

PN-AR-N-428
81168

ENVIRONMENTAL EDUCATION
IN
EL SALVADOR:
AN ASSESSMENT

Prepared under Contract:
PACA/CARE/USAID

Russell E. Davenport

San Salvador - April, 1992

ACKNOWLEDGEMENTS

This document is the product of many people's experience, hard work and clear thinking. Sincere appreciation first must be extended to the people whose research and experience gave substance to the initial information base: to Lic. Ana Celia Dominguez, Lic. María Joaquina Grande and Prof. Julio E. Salamanca for their work on Formal Education; to Lic. Zulma de Mendoza, Lic. Misaela Molina, Lic. Melany Machado and Arq. María Isaura Arauz for their work on Informal Education; and to DEICO, SA de CV for its interviews of organizations and agencies engaged in Non-Formal Education.

For their skilled, sensitive and extremely useful technical analyses of early drafts, I want to express admiration and thanks to Lic. María Luisa Reyna de Aguilar, Dr. Francisco Serrano and Dra. Miriam Bazo. Their criticisms, comments and additions were timely and profoundly appreciated.

Special thanks must also be conveyed to FESA for prolonged use of office space and facilities, and especially to Lic. Juan Marco Alvarez, Executive Director, to Sra. Marina de Rodriguez, secretary, and Sr. Rafael Rivera, messenger, for their ever-cheerful assistance and support throughout the process of developing this work. Thanks also go to Olga Crespín whose mastery of the art of word processing made the final production easier and the presentation possible.

Likewise, the project could not have gone smoothly without the highly competent, always warm and extremely helpful logistical and communications assistance of Ana Vilma Quintanilla, administrative assistant in the Agriculture and Natural Resources Division of USAID.

Dr. Peter Gore, the USAID environmental officer, provided frequent commentary and guidance, was always willing to discuss broad topics or minute details, and helped keep the project on track. Dr. David Kaučik, coordinator of PACA, provided orientation, guidance and made numerous recommendations that helped with focus and structure as much as content. Sylvia Marín, M.S., PACA subdirector, provided sharp analysis, clear thinking and articulate criticism. To each of these I acknowledge a tremendous debt.

Dr. Knut Walter provided extremely able, often inspired editorial, structural, and conceptual advice throughout the writing process, and translated draft after draft with good humor and patience. The document is significantly better substantively and structurally for his excellent work, for which I extend my deepest appreciation.

The project would simply not have been possible without Lic. Ana Carolina Martinez, the national coordinator throughout the seven month process. As administrator, researcher, writer, editor, analyst, negotiator, manager and good-natured critic, she pulled the project through slow times and frantic moments, communications difficulties, and periods of tension. Without her this document would not exist. There are no words adequate to express my personal and professional admiration and gratitude for her support.

Although these and many other people provided invaluable assistance and input, the author accepts full responsibility for the opinions and conclusions expressed herein, and for errors, omissions and oversights. The report expresses the author's opinions, and not necessarily the perspective of PACA/CARE, USAID or the government of El Salvador. The document is not intended to be the last word; indeed it will be most useful if it sparks discussion and generates communication where none existed before.

This report is dedicated to the people of El Salvador who are working so hard to recover from many years of war, and many more of economic deprivation and ecological deterioration. The author is inspired and humbled by those who look to their future with hope and dedication, and hopes that this labor will contribute in a small way to their struggle.

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GLOSSARY

AAT	Asociación Amigos de la Tierra
AMAR	Asociación Amigos del Arbol
APA	Asociación de Proveedores Agrícolas
APAES	Asociación para la Protección Ambiental en El Salvador
ARENA	Alianza Republicana Nacionalista
ASACMA	Asociación Salvadoreña para la Conservación del Medio Ambiente
ASAPROSAR	Asociación Salvadoreña Pro Salud Rural
CADES	Colegios de Arquitectos de El Salvador
CAT	Centro de Asistencia Técnica
CATIE	Centro Agronómico Tropical de Investigación y Enseñanza
CECAP	Centro de Capacitación Apropiaada (FUNPROCOOP)
CENREN	Centro de Recursos Naturales
CENTA	Centro Nacional de Tecnología Agropecuaria
CESAD	Comité Evangélico Salvadoreño de Ayuda y Desarrollo
CESTA	Centro Salvadoreño de Tecnología Apropiaada
CIPROF	Centro de Desarrollo Integral y Promoción Familiar
CONAMA	Consejo Nacional del Medio Ambiente
CONARA	Comité Nacional de Reconstrucción de Areas
CONCULTURA	Consejo Nacional para la Cultura y el Arte
CONFRAS	Confederación de Federaciones de Cooperativas de la Reforma Agraria
CREMA	Comité de Recuperación del Medio Ambiente
DEA	Dirección de Educación de Adultos
DEICO	Desarrollo, Investigación y Consultoría
DESAP	Dirección de Servicios Agropecuarios

