

P A D C O

PLANNING AND DEVELOPMENT COLLABORATIVE INTERNATIONAL, INC.

Central American Regional Urban Environmental Assessment

Prepared for

United States Agency for International Development (USAID)
Regional Office of Central American Programs
(USAID/G-CAP)

and

Regional Housing and Urban Development Office
for Central America (RHUDO/CA)

Prepared by

PADCO, Inc.
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June 15, 1994

PROVIDES GOVERNMENTS AND PRIVATE CLIENTS WITH SERVICES IN PLANNING, HOUSING, MANAGEMENT, FINANCE, ECONOMICS, ENVIRONMENT, GEOGRAPHIC AND OTHER INFORMATION SERVICES, AND TRAINING.

**CENTRAL AMERICAN REGIONAL
URBAN ENVIRONMENTAL ASSESSMENT**

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Preface

This report, "Regional Urban Environmental Assessment for Central America," was prepared by PADCO under contract to the United States Agency for International Development (USAID) Regional Office of Central American Programs (USAID/G-CAP) and the Regional Housing and Urban Development Office for Central America (RHUDO/CA). The report analyzes the existing situation and recommends strategic approaches to strengthen urban environmental initiatives in Central America, as called for under the contract. For purposes of this study, the region was defined as six countries: Guatemala, El Salvador, Nicaragua, Honduras, Costa Rica, and Panama.

The report is based on field work in Central America carried out in August and September 1994, and the text reflects conditions as of that time. The survey process consisted primarily of review of prior studies and analyses, plus interviews with national and local government officials and other relevant informants. In March 1995 a seminar was held in Guatemala with the region's most significant actors in environmental affairs. The seminar was used to present the appraisal's findings, and to reach consensus on priority issues and agendas to address them. The report reflects conclusions reached at that seminar.

The PADCO Assessment Team included: Joseph E. Arington, Urban/Regional Planner (Team Leader); and Robert Kehew, Urban Environmental Policy Analyst. The PADCO Team worked under the direction of Mr. Ronald Carlson, RHUDO/CA. We would like to express our appreciation to him and the many officials of USAID and national and local governments in each country who provided time and advice, as well as access to the information required to produce this report.

Introduction

The countries of Central America continue to confront serious political, institutional, social, economic, and environmental challenges. With respect to the latter, environmental degradation is now recognized as a serious constraint to sustainable economic development with equity. In the region, as elsewhere in the world, the protection and conservation of the environment and natural resources, as an integral part of economic and social development, is considered essential to future short- and long-term development and prosperity.

Urban areas in Central America continue to play an increasingly important role in supporting national economic growth and social development, but the environmental implications of rapid urbanization need to be assessed and managed better. This assessment of urban environmental problems and their institutional and socioeconomic context provides USAID with the basis for the subsequent formulation of a regional urban environmental management strategy.

This report consists of an Introduction, an Executive Summary, and three parts. Part One, Basic Considerations and Parameters for Sustainable Development, discusses the regional/national development situation, analyzes urban/regional structures, and reviews the implications of NAFTA. Part Two, Regional Overview of the Urban Environmental Situation in Central America, discusses urban environmental problems and issues and reviews the institutional framework for action. Part Three, Conclusions and Recommendations, recommends the basis for a regional strategy and program.

Executive Summary

The United States Agency for International Development (USAID) Regional Office for Central American Programs (USAID/G-CAP) and the Regional Housing and Urban Development Office for Central America (RHUDO/CA) contracted Planning and Development Collaborative International (PADCO, Inc.) to support development of a strategy to confront the urban environmental situation in Central America. Four tasks were specified in the scope of work:

- Diagnose the region's most urgent urban environmental problems;
- Analyze the institutional and socioeconomic setting of the problem areas;
- Present and discuss the appraisals findings at a regional seminar for public and private leaders; and
- Recommend strategic approaches to strengthen urban environmental initiatives in the region.

To complete the assignment in August and September of 1994, the consultancy completed a rapid appraisal of the urban environment in Central America, which involved one or more field visits to Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama. At the same time, the consultancy gathered and analyzed secondary materials in Washington, D.C. Those activities were successful in collecting the information necessary for the assignment. Materials were then analyzed in Washington, in September through November of 1994. A report was prepared which presented: 1) some basic considerations to inform the urban environmental strategy, 2) an overview of the urban environmental situation in Central America, followed by 3) the conclusions and recommendations.

Following USAID/G-CAP and RHUDO/CA review of that document and discussions with the consultancy, the appraisal was reviewed at a seminar held in March 1995 with the region's most significant actors in environmental affairs. Seminar deliberations focussed on the identification of priority issues and strategic approaches that could lead to an improved urban environment in Central America. The results of the assignment are summarized below.

Basic Considerations and Parameters for Sustainable Development

Context for Sustainable Urban Development in Central America

A strategy for improving the urban environment in Central America must take into account the region's economic context. With the exception of Nicaragua, Central American countries generally show healthy rates of economic growth. This trend is buttressed by efforts to integrate regionally, trade internationally, slim the public sector, decentralize, and modernize human and capital resources. To continue economic growth, the region must not only continue to export primary goods, but also add value, producing secondary goods and services. For long-term sustainability, producers must increasingly internalize environmental costs in decisionmaking.

Central America is urbanizing: urban areas continue to grow faster than rural areas. Urban residents increasingly demand usable land, environmental infrastructure, basic services, and shelter. With income disproportionately concentrated in the top 20 percent of the population, many poorer persons cannot afford shelter solutions. Governments are demonstrably unable to meet those needs via direct, often subsidized, solutions.

Central American economies are both supported and constrained by urban and regional development structures. Central American countries (with the possible exception of Honduras) have traditionally exhibited a primate city structure, where a disproportionately high percent of the population is concentrated in a given country's largest city, i.e., the primate city. While primate cities continue to grow, many secondary cities demonstrated remarkable growth in the 1980s and early 1990s. Underserved, haphazardly planned informal settlements and marginal barrios represent growing problems in many cities. Increased trade also affects urban and regional structures.

Governments and donors should strategically support urban/regional development to foster interregional trade. This involves improving selected ports, gateways, and transportation infrastructure networks, lowering transaction costs. Agencies should also strengthen the productive and commercial capacity of selected cities (especially secondary cities) that support an export-driven economy. Governments and donors should also promote sustainable improvements to the environmental conditions of those most affected by urban environmental problems — the urban poor. In providing solutions, cost recovery should be stressed.

Free Trade and Sustainable Development in Central America: Implications of NAFTA

A strategy for improving the urban environment in Central America must also be driven and shaped by the expressed desire of Central American countries to join the North American Free Trade Agreement (NAFTA). NAFTA is unique among trade agreements in that it places the goal of trade liberalization in the context of the overarching goal of sustainable development. Environmental issues, including many urban environmental concerns, were integral to NAFTA's original passage through the U.S. Congress. Those issues would reemerge with heightened force during any attempt by Central American countries to accede to NAFTA. Mexico began to strengthen its environmental record several years before the NAFTA debates. To successfully accede to NAFTA, Central American countries are well advised to begin to respond *now* to the lessons learned from the U.S. debates over NAFTA.

NAFTA proponents in the U.S. were able to win passage of the agreement in large part because they successfully responded to and neutralized key concerns about NAFTA's environmental impact. Whereas NAFTA opponents argued that Mexico's environmental regime is weak, Agreement defenders built a persuasive case that Mexico's legal framework was roughly comparable to that of the United States. NAFTA critics also charged that Mexico is lax in enforcement of its environmental laws and regulations. NAFTA proponents, however, were able to point to significant institutional changes, concrete enforcement actions, and a sustained record of U.S./Mexican cooperation on policing the environment.

NAFTA opponents argued, additionally, that Mexico is weak in governance (i.e., effective citizen/government relations). Because civil society is often most affected by poor environmental conditions, enforcement of laws must often be driven by citizen involvement. NAFTA defenders stressed NAFTA's mechanisms to broaden public participation. (The report also mentions other environmental issues related to NAFTA that are less relevant to the urban environmental assessment.)

An accession process in the U.S. would most likely involve negotiation and agreement with the executive branch of government (including a review of Central American countries' environmental records), followed by debate and ratification by the legislative branch. To best position themselves for eventual NAFTA passage, Central American countries should take the following immediate actions: 1) embrace an overarching goal of eventual, approximate parity with NAFTA members, when appropriate, in terms of environmental protection; and 2) adopt and implement a NAFTA-oriented environmental strategy and plan of action. For specific substantive areas, countries should prepare to either accept NAFTA provisions, argue for phase-ins to those clauses, or lobby for exceptions to those provisions. By means of their strategies, countries should plan to: 3) improve their environmental legal regimes; 4) better their enforcement records; 5) improve governance (at least in the area of environmental protection); and 6) develop cooperative activities with NAFTA member countries in environmental protection.

Regional Overview of the Urban Environmental Situation in Central America

Urban Environmental Problems and Issues in Central America

First among the environmental problems is the lack of access to basic environmental infrastructure and services. This lack affects the health of many, especially the urban poor. Below are some of the salient environmental issues in Central America.

- Available data for *water and sanitary service* coverage suggests that Costa Ricans enjoy the highest levels of service in the region, while Guatemalans, Salvadorans, and Hondurans have the lowest levels of service. Published data, however, do not offer a convincing portrait of service coverage, since marginal barrios are often underrepresented, and reported service levels often mask problems of service that are intermittent or otherwise of unacceptable quality.
- *Solid waste* collection and disposal is a persistent problem at the municipal level in all of the assessed countries. On average, only about half of urban households benefit from collection services. Illegal dump sites are widespread. One can characterize virtually no landfill in Central America as sanitary.
- Inadequate *storm drainage* causes urban environmental problems, as systems are improperly used to flush away sewage and do not adequately drain lands.
- *Hazardous wastes* are improperly disposed along with other solid and liquid wastes, without previous treatment.

Second among key problems is **pollution from urban wastes and emissions**. Those emissions pollute surface and groundwater. Principle sources of water pollutants include untreated liquid waste (from sewers and industry), human waste, garbage, and agriculture. Urban emissions also pollute the air. Vehicles pollute the air the most. Major cities in the region are all becoming increasingly full of vehicles. This, along with poor fuel quality, an aging fleet of vehicles, and poor transportation management, all worsen air quality. The Costa Rican government plans to eliminate the use of leaded gasoline by the end of 1995, an initiative watched with interest by other nations in the region. Factory emissions, garbage burning, and agricultural slash-and-burn practices also contribute to air pollution.

Third among key urban environmental problems is **loss or degradation of natural resources**. The "footprint" of an urban population contaminates and depletes groundwater in the environs. Legislation does not protect groundwater, nor does it support water management. Private wells proliferate in many urban areas. Cities also degrade urban land and associated ecosystems. Urban populations spill over onto fragile or hazard-prone lands.

In general terms, resolution of those environmental problems requires actions to: coordinate land development, ensure adequate provision of affordable serviced land, formulate effective land use controls, enforce those controls, and promote sustainable uses of sensitive areas.

Regional Institutional Framework for Environmental Action

One can identify three essential components of effective systems of environmental management: trans-sectoral sharing of responsibilities, decentralization, and public participation. Those components can be developed or promoted regionally, nationally, or sub-nationally, as follows.

Several **regional** institutions play important roles in shaping legal, policy, strategic, and program-specific responses to environmental issues in Central America. Of particularly note is the Central American Commission for the Environment and Development (CCAD), which is responsible for formulating regional and national environmental policies and strategies. (CCAD is linked to national environmental commissions [CONAMAs]). The most notable strategy under development by CCAD and others is the Regional Agenda for the Environment and Development (ACAD). ACAD aims at promoting development that is sustainable both economically and environmentally. The strategy is accompanied by an action plan whose programs are divided into two priority areas: strengthening the regional policy and institutional framework, and promoting natural resources management and conservation. Drafters plan to present a finished version of this program at the Summit of the Americas scheduled for December 1994.

At the **national** level, in recent years, most Central American countries have moved away from exclusively sectoral responses to environmental problems, toward coordinated responses across sectors — a positive development. Since 1980, Costa Rica, Guatemala, Honduras, and Panama have created national environmental agencies with some comprehensive responsibilities. However, in all countries, institutional inertia ensures that the preexisting sectoral agencies remain important players. This condition acts to deflect the environmental response

away from a fully comprehensive, coordinated approach, toward a response that retains strong sectoral elements. National sectoral agencies that currently play substantial roles in urban environmental management include those institutions related to planning, public works, transportation, labor and social security, and governance. This fragmented situation acts to make achieving effective urban environmental management more difficult.

Regarding national legislation, in recent years, Costa Rica, Guatemala, and Honduras have passed "true" environmental legislation (i.e., laws designed to protect the environment as a whole). Nicaragua is currently considering such legislation. Such legislation can improve environmental protection, if it effectively supersedes superficial, outdated, and incongruent sectoral legislation. Donor agencies have made the analysis, upgrading, and integration of sectoral legislation a key element of their agendas in Panama, El Salvador, Guatemala, and Honduras.

Regarding national strategies, with donor agency support, El Salvador and Honduras have prepared or are currently preparing comprehensive strategies and action plans for trans-sectoral action in environmental protection. Guatemalans are currently engaged in a similar exercise. However, the plans in Honduras and El Salvador do not adequately identify the spatial dimension of issues (e.g., key watersheds), which is considered necessary to an effective response.

At the local level, decentralization and public participation are as essential to effective environmental management as is the trans-sectoral sharing of responsibilities. With the possible exception of Panama and Costa Rica, decentralization and municipal development policies and programs now form an essential and integral part of national development policies in the region. However, the administrative and financial capacity of municipalities generally remains extremely weak — particularly in secondary cities. With few exceptions, central government agencies maintain responsibility for providing urban water, sewerage, and drainage services. Municipal officials in the San José Metropolitan Area have developed what appears to be an effective model for the region in local urban environmental management, involving focused, coordinated action by a range of public and private sector stakeholders.

Regarding civil society, public participation means involving non-governmental organizations (NGOs) and private sector players in environmental protection. National umbrella agencies in particular must foment participation of those actors. Very few domestic NGOs, however, heed "brown" (urban) environmental issues: attention is mostly reserved for "green" concerns. Some private sector groups, e.g., Costa Rica's Chamber of Industries, are helping members prevent pollution, as well as participate in the formulation of environmental policy.

The implications are that regional actors must redouble their efforts to improve urban environmental management. Achievable, appropriate goals for trans-sectoral sharing of responsibilities, decentralization, and public participation will vary from country to country. To effectively improve urban environmental management, it is necessary to: 1) prepare location-specific action strategies, based on improved data and sound analysis; 2) mobilize capacity and constituencies in specific cities and regions, chosen for their potential for economic growth; and 3) engage private sector associations and NGOs.

Conclusions and Recommendations

Basis for a Regional Strategy and Program

Basic Conclusions

Sustainable development has three components. To be genuine, growth should be sustainable economically, socially, and ecologically. Achieving sustainable development in Central America involves managing the trade-offs in decisionmaking — in situations where one must advance at times conflicting economic, social, and ecological goals in differing degrees. The regional assessment established, however, that sustainable *urban* development is key to achieving sustainable growth along all three of these axes. This is because the city is an engine of sustainable economic growth, cities are the locus where the poor are most affected by environmental problems, and cities stamp an ever-growing “footprint” on the natural resources in their environs. This basic finding underscores the need for USAID/G-CAP and RHUDO/CA to adopt a regional strategy for sustainably improving the urban environment in Central America.

One can assert that coherent policies, strategies, and programs are required to support sustainable urban development. Regional and national environmental strategies in Central America currently tend not to be sufficiently comprehensive, or not to pay enough attention to urban issues. To achieve greater coherence, responses should: 1) be based on improved data that are spatially integrated; 2) bring scarce resources to bear on those cities and regions that can best lead sustainable, outwardly oriented economic growth, mobilizing municipally led efforts in those areas; and 3) catalyze the participation of NGOs and the private sector.

Response to the urban environmental challenge in Central America requires an effective institutional framework at both the regional and national/sub-national levels. (Urban environmental problems should be managed at the local levels whenever possible, except in cases where a broader-based treatment is required.) Thus far, regional environmental institutions have focused largely on natural resources, paying scant attention to urban concerns. Broadly speaking, national and sub-national institutions thus far are not sufficiently decentralized, coordinated with other institutions, or open to community participation.

Recommendations: Elements of a Strategy and Program

The proposed goal is to support growth in Central America that is sustainable economically, ecologically, and socially, through the systematic, targeted improvement of urban environmental management. Proposed strategic objectives are:

- to strengthen urban environmental policies, strategies, and programs at the regional, national, and local levels;
- to strengthen municipal capacity to plan, promote, organize, and manage urban environmental programs; and
- to strengthen the capacity and effective participation of public and private institutions in the urban environmental management process.

Reaching that goal and those objectives must be understood as a long-term process. To do so, USAID/G-CAP and RHUDO/CA should embrace the following strategic approaches: 1) support broad-based environmental education programs; 2) promote functional linkages between the CCAD/CONAMA structure and the local government network that includes the Federation of Municipalities of the Central American Isthmus (FEMICA), national municipal associations, and municipalities; 3) promote urban environmental policy dialogue, as well as agenda development and implementation at the regional and national levels; 4) formulate and implement technical assistance and training in priority areas (see text); 5) promote and support community, NGO, and private sector participation; and 6) establish networks and mobilize regional and international resources.

Part One

Basic Considerations and Parameters for Sustainable Development

I. CONTEXT FOR SUSTAINABLE URBAN DEVELOPMENT IN CENTRAL AMERICA

A. Regional/National Development Situation

According to the Inter-American Development Bank (IDB) 1993 *Annual Report*, nearly all of the economies of the Central American countries grew faster than other parts of the Latin American and Caribbean region. With the exception of Nicaragua (recovering from eight consecutive years of declining real GDP), the rate of economic growth in each of the countries was more than 4 percent. Many of the countries of the region benefited from the stabilization and structural adjustment reforms introduced in recent years. In general, these reforms helped create a more favorable macroeconomic environment, characterized by lower inflation, an increased inflow of capital, larger investments, and the expansion of interregional and intraregional trade.

With the exception of Guatemala, capital account balances improved in all of the countries. However, the current account balances of several of the countries declined sharply. While the exports of most countries increased, imports grew even faster as the rapid inflow capital and related currency appreciation stimulated purchases abroad.

The Central American Economic Union (CAEU) countries¹ continued their efforts to promote regional integration. The value of intraregional trade in Costa Rica, Guatemala, Nicaragua, and El Salvador grew at an average annual rate of 10 percent between 1988 and 1992. As Central America tries to find a way to insert itself into the world economy, regional trade barriers are dropping — quotas have been virtually eliminated and uniform external tariffs adopted.²

The regional macroeconomic climate remains favorable — albeit circumscribed by stabilization and structural adjustment reforms initiated in each country. Industrial and agricultural diversification will be needed to reduce the risks associated with the instability of the international prices of basic products (even as coffee prices are now high). The removal of restrictions on the markets for such products in industrialized countries is also key.

¹ The member countries are: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama.

² The Regional Consultative Group for Central America (GCR-CA), organized under the direction of the IDB in 1991, is charged by the Central American governments with the task of fomenting and supporting the renewed process of regional economic integration. IDB's program of technical cooperation (PRADIC) provided financial support to three regional entities: la Secretaría Permanente del Tratado General de Integración Económica Centroamérica (SIECA), tariff reform; el Consejo Monetario Centroamericano (CMCA), macroeconomic policy design; and la Federación de Entidades Privadas de Centroamérica y Panamá (FEDEPRICAP), competitiveness/productivity studies. The PRADIC effort ended in December 1993. Some of those institutions are discussed in more detail in Chapter IV, below.

The Central American countries have embarked on a series of policy reforms designed to modernize their productive capacity through private sector development. The more effective and efficient use of both human and natural resources is essential to the successful integration of the Central American economies within larger regional and worldwide markets. The region's competitive strategy must be targeted not only on the production of primary products, but on their transformation into goods and services of greater aggregated value. The best short-term prospects are related to natural resources (agriculture, fisheries, forest products, etc.) and services such as tourism, communications, engineering, etc. The use of natural resources under the criteria of long-term sustainability will require the internalization of environmental costs into production decisions.

In addition, public sector reforms are underway that will dismantle the old centralized framework. Such public sector reforms are intended to result in leaner but stronger systems of public sector management, capable of supporting more efficiently the economic and social development of the region. Key among these reforms are efforts to improve administration and decentralize, which will aid governments in the region to respond more effectively to the needs of their respective populations. As part of these reforms, revenue sharing and local taxation mechanisms should improve the finances of local governments and reduce their dependence on the central government.

Finally, perhaps the most difficult challenge faced in carrying out effective stabilization programs is to reduce the public deficit, on one hand, and simultaneously meet basic human needs, on the other. All countries are experiencing minimal if any success at balancing these opposing demands on the public finance and service systems. The mobilization of sufficient resources is critical and will simultaneously depend on and influence the success of other programs aimed at economic liberalization, improved private sector productivity for both internal and external markets, and decentralization.

Data on Central America contained in the annual reports of the World Bank, the IDB, and the United Nations for 1993 were selected and analyzed below in order to provide an overview of some key regional/national social and economic development characteristics.

