tenure and the environment, see Strasma and Celis, Chapter 5.)

Indirect Impact of Poverty

When farmers lack cash income or the landless lack work opportunities, they tend to adopt a variety of survival behaviors that are devastating to the environment.¹³ To increase income poor people will farm on very marginal lands, such as on steep slopes, which contributes to soil erosion and the runoff of silt into waterways. They also farmland that may be more suitable as fallow swampland, to the detriment of wildlife and fisheries. Forests are cut to sell timber, to obtain fuelwood, or to increase pastures or croplands. Inattention to soil nutrients and shortcuts on grading the land can lead to severe soil erosion as well as to poor crop quality.

If the poor are desperate enough, they will migrate into virgin forests or protected parklands, where they will use damaging slash-andburn methods to clear the land. Many will give up farming altogether and join the hordes that descend upon Central America's burgeoning cities, causing further environmental damage in slums receiving little attention from city services.

Consequently, as long as profitable nontraditional production is out of the reach of the poor, or even exacerbates inequities in rural areas, then the environment will suffer. The cultivation of nontraditional crops must be made profitable for poor farmers as well as for rich ones if the indirect environmental effects of poverty are to be effectively combatted. If, instead, an unbalanced focus on exports fails to address the problem of production (and income-generation) by poor people, they will be forced to increase consumption of their natural resources.

The worst-case scenario would result if nontraditional export agriculture distorts land prices and thereby reduces the availability of land for the poor, while government programs are diverted away from poverty-oriented development and, instead, benefit large-scale nontraditional farmers. The effect of such conditions would be that the increasingly desperate rural poor would cause severe environmental degradation.

POLICY FAILINGS IN THE PROMOTION OF NONTRADITIONAL AGRICULTURE

A nontraditional agricultural export strategy that is also pro-environmental and pro-poor will require the reorientation of a number of public policies in both Central America and the United States to remove the obstacles that poor farmers face in adopting and successfully producing nontraditional crops.

Central American Policies

In its desire to boost exports, Central America has sought public policies that would create a better business environment and that would provide exporters with greater incentives. In many respects, however, these "reforms" have produced more problems for the poor than they have solved.

EXCHANGE RATES. Under concerted pressure from the International Monetary Fund, the World Bank, and bilateral aid donors, virtually all of the region's governments have tried to foster a pro-export climate by devaluing their currencies. Adjustments of exchange rates have been incomplete and accomplished at great political cost. In the cases of Guatemala and Honduras, the rate adjustment came in a large, abrupt collapse, causing import prices to jump. The resulting change in the relative prices of agricultural inputs was especially difficult for small farmers to handle. The short-term effect of these price alterations on cash flow represented vet another obstacle to poorer farmers adopting nontraditional crops.

TAX POLICY. Despite the fiscal austerity implemented in the 1980s, a number of tax measures were inaugurated to assist exporters. In Costa Rica, for example, the government established a tax rebate program (Certificados de Abonos Tributarios, or Tax Payment Certificates) to promote export sales. The Costa Rican tax breaks for the export marketers are mostly collected by a very small number of large companies. More than half of the rebates have gone to less than 5 percent of the companies, while 78 percent of the companies have received only 15 percent of the rebates.¹⁴ In Guatemala laws and export taxes were changed to eliminate what had been a series of disincentives to exporters. Though laudable, these actions have reduced the availability of government resources and have consequently aggravated the current government deficit. Accordingly, government expenditures benefiting the rural poor have suffered.

AGRICULTURAL RESEARCH AND EXTENSION. Government activities in agricultural research and extension are notoriously underfunded and overcentralized. Typical of all Central America, most of the Guatemalan Ministry of Agriculture's budget is spent inside the district surrounding the capital and more than half of the extension agents work in the capital. Fiscal pressures have accentuated this problem and, thus, reinforce an agricultural development policy biased toward large growers.