DJC	Desarrollo Juvenil Comunitario
DNGO	Development Non-governmental Organization
EDUCO	Educación Infantil con Apoyo de la Comunidad
ENA	Escuela Nacional de Agricultura
ENGO	Environmental Non-governmental Organization
FAO	Food and Agricultural Organization of the United Nations
FEDECOPADES	Federación de Asociaciones de Cooperativas de Producción Agropecuaria de El Salvador
FEPADE	Fundación Empresarial para el Desarrollo Educativo
FESA	Fundación Ecológica Salvadoreña Activo 20-30
FIPRO	Fundación Industrial de Prevención de Riesgos Ocupacionales
FIS	Fondo de Inversión Social
FM	Fundación Montecristo
FUCRIDES	Fundación Cristiana para el Desarrollo
FUNDASAL	Fundación Salvadoreña de Desarrollo y Vivienda Mínima
FUNPROCOOP	Fundación Promotora de Cooperativas
FUREMAR	Fundación de Recursos Marinos y Limnológicos
FUTECMA	Fundación Tecleña Pro-Medio Ambiente
GOES	Government of El Salvador
ISTU	Instituto Salvadoreño de Turismo
MAG	Ministerio de Agricultura y Ganadería
MES	Movimiento Ecológico Salvadoreño
MUHNES	Museo de Historia Natural
mz	1.74 acres or 0.7 hectares
NAPA	National Association of Partners of the Americas
NGO	Non-Governmental Orientation

OTS	Office of Tropical Studies
PACA	Proyecto Ambiental para Centro América
PREIS	Proyecto Regional de Investigación sobre El Salvador
PROCADES	Asociación Salvadoreña de Promoción, Capacitación y Desarrollo
PRODERE	Programa de Desplazados y Refugiados
PROMESA	Proyecto de Protección del Medio Ambiente Salvadoreño
REPAC-ES	Fed de Periodistas Ambientalistas de Centro América, Capítulo El Salvador
SABE	Strengthening Achievement through Basic Education
SAS	Sociedad Audubon de El Salvador
SEMA	Secretaría Ejecutiva del Medio Ambiente
SPNVS	Servicio de Parques Nacionales y Vida Silvestre
TCS	Telecorporación Salvadoreña
UCA	Universidad Centroamericana "José Simeón Cañas"
UES	Universidad de El Salvador
UICN	Unión Internacional para la Conservación de la Naturaleza
UTLA	Universidad Técnica Latinoamericana
UNES	Unidad Ecológica Salvadoreña
UNICEF	United Nations Children's Emergency Fund
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

El Salvador's treatment of its natural resources is undermining the population's future sustenance base, through rapid and accelerating depletion of the very resources on which the country's people and economy depend. Severe, endemic conditions of uneven distribution of land and wealth have resulted in rural-to-urban migration, deteriorating social indices, political unrest and environmental degradation. The resulting movement of poor populations onto small plots of ever poorer land, or into crowded urban squatter settlements, has created a vicious spiral of interdependent social, economic and ecological deterioration.

The government of El Salvador believes that more and better environmental education will play a positive role in reversing the trend of ecological degradation. Governmental institutions have been unable so far to take effective leadership in environmental education for a wide range of reasons, although this may change with the recently formed government office on the environment, SEMA, which includes environmental education as one of its priorities.

For its part, the US government through USAID is launching a 7-year, \$35 million natural resources management project called PROMESA, which among other things hopes to strengthen Salvadoran institutions to enable them to engage in effective environmental work.

There has been proliferation of Salvadoran environmental non-governmental organizations (ENGOs) over the past few years, whose presence has been felt especially strongly among the urban middle class, as they have become more aware of the problem. However, to date, they have little history of effective resource management, and little tradition of effective influence on policy.

An assessment of environmental education in El Salvador was requested by USAID of PACA (*Proyecto Ambiental de Centro America*), the Costa Rica-based Central America Environmental Project. The primary purposes of this assessment were to determine what environmental education activities, resources and professions exist, which should be enhanced, and how.