1. Physical and Demographic Characteristics

Figure 1 summarizes physical and demographic data for Central America. In 1992, the region's population passed 30 million persons with an average density of 62 inhabitants per square kilometer. During the period 1990-92, the regional population grew at an average annual rate of 2.8 percent, compared to 1.9 percent for Latin America.

**FIGURE 1
PHYSICAL AND DEMOGRAPHIC DATA**

Physical and Demographic Data (1992)					Average Annual Growth Rate 1990-92 (percent)		
COUNTRY	AREA (KM 2)	POPULATION (000)	PERCENT URBAN	PERCENT RURAL	POPULATION	URBAN	RURAL
COSTA RICA	50,900.00	3,191.00	47.6	52.4	2.5	3.4	1.8
EL SALVADOR	20,935.00	5,395.00	46.2	53.8	2.1	3.4	1.1
GUATEMALA	108,889.00	9,745.00	40.2	59.8	2.9	3.9	2.3
HONDURAS	112,088.00	5,463.00	45.3	54.7	3.1	5.0	1.6
NICARAGUA	118,358.00	3,958.00	64.8	35.2	3.8	5.3	1.2
PANAMA	77,082.00	2,511.00	54.4	45.6	2.0	2.9	0.9
TOTAL	488,252.00	30,263.00	47.3	52.7	2.8	4.1	1.7

The majority of the Central American population (52.7 percent) still lives in rural areas. However, the current average annual urban growth rate in the region is 4.1 percent, compared to 1.7 percent for rural areas. The dynamic urbanization process is expected to continue and will produce an extraordinary demand for urban land, shelter, and basic environmental infrastructure and services. An estimated 8,400 urban "shelter solutions" will need to be produced annually for each million of new urban population growth in the region — more than 110,000 "solutions" per year.³ Failure to respond to this urban challenge will exacerbate the already significant threats to health, the environment, and urban productivity.

2. Macroeconomic Indicators

The diverse problems and situations that the countries of the region now face are well understood. At the same time, a clear and realistic definition of economic trends and capacity is essential in order to evaluate the challenges, opportunities, and constraints associated with the current and future urban environmental challenges.

In 1992, the total GDP of the six countries of Central America was \$32.5 billion — an average GDP per capita of \$1,073. As seen in Figure 2, the GDP per capita in some countries was substantially lower than this regional average. The value added in the construction sector of the economy (VAC) appears to be proportionally depressed. Excluding

³ Assumes an average of five persons per family. These numbers do not consider the needs associated with housing stock replacement nor the existing deficit. The term "shelter solution" is considered to include a variety of urban options: title to unserved urban land; secure land title and basic urban infrastructure/services; and land title, basic services, and shelter.

Panama (which had an atypical growth in the construction sector during 1992), between 1990 and 1992, the value added in the construction sector declined as a portion of the GDP from 3.3 percent to 2.8 percent.

**FIGURE 2
MACROECONOMIC INDICATORS 1992**

COUNTRY	GDP (Millions of U.S. \$)	GDP/ CAPITA	GDP GROWTH 1990-92 ^a	GDP/CAPITA GROWTH 1990-92 ^a	VAC ^b	VAC/ CAPITA	CURRENT INCOME ^c	TOTAL EXPENDITURES ^c	RELATION INCOME EXPENDITURE
COSTA RICA	5,607.00	1,757.00	4.6	2.0	144.00	45.1	16.9	18.0	-2.0
EL SALVADOR	5,946.00	1,102.00	4.2	2.0	167.00	31.0	9.9	14.6	-4.7
GUATEMALA	9,045.00	928.00	4.0	1.0	183.00	18.8	10.1	10.6	-0.5
HONDURAS	4,169.00	763.00	3.5	0.4	209.00	38.2	17.9	24.4	-6.5
NICARAGUA	2,025.00	512.00	1.0	-2.7	51.00	12.9	22.4	31.1	-8.7
PANAMA	5,676.00	2,257.00	8.6	6.5	336.00	133.8	20.9	ND	ND
TOTAL AVERAGE C.A.	32,468.00	1,073.00	4.6	1.8	1,090.00	36.0	16.2	19.7	-3.5

Key

- ^a Average annual increase (percent)
- ^b Value added in the Construction Sector (VAC)
- ^c As a percentage of GDP

Figure 2 also indicates the extremely limited economic/financial capacity of Central American governments to respond, in social terms, to the growing demand for urban land, environmental infrastructure and services, and shelter through the provision of subsidized solutions.

3. Social Indicators

The previous sections summarized the context for sustainable development in terms of anticipated urban needs/demand and resource availability. The *Annual Report* of the World Bank for 1993 provides data on the income characteristics of distinct population groups at the regional and national level in Central America. Figure 3 provides a general indication of the economic capacity of the population to pay for urban land, shelter, and basic urban infrastructure and services.

With the exception of Costa Rica, the "income curve" indicates a strong concentration of wealth (economic capacity) in the highest quintile of population. The highest quintile receives more than 60 percent of national income.

Figure 3 by itself is, perhaps, not very illustrative. For that reason, the GDP per capita (by quintile) is included, since this is always a majority percentage (see Figure 4). Even as the results are not strictly exact, Figure 4 presents a general vision with reasonable accuracy.

**FIGURE 3
INCOME DISTRIBUTION^a**

COUNTRY	1ST QUINTILE	2ND QUINTILE	3RD QUINTILE	4TH QUINTILE	5TH QUINTILE	10% HIGHEST
COSTA RICA	4.0%	9.1%	14.3%	21.9%	50.7%	34.1%
EL SALVADOR	ND	ND	ND	ND	ND	ND
GUATEMALA	2.1%	5.8%	10.5%	18.6%	63%	46.6%
HONDURAS	2.7%	6.0%	10.2%	17.6%	63.5%	47.9%
NICARAGUA	ND	ND	ND	ND	ND	ND
PANAMA	2.0%	6.3%	11.6%	20.3%	59.8%	42.1%

Key

^a as a percent of total income by quintile of population

**FIGURE 4
DISTRIBUTION OF GDP/PER CAPITA
(in US\$)**

COUNTRY	GDP/PC	1ST QUINTILE	2ND QUINTILE	3RD QUINTILE	4TH QUINTILE	5TH QUINTILE
HONDURAS	763	103.0	229.0	389.1	671.4	2,422.5
GUATEMALA	928	97.5	269.1	487.2	863.0	2,923.2
COSTA RICA	1,757	351.4	799.4	1,256.2	1,924.0	4,454.0
PANAMA	2,257	225.7	711.0	1,309.0	2,290.8	6,748.4

B. Urban and Regional Structures

In addition to the broader economic context, the urban and regional structures within which Central American governments and the private sector function also shed light on the larger "forces at play" that directly affect the current situation and the constraints and opportunities associated with sustainable development. PADCO's analysis of these urban and regional

structures in 1992 indicated that:⁴ "Central America's rapid urbanization during the 1950s through 1970s produced an ever-increasing concentration of wealth and population in the large capital cities, and a lack of secondary cities in the 20,000-100,000 population range. However, the 1980s witnessed a remarkable growth in the number of secondary cities, despite continued growth of the primate cities."⁵ The report continues, "In addition to the growth of secondary cities, Central America's urbanization patterns reflect increased polarization within both primate and secondary cities due to the expansion of the urban informal sector and marginal populations. Hence, three recent trends are evident: 1) the continued expansion of primate cities; 2) the rapid expansion of secondary cities; and 3) increased polarization within cities." To those trends, one can add: 4) the impacts of increased economic integration on urban and regional structures.

The following sections summarize these trends and highlight the implications for sustainable development.

1. Primate City Systems and Spheres of Economic Influence

Miami is, in reality, the real primate city for the entire Central America region, serving as the key regional specialized financial, commercial, and even service center, with Houston and New Orleans also playing a significant commercial role. At the regional level, primate city size is less important than the sphere of economic influence these cities command. The PADCO report indicated, for example, that:

Guatemala City (the largest in terms of size) has a commercial and industrial influence restricted largely to Honduras and El Salvador, while Panama City (at half the size of Guatemala City) maintains international influence in trade and finance, second only to Miami. Some national capitals have solely a national sphere of influence, as in the case of San José and San Salvador. Others do not even have their entire country as their hinterland. For example, Tegucigalpa is the primate city for the Pacific side of Honduras while the country's second largest city (San Pedro Sula) actually functions as a primate city for the Atlantic side. In addition, Managua's sphere of influence covers only the Spanish-speaking Pacific half of Nicaragua."

⁴ *Regional Municipal Sector Assessment for Central America*, June 1992; Volume 1: Basic Analysis; pp. 15-21, and Annex I.

⁵ A primate city system is one in which the secondary cities are smaller than would be predicted by the lognormal rule. This rule holds that the second largest city is half the size of the largest, the third largest is one-third the size of the largest, and so on. A flat or unhierarchical system is one in which the secondary cities are larger than expected according to the lognormal rule (Chase-Dunn 1985, p. 18).

2. Secondary City Systems and Growth Potential

While primate cities maintain certain advantages with regard to agglomeration economies, secondary cities are beginning to offer these advantages and show the most growth potential in the region. They can also offer some limited relief from migration pressure on the primate cities and can play a role in fostering non-traditional exports that do not have to be located near the principal internal market.

a. Costa Rica

In Costa Rica, the capital city of San José continues to dominate the urban hierarchy, and some of the major secondary cities of the 1970s lost their dynamism in the 1980s, such as is the case of the two port cities (Puerto Limón and Puntarenas) and two inter-coastal axis cities (Turrialba and Liberia). However, three major secondary cities within a 20-mile radius of San José (Alajuela, Cartago, and Heredia) are now important residential, commercial, and service centers. In addition to these existing strong secondary cities, there are three new secondary growth cities: Ciudad Quesada (San Carlos) and San Isidro, which are new service centers for agricultural markets, and Nicoya, a new tourism center.

b. El Salvador

In El Salvador, the capital of San Salvador grew rapidly due to its expanding tertiary sector (including construction, finance, commerce, and services) and to its attraction for migrants from the guerilla zones and subsistence areas during the war. Unlike in other Central American countries, secondary cities showed little change during the 1980s. However, the country's intermediate and small secondary cities are well distributed around the country, and are connected by a fairly well integrated transportation network that belies San Salvador's primacy. Several key secondary cities exist: Santa Ana, San Miguel, La Unión, and Sonsonate. In addition, a number of small urban centers are growing.

c. Guatemala

Guatemala City, the largest primate city in Central America, is the hub of the nation's transportation network, the country's most productive agricultural region, the largest industrial center, and the main beneficiary from the growth of non-traditional exports. Despite the growth of its metropolitan area, secondary cities are also playing an increasingly important role. Escuintla has blossomed (as the most important service center for the wealthy Pacific region) and overtaken Quetzaltenango as the second largest city. Other major growth areas in the productive sugar cane zone include the City of Coatepeque (which is growing from increased trade with Mexico), Santa Lucía Cotzumalguapa, and Flores.

d. Honduras

Honduras is divided economically into two large regions: the southern region, whose primate city is the capital, Tegucigalpa, and the northern region, whose primate city is San Pedro Sula, the second largest city. While Tegucigalpa is the political and administrative center, San Pedro Sula serves the economically dominant region of the country. San Pedro Sula is expected to further expand its dominance, particularly now that San Pedro's growth has radiated out to the nearby secondary cities and free-trade zones (of Choloma, La Lima, and Villanueva) into a metropolitan area. Accordingly, most of the explosive growth of secondary cities is concentrated in the Sula Valley and the San Pedro-Tegucigalpa axis. However, other growth centers exist in Tocoa, Juticalpa, and Catacamas in the eastern region (as a result of new roads and colonization) and Choluteca, a regional service center in the Pacific coastal plains.

e. Nicaragua

In Nicaragua, Managua continues to grow rapidly as the administrative and political hub, as well as the site of a free-trade zone. Four large secondary cities are expanding: Leon and Chinandega are the two largest and fastest growing; Granada and Masaya, meanwhile, are key commercial centers in the south central region. Otherwise, two major market towns and service centers exist for the northern highlands (Matagalpa and Esteli). Rama, one of the few towns in the isolated Atlantic coast region, also shows some potential for growth in non-traditional exports.

f. Panama

Panama City remains a key financial, commercial, and transportation center for an international market. However, five intermediate-sized cities that expanded in the 1970s have continued to grow: David, Chitre, Santiago, Penonome, and Aguadulce. David serves as the primary cultural, administrative, commercial, service, and industrial center for the northern province of Chiriqui. The remaining cities serve as important service centers for their agricultural hinterlands.

3. Intra-Urban Polarization Problems: The Marginal Barrios

The third key trend in urban structures, intra-urban polarization represents an important dimension of urban development, because it is a common and rapidly growing problem in all capitals and, increasingly, secondary cities in Central America. This polarization is a result of the growing number of inhabitants in informal (spontaneous) settlements (in part due to rural-urban migration), and in marginal barrios, which encompass both (recent) informal settlements and longer-term disenfranchised populations. Data on the informal sector is scarce and difficult to obtain. However, according to one source,⁶ in 1988, 20-50 percent of

⁶ Juan Pablo Pérez Sainz and Rafael Menjivar Larín (eds.), "Informalidad Urbana en Centroamérica," San José, Costa Rica: Editorial Nueva Sociedad, 1991.

the urban labor force in the capital cities work in the informal sector, with San José on the low end and Managua on the high end. Many persons informally employed likewise seek shelter in marginal barrios.

4. Spatial Impact of Interregional Economic Integration

Patterns of land development (including urban development) represent the spatial dimension of an economy. As inwardly oriented, protected economies open up, one can expect corresponding changes in regional and urban development patterns. Because high levels of protection can be said to artificially distort economic decisionmaking, an economist might characterize land development patterns built up under closed-market conditions as "distorted."⁷

With economic structural adjustment in Central America, changes in land development patterns will occur at both a regional/national level and at an intracity level. Those changes have policy implications. Below are examined: 1) Central American trends in economic integration; 2) regional/national spatial impacts; 3) intracity spatial impacts; and 4) implications for Central America.

a. Trends in Economic Integration

During the last five years, Central American economies generally became more outwardly oriented. For the region as a whole, exports as a percentage of GDP increased, from 23.1 percent in 1987 to 26.8 percent in 1992 (see Figure 5).⁸ This regional shift was driven by structural shifts in Costa Rica and Nicaragua, as those two countries moved (in very different ways) from protected, inwardly oriented to more outwardly oriented economies. For Costa Rica, exports as a percentage of GDP increased by one-third, from 33.1 percent in 1987 to 45.1 percent in 1992. For Nicaragua, exports as a percentage of GDP nearly doubled, from 11.9 percent in 1987 to 20.9 percent in 1992. Other countries generally exhibited much more modest relative increases in exports. Imports as a percentage of GDP also increased for all countries between 1987 and 1992, in patterns that roughly parallel increases in exports (modified, however, by country-specific balance-of-trade considerations).⁹

⁷ See for example Bertaud, Alain; and Renaud, Bertrand; *Cities without Land Markets: Lessons of the Failed Socialist Experiment*, The World Bank, 1994, p. 2.

⁸ Inter-American Development Bank, *Economic and Social Progress in Latin America 1993 Report*, pp. 263-6.

⁹ Between 1987 and 1992, imports as a percentage of GDP increased as follows: Costa Rica (from 37.5 to 47.8), El Salvador (25.5 to 25.6), Guatemala (22.2 to 25.6), Honduras (28.0 to 28.3), Nicaragua (31.0 to 37.7), and Panama (30.5 to 39.7). Source: Inter-American Development Bank, and PADCO, Inc.

FIGURE 5
EXPORTS AS A PERCENT OF TOTAL GNP

Country	1987			1992 ^a		
	Exports ^b	GDP	Exports as percent of GDP (percent)	Exports ^b	GDP	Exports as percent of GDP (percent)
Costa Rica	1509	4557	33.1	2531	5607	45.1
El Salvador	1040	5150	20.2	1245	5946	20.9
Guatemala	1201	7518	16.0	1540	9045	17.0
Honduras	1011	3573	28.3	1160	4169	27.8
Nicaragua	276	2314	11.9	423	2025	20.9
Panama	1557	5456	28.5	1796	5676	31.6
TOTAL	6594	28568	23.1 percent	8695	32468	26.8 percent

Key

^a 1992 values are preliminary

^b Exports=exports of goods and non-factor services

This overall trend towards an outward orientation actually encompasses two sub-trends examined below: increased *interregional* integration with the rest of the world; and increased *intra*regional trade, among Central American countries. More than 70 percent of Central America's exports are currently (1992) interregional, i.e., destined for locations outside of the region. The Central American Common Market's (CACM's) decision in 1992 to adopt a uniform external tariff, varying from 5 to 20 percent, should strengthen a trend toward increased interregional trade. The Central American presidents have signalled their interest in joining the North American Free Trade Agreement (NAFTA). Joining NAFTA would stimulate interregional trade, particularly with Central America's neighbors to the north.

As noted above, the value of intraregional trade in Costa Rica, Guatemala, Nicaragua, and El Salvador grew substantially over the last several years: at an average annual rate of 10 percent between 1988 and 1992. This increase was stimulated by activities of the CACM. The importance of intraregional trade varied considerably from country to country. In the early 1990s, intraregional exports as a percentage of total exports ranged from 4 percent in Honduras to 29 percent in El Salvador.

Expected continuing increases in interregional and intraregional trade would affect spatial regional and urban structures¹⁰ as discussed below.

¹⁰ Some of the non-spatial impacts of joining NAFTA are discussed in Section III, below.

b. Regional/National Spatial Development

Spatial development patterns in a region or country generally coincide with transportation patterns and routes. Trade can occur via land, sea, or air, or in combination, with ground transportation often being the most important. For the U.S. and Mexico in 1993, for example, 86 percent of trade (by value) reportedly occurred by land, 10 percent by sea, and 4 percent by air. For land transportation between those two countries, highways were more important than rail transportation.¹¹

Goods will enter interregional trade only if their prices in two distinct regional markets differ by more than intervening unit transport costs. Surface transport costs to and from North America generally increase as one proceeds down the Central American isthmus. Therefore, with increased integration of Central America with North America, we would expect increased surface trade to occur mostly in the north of the region, with progressively lower impacts as one proceeds south down the Isthmus.¹² Sea transportation could, however, become an increasingly attractive transportation alternative in the southern parts of Central America.

Even with new patterns of trade, increased urban growth as well as new infrastructure investment can be expected to generally follow existing transportation corridors.¹³ For surface transportation, two existing routes offer Central America access to Mexico City and points north.¹⁴ The Pan American Highway (CA1) proceeds from the Mexican gateway municipality of Ciudad Cuauhtemoc to the Darien Strait in Panama, generally passing through the center of the Central American countries. The Pacific Coastal Highway (CA2) runs from the Mexican border municipality of Tuxtla Chico to the eastern end of El Salvador, generally paralleling the western coast. With increased surface trade, increased urban growth should occur along those axes, particularly in the northern part of the isthmus. For sea transportation, various Pacific Coast and Atlantic Coast ports offer access to North America.

¹¹ U.S. Department of Transportation, *Assessment of Border Crossings and Transportation Corridors for North American Trade: Report to Congress*, p. 69 and p. 74.

¹² This pattern generally holds in Mexico, with the most trade with the United States (in value) occurring in the northern states and the least in the southern states. Source: *Ibid.*

¹³ One theorist explains this occurrence: "The existing capital stock (infrastructure, buildings, factories) has an impact on the...regional distribution of new investment because past and present investment decisions are spatially interdependent." Richardson, Harry W.; *Regional Economics*, 1979, p. 114.

¹⁴ Transportation analysts have identified five principal gateways between the U.S. and Mexico. These are South Texas/Laredo, South Texas/Lower Rio Grande Valley, West Texas/New Mexico, Arizona, and California. For more information, see: U.S. Department of Transportation, *Assessment of Border Crossings and Transportation Corridors for North American Trade: Report to Congress*, 1993, pp. 33-44.

Increased highway and sea trade would be expected to generate additional growth in the following secondary cities¹⁵ and gateway and port municipalities (by country and transportation/growth axis).

In Guatemala, surface trade passes through two main gateways. CA1 enters Central America through the gateway of La Mesilla, Guatemala, and passes through Quetzaltenango and Chimaltenango on its way to Guatemala City. From Guatemala City, the Pan American Highway proceeds south to the El Salvador border. CA2 enters Guatemala close to Malacatán, and passes through or skirts the secondary cities of Retalhuleu, Mazatenango, S.L. Cotzumalguapa, and Escuintla. Escuintla lies at the crossroads between the coast highway and the highway that connects Tegucigalpa to the major Pacific Ocean port for the region, Puerto San Jose, Guatemala. Puerto San Jose has large, modern port facilities and a diversified array of urban services. On the Atlantic, Puerto Barrios offers connections to Guatemala City and features a new free-trade zone and privatized port management.

In El Salvador, the Pan American Highway enters the country from Guatemala, passing through the gateway of Candelaria de la Frontera. Before reaching San Salvador, it passes through the secondary city of Santa Anna. South of El Salvador, it passes through Cojutepeque, San Vicente, and San Miguel, before proceeding into Honduras. The Coastal Highway enters El Salvador at Hachadura, proceeding through Sonsonate, San Salvador, Zacatecoluca, and Usulután, before ending at its southern terminus close to the Gulf of Fonseca. Ahuachapan also serves as a gateway from Guatemala to the north. The Pacific port of Acajutla is linked by highway and rail to San Salvador via Sononate.