PESTICIDE TESTING. The promotion of nontraditional exports requires the use of pesticides to yield quality produce acceptable in foreign markets. However, local testing facilities are inadequate for the task of helping producers refine their pesticide use. Few residue testing laboratories exist and most lack the up-to-date equipment necessary to warn farmers of pesticide residues that are unacceptable in foreign markets. Also, these laboratories are not able to conduct the kind of wide-ranging field sampling that is needed to identify the location of and reason for the residue problems. Furthermore, all countries in Central America lack a certification system for pesticide application workers. Consequently, chemicals are applied by people with very little knowledge of the dangers to farmers or of the residues that will persist on the harvested produce.

FOOD SAFETY STANDARDS. Compounding the pesticide problem, domestic food safety standards remain lower than U.S. import standards, making it possible (though not very profitable) to dump products on local markets when they cannot meet export requirements. This twotiered system slows the rate of adjustment to external health and safety standards, thereby damaging Central America's environment and its populations' health.

PESTICIDE USE. In the Guatemalan highlands, where literacy is not widespread, pesticide instructions are often misunderstood. Consequently, the highland poor are gradually being squeezed out of the nontraditional business by richer, better-educated producers who can guarantee exporters a higher rate of acceptance of the goods into the U.S. market, without the exporter having to use expensive product screening to be certain about residue levels.

PUBLIC AGENCY FINANCIAL ACCOUNTABILITY. Government expenditures are poorly tracked in Central America (with the exception of Costa Rica). This lack of public financial accountability hides corruption and makes it difficult to assess the overall effects of government activities in relation to rural development strategies. In general the "have-nots" also do not know who is benefiting from government spending at their expense. As long as this persists, the poor can play but a small role in fostering public policies with broad-based benefits to rural populations.

U.S. Trade and Aid Policies

Begun in 1984, the U.S. Caribbean Basin Initiative (CBI) expands the duty-free treatment of products imported from Central America, thereby overcoming the anti-agriculture bias and the escalating tariff structure that still face other developing countries. The CBI's tariff reductions give Central American exporters of nontraditional produce a preferential advantage over potential competitors in Mexico, South America, Asia, and Africa (see Annex to this chapter). Although the overall results of the CBI preferences have been less impressive than once hoped,¹⁵ the trade advantages for nontraditional products are significant (for example, eliminating 17.5 to 35 percent tariffs on some fruits and vegetables produced in Central America).

Nonetheless, a number of U.S. trade policies as well as aid policies continue to work against Central American exporters, especially the poorest farmers. The U.S. policy failings most relevant to nontraditional agriculture include marketing orders, government-sponsored advertising campaigns, sanitary regulations, aid restrictions, market information activities focused on Central America's big producers, poorly targeted rural credit activities, and inadequate land-tenure policies, all of which are detailed in the following pages.

MARKETING ORDERS. U.S. trade law includes a number of product-specific quality and appearance import requirements, the most significant ones for Central Americans being agricultural marketing orders (see Table 3). Under the Agricultural Marketing Agreement Act of 1937, mini-

17 Restricted Products	Eligible, But Not Restricted ^a
Avocados Dates (not for processing) Filberts (hazelnuts) Grapefruit Grapes (for table use) Kiwi Fruit Limes ^b Nectarines Olives (not Spanish-style) Onions Oranges Plums Potatoes Prunes Raisins Tomatoes Walnuts	Apples Cucumbers Egg Plant Green Peppers Mangoes Pistachios ^b
mports may be restricted by federal marketin oducers first impose identical requirements for aturity on their own shipments within the Unit J.S. producers of limes also benefit from fede narketing" campaigns. ource: Agricultural Marketing Agreement Act	g order standards only if the U.S. or minimum grade, size, quality, and ed States. ral research and promotional of 1937, as amended.

mum requirements for grade, size, quality, and maturity can be imposed on imports, if U.S. producers impose the same standards on their own shipments within the United States. Thus, if a product is listed in the law and U.S. producers can agree on a uniform set of standards (for part or all of the year), then the U.S. Department of Agriculture will impose the same restrictions on competitors' imports. With the addition of five more products in the 1990 Farm Bill (P.L. 101-624: The Food, Agriculture, Conservation, and Trade Act of 1990), 23 agricultural products are currently eligible for such marketing orders. U.S. producers have chosen not to restrict themselves (nor, therefore, imports) in six of those product categories, but the remaining 17 face such domestic and import shipment restrictions.