A broad, consultative process was designed to collect information and analysis from Salvadoran professionals in diverse fields related to environmental education. Initial guiding definitions were developed after a first review:

1. The primary functions of **education** are to provide information about alternatives available to people in order to improve their lives, and to provide concrete tools, skills and data that enhance their ability to take advantage of those options.
2. One of the most important functions of **environmental education** is to provide the basic information people need to live with their environment in sound ways which protect their future.
3. **Formal Education** encompasses all school programs carried out by the National Educational System, overseen by the Ministry of Education, including all public and private schools, technical schools and universities.
4. **Informal Education** includes all activities directed to mass audiences and the general public. The principal institutions which carry out informal environmental education are the communications media (radio, television and newspapers) and a variety of parks, recreational centers, natural areas, archaeological sites and cultural centers.

5. **Non-Formal Education** refers to those processes which involve the active participation of specific, voluntary groups of targeted people. Three kinds of institutions specialize in non-formal environmental education: environmental NGOs (ENGOs), development NGOs (DNGOs), and some government offices and agencies whose primary mission is development or social services.

Formal Education:

In El Salvador, private schools and universities at all levels must follow the same basic curriculum. Environmental education is not a formal component in the Elementary and Junior High education curriculum, although some environmental components exist within the Nature Studies program. No special texts exist. In Senior High school, specializations begin to emerge, where the principal opportunity for ongoing environmental education is in the final year (grade 12) of a "Sciences" option of the Academic curriculum. In other high school areas of specialization, only agriculture and health contain environmental subject matter.

Higher Education includes university and non-university structures, where more opportunities for environmental specialties exist. Some of the specialized technical schools offer courses with environmental topics as part of required and elective courses, but no program has a single course on environmental science, ecology or natural resource management. And no interdisciplinary programs or majors exist in this field.

The University of El Salvador (UES), through its Biology Department within the School of Humanities, is training students in such topics as "Care of the Biological Environment," and "Conservation and Utilization of Natural Resources." But there are no specific objectives for an environmental education curriculum.

In other parts of the university system, the UES Medical School includes specializations that indirectly include aspects of environmental issues. The School of Agricultural Sciences has a major in agricultural engineering with a required course in ecology. The Architecture Department of the School of Engineering and Architecture has a required course in Principles of Ecology. The Chemistry and Pharmacy Department includes a course on environmental pollution and public health. Students majoring in Humanities receive a basic introductory course in biology which has some ecological content. But there is little planning and no coordination in the development of these courses, and their quality and consistency are irregular.

The curricula of private universities are based on government regulations and are similar to those of the UES. Some have biology courses with practical training and field work in areas related to environmental issues, but none has a course or program in this field.

The development of teachers in El Salvador has been in serious difficulty for some years, and training of new teachers is currently suspended as a result of political pressure and military priorities. The Ministry of Education lacks effective administrative structures, while teachers lack books, manuals and other teaching tools. However, some programs that showed promise before being suspended can serve as guides for future teacher training programs.

International support consists of two programs. The World Bank and UNICEF are supporting a four-year project called *Educación Infantil con Apoyo de la Comunidad* (EDUCO). USAID has established an eight-year program of curriculum reform for primary education and institutional restructuring, entitled "Strengthening Achievement through Basic Education" (SABE).

The assessment discovered that the educational system is not adequately serving the preschool and school-age population, with more than 500,000 children lacking any access to schooling. Further, the Ministry of Education reports alarmingly high rates of grade repetitions and drop-outs at young ages. Curriculum design problems are pervasive, while environmental education has generally not been incorporated into the objectives or curricular content of the school system. Further, there is a lack of coordination between public and private institutions in designing environmental education materials.

Nevertheless, there is growing interest outside the Ministry in curriculum reform that will increase the relevancy to people's lives of courses they are offered. The existence and increase of environmental information scattered throughout a variety of courses is testimony to the appropriateness and possibly to the desire in diverse sectors to implement coordinated environmental education in the schools.

Practical environmental education through the school system is most needed in rural communities where changes in behavior will have immediate environmental effect. But fewer resources go to these schools, and fewer schools serve the rural student population.

There is also a severe shortage of comprehensive natural resource management programs that integrate biological conservation with sustainable development. Especially needed are programs that address regional and national environmental management issues, and that develop multidisciplinary pedagogical approaches appropriate to the students being taught and the environmental needs of the country.