In Honduras, CA1 enters through the gateway of Goascoran, passes through Choluteca, and leaves via San Marcos de Colón. Puerto Cortés is the country's largest port and handles over half its export trade. A highway connects Puerto Cortés with Tegucigalpa, passing through the Sula Valley, the primate city of San Pedro Sula, and the secondary cities of Choloma, Siguatepeque, and Comayagua. A second port, La Ceiba, connects by highway with San Pedro Sula, passing through the secondary city of El Progreso.

In Nicaragua, CA1 enters through the gateway of Somoto, and passes through or close to Estelí and Matagalpa on its way to Managua. From Managua, the highway passes close to Masaya and Granada on its way to the southern gateway of Penas Blancas. A highway connects the Pacific port of Corinto with Managua, passing through Corinto and Leon.

In Costa Rica, the Pan American Highway enters through the gateway of La Cruz, and passes through Liberia on its way to San José. From San José, the highway proceeds south, through San Isidro, exiting the country close to La Cuesta. San José is connected by highway to the Pacific port of Puntarenas and the Atlantic port of Puerto Limón.

¹⁵ Cities with populations of 20,000 or more and not primate cities (most recent population data). See PADCO, Inc., *Regional Municipal Sector Assessment for Central America, Volume I: Basic Analysis*, June 1992, Annex 1. The following discussion is intended to complement Annex 1 of that document.

In Panama, the Pan American Highway passes first through the secondary city of La Concepción. This highway then proceeds to Panama City via David, Santiago, Aguadulce, and Penonome, passing close to Chitre. The Pan American Highway continues west, ending in the Darien Strait. Panama City, a Pacific port, is linked by the Panama Canal and by highway to the Atlantic port of Colón. The Pacific municipality of Puerto Armuelles is additionally linked by highway to the Pan American Highway.

c. Intra-Urban

The impacts of trade liberalization on the morphology of a city are little studied, but are worth mentioning briefly. In Central America, those impacts are perhaps most visible in Nicaragua, following that country's shift from protected internal production toward an export-oriented economy in the early 1990s. In Managua, one now sees unutilized or underutilized land that was previously state-owned or protected enterprise, as well as a newly designated free-trade area. Unless properly managed, structural changes in a city's economic role can lead to inefficient land use patterns, as well as inefficient and/or insufficient provision of necessary infrastructure.

5. General Implications for Central America

Sustainable urban development involves economic development, social development, and environmental stability. Toward those ends, the consultancy proposes that countries and donors should aid development of urban and regional structures via the following approaches.

a. Strategically Support Urban/Regional Development to Foster Interregional Trade

It is now widely accepted that interregional trade¹⁶ is essential to sustainable economic development. To the extent that lower levels of society benefit from increased prosperity, and can then win for themselves a larger role in decisionmaking, increased trade may also contribute to sustainable social development. A society thus enriched by increased trade may also demand, and be able to pay for, more sustainable urban environmental conditions.

At an urban/regional level, fostering interregional trade means supporting two complementary actions. First, ports, gateways, and transportation infrastructure should be strategically improved. Improvements should be aimed at lowering transaction and transportation costs, increasing the viability of trade. Improvements should be strategically focused to maximize return-on-investment, in terms of heightened trade for the country and the region. The potential environmental impacts of proposed infrastructure should be carefully considered.

¹⁶ While intraregional trade is also important, interregional trade is expected to gain in ascendancy. This is because of current trade patterns; worldwide liberalization trends; generally lessening transportation and transaction costs; and because comparative advantage theory generally argues for greater trade between dissimilar countries, rather than between relatively similar countries such as those in Central America.

In improving infrastructure that supports trade, two caveats should be kept in mind. While current infrastructure patterns certainly influence future growth patterns, this endowment should not be the only factor affecting physical infrastructure development. On the contrary, as one economist writes: "The role of public policy...is to inject public expenditure...into a...region as a generator of expansion rather than as a response to past changes in economic activity levels and spatial distribution."¹⁷ This means both strategically targeting improvements as well as examining potential new linkages that support economic integration. Strategically targeting improvements may mean, for example, strengthening selected ports that can effectively serve the whole region, but not every country's ports.

When strengthening infrastructure that supports trade, one should also bear in mind that, as World Bank officials write, "...much infrastructure consists of networks." For that reason, "...relieving bottlenecks at certain points of the system can produce very high returns."¹⁸ This simple fact argues for more rational, integrated capital improvements planning and programming than currently occurs in some Central American countries. Rational capital improvements planning within a given country means in part making rational choices between *modes* of transportation, based on close approximations to real opportunity costs, as well as analyzing and improving specific infrastructure systems as a whole, rather than analyzing merely fragments of systems. Analyzing infrastructure as networks also argues for more cross-border, regionally coordinated capital improvements planning. Focused donor support of regional meetings of planning, transportation, and construction ministers, through REMITRAN for example, would represent one step toward regionally coordinated planning.

Fostering interregional trade also involves strategically strengthening the productive and commercial capacity of cities, particularly secondary cities.¹⁹ Those cities include those mentioned above that support the regional production of export goods (Section B.2), as well as those that lie along developing trade routes (Section B.4).²⁰ Examples of ways to thus strengthen cities includes (as appropriate) establishing foreign trade zones, improving municipal markets and slaughterhouses, expanding the supply and reliability of energy and telecommunications, and encouraging development of distribution and warehouse facilities.

¹⁷ Richardson, Harry W.; *Regional Economics*, 1979, p. 135.

¹⁸ World Bank, *World Development Report 1994*, p. 17.

¹⁹ Secondary cities are given more priority than are primate cities, because, as noted above, they are smaller than would be predicted by the lognormal rule. Primate cities, on the other hand, are larger than would be predicted by the lognormal rule. The lognormal rule is sometimes accepted as a desirable norm under sustainable development conditions.

²⁰ One example of this approach is the World Bank's "100 Cities" program in Mexico, which reportedly focuses improvements on selected projects and cities that will most stimulate Mexico's economic development.

b. Promote Sustainable Improvements to Environmental Conditions of Those Most Affected by Urban Environmental Problems, Especially the Urban Poor

As discussed in more detail below, the urban poor are often those most affected by inadequate environmental conditions. The discussion above highlighted the problem of a major sub-group of the urban poor: residents of marginal barrios. Settlement upgrading programs offer a concrete way to improve the environmental conditions of the inhabitants of marginal barrios. Incorporating effective cost recovery mechanisms is key to ensuring the sustainability of such improvements. More broadly, tenure regularization, increases in land registration coverage, protection of fragile and environmentally sensitive lands, improvements in land use planning practices, etc. benefit, with varying degrees of directness, the inhabitants of marginal barrios.

II. FREE TRADE AND SUSTAINABLE DEVELOPMENT IN CENTRAL AMERICA: IMPLICATIONS OF NAFTA

A. Introduction

The Governments of Central America have expressed interest in joining the North American Free Trade Agreement (NAFTA).²¹ Ratified by the United States Congress in 1993, NAFTA has been touted as creating a \$6 trillion market made up of some 360 million consumers in the United States, Mexico, and Canada — the world's largest consumer market. As such, entrance into NAFTA would have sweeping impacts on Central America's economy. Countries or a group of countries may, in fact, enter ("accede to") NAFTA, under terms and conditions agreed upon by the parties and the acceding country or countries.²² President Clinton recently assured Central American presidents of the U.S.'s support in gaining access to this accord. The Canadian government also favors opening NAFTA "...to any nation prepared to live up to the pact's rules."²³

Central American interest in joining NAFTA is part of a broader regional, hemispheric, and even worldwide trend toward free trade. In 1993, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama formed the Central American Economic Union (CAEU). CAEU member countries have, with the exception of Panama, dropped tariffs on most

²¹ "NAFTA" is defined here to include both the North American Free Trade Agreement between the Government of the United States of America, the Government of Canada, and the Government of the United Mexican States (1992), as well as the North American Agreement on Environmental Cooperation (the environmental side agreement). It is understood that most or all Central American nations will petition *as a group* for accession to NAFTA.

²² The actual process of accession has not yet been publically formalized. In the case of Chile, which has expressed its interest in acceding to NAFTA, to date the process has involved extensive review of Chile's legal framework, including environmental laws by the Office of the U.S. Trade Representative (USTR). Source: Dianne Wildman, Office of the USTR, telephone conversation, 28 October 1994.

²³ The Wall Street Journal, October 18, 1991, p. R12.

products to a 20 percent maximum. Besides NAFTA, Central America is attempting to join a trade pact with the so-called Group of Three, comprised of Colombia, Venezuela, and Mexico (formed in 1994). Other hemispheric partnerships formed in the 1990s include Mercosur (Brazil, Argentina, Paraguay, and Uruguay), and seven bilateral trade agreements (Costa Rica-Mexico, Mexico-Bolivia, Mexico-Chile, Colombia-Venezuela, Chile-Venezuela, Chile-Colombia, and Bolivia-Peru).²⁴ Some proponents of free trade have expressed concern about the proliferation of bilateral trade agreements. They argue that a few large trade pacts would better serve international trade than many small trade agreements.

1. NAFTA, Free Trade, and Sustainable Development

NAFTA is unique among trade agreements passed to date in that it places the goal of trade liberalization in the context of the overarching goal of sustainable development. Whereas the central goals of most modern trade agreements are directed solely at trade liberalization, NAFTA's preamble provides that the Agreement is intended to:

Contribute to the harmonious development of world trade...in a manner consistent with environmental protection and conservation... [and] promote sustainable development.²⁵

Enshrining the goal of sustainable development in the text of NAFTA marked a fundamental change in the terms of debate in the U.S. over a trade agreement. In the future, decision-makers may be less likely to focus exclusively on the narrow trade implications of an agreement (the *financial* costs and benefits). They may be more likely to examine as well the wider environmental impacts of agreement passage (called by some the *economic* costs and benefits). Arguably, by effecting this fundamental shift in the terms of debate over trade agreements, environmentalists won their most important, far-reaching victory. As Environmental Protection Agency administrator William Riley observed, NAFTA "...marks a watershed in the history of environmental protection."²⁶

2. Importance of NAFTA: Lessons for Central America

The passage of NAFTA through the U.S. Congress was by no means certain. Environmental (especially urban environmental) issues and interests played key roles in the Agreement's passage. Mexico began to position itself to help encourage NAFTA passage several years before the actual Congressional vote. To successfully accede to NAFTA, Central American

²⁴ Time Magazine, October 3, 1994, pp. 36-7.

²⁵ Housman, Robert; *Reconciling Trade and the Environment: Lessons from the North American Free Trade Agreement*, United Nations Environment Programme, 1994, p. 18.

²⁶ The Wall Street Journal, October 28, 1991, p. R11.

Governments are well advised to begin to respond *now* to the lessons learned from the recent passage of the NAFTA by the United States Congress.

As important as the environment was in the NAFTA debates, environmental issues are likely to become even *more* important in future trade agreement debates, for several reasons. First, as noted above, decisionmakers increasingly scrutinize the wider environmental impacts of trade agreements. This trend is reenforced by the increasing sophistication of negotiators and the U.S. public in analyzing environmental issues.

Second, the U.S. Congress is gaining strength in international trade negotiations relative to the Executive Branch. This could result in more attention to environmental considerations. Under NAFTA, the President enjoyed "fast-track" negotiating authority. Congress agreed to cast a simple "yes" or "no" vote to ratify NAFTA, rather than to initiate changes. Under pressure by Congress, the President dropped his request for fast-track authority in potential negotiations with Chile to enlarge NAFTA.

Third, in the future, environmentalists could succeed in integrating environmental concerns more directly into trade agreement negotiations. Under NAFTA, environmental issues were largely relegated to a "parallel track" of negotiation which led to a supplemental agreement. Linking environmental concerns more directly into trade negotiations could give environmentalists a larger voice in shaping such an agreement.

Fourth, environmental groups could force the preparation of an Environmental Impact Statement (EIS) for future trade agreements. Environmentalists tried but failed in efforts to require EIS preparation for NAFTA as well as the General Agreement for Tariffs and Trade.²⁷ They are likely to attempt this tactic again on future trade agreements.

To help Central American governments prepare ahead for what promises to be a difficult negotiating and lobbying process, below are examined:

- relevant arguments against and for NAFTA, and
- implications for Central America.

B. Relevant Arguments Against and For NAFTA

NAFTA proponents were able to win passage of the Agreement in large part because they successfully responded to, and neutralized, environmental concerns. The successful NAFTA defense helped splinter the environmental community: some groups endorsed NAFTA, while others fought its passage. Many of the same concerns that came up during NAFTA can be expected to re-emerge with heightened force in any negotiation involving Central America.

²⁷ Courts have ruled that the National Environmental Protection Act (NEPA), which requires the preparation of EISs for certain projects, does not apply to Presidential actions including negotiating trade agreements. Source: Dianne Wildman, Office of the U.S. Trade Representative, telephone conversation, 28 October 1994.

Arguments generally focused on the expected environmental *impacts* of NAFTA. NAFTA opponents argued that the Agreement would lead to generally worse environmental conditions than would otherwise prevail, while NAFTA proponents argued that generally better conditions would obtain. NAFTA opponents argued against the Agreement by asserting that:

- Mexico's environmental regime is weak,
- Mexico is lax in enforcement,
- Mexico is weak in governance,
- NAFTA did not go far enough in environmental protection, and
- NAFTA would weaken the legal regime in the United States.

Arguments against and for NAFTA,²⁸ and general conclusions on its potential environmental impact, are discussed below.

1. Mexico's Environmental Regime Is Weak

Some environmentalists, as well as business interests, expressed concern about the differences between the levels of environmental protection afforded by different countries. Greenpeace spokespersons argued, for example, that Mexican environmental legislation contained "serious deficiencies," and argued that "considerable asymmetries" exist among the three nations' laws.²⁹ Critics could marshal evidence that the U.S. and Mexican legal frameworks were not equal. For example, the *Washington Post* reported on a power plant on the Mexican side of the U.S./Mexico border that met "Mexican standards that are significantly lower than U.S. standards."³⁰

Pro-NAFTA Response. Proponents of NAFTA were able to mount a convincing defense of Mexico's current legal environmental framework. In the years before the Congressional debate, Mexico's desire for a NAFTA reportedly led to a substantial strengthening of their environmental laws. The Executive Director of the North American Commission for Environmental Cooperation (NACEC) argued prior to NAFTA passage that Mexico "has done in five years what took 10 to 12 years for Canada and the United States to achieve."³¹

²⁸ Only those environmental arguments most relevant to the Central America Urban Environmental Assessment are presented below.

²⁹ U.S. Environmental Protection Agency, *Daily Environment Report*, August 25, 1994, p. B3.

³⁰ Georgetown University, *Georgetown International Environmental Law Review*, Volume V, Issue 3, Summer 1993; Housman, Robert; Orbuch, Paul; and Snape, William; "Enforcement of Environmental Laws under a Supplemental Agreement to the North American Free Trade Agreement," p. 594.

³¹ U.S. Environmental Protection Agency, *Daily Environment Report*, August 25, 1994, p. B3.

EPA Administrator William Reilly remarked in 1992 that "Mexico has a set of [environmental] laws that are fully equivalent to what we have in the United States."³²

Various sources buttressed that assertion. In 1993, the U.S. Environmental Protection Agency (EPA) concluded that, over time, the "United States and Mexican regulatory regimes are designed to achieve comparable levels of environmental protection."³³ Also in 1993, one legal journal reported that "...Mexico's system of environmental law is now on relative par with the systems of the United States and Canada, and in certain areas it surpasses the protections afforded by its NAFTA partners."³⁴

Some additionally argued that identical environmental legal frameworks for the U.S., Mexico, and Canada would be inappropriate. The executive director of NACEC, for example, has gone on record stating that the three countries' legislation should not be uniform because "problems and priorities are different."³⁵

2. Mexico Is Lax in Enforcement

If Mexico maintained a credible system of environmental laws, environmentalists asked, how could "...the environmental situation in the [Mexico/U.S.] border region...be so deplorable..."? Environmental critics of NAFTA thus argued for the importance of effective enforcement of environmental laws. As one wrote,

Without uniformly strong enforcement in all three NAFTA nations, there is the potential for increased migration of "dirty" industries to nations with lax enforcement, and for increased environmental degradation. Furthermore, industries subject to lax enforcement do not have to internalize environmental compliance costs and so have a competitive advantage over their international rivals."³⁶

³² Georgetown University, *Georgetown International Environmental Law Review*, Volume V, Issue 3, Summer 1993; Housman, Robert; Orbuch, Paul; and Snape, William; "Enforcement of Environmental Laws under a Supplemental Agreement to the North American Free Trade Agreement," p. 594.

³³ Office of the U.S. Trade Representative, *The NAFTA Expanding U.S. Exports, Jobs, and Growth: Report on Environmental Issues*, p. ES-2.

³⁴ American University, *Journal of International Law and Policy*, Volume 8, Number 4, Summer 1993; Housman, Robert F.; and Orbuch, Paul M.; "Integrating Labor and Environmental Concerns into the North American Free Trade Agreement: A Look Back and a Look Ahead," p. 785.

³⁵ U.S. Environmental Protection Agency, *Daily Environment Report*, August 25, 1994, p. B3.

³⁶ Georgetown University, *Georgetown International Environmental Law Review*, Volume V, Issue 3, Summer 1993; Housman, Robert; Orbuch, Paul; and Snape, William; "Enforcement of Environmental Laws under a Supplemental Agreement to the North American Free Trade Agreement," p. 593

In 1992, then-Governor Bill Clinton asked rhetorically, "If we don't have the power to enforce the laws that are on the books, what good is the [NAFTA]?"³⁷

Early in the debate, the U.S. General Accounting Office reportedly concluded that enforcement of Mexico's environmental laws "was almost nonexistent."³⁸ NAFTA critics were able to point to examples of lax enforcement in Mexico. For example, a recent spot survey of six U.S. firms chosen at random, operating in Mexico, found that not one of the six facilities had the necessary environmental permits for its operations.³⁹

NAFTA critics assailed, as limited, the NAFTA proposal's official mechanisms to enforce effective environmental protection.⁴⁰ Under NAFTA, member countries could convene a special session of the North American Commission on the Environment (NACE) to address "a persistent and unjustifiable pattern of non-enforcement" of any Party's environmental laws. If the panel found a pattern of nonenforcement, the complaining Party could initiate trade measures (e.g., sanctions).⁴¹ Environmentalists criticized this proposal because of the cumbersome two-country vote needed to convene a panel, the lack of a fixed time frame for panel findings, and the focus on country rather than company misdeeds.⁴² The Sierra Club, among others, concluded that the "...dispute process...is so long and complicated, we doubt that sanctions could ever be applied..."⁴³

Pro-NAFTA Response. Defenders of NAFTA observe that one of the objectives of the Agreement is to "improve national enforcement of each country's laws relating to

³⁷ Sierra Club, *Analysis of the North American Free Trade Agreement and the North American Agreement on Environmental Cooperation*, October 6, 1993, p. 1.

³⁸ Georgetown University, *Georgetown International Environmental Law Review*, Volume V, Issue 3, Summer 1993; Housman, Robert; Orbuch, Paul; and Snape, William; "Enforcement of Environmental Laws under a Supplemental Agreement to the North American Free Trade Agreement," p. 594.

³⁹ American University, *Journal of International Law and Policy*, Volume 8, Number 4, Summer 1993; Housman, Robert F.; and Orbuch, Paul M.; "Integrating labor and Environmental Concerns into the North American Free Trade Agreement: A Look Back and a Look Ahead," p. 787.

⁴⁰ Citizen (as opposed to official or governmental) mechanisms to address inadequate environmental enforcement are discussed in Section 3, below.

⁴¹ Georgetown University, *Georgetown International Environmental Law Review*, Volume V, Issue 3, Summer 1993; Housman, Robert; Orbuch, Paul; and Snape, William; "Enforcement of Environmental Laws under a Supplemental Agreement to the North American Free Trade Agreement," p. 599.

⁴² *Ibid*, p. 613.