These restrictions usually amount to an effort to reduce the number of undersized produce items in bulk shipments, which is justified on the grounds that consumers demand such quality control. In fact, the minimum-size requirements are sometimes waived when special packaging is introduced. The overall economic effect of these orders is to place an expensive packaging burden on producers, thereby minimizing the cost advantages of foreign producers with cheaper labor. Additionally, the standards favor plant varieties more easily grown in the United States. One of the environmental effects of marketing orders with cosmetic standards is that producers (foreign and domestic) use more chemicals in production to help ensure that a higher percentage of their yield meets the standard (since the marketing orders make the shipment of their substandard produce illegal in the U.S. market).

U.S. GOVERNMENT PROMOTIONAL CAMPAIGNS. Promotional advertising campaigns are conducted by the U.S. Department of Agriculture for 12 agricultural product categories, financed by fees on U.S. farmers. These federal research and promotional efforts primarily promote U.S. consumption, but the emphasis is on consumption of U.S. food products. This double-edged sword is relevant to Central Americans producing limes and watermelons, as the other 10 products are not grown in the region.

SANITARY REGULATIONS. U.S. sanitary regulations seek to minimize risks to animal, plant, and human health in the United States. Most of these restrictions are in the form of absolute import prohibitions or time-specific quarantines implemented by customs agents. Regulations concerning pesticide residue limits on food are of the greatest importance to nontraditional crop exporters. In recent years numerous Central American food products have been rejected at the border because samples contained harmful levels of pesticide residues. In many cases the pesticides involved have been added to lists of chemicals restricted or banned by the U.S. Environmental Protection Agency (EPA) and the Food and Drug Administration (FDA).

Central American exporters face three problems with U.S. food safety regulations. First, the standard-setting authority is very decentralized. In addition to regulations emanating from the EPA, the FDA, and the U.S. Department of Agriculture, each of the 50 U.S. states has the authority to establish regulations within its own borders. Although the EPA and the FDA coordinate their activities to some extent, the state regulations need not conform to those of the federal government, and in some cases they are more restrictive.

Second, federal chemical residue regulations change rapidly. The typical Central American farmer must make innumerable production decisions well in advance of planting. In the 1980s U.S. regulations frequently changed between the time pesticides were applied and when the product went through customs. Certainly, the United States is justified in quickly implementing important health and safety regulations, but the situation presents an added risk for the producers and investors of nontraditional exports.

Third, the economic risks associated with pesticide residue regulations are compounded by an inadequate process for notifying concerned parties overseas. Most of the blame for this problem can be placed on Central America's weak agricultural extension systems. However, to some extent, the notification process among countries is insufficient. The problem is evident in the actions of Chemonics, a U.S. private consulting group, which has had to establish an information flow on pesticide regulation to support its export promotion programs in the region that are funded by the U.S. Agency for International Development (USAID). Numerous U.S. and Central American private-sector groups identify pesticide regulation issues as their most time-consuming problem as they try to develop nontraditional production and exports. Part of the difficulty stems from the variety of trade names that commercial chemical firms apply to generic chemicals. Consequently, the foreign grower may not be aware of using a restricted or banned product even when being conscientious about checking the notifications.

TRADE-RELATED AID RESTRICTIONS. Two major legislated constraints on U.S. aid policy hinder the potential of USAID to assist in the production of nontraditional agricultural exports. The first of which is a clause in U.S. foreign aid law prohibits that assistance be given to activities that would directly compete with U.S. exports. For agricultural products this restriction is primarily a problem for basic grains, soybeans, and cotton, since the United States does not export most nontraditional crops. However, any agency conflicts over interpretation of this law have been resolved in favor of U.S. Department of Agriculture officials concerned with domestic interests, not USAID officials.¹⁶ Restrictive interpretations of that law will present a greater problem in the future when Central American producers expand their frozen food business, thereby overcoming the seasonal differences that currently reduce their competition with U.S. producers.

The second legislative constraint, and one that is a more immediate drawback, is the outright ban on aid to any citrus industry. Citrus is already being produced in parts of Central America. Yet, large swaths of the region's potential citrus land remain planted in other, less-profitable crops, often without regard to the poor who could be helped through citrus production.