The assessment makes recommendations regarding the training of environmental educators by in-country short courses, and by on-site training approaches. Pre-service and in-service teacher training is recommended. Exchanges of Salvadoran faculty and professionals with other academic or professional institutions and programs outside the country are also mentioned.

Development of materials, horizontal integration of subject matter, and participatory education methodology for teacher training are addressed. Input into the SABE process is also urged.

Informal Environmental Education in El Salvador is divided in the report into two parts: that offered by physical sites where visitors learn by seeing, and that which is carried out through the communications media.

The primary characteristic in common to public installations is the existence of a physical location or plant which is the basis of the educational resource. These include national, municipal and urban parks, tourist centers, museums, a botanical garden, cultural centers, and the zoo. The educational activities include nature interpretation (marked trails, guided tours), passive exhibits, multi-media presentations, written information, and public talks.

None of the institutions reviewed currently has an environmental education program, and institutional commitment is generally lacking. "Installed capacity" of funding and infrastructure for environmental education activities is almost entirely located in San Salvador. However, the potential of several institutions is encouraging.

There are people in each institution who want to play a larger role in nonformal education, and want to serve the public directly by providing information through channels they create themselves. The assessment determined that their resources would be more efficiently utilized if they generate environmental information, develop teaching materials for school teachers and development organizations, and conduct workshops and short-courses in how to maximize participation and interest in the topics.

Five national daily newspapers and six television channels are based in San Salvador, and well over 40 radio stations broadcast throughout the country, owned by churches, private individuals, government and corporations. Every environmental organization wishing to convey environmental messages to the general public thinks first of using the commercial communications media. However, no systematic effort has been made by environmentalists to determine the degree of receptivity of the media to carrying such messages.

There is currently a "window of opportunity" open in radio and newspapers especially. A consistent pattern can be observed in El Salvador's primary media outlets: they are open to more environmental information and closer relationships with environmental activists and organizations than they now have. Nevertheless, no media outlets covered in this survey have a stated policy regarding environmental issues, and none has regular programs or sections dedicated to the subject.

Environmental organizations will have to learn to demonstrate to the media the "marketability" of their messages. Currently, use of the communications media by environmentalists is inconsistent, few have a media program, and fewer still have a communications or media strategy.

An important part of assisting these institutions will be strengthening their ability to develop outreach strategies, so that they can determine what they want and how to get it from the media as well as other channels. Training will be needed in journalism and media affairs for both environmental and development organizations.

Non-Formal Education:

A look at the range of organizations which engage in nonformal environmental education reveals two major categories of activity: those directed at people's attitudes by means of presentations by outside professionals, and those directed at people's practices, by means of outside facilitation of participatory community organizing and extension.

Environmental non-governmental organizations have been proliferating rapidly over the past five years, numbering over 30 by early 1992. They seem to be having some impact, if not on people's actions, at least in creating an atmosphere in which stronger government policies can be established, regulations can be created, and enforcement can have effect.

The assessment surveyed 13 self-defined ENGOs that had some kind of structured programs or activities which could be considered educational. They tend to specialize in changing people's attitudes by means of providing information. Few engage systematically in direct and ongoing work with community groups. Few are accustomed to determining priorities or making strategic program decisions. Some specialize in public denunciations, and some in tree planting. A few ENGOs seek to rescue and manage natural resources in specific geographical areas. However, although soil conservation is generally recognized as the single most important environmental challenge in El Salvador, no environmental NGO has taken on this area. Similarly, potable water is also a grave environmental problem which no ENGO addresses directly or strategically.

All ENGOs consider environmental education to be a significant part of their work, but many assume that organizational self-promotion, information about their project activities, and the activities themselves, are all intrinsically educational.

Relationships between ENGOs are addressed in the report, as are their priorities for external support. They place material inputs (vehicle, office equipment, etc.) above personnel, and training is often overlooked.

Although only seven NGOs have legal status (*personería jurídica*), most have not found a lack of it to be a major obstacle to their functioning.

Some of the most effective environmental education in El Salvador is being carried out by organizations which do not consider themselves primarily environmentalist, or whose founding purposes were not principally ecological. Development and social organizations (DNGOs) that work with poor people to help them solve socio-economic problems are engaging in environmental work as part of their overall program to strengthen people's abilities to influence their surroundings and improve their quality of life and economic conditions. They have discovered empirically the relationship between environmental deterioration and underdevelopment, and as a result have developed locally-focussed educational activities which are practical environmental intervention strategies, and which include education as part of the process.