⁴³ Sierra Club, *Analysis of the North American Free Trade Agreement and the North American Agreement on Environmental Cooperation*, October 6, 1993, p. 18.

environmental protection.”⁴⁴ The side agreement mandates that each country shall “effectively enforce its environmental laws and regulations.” (A NAFTA critic might respond that the term “effective enforcement” allows countries too much latitude in interpretation.⁴⁵) NAFTA proponents could point out that the NACE did create a mechanism to address “a persistent and unjustifiable pattern of non-enforcement” of any member’s environmental laws. Even the Sierra Club, a NAFTA critic, had to acknowledge that the inclusion of this formal dispute process was “unprecedented.”⁴⁶

NAFTA proponents also pointed to institutional changes in Mexico in the years preceding NAFTA. In 1992, Mexico restructured its federal environmental program and made it a component of its Secretariat for Social Development (SEDESOL). Mexico also established a semi-independent office for environmental enforcement, the Federal Attorney General for Environmental Protection (PFPA). The Office of the U.S. Trade Representative (USTR) concluded that, over the five years since 1988, “Mexico has made impressive strides in implementing its enforcement program.”⁴⁷

Actual, demonstrable improvements in law enforcement were key to NAFTA’s defense. In reviewing Mexico’s handling of fisheries-related environmental concerns and the “tuna-dolphin problem,” the influential publication *The NAFTA: Report on Environmental Issues* noted that “...Mexico has reduced its dolphin mortality rates dramatically.”⁴⁸ Pro-NAFTA forces could also cite the closing (at least temporary) of about 200 factories during or before 1991 for environmental violations. (Critics could, however, respond that those closings were aimed purely at influencing the U.S. NAFTA debate, and that, in Mexico, a “plant closure” could signify a closing of only a few hours.⁴⁹)

The sustained record of cooperation that existed between U.S. and Mexican environmental enforcement agencies was an important factor in the NAFTA defense. NAFTA proponents could point to the environmental enforcement working group that had existed since the early

⁴⁴ Office of the U.S. Trade Representative, *The NAFTA Expanding U.S. Exports, Jobs, and Growth: Report on Environmental Issues*, p. ES-1.

⁴⁵ Sierra Club, *Analysis of the North American Free Trade Agreement and the North American Agreement on Environmental Cooperation*, October 6, 1993, p. 20.

⁴⁶ *Ibid.*, p. 22.

⁴⁷ Office of the U.S. Trade Representative, *The NAFTA Expanding U.S. Exports, Jobs, and Growth: Report on Environmental Issues*, p. ES-3.

⁴⁸ Published by the U.S. Trade Representative.

⁴⁹ Georgetown University, *Georgetown International Environmental Law Review*, Volume V, Issue 3, Summer 1993; Housman, Robert; Orbuch, Paul; and Snape, William; “Enforcement of Environmental Laws under a Supplemental Agreement to the North American Free Trade Agreement,” p. 594.

1980s, made up of U.S. EPA and Mexican SEDESOL representatives. Talks led to action. NAFTA defenders noted, for example, a joint waste tracking system for Mexican and U.S. environmental enforcement personnel on part of the U.S./Mexican border, and joint efforts to prosecute an illegal exporter of waste solvents to Tijuana, Mexico.⁵⁰ (NAFTA critics such as the Sierra Club and the EPA's Public Advisory Committee characterized such efforts as insufficient and "weak.")

Finally, in an effort to cast Mexico's record on environmental enforcement in a more favorable light, some pointed out that the enforcement records of the U.S. and Canada, far from being "stellar," were actually "woefully below what would be expected from developed nations."⁵¹

3. Mexico Is Weak in Governance

Some critics assailed NAFTA on the grounds that ordinary citizens (both domestic and foreign) stand in a relatively weak position vis-à-vis the Mexican government. Because civil society is often most affected by poor environmental conditions (e.g., industrial pollution of potable water), strong enforcement of environmental laws must often be driven by citizen involvement. Thus, a critique of weak "governance" in Mexico is actually a subtler and more profound version of the "lax enforcement" argument presented above.

Legally, NAFTA critics asserted that Mexican law does not provide citizens with standing, or the right to independently commence legal actions to compel the government to enforce its environmental laws.⁵² Additionally, the Sierra Club noted that "...Mexico lacks community right-to-know laws." The Sierra Club concluded that Mexico lacked "...the regulatory...

⁵⁰ American University, *Journal of International Law and Policy*, Volume 8, Number 4, Summer 1993; Housman, Robert F.; and Orbuch, Paul M.; "Integrating Labor and Environmental Concerns into the North American Free Trade Agreement: A Look Back and a Look Ahead," pp. 786-7.

⁵¹ Georgetown University, *Georgetown International Environmental Law Review*, Volume V, Issue 3, Summer 1993; Housman, Robert; Orbuch, Paul; and Snape, William; "Enforcement of Environmental Laws under a Supplemental Agreement to the North American Free Trade Agreement," p. 594.

⁵² *Ibid*, p. 609. This and other points derive in part from the fact that Mexico and the U.S. have fundamentally different legal systems and frameworks. The U.S. has a common law tradition, built upon reliance upon an independent judiciary to interpret law and resolve disputes among adversaries. Litigation plays a significant role in enforcement. Mexico has a civil law tradition, which depends largely on administrative mechanisms and negotiation between parties to both settle disputes and enforce the law. While Mexican citizens are allowed to bring complaints before a political-administrative authority, this right should be distinguished from the ability to commence a citizen suit or action.

On this point, the Sierra Club comments that, "While damage actions under tort law are permitted, historically these have achieved little in the absence of further reforms such as strict liability requirements." Sierra Club, *Analysis of the NAFTA and the North American Agreement on Environmental Cooperation*, 6 October 1993, p. 22.

infrastructure...[and] democratic institutions by which citizens can readily pressure their government to enforce the law..."⁵³

Even if the legal framework were in place, however, some NAFTA critics still argued that little citizen-driven enforcement would occur. One legal journal cited the "fears of many Mexicans that those who challenge the government may suffer reprisals..." as contributing to low levels of government enforcement. U.S. Representative John Lafalce, among others, went on record opposing NAFTA in part because of the condition of democratic governance in Mexico.⁵⁴

Some argued that those conditions were worsened by what was described as the lack of "clear jurisdictional boundaries" between federal, state, and municipal governments in Mexico. One critic claimed that this situation "...permits the creation of vacuums of responsibilities." Citizens additionally do not know to which authorities to complain.⁵⁵

NAFTA made some efforts to enlarge the citizen's role in environmental protection. Environmentalists, however, tended to dismiss those measures as insufficient. Most notably, NAFTA negotiators called for creation of the Commission for Environmental Cooperation (CEC) with a Joint Public Advisory Committee. The CEC has primary responsibility for receiving, investigating, prioritizing, and processing submissions from the public alleging failure to enforce environmental laws effectively. The CEC enjoys formal autonomy. The Sierra Club, however, levelled several criticisms against the CEC: the CEC's actual autonomy is very limited, the CEC cannot report on failures to enforce environmental laws, the CEC has little independent investigative power, the CEC can refuse to release a study prepared by the CEC's Secretariat, and the CEC's Public Advisory Committee enjoys very limited rights and responsibilities. The Sierra Club additionally found that citizens' right to submit briefs was "sharply constrained." Critics also noted that citizens could not directly initiate the dispute settlement process, and observed that CEC consideration of those submissions was optional. Finally, NAFTA critics noted also that the side agreement specifically bars public interest suits⁵⁶ — a constraint to citizen involvement.

Pro-NAFTA Response. Defenders of NAFTA generally defended the issue of governance by stressing NAFTA's efforts to broaden public participation. Defenders particularly noted that

⁵³ Sierra Club, *Analysis of the North American Free Trade Agreement and the North American Agreement on Environmental Cooperation*, October 6, 1993, p. 16 and p. 19.

⁵⁴ Georgetown University, *Georgetown International Environmental Law Review*, Volume V, Issue 3, Summer 1993; Housman, Robert; Orbuch, Paul; and Snape, William; "Enforcement of Environmental Laws under a Supplemental Agreement to the North American Free Trade Agreement," pp. 611-12.

⁵⁵ U.S. Environmental Protection Agency, *Daily Environment Report*, August 25, 1994, B3.

⁵⁶ Sierra Club, *Analysis of the North American Free Trade Agreement and the North American Agreement on Environmental Cooperation*, October 6, 1993, pp. 19-23.

the CEC provided a mechanism for citizens to raise complaints on environmental enforcement. Regarding public access to information, NAFTA defenders could note that the CEC is charged to "promote and, as appropriate, develop recommendations" on "public access to information concerning the environment."⁵⁷

Regarding citizens' lack of legal standing in Mexico, NAFTA proponents could point out that certain U.S. environmental statutes as well do not provide standing for citizens.⁵⁸

4. NAFTA Would Threaten the Legal Regime in the United States

NAFTA critics asserted that the Agreement would result in the "downward harmonization" of the U.S.'s environmental legal regime. In other words, over time, the U.S.'s environmental standards would be lowered, or newer, more stringent environmental laws would not be passed. This would result in worse environmental conditions than would otherwise obtain.

The Sierra Club seized upon this argument. Under NAFTA, they argued, parties could force the U.S. to demonstrate that standards were "based on scientific principles" and assessed risks. Parties could require the U.S. to show that standards were "necessary" to protect human health. Those conditions are not always easy to demonstrate.⁵⁹ The Sierra Club argued that the U.S. federal government could force states to comply with such decisions. More generally, the Sierra Club further argued that, when the NAFTA calls for countries to "harmonize" their laws and regulations, that necessarily implies that both sides will compromise to some degree. Thus, some environmental standards would be lowered.⁶⁰

Based on previous experience, environmentalists had reason to be apprehensive about trade-related challenges to U.S. environmental law. Mexico, for example, had previously challenged (with some success) a U.S. embargo of Mexican tuna and tuna products, set up under the U.S. Marine Mammal Protection Act. A primary purpose of this law was to

⁵⁷ *Ibid*, p. 19.

⁵⁸ Georgetown University, *Georgetown International Environmental Law Review*, Volume V, Issue 3, Summer 1993; Housman, Robert; Orbuch, Paul; and Snape, William; "Enforcement of Environmental Laws under a Supplemental Agreement to the North American Free Trade Agreement," p. 610.

⁵⁹ Sierra Club, *Analysis of the North American Free Trade Agreement and the North American Agreement on Environmental Cooperation*, October 6, 1993, pp. 6-9.

⁶⁰ U.S. Environmental Protection Agency, *Daily Environment Report*, from October 1993 to October 1994, October 7, 1993, p. AA-1.

preserve and protect the dolphin. However, a General Agreement on Tariffs and Trade (GATT) dispute panel found that the embargo was protectionistic.⁶¹

A particular area of concern to environmentalists was the vulnerability to challenge of U.S. state laws that are more stringent than U.S. federal laws: for example, California's bottle-deposit laws.⁶² U.S. state governments had already felt the pressure of downward harmonization from their own federal government. The U.S. Federal Highway Administration (FHA) had recently issued a final rule that preempts states from issuing licenses to foreign commercial drivers operating in the United States. This vulnerability of state and local laws could dampen future increases in U.S. environmental standards, given that states traditionally play a role as "...incubators of policies that are later adopted at the national level."⁶³

Pro-NAFTA Response. Defenders were unable to completely refute this critique of NAFTA. Proponents were able to point to NAFTA provisions that explicitly maintained existing U.S. federal and state environmental, health, and safety standards; and allowed the parties, including states and cities, to enact standards that are stricter than international or national standards.⁶⁴ However, the *Report on Environmental Issues* acknowledged that U.S. laws were only defensible if they did not "...discriminate against products imported from the other NAFTA parties."⁶⁵

Some NAFTA defenders argued that, instead of downward harmonization, upward harmonization would actually occur. NAFTA calls for harmonization to the "highest standard."⁶⁶ The influential *Report on Environmental Issues* noted that "NAFTA...provides a vehicle for upward harmonization of safety and emission standards..." The *Report* went on to conclude that "...the NAFTA and the Environmental Agreement affirmatively encourage the three countries to improve standards..." — including the United States.⁶⁷

⁶¹ American University, *Journal of International Law and Policy*, Volume 8, Number 4, Summer 1993; Housman, Robert F.; and Orbuch, Paul M.; "Integrating Labor and Environmental Concerns into the North American Free Trade Agreement: A Look Back and a Look Ahead," pp. 730-1.

⁶² U.S. Environmental Protection Agency, *Daily Environment Report*, October 7, 1993, p. AA-1.

⁶³ Sierra Club, *Analysis of the North American Free Trade Agreement and the North American Agreement on Environmental Cooperation*, October 6, 1994, p. 11.

⁶⁴ Office of the U.S. Trade Representative, *The NAFTA Expanding U.S. Exports, Jobs, and Growth: Report on Environmental Issues*, p. 6.

⁶⁵ U.S. Environmental Protection Agency, *Daily Environment Report*, November 8, 1993, p. AA-2.

⁶⁶ Sierra Club, *Analysis of the North American Free Trade Agreement and the North American Agreement on Environmental Cooperation*, October 6, 1993, p. 10.

⁶⁷ Office of the U.S. Trade Representative, *The NAFTA Expanding U.S. Exports, Jobs, and Growth: Report on Environmental Issues*, p. ES-6.

The *Report on Environmental Issues* also claimed that the trade accord would not automatically preempt state laws. "For those few areas where the NAFTA negotiators considered that state measures might in fact be inconsistent with the NAFTA..., the NAFTA provides a procedure for grandfathering such measures," the *Report* said.⁶⁸

5. Other Considerations

Other relevant arguments concerning NAFTA (environmental and otherwise) are summarized briefly as follows.

a. NAFTA Would Cost U.S. Jobs

A major argument advanced by both labor and environmental interests was that NAFTA would create a "non-level playing field" that would encourage industry (especially "dirty" industry) to relocate from the United States to the "pollution haven" of Mexico. This impact would hurt the U.S. economy and result in job loss. The Southwest Virginia Vegetable Growers Association, among others, argued additionally that, with the "less stringent environmental regulation in other North American countries...another advantage is given to producers wishing to export their product from their countries into the United States." This "unfair advantage" would hurt U.S. producers.⁶⁹ Environmentalists (e.g., Greenpeace) argued that this effect could: exert downward pressure on the level of environmental protection in the U.S., increase environmental degradation on Mexican soil, "reward" Mexico without its having made great improvements in its environmental regime, and send the wrong signal to other trading partners regarding the importance of improving the environment.

Response. While acknowledging that jobs would be lost in some sectors, NAFTA proponents argued that many more jobs would be created in other sectors. The net result, according to proponents, would be a net gain in jobs, both in the U.S. as well as in neighboring countries. Revenues and prosperity generated by this resulting net gain would permit increased environmental protection. Even the Sierra Club acknowledged that "...NAFTA has the potential to promote the economic growth that could contribute to increased environmental protection..."⁷⁰ The USTR concluded that "...increased economic growth generated by NAFTA would generate greater domestic demand for improved environmental quality and provide Mexico with additional motivation and resources to invest in environmental protection."⁷¹

⁶⁸ U.S. Environmental Protection Agency, *Daily Environment Report*, November 8, 1993, p. AA-2.

⁶⁹ *Ibid*, p. A-3.

⁷⁰ Sierra Club, *Analysis of the North American Free Trade Agreement and the North American Agreement on Environmental Cooperation*, October 6, 1993, p. 25.

⁷¹ Office of the U.S. Trade Representative, *The NAFTA Expanding U.S. Exports, Jobs, and Growth: Report on Environmental Issues*, p. 2 and p. ES-4.

b. NAFTA Did Not Address Production Process Methods

Some environmentalists argued that NAFTA did not go far enough in environmental protection. The Sierra Club argued, for example, that NAFTA would prevent the U.S. from controlling the importation of products produced abroad in ways that damage the environment, e.g., addressing production process methods (PPMs). This would prevent the U.S. from preventing environmental damage outside their territory, including in the global commons. This limitation would apply downward pressure on U.S. environmental regulations that raise production costs.⁷²

Response. NAFTA defenders could argue that the CEC is authorized to discuss “the environmental implications of goods throughout their lifecycles.” This could permit the discussion of PPMs, which could lead to strengthened laws and regulations.

c. NAFTA Would Increase Environmental Degradation along U.S./Mexican Border

Some argued that NAFTA would worsen the already degraded environmental conditions along the U.S./Mexican Border, due to increased traffic and the emergence of new maquiladoras surrounded by “spontaneous” unserviced and unsanitary communities. Arguments focused on “brown” (i.e., urban) environmental issues, as opposed to other environmental concerns.

Response. NAFTA defenders pointed to two new institutions and financing sources that would help improve environmental conditions along the Mexico/United States border. The Border Environmental Cooperation Commission (BECC) will work with local communities to develop and arrange financing for vitally needed environmental infrastructure projects. The North American Development Bank (NADBank) will use its own capital to leverage private funds to finance construction of those border environmental projects.

Moreover, the USTR argued that “...NAFTA will remove the current artificial incentives which have intensified investment along the border...Without NAFTA, it is more likely that intense border investment will continue, with the attendant adverse environmental consequences for the border region.”⁷³

d. NAFTA Would Increase Trade That Would Worsen Environmental Conditions

NAFTA critics charged that increased trade would also worsen environmental conditions throughout the United States and Mexico, due, for example, to the export of wastes from the

⁷² Sierra Club, *Analysis of the North American Free Trade Agreement and the North American Agreement on Environmental Cooperation*, October 6, 1993, p. 12.

⁷³ Office of the U.S. Trade Representative, *The NAFTA Expanding U.S. Exports, Jobs, and Growth: Report on Environmental Issues*, p. ES-5.

U.S. to Mexico. Many of these negative environmental impacts can be characterized as urban.

Response. The USTR pointed out that NAFTA "...preserves the right [of the U.S.] to ban non-conforming imports."⁷⁴ Some additionally responded that increased trade could actually improve environmental conditions. For example, one NAFTA proponent claimed that "[under the pending trade deal, the United States could sell electricity generated with highly efficient or renewable energy technology to Mexico, which gets most of its electrical power from less efficient, coal-fired plants." This would in turn cut greenhouse gas emissions from Mexico.⁷⁵ The USTR's *Report* also notes that the U.S. will be better able to market cleaner technologies to Mexico under NAFTA than otherwise.⁷⁶

C. Implications for Central America

The NAFTA debate has important implications for Central America. Below are examined: 1) the environmental issues that could emerge during trade negotiations, 2) the parameters of accession as they are currently known, and 3) lessons for Central American countries.

1. Environmental Issues

In a negotiation with Central American countries, environmental issues would emerge with different emphases than those observed in the original passage of NAFTA through the U.S. Congress. Those divergences stem largely from the differences in the negotiating posture of Central America from that of Mexico during the NAFTA debates. Those differences include the following:

- Central America, unlike Mexico, is a heterogenous group of countries. Substantial differences may emerge between Central American countries during negotiation. The cohesion that Central America would maintain as a bargaining entity during negotiation is unknown. Writing the terms of an agreement could be inherently more difficult, given the need to allow for the varying circumstances and interests of different Central American countries.
- Central American countries are poorer than Mexico. Mexico's gross national product (GNP) per capita is \$3,470; for Central America, GNP per capita varies from \$340 (Nicaragua) to \$1,960 (Costa Rica).⁷⁷ That condition may translate into generally lower levels of environmental protection, as well as lower wage levels, than Mexico at

⁷⁴ *Ibid*, p. 6.

⁷⁵ U.S. Environmental Protection Agency, *Daily Environment Report*, November 17, 1993, p. A5.

⁷⁶ Office of the U.S. Trade Representative, *The NAFTA Expanding U.S. Exports, Jobs, and Growth: Report on Environmental Issues*, p. ES-5.

⁷⁷ World Bank, *World Development Report 1994*, pp. 162-3.

present. Additionally, the smaller Central American market is less important for U.S. economic interests than were Mexican consumers.⁷⁸

- Central American countries are currently less economically integrated with the U.S. than Mexico was in 1993. As U.S. Congressman Jim Kolbe (R-Arizona) observed, while 70 percent of Mexico's exports before NAFTA were to the United States, "...the further south a country is within the hemisphere, the less it exports to the United States." For this reason, Kolbe concludes, "U.S. negotiating leverage is reduced the further south we go to negotiate agreements."⁷⁹
- Central America, unlike Mexico, does not share a common border with the United States.
- Central America may be less familiar to U.S. decisionmakers than was Mexico. Mexico's federal system bears more in common with the United States system of government than do the Central American systems. Also, Central America cannot at present demonstrate the same degree of cooperation over time with U.S. agencies on environmental issues that Mexico claimed.

Based on those differences and other trends, one can draw several conclusions. First, because no Central American country borders on the United States, the *direct* environmental impacts of accession may be less important for the U.S. Congress than were U.S./Mexico border issues during the NAFTA debates. Mexico, on the other hand, could become concerned about possible environmental impacts on their common border with Guatemala.

Second, the impact on U.S. business and jobs of including Central American countries in NAFTA is likely to become even more of a driving concern than it had been during the U.S. NAFTA debates. This is because Central America generally provides less environmental protection and lower wages than did Mexico. Thus, the "playing field" is more uneven than was the case between the U.S. and Mexico.

Third, issues of governance, social equality, and democracy are likely to become more pronounced, directly or indirectly, in negotiations with Central America. The Chiapas rebellion in Mexico immediately following NAFTA ratification underscored this emerging issue. The Majority Leader of the U.S. House of Representatives Richard Gephardt was recently quoted as saying that our trade policy (including NAFTA) should be used to "...advance rights and justice around the world — treating trade with the United States...as a hard-earned privilege..." He opined that the U.S.'s "trade vision" should "...recogniz[e] that human rights and human decency aren't a challenge to our economic interests — they are

⁷⁸ Mexico's economy is nearly seven times as large as the economics of all the Central American countries combined. Source: Inter-American Development Bank, *Economic and Social Progress in Latin America 1993 Report*, p. 5.