MARKET INFORMATION ACTIVITIES. USAID has been successful in fostering the private-sector contacts needed to further international commerce in nontraditional products. Unfortunately, the exchange of information has concentrated on helping big business associations and their members; few facts have reached small farmers. The USAID-funded PROEXAG project, in particular, has been highly successful in establishing information flows across borders to the Central American business community. Although preliminary efforts of the project centered on large groups of grower associations, success has not been limited to the rich merchant class. The question now is whether or not the information channels that PROEXAG has established can benefit larger numbers of rural farmers than they have in recent years.

RURAL CREDIT. The record on facilitating credit and reducing costs is most unsatisfactory. USAID has been hampered by requirements that its lending be delivered through Central American government agencies, which have a bad record for channeling money to the poor. USAID has sought to reduce interest rates in rural areas by subsidizing privateand public-sector financial institutions. Despite these efforts many Central American businessmen acknowledge that the greatest beneficiaries of agricultural lending have been the bankers, not the poor farmers.

LAND TENURE. Limited access to land remains a major obstacle to the poor. Once the first concern of USAID in the region, land reform is no longer politically feasible. Instead, USAID is currently investigating programs to make credit more accessible to the landless and small property owners wishing to purchase land. The reasoning is that, without a radical change in politics, land tenure will not be altered to benefit the poor. Therefore, alternative means for supporting equitable land ownership must be found, especially as the production of nontraditional crops alters relative local property prices. As John Strasma and Rafael Celis point out in Chapter 5 of this volume, reform of land tax systems is a necessary complement to policies designed to facilitate land ownership by the poor.

However, some officials in USAID favor the "share-cropping approach," that is, leaving large landholdings titled to the wealthy, while providing a short-term production opportunity to those willing to rent the land. The poor would benefit most from growing nontraditional crops on leased land if they also were provided with significant technical assistance. Yet, because rental markets in the region are often exploitative, tenant farmers could be severely "gouged" under such a system—unless it was regulated by the state or confronted by strong, collective organizations of poor farmers.

POLICY RECOMMENDATIONS

The following recommendations for action by Central America and external actors are based on the premise that nontraditional agricultural exports could become important to Central American balance of payments, poverty alleviation, and environmental conservation. These policy changes (summarized *in order of priority* in Tables 4 and 5) may not be inexpensive, quickly accomplished, or even politically palatable. Yet policymakers should recognize that, without policy change, nontraditional agricultural production will tend to exaggerate environmental damage as well as income inequities between the rich and the poor.

TABLE 4. CENTRAL AMERICA'S POLICY STEPS TO E Agricultural exports by the poor	NCOURAGE ADOPTION OF NONTRADITIONAL
Immediate Actions	Objectives
 Create new oredit programs directed to the needs and characteristics of small producers. 	1. Rectify the current social imbalance of access to credit.
Decentralize and strengthen agricultural extension services, incorporating campesino-to-campesino teaching methodologies.	Strengthen understanding within isolated communities of the possibilities for diversification into nontraditional crops.
Regulate business practices of export companies to prevent unfair price discrimination or other oligopolistic practices.	Let a true free market develop, in which small producers are assured of fair deals from middlemen.
 Open government finances to public inspection, especially in the area of agricultural spending. 	Inform rural constituencies of the potential positive role government programs can play, if demanded.
Revise export tax incentives to eliminate costly, trade-distorting incentives for large companies.	Establish equitable incentives that help put cash in the hands of poor farmers willing to diversify.
Longer-Term Actions	Objectives
 Improve rural feeder roads, trucking fleets, electrical grids, and telecommunications. 	 Eliminate production/marketing bottlenecks resulting from under-investment in rural infrastructures.
2. Reform ministries of agriculture.	Root out corruption that deprives rural areas of government services.
3. Promote land reform and secure land tenure.	Ensure equitable access of the rural poor to the land they need to produce crops and generate income.
Strengthen the access of poor and isolated people to educational services.	Increase the ability of the poor to take advantage of opportunities for better work and living standards.
5. Disseminate population planning techniques and supplies.	5. Reduce population pressure on region's diminishing resources.