The assessment surveyed 17 such DNGOs whose programs include activities or projects which provide support related to changing resource management practices. Nonformal environmental education was found to be most effective when it seeks a balance between natural resource management and sustainable resource use, and between human and environmental needs.

The assessment concludes that environmental problems are inextricably linked to many economic and social problems that community organizations are trying to solve. Environmental educational efforts should be part of a broader development process, should grow out of, rather than be inserted into, ongoing community efforts at self-improvement, and are far more effective than self-styled environmental specialists from the outside.

Effective nonformal environmental education should promote development based on sound environmental management and conservation principles. The challenge of nonformal environmental education is to harmonize economic and social development of communities with the maintenance of diverse, natural ecosystems.

PROMESA has an opportunity to facilitate exchanges between grassroots DNGOs with community skills, and selected NGOs which have the social sensitivity and technical knowledge to offer environmental information and focus. However, PROMESA was not conceptualized through a widespread, public process, and its design is primarily in the hands of foreigners. There is speculation in El Salvador about the role PROMESA will play in environmental education and in the political economy of the country. There is some fear that PROMESA consultants will survey, analyze and create grand schemes, and then select a few "favorites" to receive most of the benefits.

NGOs, DNGOs and government agencies involved in nonformal environmental education do not communicate very much yet. The assessment reveals a functional complementarity which would gain considerable value by collaboration. Support from PROMESA and others should strengthen the institutions and their programs, and should encourage mutual collaboration between the different kinds of organizations.

Criteria for inclusion of partner NGOs should include commitment to environmental concerns, demonstrated appreciation for the communities' perspectives and respect for the people, recognition that technology alone cannot solve problems, demonstrated ability to learn new educational techniques, and willingness and ability to learn from and teach others. What is most needed is a balanced approach to establishing partnership relations, a sensitive ear to a variety of approaches, and flexible, creative and diversified funding patterns.

I. GENERAL INTRODUCTION

A. THE PROBLEM

El Salvador has long been treating its natural resources in a manner that is undermining the population's future sustenance base. The result is rapid and accelerating depletion of the very resources on which the country's people and economy depend. Regeneration of soil, water, forest and wildlife habitat must begin immediately if this most densely populated, most severely degraded country of Central America is to have a sound future.

By all accounts, productivity and resource capacity have declined during the past several decades, in part due to severe, endemic conditions of uneven distribution of land and wealth. Rural-to-urban migration, rapid population growth, deteriorating social indices, political unrest and environmental degradation are some of the results. The natural environment, on which all Salvadorans depend, has been the forgotten victim during the past 12 years of civil war, and during a longer period of opportunistic exploitation by economic interests. The resulting squeezing of poor populations onto ever smaller plots of ever poorer land, or into the city in sprawling, crowded squatter settlements, has exacerbated the endemic problems of underdevelopment, creating a vicious spiral of interdependent social, economic and ecological deterioration.

Most observers believe there is still time to reverse this spiral. Politically the time could not be more propitious with the recent signing of a peace agreement between government and rebel forces, a national upwelling of interest in reconstruction, and with all sectors of society seeking to voice openly their needs and offer their ideas for models. Economically the time could not be more important, as El Salvador probably has only a few more years to attract major international economic assistance, currently motivated by donor response to the peace accords, until other crises and other priorities elsewhere take precedence. Ecologically, it may be now or never.

Any country's choices and decision-making processes regarding the uses of its environment are fundamentally political. The ecological problems of El Salvador are as much a function of lack of rational and effective policy-making as a lack of wise policies. They are as much due to a lack of rational land use policies as a lack of land. They are as much a result of a lack of people's ability to employ alternatives as they are due to a lack of awareness about the alternatives. And they are as much a lack of incentives as a lack of enforcement.

The causes of the problems, as well as the symptoms, must be addressed by education, and lead to realistic solutions. Analysis of the country's environmental education efforts shows that there is little value in raising popular consciousness if there is nothing people can do about the problems, either because the most necessary changes are impossible for political reasons, or because needed behavioral changes are not economically viable especially at the subsistence level. So education must be empowering as well as informative. El Salvador cannot afford the "luxury" of a better informed but inactive public for whom information is simply its own reward.

For its part, the government has declared itself in support of environmental protection. Addressing the opening of an international conference on El Salvador's environment, President Alfredo Cristiani admitted, "Three-quarters of our national territory is severely eroded. Our forests are almost gone. Discharge of industrial waste and applications of agro-chemicals threaten our population's health. Our natural resources are the base of our economic productivity and social well-being."