⁷⁹ Kolbe, Jim, U.S. Congressman: "Principles for the Creation of a Western Hemispheric Free Trade Area," Address given before the Association of American Chamber of Commerce in Latin America, May 5, 1994, p. 1-8.

economic interests.”⁸⁰ A representative for the Office of the USTR noted that Chile appeared to be “first in line” for consideration for entry into NAFTA *in part* because of their relatively progressive democratic and social records.⁸¹ Acknowledging at least a linkage between economic and social liberalization, the *Wall Street Journal* notes that hemispheric “...free-trade deal[s]...would support democratic and economic reforms.”⁸²

2. Parameters of Accession

As of this writing (November 1994), procedures and conditions for accession to NAFTA have not yet been formalized and made public. For NAFTA passage in the U.S., the Agreement was first negotiated by the Executive Branch, represented chiefly by the Office of the U.S. Trade Representative, and then ratified by the Legislative Branch, i.e., the U.S. Congress. This two-phase process would most likely be followed during a Central America accession process.

a. Environmental Review

Some official review of Mexico’s environmental protection record occurred during both phases of the original NAFTA process. Those official analyses were supplemented by review by interested organizations that lobby Congress (e.g., the Sierra Club).

The principal environmental document produced was *The NAFTA: Report on Environmental Issues* (1993). That document, prepared by the USTR, provides the best indication about the scope of U.S. official environmental review that Central America could expect. The *Report* reviews Mexico’s pollution control regime, enforcement of laws, and cooperative U.S./Mexico environmental activities. It projects NAFTA’s macroeconomic impacts (e.g., job creation); sectoral effects (energy, agriculture, transportation, technology, and services); and impacts on U.S. environmental laws. While the *Report* did not address environmental governance, that theme was taken up by certain environmental interest groups.

b. Principle: Parity of Conditions

One important principle permeated the NAFTA debate: the notion of the level playing field, or approximate parity between Agreement members. NAFTA proponents and opponents in the United States examined the environmental parity between Mexico and the U.S. in terms

⁸⁰ Kolbe, Jim, U.S. Congressman: “Principles for the Creation of a Western Hemispheric Free Trade Area,” Address given before the Association of American Chamber of Commerce in Latin America, May 5, 1994, p. 1-8.

⁸¹ The major reasons given for their apparent “first in line” status were a long history of discussion between the U.S. and Chile on trade integration, as well as their robust economic growth. Source: Ms. Dianne Wildman, Office of U.S. Trade Representative, telephone conversation, 31 October 1994.

⁸² The Wall Street Journal, October 31, 1994, p. 1.

of the legal regime, enforcement record, and, to a lesser extent, in terms of governance. The central notion of "harmonization" of standards reflects the principle of parity. This principle will emerge to some degree in future NAFTA negotiations.

Given that Central America as a whole cannot make as strong an argument for *current* parity with the U.S. as did Mexico, an agreement will probably involve: 1) areas where current parity does exist, 2) phase-ins to the environmental provisions of NAFTA to achieve *eventual* parity, and 3) exceptions. U.S. Representative Kolbe argued for eventual parity when he proposed that "...the overarching principle [in accession to NAFTA] must be eventual assumption of NAFTA's obligations. Exceptions should be kept to a minimum."⁸³

3. Actions

To best position themselves for eventual NAFTA passage, Central American countries should take the following immediate actions.

a. Embrace an Overarching Goal

Countries should seriously commit themselves to the goal of eventual, approximate parity with NAFTA members, *when appropriate*, in terms of environmental protection (discussed in more detail below). The closer to parity that countries can reach within the short-to-mid-term, or realistically plan to reach within the long-term, the greater the chance of accession to NAFTA.

b. Adopt and Implement a NAFTA-Oriented Environmental Strategy and Plan of Action

Each Central American country should develop, approve, and then execute a strategy and plan of action to move decisively (as appropriate) toward the levels of environmental protection afforded by NAFTA members. Where strategies currently exist, they should be assessed and revised in light of a goal of eventual parity (where appropriate) with levels of environmental protection afforded within the North American free-trade zone.

Strategies should identify baseline levels of environmental protection, contrasted with levels in North America. Then:

- For substantive areas where Central American countries are currently *roughly comparable* with NAFTA levels of environmental protection, strategies should focus on maintaining current levels of protection. Countries should be prepared to accept NAFTA standards in those areas, immediately or in the near future.

⁸³ Kolbe, Jim, U.S. Congressman: "Principles for the Creation of a Western Hemispheric Free Trade Area," Address given before the Association of American Chamber of Commerce in Latin America, May 5, 1994, p. 5.

- For areas where *improvement is needed and appropriate*, achievable short-term, medium-term, and long-term targets should be identified. Countries should then seek to include those targets as “phase-in” clauses to NAFTA.
- In areas where countries conclude that *approximate parity with NAFTA members is not appropriate*, countries should seek “exception” clauses to NAFTA.

During negotiations, countries should be prepared to clearly justify occasions where targets are not appropriate, and (if possible) to argue why such exceptions will not cumulatively hurt the economies of NAFTA member-countries. Protectionist reasons for declaring parity “not appropriate” would be difficult to defend in negotiations. Strategic reasons, e.g., not countervailing a nation’s energy strategy, could be viable. For example, during NAFTA negotiations, Mexico successfully defended its significantly lower standards for sulfur dioxide emissions controls from coal-fired power plants, apparently for strategic sectoral reasons. The USTR additionally implies that divergent standards may be more acceptable where no “...significant transboundary effects on a U.S. population...” are anticipated.⁸⁴

Strategies and plans of action should be sufficiently realistic so they can potentially: 1) provide inputs into a NAFTA, as well as 2) produce arguments (via successful implementation) in favor of accession to NAFTA. Unrealistic or unimplemented environmental strategies could ultimately hurt countries during NAFTA negotiations, because such conditions could be taken as signs of a lack of political will or institutional capacity to adequately protect the environment. The strategy and plan of action should contain a monitoring and evaluation plan to ensure movement towards targets.

Specific elements of the strategy and plan of action should seek to accomplish the following.

c. Improve the Environmental Legal Regime

Based on a legal audit, the strategy should address a country’s environmental law regime, including enabling legislation for institutions with responsibilities in environmental protection. Appropriate, complementary, and comprehensive environmental roles should be assigned to national, regional, local, and autonomous levels of government. Based again on an audit, the strategy should also address the environmental regulatory regime. This regime should address the four principal media areas: water, air, hazardous waste, and pesticides and industrial chemicals.

The EPA released an interim audit of Mexico’s environmental law in 1991 during NAFTA negotiations, two years before the vote in the U.S. Congress. That agency would possibly be available for pre-negotiation consultations with Central American countries.

⁸⁴ Office of the U.S. Trade Representative, *The NAFTA Expanding U.S. Exports, Jobs, and Growth: Report on Environmental Issues*, p. 34.

d. Improve the Record of Environmental Enforcement

An effective enforcement system should correspond to the elements of the environmental legal and regulatory regime, as well as strategic priorities in environmental protection. An effective system includes appropriate legal and administrative mechanisms, as well as sufficient institutional capacity and autonomy. The system's effectiveness should be reflected in a well-documented record of enforcement actions.

Possible legal mechanisms for industrial enforcement include but are not limited to: plant closings (which may be permanent or temporary, and total or partial); negotiation of compliance agreements; posting of a surety bond to secure compliance with an agreed or ordered schedule of compliance; and the imposition of fines. Agencies can establish different administrative types of inspection (e.g., comprehensive vs. review of documentation). Administrative programs for enforcement can include targeted inspections, public complaints, aerial surveillance, and vehicle emissions testing. Such programs can be effectively supplemented by a program of voluntary environmental audits, which precede punitive actions.

Institutional capacity and effectiveness can be strengthened via autonomy (legal, financial, etc.). An ongoing training program is essential. Improvements in general public administration (e.g., logical spatial distribution of facilities, use of work plans), as well as technical sophistication are both important. Inspectors can be evaluated for effectiveness, thoroughness, technical proficiency, and understanding of environmental laws. Human resources should be supported by necessary capital resources.

Demonstrable follow-through of Mexico's enforcement plans were important in the NAFTA debates. Mexico's Secretariat of Social Development was praised for setting and meeting "aggressive inspection goals."⁸⁵ Measurable results can be institutional (e.g., percent of environmental budget designated for enforcement), as well as specific (e.g., number of inspections, plant closures).

e. Improve Governance, at Least in the Area of Environmental Protection

Attempting to comprehensively improve governance, while a noble goal, could prove too broad for effective program action. A more narrowly defined goal, however, such as improving governance in the area of environmental protection, could prove more achievable by governments, with possible support from the donor community.

Governments can build effective citizen participation into an environmental strategy and action plan in a multitude of ways. Legally, governments can allow citizens to more directly

⁸⁵ Office of the U.S. Trade Representative, *The NAFTA Expanding U.S. Exports, Jobs, and Growth: Report on Environmental Issues*, p. 40.

litigate when they are negatively affected by industry. Non-legal mechanisms of decision-making, consultation, coordination, and enforcement can also be established.

f. Develop Cooperative Activities with NAFTA Member Countries in Environmental Protection

An extensive history of Mexico/U.S. environmental cooperation probably aided NAFTA passage. Joint enforcement activities, in particular, were frequently cited during the NAFTA debates. Besides improving environmental protection and particularly enforcement, this cooperation familiarized U.S. agency officials with Mexican environmental issues, while sensitizing Mexican officials and negotiators with the way those issues were conceptualized in the United States. Cooperation can also assist private sector industries in cleaning up production via technology transfer.

USAID is already active in the region in important environmental activities, such as pollution prevention and financing urban environmental infrastructure. Those activities should be expanded as appropriate.⁸⁶ Those programs and projects should additionally be complemented by exercises that involve the "twinning" of enforcement agencies in the U.S. (as well as in Mexico and Canada) with their Central American counterparts. The U.S. EPA and its Mexican counterpart, SEDESOL, offer an example of cooperation. They jointly developed and implemented a comprehensive program of activities that included strengthening enforcement of existing laws; reducing pollution through other initiatives (e.g., wastewater treatment); increasing cooperative planning, training and education; and improving understanding of environmental issues.

The CONCAUSA Declaration and Action Plan is a concrete example of cooperation between the Central American Governments and the Government of the United States in the areas of biodiversity, energy, environmental legislation and economic development. The cooperation between LISEPA and Central America related to commitments for the upward harmonization of environmental protection laws is particularly noteworthy.

⁸⁶ See the following sections of this report for more specific recommendations.

Part Two

Regional Overview of the Urban Environmental Situation in Central America

III. URBAN ENVIRONMENTAL PROBLEMS AND ISSUES IN CENTRAL AMERICA

This section summarizes the key urban environmental concerns in Central America, including problems and issues related to: 1) access to basic environmental infrastructure and services, 2) pollution from urban wastes and emissions, and 3) loss or degradation of natural resources.

The critical and most immediate problems facing the countries of the region are the health impacts of urban pollution that are associated with inadequate water, sanitation, drainage, solid waste services, and transportation. The urban poor in each of the countries are affected disproportionately by these problems. Their predicament, in turn, exacerbates the urban environmental problem, in terms of both health and productivity. Significantly, a recent survey of environmental health indicators in three of the countries indicated that environmental health data were often nonexistent, were inaccessible in the form needed, or did not document the environmental conditions specific to informal sector population groups.⁸⁷ The existing weak institutional capacity at the national level as well as the lack of common requirements among external support agencies were cited as key constraints affecting the availability and usefulness of information.

A. Access to Basic Environmental Services

1. Coverage of Water Supply and Sanitation Services — 1992

In 1992, WASH (Water and Sanitation for Health Project) collected secondary data on water and sanitation coverage to update its *Planning for Central America Water Supply and Sanitation Programs Report* (USAID/LAC-F.R.-No. 404). According to WASH, in 1992, overall access to urban water supply services averaged 91 percent and access to urban sanitation services averaged 88 percent. Figure 6 summarizes the coverage of urban services by country in 1992.

⁸⁷ Constraints to Producing and Collecting Urban Environmental Health Data in Central America, WASH Field Report No. 429, December 1993.

FIGURE 6
ACCESS TO WATER AND SANITATION SERVICE
1992

COUNTRY	POPULATION (000)		URBAN AREA COVERAGE	
	TOTAL	URBAN ^a	WATER SUPPLY PERCENT OF POP. SERVED ^b	SANITATION PERCENT OF POP. SERVED ^c
COSTA RICA	3,191	1,519	100%	100%
EL SALVADOR	5,395	2,493	86%	84%
GUATEMALA	9,745	3,918	90%	70%
HONDURAS	5,463	2,475	88%	88%
NICARAGUA	3,958	2,565	92%	97%
PANAMA	2,511	1,365	98%	98%
TOTAL - C.A.	30,263	14,335	91%	88%

SOURCE: WASH Field Report No. 404.

Key

- ^a Urban areas are defined as population centers of 2,000 or more.
- ^b Water supply coverage includes people who receive water from a direct connection, from a water system outlet (standpipe or public fountain) within 200 meters of their homes, or from water vendors.
- ^c Sanitation coverage includes those with an in-house or in-compound sewerage connection, septic tank, or latrine.

The WASH report recognized that the region will become predominantly urban in the next decade, and that most of the increase in the urban population will be in the peri-urban or informal sector (the urban poor). The report emphasized that “[t]hese areas are characterized by few or no public services, little infrastructure, substandard housing, and poor land sites such as steep hillsides, flood plains, or proximity to solid waste dumps.” Perhaps even more importantly, WASH recognized that a lack of solid data on this population probably already inflates the estimates of urban service coverage. However, only very crude estimates of the magnitude of underreporting of the service coverage of this peri-urban population were considered possible. WASH’s survey of three capital cities in the region reflects this broader set of realities (see Box 1).⁸⁸

⁸⁸ *The Development of Water and Sanitation-Related Environmental Health Indicators and Survey of Existing Data in Three Countries*, WASH Field Report No. 420, 4 October 1993.

BOX 1
ACCESS TO WATER SUPPLY AND SANITATION SERVICES
IN GUATEMALA CITY, SAN SALVADOR, AND TEGUCIGALPA

Access to Water Supplies

The access to water by residents of urban areas of these countries is fairly high, according to official statistics. In the urban areas of Guatemala, 90 percent have access to piped (within at least 200 meters) or vended water; in Honduras, 88 percent; and in El Salvador, 86 percent (WASH Field Report No. 404). However, for the three cities studied, any disaggregation of these figures, either by area of the city or by type of service, presents a more complicated picture.

In the greater metropolitan area of Guatemala City, it is estimated that piped water is accessible to between 40 and 50 percent of the residents of the municipio of Guatemala City; in Mixco, 69 percent; in Villa Nueva, 75 percent; and in San Miguel Petapa, 100 percent. However, PAHO (1990) estimates that in the municipio of Guatemala City, only 15 percent of the households in the marginal areas have water connections. Sixty percent rely on public taps, and 20-25 percent depend on vended water.

In Tegucigalpa, the Honduran National Agency for Water and Sanitation (SANAA) estimates the coverage of water supply at 99 percent. Of these, 80 percent have access to municipal water supplies, 17.5 percent have access to vended water, and the remainder obtain water from wells and unprotected surface waters. A SANAA survey of selected marginal barrios indicates that only 29 percent of families had access to piped water.

The United Nations Children's Fund (UNICEF), however, estimates that only 68 percent of the population of Tegucigalpa has access to safe water supplies. For the marginal areas, UNICEF estimates that only 55 percent obtain water from SANAA, leaving at least 200,000 people to rely on other sources, such as vended water and unprotected surface water. The main source of surface water is the highly polluted Choluteca River, which receives sewage and industrial discharges.

In San Salvador, 10 municipios in the greater metropolitan area of San Salvador are served by the Salvadoran National water and Sewerage Agency (ANSA). A reported 88 percent of the population in this area has water and sewage connections. Of the 190,874 water connections, 171,583 are for households and 746 are for areas marginales and presumably are public water taps serving many families.

Although official estimates of access to city water systems are high for cities as a whole, localized studies suggest that the marginal areas are severely underserved. Most residents lack individual household taps, and hundreds of thousands depend on vended water and highly polluted surface water. Even those with access to piped and vended water often receive supplies below international standards for quality and quantity.

Access to Sanitation Services

Like access to water supply, the official coverage figures for access to sanitation services are fairly high: 70 percent, 88 percent, and 84 percent for the urban areas of Guatemala, Honduras, and El Salvador, respectively (WASH Field Report No.404). Once again, these figures do not tell the whole story.

In the greater metropolitan area of Guatemala City, 54 percent of the population have access to sewage systems. Mixco reports that 53 percent of its population has access to a sewage system; 22 percent have no sanitation facilities whatsoever; presumably, the remaining 26 percent have latrines. In Villa Nueva and San Miguel Petapa, there are no sewage systems.

For the marginal barrios, however, only 21 percent of the households had sewage connections, according to a 1988 study conducted by the municipality of Guatemala City. An estimated 19 percent of the population in these areas have no sanitation facilities whatsoever, and the remaining 60 percent rely on latrines (PAHO 1990).

In Tegucigalpa, SANAA estimates that 74 percent of the population has access to the city sewage system, 19 percent have latrines, and 7 percent have no excreta disposal system. According to these figures, 188,500 people (26 percent of the population) do not have access to sewage disposal. However, these figures apparently do not include the marginal areas, since approximately 290,000 people (40 percent) inhabit the marginal areas, and none of these has access to the sewage system.

No data were located estimating the types of sanitation or coverage for the city of San Salvador.

The inadequacies in the definitions used by WASH most often lead to an overestimation in the number of persons with coverage. For example, coverage levels would be far lower if access to water supplies was redefined as access to uninterrupted supplies of quality water; and if access to sanitation included the proper construction, use, and maintenance of sanitary facilities. The WASH report stated that: "some cities have water for only a few hours a day. In addition, some facilities are inadequate from an environmental health standpoint. Human excreta, pesticides, and solid and hazardous wastes contaminate the soil and may leech into ground waters; untreated domestic and industrial wastewaters are dumped into surface waters. As a result, water supplies are often of such poor quality that they do not meet standards for potable water in developed countries."

2. Solid Wastes

Inadequate collection and disposal of domestic and commercial solid wastes is a common and persistent problem at the municipal level in all of the countries. Available information suggests that, on average, only about 50 percent of urban households benefit from solid waste collection services. Generally, both collected and uncollected wastes end up in open dumps (formal or clandestine), or in rivers and drainage systems, threatening the quality of both surface and ground water. Open air burning at dumps and landfills is common, as is scavenging and associated human settlements at dump sites. Thus far, there is not one single sanitary landfill in Central America.⁸⁹ A brief summary of the situation in each of the countries follows:

a. Costa Rica

The 13 municipalities of the San José Metropolitan Area generate an estimated 1,400 tons of solid waste per day. While the municipality of San José collects an estimated 80 percent of generated wastes, the remaining municipalities collect only 30-50 percent. An estimated 300 tons of solid waste are dumped in rivers each day. The current metropolitan disposal site (Río Azul) has been considered inadequate (and a health problem) for more than eight years. However, the identification and selection of a site(s) required for a new sanitary landfill has not been possible thus far — exacerbating a historically critical urban sanitation and health problem.

b. El Salvador

Official data for the metropolitan area of San Salvador indicates that only 600 tons of an estimated 1,000 tons of solid waste generated each day are collected. Thus, an estimated 400 tons of garbage is deposited in illegal dumps, vacant lots, river beds, and public rights-of-way. In 1990, in 126 other Salvadoran communities of less than 15,000 persons, only

⁸⁹ Anecdotal evidence indicates that a small sanitary landfill is being developed in Sansonate, El Salvador with the cooperation of the Spanish International Cooperation Agency (AECI).

17.5 percent of inhabitants enjoyed solid waste collection services, and only 35 percent of generated garbage was collected.

c. Guatemala

According to WASH, an estimated 65 percent of solid wastes in Guatemala City are collected by the municipal collection system or private companies. The remaining 35 percent are disposed of in some 800 unofficial locations within the municipality, or an estimated 2,000 unofficial dump sites in the metropolitan region as a whole. In the marginal areas, the percentages are reversed; only about 30 percent of solid wastes are collected.

According to other estimates, 53 percent of households in Guatemala City dispose of wastes at official dump sites, 35 percent at unofficial sites, and 12 percent at scattered locations. This means that almost half the estimated 1,000-1,500 tons per day are not disposed of at official sites.

d. Honduras

Tegucigalpa produces almost 700 tons of trash per day, of which about 60 percent (by weight) is disposed of at the official site. The official site is a landfill six kilometers from the city that has no controls to avoid contamination of the soil and underground aquifers. San Pedro Sula solid waste generation is estimated 500 tons per day: recent studies financed by the IDB recommended improvements in solid waste collection and disposal services as well as in administration/finance.

e. Nicaragua

An estimated 84 percent of the 1,300 tons of solid wastes produced daily in Managua are collected. However, despite collection efforts, over 838 illegal dumps exist in the city. The present landfill site, located along the shores of Lake Managua (Achualinca), is causing health and physical hazards and contributing to the pollution of the lake. A rapid evaluation conducted by ICMA in 1993 provided recommendations for improving the city's solid waste management. The Japanese International Cooperation Agency (JICA) is currently undertaking a major study of solid waste management in Managua.

f. Panama

The generation of solid wastes in Panama City doubled between 1980 and 1990, and totaled 932 tons daily at the end of that period. Less than 50 percent of solid wastes produced each day are collected. A high percentage of the remainder is deposited in the streams and river beds which empty into the Panama Bay.

3. Storm Damage

No quantitative data on the coverage of urban storm water damage was collected during the assessment phase of this study. However, the general health related problems facing most Central American cities include: 1) the use of existing drainage systems to flush away domestic, commercial, and industrial sewage, and the channeling of the runoff into surface waters; 2) urban flooding and landslides due to inadequate drainage; and 3) standing pools of water caused by inadequate drainage of waste water and runoff.

4. Hazardous Waste

Virtually no hard data on hazardous wastes were encountered during the assessment, even though such wastes are produced in all major cities. The source of these wastes includes large industries and medical centers, as well as small and medium manufacturing. These wastes are most likely being disposed of along with solid and liquid wastes without previous treatment.⁹⁰ According to WASH, "In Guatemala City, some data were available on the 353 industries, their type, number of employees, and estimated volume of annual liquid waste. Indirect methods were used to estimate the types of disposal for the hazardous wastes: 13 percent are dumped into the sewer system, 16 percent are treated, and the method of disposal of the remaining 71 percent is unknown."

B. Pollution from Urban Wastes and Emissions

1. Surface and Groundwater Pollution

The four main sources of water pollution include untreated liquid waste from sewers and industrial waste pipe, human waste, and garbage and agriculture. In most of the countries, there is a scarcity of data on water pollution resulting from industrial wastes, impacts on city water supply or downstream users, or qualitative assessments.

Anecdotal evidence for the Metropolitan Area of San José indicates that the coffee industry accounts for about 70 percent of river containments, with other industries accounting for 20 percent, and domestic wastes, 10 percent. However, the fact that limited treatment is given to the liquid wastes collected by the sanitary sewer systems suggests that the domestic component of contamination is probably much higher.

In El Salvador, all urban residual liquid wastes collected by the sewer systems are deposited in local rivers without any previous treatment. According to available data only 4 percent of all liquid industrial wastes are pre-treated prior to being discharged into the sewer system. Approximately 69 percent of industrial wastes reach the sewer system; about 17 percent are discharged in streams, rivers, or the sea; and about 10 percent are deposited in storm sewers.

⁹⁰ WASH Field Report No. 420.

In Honduras, the pollution of surface and ground water in and around Tegucigalpa and San Pedro Sula and its metropolitan area is particularly acute, with the watersheds of the Choluteca (Tegucigalpa), Uluá, and Chamelecon rivers (San Pedro Sula) showing the highest levels of organic contamination in the country.

In Panama City, the lack of adequate solid waste management services and collection and final treatment for waste water has resulted in considerable pollution of the area's rivers. An estimated 34 million tons of domestic wastes are deposited in the Bay of Panama annually.

Figure 7 shows the results of WASH's estimates of environmental contamination for the Metropolitan Area of Guatemala City. The estimates for human, solid, and hazardous waste contamination of the environment are an approximation only, although all WASH efforts tend to underestimate rather than overestimate. Varying the population groups gave estimates 20-30 percent higher. Other sources gave estimates as much as double the values calculated here. Nevertheless, as WASH noted, "the amount of waste flowing into the urban environment on a monthly basis suggests a very high risk of exposure to disease-causing agents, especially in the poorest neighborhoods."

FIGURE 7
ESTIMATES OF ENVIRONMENTAL CONTAMINATION FOR THE
GREATER METROPOLITAN AREA OF GUATEMALA CITY, GUATEMALA

FECAL WASTE 125,958 m/month	SOLID WASTE 27,300 tons/month^a
Households connected to sewage system 910,000 people 109,200 m ³ /month	High-income households 300,000 people 6,750 tons/month
Households with latrines 850,000 people 12,750 m ³ /month	Middle-income households 700,000 people 11,500 tons/month
Households with no facilities 240,000 people 4,008 m ³ /month	Low-income households 1,000,000 people 9,000 tons/month
HAZARDOUS INDUSTRIAL WASTE 895 tons/month	HAZARDOUS MEDICAL WASTE 324 tons/month
353 industries	110 hospitals 89 health centers

SOURCE: WASH FIELD REPORT No. 420.

Key

^a 14,469 tons/months disposed of at unsanitary or unofficial sites

2. Air Pollution

Only limited qualitative data on current outdoor urban air quality in the Central American countries were identified during the assessment. However, previous studies and anecdotal evidence indicate a steady growth in suspended particulate matter caused by vehicular emissions, factories, and garbage and agricultural burning, with vehicular emissions being the most important source of outdoor air pollution.

The major cities are all experiencing extremely high growth rates of motorization. Urban transport-related air pollution is rapidly increasing due to vehicular emissions and related factors such as fuel quality, the condition/age of the vehicle fleet, poor transportation, and traffic management. Until fairly recently, the systematic monitoring of vehicular admissions in order to provide the basis for effective regulation and control has been inadequate. However, recent efforts suggest that this situation is changing. PROECO, an ecological program started by Swisscontact in 1993, is working to establish and implement systematic monitoring programs and to improve vehicular maintenance in five of the countries (see Box 2). In addition, the Costa Rican government is implementing a plan to eliminate the use of leaded gasoline by the end of 1995. The public and private sectors in other countries are beginning to explore the feasibility of similar efforts.

BOX 2 PROECO/SWISSCONTACT

PROECO (Programa Ecológico en Centroamerica) is being implemented by Swisscontact, a private non-profit foundation, under contract with the Swiss government. The program, which started in January 1993, seeks to improve the ecological conditions of urban areas in Central America and to contribute to the solution of global environmental problems. The current program has a duration of three years and will be carried out in Costa Rica, Guatemala, Honduras, El Salvador, and Nicaragua.

PROECO's Vehicle Inspection and Maintenance Program seeks to reduce vehicular emissions in urban areas by 20-30 percent through regular inspection and maintenance. The program provides technical assistance and training in the monitoring of air quality and vehicle maintenance, and is currently operating in Costa Rica, Guatemala, and Honduras in collaboration with the key training institutions (INFOP/Honduras, INA/Costa Rica, INTECAP/Guatemala); small business associations (APTAMAI/Costa Rica, ATEMEGUA/Guatemala); and universities and environmental groups (Universidad Nacional/Heredia/Costa Rica, CESCCO/Honduras). Efforts are planned to be expanded in 1995 to include El Salvador and Nicaragua.

Other key PROECO activities include a Solar Energy Program and regular environmental-radio program and a periodic newsletter.

C. Resource Losses

The pressing "brown" environmental problems confronting the rapidly growing primate and, increasingly, secondary cities in Central America are also related to a series of "green issues," i.e., the impacts that the urban "footprint" exerts on a region's natural resources. While these vary from city to city, in general they include the depletion of water and forest

resources, the degradation of environmentally fragile lands, the occupation of areas prone to flooding, etc. This section summarizes the broad types of impacts that rapid urbanization is having on natural resources within the region.

1. Ground Water Contamination and Depletion

The inadequate disposal of urban and industrial wastes and storm water highlighted earlier in this report contributes to the contamination of both surface and ground water. Even in the general absence of adequate measurement, these impacts are believed to be considerable, particularly in some of the primate cities and their metropolitan areas. Watershed degradation through inadequate land use management, uncontrolled development and urbanization, and the rapidly increasing demand for water, as well as its uncontrolled usage, are increasingly threatening ground water supplies. The absence of adequate legislation to protect and manage water resources, combined with the uncontrolled proliferation of private wells in many urban areas, represents a growing problem (in San Pedro Sula and Guatemala City, for example).

2. Land and Ecosystem Degradation

Throughout the region, environmentally inappropriate urban land development is exerting direct pressure on land and associated ecosystems. Rapidly growing low-income urban populations are being "pushed" onto fragile or hazard-prone lands (for example, floodplains, hillsides) by the lack of access to affordable serviced lands. There is also a general lack of control over damaging economic activities.

While these problems vary from city to city, in general terms their resolution requires actions to coordinate land development, ensure adequate provision of affordable serviced land, formulate and effectively enforce land use controls, and promote appropriate uses of sensitive areas.

IV. REGIONAL INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL ACTION

The sustainability of development, in economic, social, and environmental terms, is considered an essential element of current efforts to strengthen regional competitiveness and productivity, and to insert Central America into the world economy. An appropriate long-term strategic development goal for Central America, as well as for other regions, was well articulated at the United Nation's Conference for the Environment and Development in 1992:

In order to improve living conditions and stop the process of deterioration, of which poverty is both a cause and effect, it is essential that our countries advance in harmony through a process of economic growth which is both equitable and sustainable in environmental terms.

Over recent years, with support from both international organizations and the private sector, Central American countries have strived to reorganize their institutional response capacity. This section briefly describes the emerging institutional and policy framework and assesses the opportunities and constraints associated with urban environmental action.

A. Regional Policy and Institutional Overview

1. Key Regional Institutions

Among the regional organizations, the following are considered particularly important.

The Environmental Commission of the Central American Parliament (CICAD-PARLACEN) has been constituted and is responsible for elaborating integrated frameworks to support legal actions to control environmental contamination, and to conserve and protect natural resources.

The Central American Judicial Council (CJC) was constituted and is responsible for the integration and elaboration of environmental legislation, its dissemination, and related training and promotion.

The Central American Commission for the Environment and Development (CCAD) was constituted as an Executive Secretariat responsible for formulating and coordinating regional and national environmental policies, strategies, and programs. The presidency of CCAD is rotated annually among country representatives, ministerial level officials involved in environmental affairs in their respective countries. In most cases, these national representatives chair national environmental commissions (CONAMAs), which are considered key institutions for coordinating national environmental policies and management.

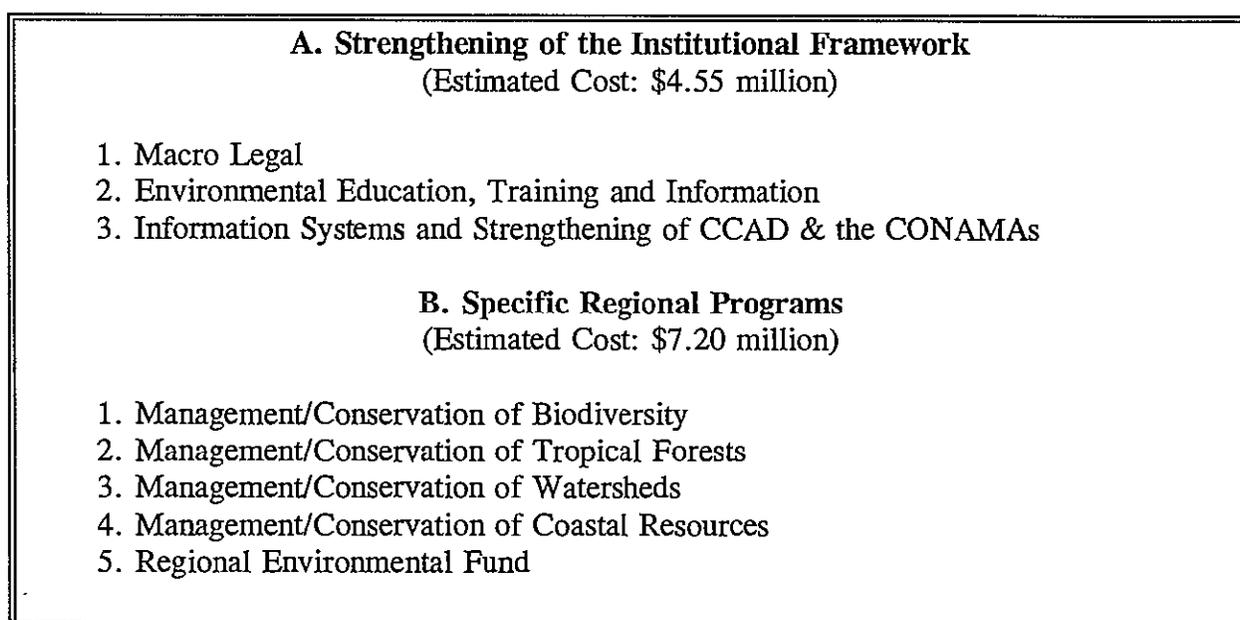
A variety of non-governmental organizations (NGOs) at the regional and national level are participating in the elaboration of required mechanisms and procedures. The private sector is also participating actively through national and regional associations (e.g., chambers of commerce and industry, private sector councils, and regional federations). International multi-lateral and bi-lateral donor agencies have also supported the ongoing process of policy, institutional, and program development, at both the global and sectoral level.

2. Proposed Strategies and Programs

The formulation of regional strategies and action programs is based on the long-term vision for sustainable development contained in the Regional Agenda for the Environment and Development (ACAD). This agenda is directed to the formulation and implementation of economic policies that ensure a rapid and effective transition towards sustainable development through mechanisms and processes that link the environment and development. It provides the broad framework to guide the formulation and implementation of those policies, programs, and projects required to strengthen institutional capacity and to conserve and protect natural resources.

The principles enunciated in the ACAD have been translated into specific and concrete action programs, which are grouped in two priority areas: 1) strengthening of the regional policy and institutional framework; and 2) feasibility and design studies for regional environmental and natural resources management and conservation (see Figure No 8). CCAD and the CONAMAs and governments in each country, in coordination with the IDB and other donor agencies, are now reviewing and finalizing this program for presentation at Summit of the Americas scheduled for December 1994.

FIGURE 8
PRIORITY ACTION AREAS
REGIONAL ENVIRONMENTAL AND NATURAL RESOURCES MANAGEMENT



SOURCE: La Transformación Productiva del Istmo Centroamericano: Recursos Naturales y Manejo Ambiental, IDB 1993.

As can be seen in the Figure, an estimated US \$11.75 million will be required from donor agencies to support the technical assistance and preinvestment requirements of the program. The three technical assistance projects total \$4.55 million and will be executed by CCAD and specialized regional agencies over a three-year period. It is proposed that the four preinvestment studies (\$7.20 million) be administered by the Banco Centro Americano de Integración Económica (BCIE). BCIE would also administer the proposed Regional Environmental Fund. It is estimated that the preinvestment studies could generate investment projects in the order of US \$61.4 million.

B. National Institutional and Policy Development

In general, environmental responsibilities in the Central American countries have been historically divided along the following lines: protection and management of renewable and non-renewable natural resources, management of the urbanized environment, and environmental sanitation. In recent years, each country has acted to: 1) establish national environmental commissions (CONAMAs) responsible for the coordination of national and regional environmental policies and programs; and 2) create and/or strengthen the national legal-administrative structure required for comprehensive environmental and natural resources management.

A study of environmental management in Latin America carried out for the IDB in 1991⁹¹ notes the evolution of environmental management as a social objective, "intended to regulate the environment and contribute to establishing a model for sustainable development." The study proposes that "the incorporation of environmental management into government responsibilities is protection of the environment as a whole, considering all its components and all their interactions."

The degree of decentralization, trans-sectoralization, and social participation are therefore, in principle, considered by the study as basic elements for the evaluation of administrative systems for environmental management at the national level. To wit:

Decentralization is not just a sign of a more democratic political and administrative regime, but is also a basic prerequisite for adequate environmental management, which ought to take into account the diversity of the ecosystems in each country and use local skills for their proper management.

Environmental management is eminently *trans-sectoral* in nature. It cannot be viewed as a responsibility that bears on each environmental component separately or on just one group of components. Instead, it is a responsibility that must consider all components as a whole and the ways in which they interact.

The extent of *public participation* in environmental management systems is determined by the way in which citizens can share in the activities that the government carries out to protect the environment.

Within this context, the following sections summarize the characteristics of environmental management systems and environmental legislation in each country and identify the opportunities and constraints associated with urban environmental management.

⁹¹ Raul Brañes, *Institutional and Legal Aspects of the Environment in Latin America: Including the Participation of Non-Governmental Organizations in Environmental Management*, 1991/IDB.

1. National Environmental Management Structures

a. National Umbrella Agencies

The evolution of national environmental structures in the Central American countries shows a clear trend toward establishing the administrative capacity for comprehensive management. Annex A summarizes the key characteristics of the national administrative models utilized. These include: 1) strengthening a preexisting legal/administrative structure; 2) creating a special legal/administrative structure; 3) establishing a coordinating committee; or 4) some combination of the different models.

In **Costa Rica**, the National Environmental Protection and Improvement System, promulgated by decree in 1981, was complemented by the establishment by a National Inter-ministerial Committee in 1987 under the Ministry of Planning (Law No. 7064). Finally, in 1990, the Ministry of Industry, Energy and Mines became the current Ministry of Natural Resources, Energy and Mines (MINREM). This Ministry serves as the country's principal institution in environmental matters (Law 7152).

The National Environmental Law of **Guatemala** of 1986 (Decreto 68 - 1986) provided overall guidance for the environment and created a National Environmental Commission (CONAMA). In **El Salvador**, a CONAMA was created in 1991 (Decree - Ley 73) along with an Executive Secretariat (SEMA). In 1994, the SEMA was given additional powers and is to be placed under the Ministry of Planning.

In 1993, the Government of **Honduras** established a Secretariat for the Environment (SEDA) under the Office of the President. A Ministry of National Resources (MARENA) was created in **Nicaragua** in early 1994, based on successive changes in the national administrative structure for environmental management started in 1979.

Finally, in **Panama**, overall environmental responsibility devolves on the National Environmental Committee (CONAMA) established under the Ministry of Planning and Economic Policy. However, the National Institute for Renewable National Resources (IRENARE), which was created by the Legislative Assembly in 1986, has clear predominant global responsibilities for the planning and coordination of natural resources management, and represents Panama in the CCAD.

b. Sectoral Agencies for the Protection of Natural Resources

Despite the above efforts, sectoral agencies remain key actors, as reflected in the IDB study:

This effort to achieve comprehensive environmental management has changed the responsibilities traditionally devolving on sectoral organisms in charge of protecting certain natural resources or controlling the environmental effects of certain activities, but has not led to their disappearance. In consequence, even in the best cases environmental responsibilities are still divided and retain strong sectoral roots.

Some examples suffice. In Costa Rica, aside from MINREM, mentioned earlier, other entities, such as the Ministry of Agriculture and Livestock, continue to play a role. In Panama, IRENARE, as well as the Directorates of Marine Resources and Mineral Resources in the Ministry of Trade and Industry, are responsible for sectoral aspects of natural resources. The Ministry of Agriculture in Guatemala, and the Ministry of Agriculture and Livestock in El Salvador, manage substantial responsibilities for natural resource protection.

There are many other examples. Suffice to say that, in all of the Central American countries, the agencies responsible for agriculture, agrarian reform, national parks, fisheries, tourism, water and sanitation services, etc. continue to have key sectoral responsibilities that need to be integrated and coordinated.

c. Sectoral Agencies: Management of Environmental Sanitation and the Urbanized Environment

In all of the Central American countries, the ministries and agencies responsible for public health oversee all aspects of environmental protection that are related to health, both urban and rural. National agencies also continue to play a key (and sometimes predominant role) in the management of the urbanized environment. In each country, these entities include the national agencies related to planning, public works, transportation, labor and social security, and governance.

2. National Legislative and Policy Framework

a. Legislation

All of the constitutions of the Central American countries contain some provisions for the protection of certain environmental aspects, and, in some cases (i.e., El Salvador, Guatemala, Honduras, Nicaragua, and Panama), with environmental protection as a whole. Generally, environmental legislation has been built up over the years through laws to regulate behavior that affects the environment, rather than to provide for overall environmental protection. In recent years, countries such as Costa Rica, Guatemala, and Honduras have passed environmental protection legislation⁹² that views the environment as a whole ("true" environmental legislation). However, as noted in the IDB study mentioned previously, "most environmental situations continue to be regulated by sectoral legislation with environmental relevance, and by incidentally relevant laws, instead of full regulation of the subject through true environmental protection laws."

Such laws can be described as sectoral legislation with environmental relevance, which regulate aspects such as water, forests, wildlife, land use, marine and coastal ecosystems,

⁹² Costa Rica: _____; Guatemala: Environmental Protection and Improvement Act (1986); Honduras: General Environmental Law (1994).

nonrenewable natural resources, human settlements, and environmental sanitation (see Figure 9).⁹³

FIGURE 9
LEGISLATION GOVERNING ENVIRONMENTAL PROTECTION IN THE COUNTRIES OF CENTRAL AMERICA

Country	"True" environmental legislation	Sectoral legislation with environmental relevance							
		Water	Forests	Wildlife	Soils	Marine and coastal ecosystems	Nonrenewable natural resources	Human settlements	Environmental sanitation
Costa Rica	*	•	•	•	•	•	•	•	•
El Salvador		•	•	•	•	•	•	•	•
Guatemala	•	•	•	•	•	•	•	•	•
Honduras	•	•	•	•	•	•	•	•	•
Nicaragua	*	•	•	•	•	•	•	•	•
Panama		•	•	•	•	•	•	•	•

SOURCE: R. Branes, Institutional and Legal Aspects of the Environment in Latin America, IDB 1994.

* These countries have proposed or are considering "true" environment legislation.

In general terms, existing sectoral legislation is often considered superficial, outdated, incongruent, and duplicitous. The Branes' study states that "a critical and comparative analysis of environmental legislation in the countries of the region indicates that it does not fulfill the basic function of defining national environmental policy and establishing legal mechanisms to enforce it." This situation will potentially change in those countries which have true environmental legislation. However, the IDB, the World Bank, and other donor agencies have made the analysis, upgrading, and integration of key sectoral legislation (and the means to enforce it) a key element of their institutional development agendas in Panama, El Salvador, Guatemala, and Honduras.

3. Local Environmental Management

Management of the urbanized environment is generally considered a local issue, and therefore has traditionally been the implicit or explicit responsibility of municipal level governments and other local groups. As described earlier in this report, the most critical

⁹³ Legal or regulatory information is readily available in each of the countries, but was not given priority attention in the data collection phase. The Branes' IDB study provides some summary descriptions of the applicable laws in each country in 1991.

urban environmental concerns in the Central America countries include problems related to access to basic environmental infrastructure and services, pollution from urban wastes and emissions, and loss or destruction of the natural resource base. The nature and scope of such problems vary from city to city, depending on their economic status, the prevalence of urban poverty and unequal access to urban services, and other factors.

Given that reality, recent studies by the World Bank⁹⁴ state that: "An effective approach for confronting urban environmental issues is to formulate an urban environmental strategy and action plan. For large cities and metropolitan regions, this will entail a city-specific design focusing on agreed priority problems. For small towns and intermediate cities, a common strategy may cover several cities, and sometimes will address a single issue." The approach proposed by the World Bank is based on participation, building commitment, and choosing effective policy interventions.

National environmental management therefore coexists with local management, particularly by municipal governments related to their autonomy of governance, responsibilities for providing certain services, and for planning and managing local development. With the possible exception of Panama and Costa Rica, decentralization and municipal development policies and programs now form an essential and integral part of national development policies in the region. These are related to key components of municipal development: municipal mandates, municipal finance, community empowerment, and government structures at the local, regional, and national level that affect local government and self-sufficiency.

USAID and other multi-lateral and bi-lateral donors continue to support that process. However, municipal administrative and financial capacity is still extremely weak, particularly in secondary cities. Furthermore, the heterogeneity among municipalities make common policies, planning, and programs difficult to formulate and implement. With few exceptions, central government agencies continue to be responsible for the provision urban water, sewerage, and drainage services (even as some pilot efforts at service decentralization are now underway in several countries).

a. Policies and Strategies

New or proposed legislation in the Central American countries will help define a comprehensive national policy for environmental protection and set the basis for the incorporation of new instruments for its application. In both **Guatemala** and **Honduras**, new legislation implicitly formulates environmental policy through provisions to regulate different matters. The new instruments are generally focused on prevention rather than correction.

With donor agency support, both **El Salvador** and **Honduras** have undertaken comprehensive national environmental assessments and prepared strategic multisectoral action

⁹⁴ *Toward Environmental Strategies for Cities*, Urban Management Program, The World Bank, 1994.

plans.⁹⁵ Guatemala is currently undertaking a similar exercise. In general terms, these exercises seek to provide a reasonably comprehensive framework for trans-sectoral action related to key problem areas, such as deforestation, depletion of land and water resources, marine and costal resources, biodiversity, contamination, etc. They describe the national socioeconomic and institutional context, identify priority problems, and propose strategic programs and priority projects.

Complementary proposals related to the administrative, legal, and social development are also presented. The comprehensive nature of such "strategic" action plans seems overwhelming, considering the weak existing administrative, legal, and financial capacity, not to mention the long-term process required to incorporate the environmental dimension into national development planning.

Finally, strategic action plans in Honduras and El Salvador do not adequately identify the spatial or geographic dimension (e.g., key watersheds, regions and urban areas, etc.) which would permit the targeting of scarce resources and the development of trans-sectoral approaches, as well as integrated responses to both "brown" and "green" environmental issues where appropriate.

The approach to strategic environmental management in Costa Rica seems to be more oriented to effective action in selected sectors and geographic areas. Within the context of an overall legislative and policy framework, the Government of Costa Rica is implementing a series of priority action programs targeted to specific areas. Strategic urban initiatives are focused primarily, though not exclusively, in the San José Metropolitan Area (AMSJO) and target:

- air pollution, through elimination of leaded gas, control of vehicular emissions, and improvements in transportation and traffic management.
- solid waste management, through efforts to improve collection and disposition in the AMSJO; and
- contamination of rivers, through private sector pre-treatment of industrial wastes, particularly from coffee processing.

Each of these efforts involves a variety of public sector participants and substantial public sector promotion, education, negotiation, and programming with key private sector entities. Simultaneously, international financing is being sought for broader environmental action programs, including extension of sanitary sewerage systems and construction of treatment plants in the AMSJO, protection of the Rio Tarcoles river watershed, and rescue of the Torres River.

⁹⁵ *Estrategia Nacional del Medio Ambiente*, SEMA/CONAMA, August 1994; *Plan de Acción Ambiente y Desarrollo*, SEDA, June 1993.

4. Participation of Non-Governmental Organizations and the Private Sector in Environmental Management

It is generally accepted that environmental management directed at sustainable development must be a responsibility that is shared with civil society. The mobilization of community support and participation is considered an essential element in the national environmental management in all of the Central American countries. This is expressed in terms of the principal responsibilities, the inter-institutional relationships, the missions, and the strategies of each of the national umbrella agencies (CONAMAs/SEMAs). This section briefly reviews the broad characteristics of participation by non-governmental organizations (NGOs) and the private sector in the region.

a. NGOs

In the region of Central America, the term "NGO" is generally limited to voluntary and primary groups, development organizations, research organizations, and, of course, international NGOs. Generally excluded from the definition are associations, societies, federations, cooperatives, professional/trade associations, and unions. In general, there has been a proliferation of NGOs throughout the region in recent years. These cover the spectrum of development activities (i.e., health, nutrition, housing, agriculture, urban services, etc.), including the environment. The trend is for established international NGOs — CARE, World Vision, and Save the Children, for example — to create active programs in the environment.

However, while the number of environmental domestic NGOs is increasing, many such NGOs do not have substantial experience in the field. Finally, most of these NGOs are focused on natural resources or "green" issues. There are few urban environmental NGOs. The Branes' study summarized the situation in 1991 as follows: "In **Costa Rica**, the number of environmental NGOs is on the rise. They include the Neotropics Foundation, the Monteverde Conservation League, the Wildlife Conservation Foundation, the Professional and Forest Sciences Association, the Costa Rican Nature Conservation Association, the Environmental Education Foundation, the Pacific Ecology Center, Tree Lovers, the Life Association, and the Tropical Scientific Center. In **Panama**, the National Parks and Environment Foundation (PA.NA.MA), which groups together 24 NGOs of different types, such as professional associations and rural and student groups, is particularly relevant. The Foundation was created in 1983 by 16 conservation groups, and it focuses on strengthening NGOs institutionally and technically, supporting national parks and protected wild areas, and education and research." The Natural Association for the Conservation of Nature (ANCON) and NATURA are also key environmental NGOs operating in Panama.

Salvanatura, a national ecological foundation, is a key institution in **El Salvador**. Others include "...the Salvadoran Environmental Conservation Association (ASACMA), which disseminates information through printed materials and radio programs. At least eight NGOs in **Guatemala** play relevant roles, such as the Nature Protection Foundation, the Friends of

the Forest Association, the Audubon Society, the Committee to Protect the Environment of Baja Verapaz, the Orchid Society, the Guatemalan Natural History Association, the Association for the Conservation of Birds of Prey, and the Research and Social Studies Association. In Nicaragua, the most relevant NGOs are the Nicaraguan Environment Movement (MAN) and the Nicaraguan Association of Biologists and Ecologists (ABEN).”

In three of the countries, the creation of environmental trust funds (with donor cooperation) in order to mobilize and strengthen the effective participation of NGOs in environmental activities is particularly noteworthy.

In Honduras, the government created the Environmental Trust Fund in response to debt forgiveness by the United States to Honduras. The NGO, Fundación Vida, was created to manage the Fund and contribute to the environmental community. The UNDP provides operating expenses for Vida. USAID/Honduras has a seven-year project with Vida to strengthen the NGO sector through training and projects in partnership with United States NGOs. Variations on that basic approach and funding modality (with USAID and other donor support) are also underway: in El Salvador, through the National Environmental Fund (FONAES); and in Panama, where a Fund and TA/Training program has been established in conjunction with the NGO, Natura.

b. Private Sector

Private sector associations and groups are playing an active role in the formulation and implementation of environmental policies, strategies, and programs at both the regional and national levels in Central America, for two reasons. First, based on the NAFTA experience, it is anticipated that environmental concerns will be integrated in future free-trade agreements not only with the United States, but increasingly with other countries as well. Second, the long-term sustainability of natural resources is considered essential to regional economic growth.

More effective use and greater productivity of both human and natural resources is essential to the successful integration of Central American economies, within larger regional and worldwide markets. Central America's competitive strategy must be targeted not only on the production of primary products, but also transformation of these products into goods and services of greater aggregated value. The best short-term prospects are related to natural resources (agriculture, fisheries, forest products, etc.) and services (e.g., tourism). The use of natural resources under the criteria of long-term sustainability will require the internalization of environmental costs into productive decisionmaking.

Private sector leadership in the region has clearly recognized these realities and is, in effect, acting out of keen self-interest to maximize their global competitiveness, both short- and long-term. The protection of natural resources, and the incorporation of the costs associated with them, are essential parts of a sensible competitive market strategy. Such environmental “costs” will depend on: 1) a clear and stable policy and regulatory environment and

administrative system that meets anticipated national and international requirements; and 2) the identification and integration of appropriate environmental technologies into their production processes, at minimum cost.

At the regional level, the Federation of Private Sector Entities (FEDEPRICAP) has been working directly with SIECA, CCAD, and PARLACEN, and has proposed to carry out a comparative analysis of environmental legislation in Central America. FEDEPRICAP has also been proposed as the executing agency (possibly along with the Federation of Industries [FECAICA] and the Salvanatura Foundation) for the Regional Environmental Education, Training, and Information Program mentioned earlier (see V.A.2). That program targets the identification of appropriate technologies required to improve and/or transform productivity, while protecting the environment.

The ongoing activities of private sector associations and groups in each country reflect the above-mentioned orientation. For example, in **Costa Rica**, the Chamber of Industries is assisting its membership in quantifying industrial pollution, negotiating remediation programs for waste management, evaluating/disseminating appropriate technologies, and providing related training. The Coffee Growers Association is providing similar assistance to its members. In **Guatemala and Honduras**, the Entrepreneurial Chamber (CAEM-Guatemala) and the Private Sector Council (COHEP-Honduras) are monitoring developments, disseminating information, and participating actively in the formulation of environmental policy and regulatory frameworks.

C. Implications for Urban Environmental Management

The process of creating national administrative systems for environmental management, now underway in the countries of Central America, is fraught with difficulties. The achievable, appropriate degrees of decentralization, trans-sectoralization, and public participation obviously vary from country to country. No one model is appropriate for all cases. Planning and management efforts need to consider a broad range of public and private interests, the cross-sectoral nature of environmental problems, and the roles and capabilities of public institutions.

Improved urban environmental management must necessarily be a priority objective of current efforts to upgrade national management systems. Continued high rates of urbanization related to economic globalization will place increasing demands on urban areas, thus exacerbating already severe problems of environmental pollution and degradation. If urban environmental management is to be improved, certain factors must be kept in mind. For example:

- The basic opportunities and constraints associated with sustainable development must be analyzed, in terms of urban impacts, as the basis for formulating integral urban environmental action strategies and plans. This analysis should be carried out at both the regional and national levels. The information base will need to be strengthened for this purpose.

- Local urban environmental management capacity must be mobilized and properly used. Effective urban action will require the support of constituencies which demand improvements and are willing to pay for them. This is a intensive process in terms of time and labor. National policies and strategies should target specific cities and regions related to economic development potentials. Countries should program adequate resources to support municipal-led efforts.
- Public support and participation for urban environmental strategy planning and implementation must be mobilized at the regional, national, and local levels. Key actors include private sector associations, as well as NGOs.

Part Three

Conclusions and Recommendations

V. PROPOSED REGIONAL STRATEGY AND PROGRAM

The Central American governments have recognized that protection and conservation of the environment and natural resources is an integral part of economic and social development, and is essential to future development and prosperity. However, the expressed regional policy of sustainable development will require the effective management of a series of trade-offs related to three major points of view: economic, social, and ecological. The formidable task of reconciling and operationalizing these concepts, as a means to achieve sustainable development, must deal with a diversity of short- and long-term goals and issues.

Work under this contract is directed to support development of a regional strategy to confront the urban environmental situation in Central America. Based on the assessment contained in previous sections, this section presents PADCO's: A) basic conclusions; and B) recommendations on a strategy and program.

A. Basic Conclusions

1. The Critical Importance of Sustainable Urban Development

Sustainable urban development is of critical importance to the achievement of the goal of sustainable development in Central America, as seen from each of the major points of view: economic, social, and ecological.

a. Economic Perspective

Central America is the most rapidly urbanizing area of Latin America and urban areas continue to grow at more than twice the rate of rural areas. The rapid growth of primate cities is now accompanied by substantial growth of key secondary cities related to non-traditional exports and the evolution of urban economies in support of economic modernization.

In general terms, as modernization occurs, the generation of employment opportunities in the primary sectors of the economy will continue to diminish, even as the economic contribution of these sectors may grow. The region's competitive market strategy is quite clear. In order to compete effectively in global markets and ensure continued economic growth, the region must not only continue to export primary goods, but also add value, producing secondary goods and services. Rapid urbanization will continue, as urban areas play an increasingly important role in supporting economic growth and national development in the emerging free-market economies of Central America. For long-term sustainability, Central American producers must: 1) seek sustainable patterns of natural resource management as the basis of production for both internal and external markets; and 2) increasingly anticipate, quantify, and internalize urban environmental costs in decisionmaking.

b. Social Perspective

Intra-urban polarization, a result of the growing number of inhabitants in spontaneous informal settlements (in part due to rural-urban migration) and marginal barrios, is a common problem. This population (the urban poor) suffer disproportionately the health and productivity impacts of urban pollution that derive from inadequate basic environmental infrastructure and services, poor urban and industrial waste management, as well as water and air pollution. The degradation of fragile environmental lands, the occupation of areas prone to flooding or landslides, or the loss of water and forest resources are among the growing "green" urbanization issues throughout the region.

c. Environmental Perspective

The sustainability of the region's economic development strategy will depend on the integral protection and conservation of the natural resource base. Comprehensive efforts now underway in Central America are directed to that goal. At the same time, rapid urbanization, associated with economic growth and national development, will continue to exacerbate urban environmental problems, and place increasing social demands on the natural resource base in urban areas.

The linkage of economic development, poverty, and the environment in urban areas raises issues of equity, such as the capacity/willingness to pay for improved environmental services, the issue of subsidized services for the urban poor, etc. It also highlights the need to formulate and implement explicit national policies and strategies for urban environmental management and finance.

2. Coherent Urban Environmental Policies, Strategies, and Programs Are Required to Support Sustainable Development

The proposed CCAD/CONAMA Regional Environmental and Natural Resources Management Program (see Section IV.A.2) does not now adequately reflect the importance of effective urban environmental management in the achievement of sustainable development in Central America. With the possible exception of Costa Rica, national policies, strategies, and action plans do not include a coherent and targeted approach to urban environmental problems and issues.

At the regional level, the urban environment is treated tangentially, through proposed efforts to establish a macro legal framework, and through educational efforts targeted on technologies for the pre-treatment of industrial wastes. National level efforts tend to be limited to improvements in the legal framework and piecemeal identification of sectoral actions (e.g., related to solid waste management, etc.). The formulation and implementation of coherent urban environmental policies, strategies, and programs to support sustainable development in Central America is of critical importance. This will require the following actions.

a. Integrated Analysis of Impacts of Economic Development on Urbanization and the Urban Environment

The spatial impacts of economic development on the growth of urban areas and related environmental and natural resource problems should be analyzed, at both the regional and national levels. An integrated geographic information system (GIS) and database should be developed and maintained for this purpose, as part of the proposed CCAD-CONAMA information system.

b. Mobilization and Targeting of Available Resources

National policies, strategies, and programs should be developed that target specific cities and regions related to sustainable, outwardly oriented economic development potentials. The purpose is to target scarce national resources (both human and financial) and mobilize and effectively use local urban environmental management capacity to support municipal-led efforts targeted to: 1) strengthening the urban economic role, and 2) improving urban environmental conditions.

c. Strengthen the Participation of NGOs and the Private Sector

Public support and participation in the planning and implementation of urban environmental policies, strategies, and programs is essential and must be mobilized at the regional, national, and local levels. Extensive public participation is necessary to: 1) close the gap between analytical findings and recommendations and the concerns of various constituencies demanding actions that may not necessarily reflect the proposals of technicians or experts; and 2) build the knowledge awareness and understanding required to mobilize and effectively use community and private sector resources. (The GIS, mentioned above, is one tool that can be used to promote this.)

3. Strengthen the Regional/National Institutional Capacity Required for Effective Urban Environment Management

The regional and national/local institutional framework for environmental management can be expected to evolve over time in response to identified needs and priorities. Multi-lateral and bi-lateral assistance efforts (underway or planned) will support the process of institutional development (e.g., policy and regulatory development, action planning and implementation, etc.).

To date, the CCAD has provided a regional policy coordination function tied to the Ministries of Environment and/or CONAMAs in each country. The policy, program, and institutional development activities of the CCAD/CONAMA structure have been largely focused on the management of natural resources at the regional and national level. Thus far, only limited attention has been given to policy, program, and institutional development activities related to the systematic management of urban environmental problems. This is understandable, since the heterogeneity of cities and urban environmental problems should be

dealt with at the community and/or municipal levels whenever possible. However, that reality does not obviate the need to systematically promote and support more effective urban environmental management through regional, national, and local policy, program, and institutional development.

Urban environmental problems and issues should be managed at the local level whenever possible, except in cases where a broader-based treatment is required. Thus far, the evolving environmental management system does not reflect the levels of decentralization, trans-sectoralization, or community participation that can be considered satisfactory from an urban viewpoint. The establishment of linkages with the established regional/national/municipal system (FEMICA/National Municipal Associations/Municipalities) and their local community networks would greatly strengthen the response capacity of the emerging systems.

B. Recommendations: Elements of a Strategy and Program

The findings and basic conclusions of PADCO'S rapid assessment were presented and discussed at a regional seminar for Central American leaders held in Guatemala on March 28-29, 1995. Based on those deliberations, this section presents the basic elements of a strategy and program. To guide effective urban environmental action over the medium term, this section presents the basic elements of a strategy and program: 1) a proposed goal and objectives, 2) approaches proposed by seminar participants, and 3) recommended approaches.

1. Proposed Goal and Strategic Objectives

The proposed goal is to support growth in Central America that is sustainable economically, ecologically, and socially through the systematic, targeted improvement of urban environmental management. The proposed strategic objectives are:

- To strengthen urban environmental policies, strategies, and programs at the regional, national, and local levels.
- To strengthen municipal capacity to plan, promote, organize, and manage urban environmental programs.
- To strengthen the capacity and effective participation of public and private institutions in the urban environmental management process.

2. Approaches Proposed by Seminar Participants⁹⁶

The achievement of the above goal will be difficult and complex and must be understood as a long-term process. While there are many commonalities in the urban environmental situation in Central America, each country, region, and city faces particular policy and institutional constraints of its own. In order to be effective, a regional urban environmental strategy and

⁹⁶ Regional Seminar: Urban Environmental Strategies Required for Sustainable Development in Central America. Guatemala, March 28-29, 1995.

program must address both the substantive issues, and the “process and structures” through which systematic improvements in urban environmental management can and need to take place. Support must be provided not only for regional/national consensus-building and agenda development, but also for the design, organization, and implementation of those priority actions that can provide tangible results and benefits.

The following strategic approaches were proposed by four seminar working groups and discussed and debated in plenary sessions⁹⁷.

Group No. 1: Strengthening the Regional Policy and Institutional Framework

The substantial efforts already undertaken to formulate and implement the “Alliance for Sustainable Development in Central America” set the basis for strengthening the process of informing, promoting, integrating and coordinating policy, strategy and programs at the regional, national and local levels.

At the **regional level** efforts should be directed to develop a shared awareness, understanding and consensus among key public and private entities (i.e., CCAD, FEDEPRICAP, CICAD, SICECA, SICA, FEMICA, etc.) which will be required to coordinate policy and program development and implementation. Stronger functional linkages should be established with the FEMICA/National Municipal Associations and FEDEPRICAP/National Private Sector Chambers for the purpose of promoting and supporting improved urban environmental management throughout Central America.

Similarly, at the **national level** stronger functional networks and programmatic linkages must be built with members of the national legislatures, political parties, municipal associations and the private sector in order to develop the awareness, knowledge and commitment required to promote and sustain effective action. Integration and coordination of national ministries and institutions having relevant environmental responsibilities will also be essential.

The effective participation of municipalities as the local level “rectors” of environmental policies and programs, and a strengthening of their institutional capacity, will be essential. The education and integral participation of the local community, community based organizations and the private business sector is a paramount concern.

Group No. 2: Formulation of National Urban Environmental Strategies and Programs

Interregional and intraregional economic integration and the national/regional “political will” to effectively support the urbanization process provide the broad context for the formulation of national urban environmental policies, strategies and programs. Systematic and timely regional monitoring and evaluation of economic development and its urban impacts and requirements at the regional and national levels will be essential.

⁹⁷ See annex D for list of work group participants.

At the national level, urban environmental management should be based on urban development policies, plans and programs. These should reflect national development plans and be formulated through participatory processes which give full expression to political, economic and social factors.

Urban environmental management policies and strategies must recognize and respond to: 1) urban-rural interrelationships and impacts; and 2) the need to integrate and coordinate public and private administration, policies and action initiatives. Municipal governments should assume responsibility for coordinating urban environmental management based on the principals of: joint administration, inter-institutional coordination, and mobilization and effective utilization of local environmental executing units. Regional and national environmental legislation and regulations must be harmonized and made operational.

Group No 3: Strategic Technical Assistance and Training Priorities

The existing "environmental culture" at all levels is characterized by insufficient understanding and knowledge about urban environmental problems and issues, and a lack of awareness of the nature and importance of sustainable ecological systems. Short-term economic interests and considerations are given pre-eminence over environmental protection and conservation criteria.

As highest priority, technical assistance and training should be targeted to: change attitudes and values; promote practical, positive broad-based action and support; and, expand efficient and effective environmental management. Action strategies should be directed to three primary target groups, as follows:

The Community

- Create ecological/environmental awareness through the design and implementation of environmental curricula at all levels of formal public and private education;
- Promote improved environmental management through systematic permanent citizen education campaigns utilizing the social communications media;
- Promote community action programs through participatory processes of environmental problem identification and resolution; and
- Provide community education and training as an integral and essential component of environmental program and project execution.

The Private Sector

- Establish a stable, realistic and operative regulatory framework, which is transparent and provides both incentives and sanctions to motivate compliance;
- Promote the integrity and practice of private property as elements which support sound, practical environmental protection and conservation;
- Establish and implement clear environmental norms and standards for the location of industries; and

- Provide "fast-track" procedures for the evaluation of environmental impacts for projects in productive sectors.

The Public Sector

- Classify and rank cities and regions for priority urban environmental action and design and implement strategic actions;
- Establish environmental norms and standards negotiating a realistic plan for compliance with affected businesses and industries;
- Strengthen the institutional capacity to formulate and manage the application of laws and implementation mechanisms;
- Adapt environmental impact assessment requirements and procedures to national realities and capacities; and
- Mobilize the financial resources required to execute priority infrastructure projects to improve urban environmental conditions.

Group No. 4: Mobilization and Coordination of Financial Resources

Sustainable development implies the achievement of economic and social development in harmony with the environment. The majority of the region's population will live in urban areas before the end of the century, exacerbating the demand for basic urban infrastructure and services. However, national financial resources available for capital investment in required infrastructure and services are scarce. The related legal and institutional framework is weak. Development can not be sustainable without investment in infrastructure and services. Therefore, the following strategies are recommended:

The State

Since the State has clear structural limitations which preclude substantial investment in infrastructure the following approaches are proposed:

- Promote privatization of infrastructure and service provision through private companies, mixed capital companies and others;
- International financial entities (i.e., World Bank, IDB, BCIE, etc.) should help to create and establish within the national governments, the minimum essential capacity for investment in basic infrastructure; and
- The State should play the role of facilitator and promoter of public works investments and others.

Financial Markets

The active participation of financial markets is essential to infrastructure investment, as follows:

- Infrastructure investments can be subject to financing if they are planned and implemented under the criteria of real costs and cost recovery;
- The financial sector should act in a coordinated manner and with the participation of the community, the private sector and strong local governments;

- National governments should provide a clear and secure legal framework and establish guaranty mechanisms that promote and support investments — private, local, and foreign; and
- Regional and international financial entities should support this approach, through programs such as PROMUNI/BCIE.

Other Funds

Other available funds should be integrated and coordinated within the above integrated approaches in order to avoid dispersion of efforts. Also:

- Facilitate the provision of a broad range of infrastructure and services;
- Promote a balanced development of urban and rural areas;
- Apply grants/donations from international financial agencies in coherent investments under the responsibility of the private sector, NGOs, the community, public service agencies and local governments; and
- Visualize shelter and infrastructure finance as integral projects which are self-sustainable.

3. Recommended Approaches for USAID/G-CAP and RHUDO/CA Support

PADCO's assessment and seminar deliberations and proposals set the basis for the recommendations of approaches for USAID support through both ongoing and planned projects. Specifically, USAID assistance should support the:

a. Formulation and Implementation of Broad Based Environmental Education Programs

The establishment of a suitable "environmental culture" at all levels of governments, private sector and community organizations, the political parties and the community is a pre-requisite to effective and sustainable environmental action. Attitudes and values must be changed, awareness and knowledge improved, and a basis of common understanding set. USAID should respond to this need by promoting and supporting formal and informal environmental education efforts as an integral and essential part of its ongoing and planned projects.

b. Establishment of Functional Linkages between the CCAD/CONAMA Structure and the FEMICA/Municipal Structure and Networks

The participation of local governments and the effective representation of municipal interests and perspectives in policy, strategy, and program formulation and technical management/coordination is essential to effective urban environmental action. USAID should promote and support joint efforts by the CCAD/CONAMA and the FEMICA/National Municipal Associations institutional networks to promote and support improved urban environmental management throughout Central America.

c. Systematic Promotion of Urban Environmental Policy Dialogue and Agenda Development and Implementation at the Regional and National Levels

USAID should use regional and national policy dialogue seminars and workshops to:

1) network with and build awareness, understanding, and consensus among key public and private sector actors; and 2) coordinate policy development and generate strategies and action plans to mobilize public opinion and support. For example, a "NAFTA"-related series of seminars could be used to orient public and private sector representatives on institutions and laws in North America.

Technical assistance and training should also be provided to support the development of priority urban environmental management policy, strategy, and program agendas at both the regional and national levels.

d. Formulation and Implementation of Technical Assistance and Training

USAID should selectively provide technical assistance and related training at the regional and national levels to support policy/agenda development and technical development related to specific priority areas, such as:

- strategic targeting of capital and human resources on critical cities and regions,
- data/information system design and management,
- urban health indicators development,
- legal/regulatory development,
- risk assessment techniques,
- solid waste management,
- policy/program negotiation/coordination techniques,
- community and private sector participation,
- urban land management techniques, and
- rapid urban environmental assessments.

These efforts might be targeted through CONCAUSA, the planned regional environmental program or, perhaps, throughout the LOGROS Project.

e. Promotion and Support for Community, NGO, and Private Sector Participation

The mobilization, participation, and effective use of community and private sector groups and NGOs in the planning and implementation of urban environmental policies strategies and programs should be an integral part of regional and/or national efforts, and targeted to: 1) change attitudes and values; 2) encourage and demonstrate productive public-private interface; and 3) strengthen the role of community organizations, NGOs, and private sector entities.

f. Networking and Mobilization of Regional and International Resources

Development cannot be sustainable in social, economic, and environmental terms without substantial new investment in basic urban infrastructure and services. As suggested by seminar participants: 1) the minimum essential investment capacity must be established at the national levels, 2) national and regional financial markets must be mobilized, and 3) the coordinator and collaboration between international and bi-lateral donors must be strengthened. USAID should play a lead role in this process.

At the same time the research, technical assistance, and training capacity of regional and national institutions should be mobilized and used to support strategy and program development activities. Networks and coordination should be established with international institutions and donors in order to mobilize and integrate their experience and resources.

ANNEX A

National Environmental Management Systems in Central America⁹⁸

⁹⁸ The information presented in this annex is translated directly from summaries prepared and presented by participants at a regional seminar-workshop sponsored by CCAD and the World Resources Institute and held in El Salvador in September, 1994. No attempt was made to verify the data and information provided at the seminar. No similar information was found for Costa Rica.

Annex A
NATIONAL ENVIRONMENTAL MANAGEMENT SYSTEMS
IN CENTRAL AMERICA

Executive Secretariat for the Environment
(SEMA) in El Salvador

Legal Mandate

- The CONAMA was created by Executive Order in June 1991 (Edict 73). The SEMA (Secretaría Ejecutiva del Medio Ambiente) was originally CONAMA's Executive Secretariat. However, in 1994, an additional Executive Order established SEMA as a separate institution.

Principal Responsibilities

- Coordinate fulfillment of strategies and policies concerning environmental issues.
- Technical advisement to the National Council on the Environment (Consejo Nacional del Medio Ambiente, CONAMA).
- Coordinate technical cooperation between the government and international, official and non-governmental organizations.
- Development of conservation activities, environmental education, and dissemination of environmental issues.
- Manage funds and financial resources for its own operation according to legislative regulations.

Principal Inter-Institutional Relations

- Ministries of Agriculture and Livestock, Public Works, Education, Public Health and Social Welfare, and Foreign Relations.
- Municipal organizations.
- Environmental NGOs.
- Business Associations
- CCAD

Proposed Mission

- Improve and focus use of natural resources and the environment toward greater sustainability.
- Plan programs and actions to include the environmental component of social and economic development policies.
- Promote special policies to further development with social and economic benefits and environmental incentives.

- Prepare technical teams to strengthen environmental management
- Promote the Environmental Strategy and Environmental Action Plan, simultaneously strengthening the Sectoral Environmental Units (UAS) in each particular institution.
- Promote clean industrial procedures within industrial reconversion.
- Focus financial resources for environmental activities.

Personnel

- 62 collaborators

Budget

- Equivalent to US\$750,000 (seven hundred fifty thousand US dollars).

Principal Challenges Confronting SEMA's Management

- Strengthen SEMA.
- Formalize the role of SEMA in inter-sectoral coordination.
- Achieve adequate levels of environmental awareness and education.
- Operationalize the system for Environmental Management.
- Implement and update the Environmental Strategy and Environmental Action Plan.
- Revise and apply the legal framework for environmental management.

Priorities for Training and Action

1. Strengthening institutional capacities

- Administrative training in management and monitoring of institutional procedure.
- Training in collaborative techniques.
- Training in negotiation and conflict resolution.

2. Priority actions

- Relocate SEMA within the governmental framework and redefine its functions to reconcile its legal parameters with actual practice.
- Technical and policy updating and dissemination of the Environmental Strategy and the Environmental Action Plan.
- Strengthen SEMA's Environmental Education Unit.
- Operationalize the implementation of the environmental management system.
- Promote the application of the Law on the Environment.

National Commission on the Environment (CONAMA) of Guatemala

Legal Mandate

- Law on the Environment, which includes CONAMA's constitution, promulgated in 1986 (Edict 68).

Principal Responsibilities

- Formulate and advise in the application of the national policy of environmental protection and improvement.
- Supervise fulfillment of international Conventions, Treaties, and Programs.
- Advise development projects and programs on environmental systems improvement.
- Promote Environmental Education and instruction in the environmental sciences.
- Systematize and disseminate information and studies done on the Environment, including its deterioration and amelioration.
- Promote and develop areas of environmental conservation.
- Supervise environmental impact studies.

Principal Inter-Institutional Relations

- Ministries of State, Department of Economic Planning, and Office of the Presidency of the Republic.
- Government headquarters related to the RR.NN.
- Universities and institutes.
- Environmental NGOs.
- Urban and rural Regional Development Councils.
- International Cooperation Organizations.
- CCAD

Proposed Mission

- Advise and coordinate formulation of an environmental policy which will maintain ecological equilibrium, prevent environmental deterioration, and improve quality of life.
- Support the integration of the environmental dimension within the country's social and economic development in order to reorient it toward sustainability.
- Achieve efficient inter-institutional coordination and effective citizen participation within the national legal framework.

Personnel

- 60 collaborators

Budget

- Equivalent to US\$755,809 (Seven hundred fifty-five thousand eight hundred nine US dollars)

Principal Challenges

- Strengthening institutional environmental management.
- Institutional strengthening of the CONAMA.
- Completion and operationalization of the Environmental Judicial Framework.
- Development of environmental awareness.

Priorities for Training and Action

1. Strengthening Institutional Capacities

- Instruction in the formulation of environmental strategies and projects.
- Formulation of environmental policies.
- Management of techniques and methods on negotiation and conflict resolution.
- Management of formal and informal environmental education and awareness techniques.
- Supervision of Audits and Environmental Risk Evaluations.

2. Priority Actions

- Promote the course of internal administration.
- Participatory elaboration of the CONAMA's (Annual) Plan for Environmental Action.
- Lobby for the consignment of 1.0% of the annual national income to the environmental management budget.
- Expand knowledge of the national and international legal frameworks.
- Acquire basic specialized equipment for Environmental Audits.
- Promote the upgrading of environmentally related laws and regulations.
- Elaborate texts and other materials for the dissemination of environmental issues.

Secretariat of the Office of the Environment (SEDA) in Honduras

Legal Mandate

- Establishment of the CONAMA in 1990.
- Creation of the Secretariat of the Office of the Environment (Secretaría de Estado en el Despacho del Medio Ambiente, SEDA) in 1993.

Principal Responsibilities

- Regulation, protection, and dissemination [of information] for the proper use of the RR.NN.
- Focus of the management of the RR.NN. toward sustainable means of development.

Principal Inter-Institutional Relations

- Ministry of Natural Resources.
- Honduran Corporation for Forestry Development (Corporación Hondureña de Desarrollo Forestal, CODEHFOR).
- Business Groups.
- Municipal Organizations.
- International Support Organizations (IDB, CARE, UNDP, USAID).
- CCAD

Proposed Mission

- Further sustainable development by creating and strengthening institutional mechanisms to prevent and solve environmental problems.
- Promote citizen participation and search for consensus and conciliation of interests.

Personnel

- 35 collaborators (2.5 technicians x 1 administrator).

Budget

- Equivalent to US\$290,000 (two hundred ninety thousand US dollars).

Principal Environmental Challenges

1. **With respect to institutional management**
 - Harmonization and fulfillment of laws.
 - Conciliation of interests toward sustainable development.
 - Leadership and the strengthening of SEDA.
 - Institutional credibility.

2. **With respect to management of civil society**
 - Inter-institutional coordination.
 - Citizens' participation.
 - Municipal participation.
 - Environmental commitment of the private sector.

Priorities for Training and Action

1. **Strengthening capacities**
 - Instruction in the interpretation of environmentally related laws.
 - Instruction in techniques on collaboration and coordination (for the leadership).
 - Instruction in conflict management and participatory planning techniques.
 - Instruction in project monitoring and follow-up for Environmental Impact Study projects.
 - Authorization for the formulation of environmental policies.
2. **Priority actions**
 - Formulation and establishment of efficient mechanisms for internal institutional coordination and inter-institutional coordination.
 - Establish appropriate handling of human relations in institutional management.

Ministry of the Environment and Natural Resources (MARENA) of Nicaragua

Legal Mandate

- Creation of MARENA in January 1994.

Principal Responsibilities

- Prepare the country's environmental policies.
- Elaborate the annual program for Nicaragua's Environmental Action Plan (PAA-NICA), incorporating contributions and projects from all sectors.
- Support execution and follow-up of PAA-NICA projects.
- Review and/or modify legislation and norms related to the environment.-
- Prepare implementation of a Strategy for Sustainable Development for the approval of the Presidency.
- Coordinate, along with the Attorney General of the Republic, the [Office of the] National Attorney for the Environment.
- Propose, disseminate, and apply legislation on Environmental Impact Studies.
- Natural resources management.

Principal Inter-Institutional Relations

- Ministries of the Economy and Development, Agriculture and Livestock, Construction and Transportation, Education, Health, Employment, and Tourism.
- Organizations and Commissions related to the RR.NN. and Protected Areas.
- Municipal Organizations.
- Central American organizations such as the CCAD and PAFCA.
- International support organizations such as DANIDA, ASDI, IBRD, and the IDB.

Proposed Mission

- Determine a general policy on the use of the RR.NN. devising economic growth and environmental protection as complementary, rather than contrary, means and end.
- Focus the use of the RR.NN. so that their development generates the greatest possible economic, cultural, historical, and recreative satisfaction in the short- and long-term.

Personnel

- 1,200 collaborators.

Budget

- Approximately US\$14,000,000 (fourteen million US dollars).

Principal Challenges

- Establish political and institutional conditions for the sustainable management of the RR.NN., strengthening the legal framework.
- Establish an appropriate management scheme for the prudent handling of water resources, alleviating water scarcity in critical areas, and protecting its quality.
- Detain deforestation and brake the advance of the agricultural periphery on forested areas by proper handling of forest resources.
- Maintain food production capacity by means of proper land handling.

Priorities for Training and Action

1. **Strengthening institutional capacities**
2. **Priority actions**
 - Elaborate a General Law on the Environment and Natural Resources, modifying fishing, land, and agro-chemical legislation, respectively.
 - Develop a Program on Environmental Education (MARENA and MINE).
 - Assume [responsibility for] inter-sectoral coordination in the establishment of codified Environmental Regulations, beginning with pilot projects in critical zones.
 - Define a policy and elaborate a National Plan for the Management of Water Resources.
 - Strengthen forestry management and elaborate a new Forestry Law.

- Institute a program of credits and incentives to support the viability of sustainable forestry management.
- Regulate the National System of Protected Areas and establish Management Plans for the principal areas.
- Assume the directing role on biodiversity and genetic resources.
- Further land conservation practices by training rural agricultural extension officers, providing technical assistance to producers, and providing support in agricultural credits.

National Institute of Renewable Natural Resources (INRENARE) of Panama

Legal Mandate

- Created by law in the Legislative Assembly in 1986.

Principal Responsibilities

- Planning and coordination of policies and actions concerning use, conservation, and development of the RR.NN.
- Regulation of management in the following areas: land, flora, fauna, protected areas, and watersheds.

Principal Inter-Institutional relations

- Ministries of Planning, Agro-industrial Development, Education, and Industry and Commerce.
- Peasant and indigenous groups.
- Industrial labor union (timber workers).
- Environmental NGOs (ANCON).
- International Cooperation Organizations (such as USAID and CATIE).
- CCAD.
- Performance actions ("acciones por conducto") for the Ministry of Planning and Economic Policy.

Proposed Mission

- Plan, regulate, and coordinate the whole of the country's RR.NN management.
- Foster conservation and development policies of the RR.NN.
- Analyze the set of problems confronting it in order to establish a functional structure not subject to external interests and in accordance with its current and future reality.

Personnel

- 1,000 collaborators

Budget

- Equivalent to US\$12,514,359 (twelve million five hundred fourteen thousand three hundred fifty-nine US dollars).

Principal Challenges

- Appraise the country's natural resources.
- Foment environmental education.
- Adaptation of laws and their codification.
- Ameliorate personnel policy.

- Take better advantage of international cooperation networks.
- Technically strengthen its performance.
- Achieve allotment of a larger budget.
- Secure appropriate housing for its offices.
- Create an awareness of policy decisionmaking at the inter-institutional level.
- Adapt environmental policies to the national reality.
- Improve its administrative efficiency.
- Raise the standing of INRENARE to the ministerial level.

Priorities for Training and Action

1. Strengthening institutional capacities

- Strengthen training and extension programs to all levels within the institution and offer training services to users.

2. Priority actions

- Promote a hierarchical change from Institute to Ministry, pursuing improvements in its institutional structure.
- Establish a strategy to present its budget without suffering [budgetary] cuts.
- Follow up to established conventions and laws.
- Refocus INRENARE's functional structure toward its decentralization.
- Promote the effective application of administrative regulations.
- Pursue the endowment of buildings to the Institute.
- Offer incentives to functionaries in areas of difficult access.

ANNEX B

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ANNEX B
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ANNEX C
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ANNEX C
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ANNEX D

**Regional Seminar Work Groups
Urban Environmental Action Strategies
Required for Sustainable Development in Central America**

Guatemala March 28 -29, 1995

ANNEX D

REGIONAL SEMINAR WORK GROUPS

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DIEGO VICTORIA	CCAD	PANAMA
NESTOR MATHIEU	IPADEM	PANAMA
FRANK OHNESORGEN	ICMA	USA
EDDIE PEREZ	WASH	USA

Group Number 4: Mobilization & Coordination of Financial Resources

EDUARDO BRENES	CCAD	COSTA RICA
LEONARDO RAMIREZ	EMP. AMBIENTALES	COSTA RICA
EDUARDO BILSKY	CUD	FRANCIA
JORGE MARIO AGUILAR	BCIE	GUATEMALA
HUGO SACARIAS	BID	GUATEMALA
MARIA L. FLORES	CAMARA INDUSTRIA	GUATEMALA
ERICK VENTURA	CICAD	GUATEMALA
EDUARDO SPERISEN	FEDEPRICAP	GUATEMALA
HUGO ORDONEZ	FEDEPRICAP	GUATEMALA
GLORIA DE CHIROUZE	FUNDACION TEC.	GUATEMALA
YOLANDA GARCIA	MIN/ECONOMICA	GUATEMALA
CARLOS CHACON	USAID	GUATEMALA
PEDRO LASA (FACILITATOR)	BCIE	HONDURAS
ERASMO MARTINEZ	MUN/TEGUCIGALPA	HONDURAS
ROGER ZUNIGA	MUN/MANAGUA	NICARAGUA
ALCIBIADES GONZALEZ	FEMICA	PANAMA