El Salvador's Minister of Agriculture, Antonio Cabrales, is responsible for environmental issues. "The environment is not just the problem of one ministry," he declared. "The whole cabinet should be involved."

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He convinced the President to hold a cabinet meeting every two months devoted exclusively to natural resource issues. From this President Cristiani created an interministerial "National Environmental Council" (*Consejo Nacional del Medio Ambiente - CONAMA*), and Cabrales created within his Ministry the position of Environmental Secretary (*Secretaría Ejecutiva del Medio Ambiente - SEMA*) and named economist Lic. Miguel Araujo to be its head.

CONAMA and SEMA were formally established by presidential Decree N° 73 in January, 1991, "to define the national strategy for environmental planning and administration," and to strive for the implementation of environmental protection, to create public awareness, to oppose new sources of pollution, to formulate an environmental education master plan, and to seek funding for these objectives. (See Appendix D-1 for the full Decree.)

After meetings with and input from university experts, conservation groups, business people and government officials, SEMA released in October, 1991 a detailed strategy: "The Environmental Agenda and Plan of Action." The Plan lays out the government's priorities for restoring the country's natural resource base, from watershed management to reforestation to environmental education.

The government of El Salvador, as governments everywhere, must mediate between numerous conflicting interests, some of which are strongly opposed to limitations on their free exploitation of the country's remaining natural resources. Others are vigorously and vocally opposed to uncontrolled development which further erodes the country's disappearing resource base. In practice, such contradictions are inevitable in economically and socially complex societies.

Governmental mediation has its limits. Much of the necessary commitment and energy must come from private efforts of national and local citizen groups who realize their future security depends on significantly different policies and practices, many of which they will promote with little government assistance.

For Salvadorans to reverse the negative spiral of environmental degradation, they will have to address simultaneously the issues of political will, economic opportunity, popular awareness and professional capability. No single sector - neither the government, nor the private sector, nor the environmental community, nor the domestic development and social service sector, nor educators, farmers or workers - has the capacity to solve the problems alone, no matter how much each might wish they could. Indeed, solving El Salvador's environmental problem will be as true a test of the country's ability to depolarize - even to unify - around common interests, as any other.

Ultimately, outside help in the way of technical advice, financial support, policy guidance and institutional strengthening can only facilitate a process that must be fundamentally Salvadoran if it is to take root and endure.

B. THE CHALLENGE

All of these conditions point to the pressing need for increased awareness throughout the country about the deteriorating conditions, about the causes of these conditions, and about opportunities to do something about them. Effective environmental education implies the building of a direct relationship between people's increased understanding of the problems and their ability to do something concrete and significant about those problems.

In such a situation, the growth of environmental awareness and activism is essential, but is not a simple process. It is also not a solution by itself, but must be part of a much broader ongoing, integrated strategy that identifies priorities, imparts information, raises awareness, generates political will, provides alternatives,

and changes behavior. Even these, separately or together, would still fail in the absence of coordinated policy reform, enforcement, and exploration of economically viable alternative practices. Without such an integrative understanding most actions will be largely symbolic, as many well-meaning activities have been so far.

Although awareness among the Salvadoran population about resource depletion appears to be growing, it is still relatively unspecific. People are not yet alarmed enough to voluntarily initiate significant changes in their extraction, production and consumption practices. This calls, not surprisingly, for proactive educational efforts directed toward developing more sustainable methods of resource use.

Industrial development, agribusiness, urbanization and uncontrolled appropriation of modern technology all contribute seriously to environmental destruction; by some standards they are responsible for the majority of it. But the role of environmental education in making significant changes at this level is mostly indirect. An aware and concerned public can begin to influence the creation and enforcement of public policies strong enough to control and rationalize modernization, capital growth and industrialization with environmental imperatives. Environmental activism carried out by informed interest groups that form as a result of informal (mass) education can have some effect on defining and obtaining environmental policies with "teeth."

Secondary environmental destruction, or that which is caused by the effects of macroeconomic conditions and practices (industrialization, agroexport policies, urban growth, minifundismo, etc.) is more easily and commonly addressed by environmental education. It is within people's reach to observe trash piling up, to see eroded hillsides, sludge in the river, denuded forests and smog overhanging the city. It is also within their reach to recycle, to clean up the streets, control auto emissions, plant trees, reduce burning of after-harvest waste, and so on.

These are multi-purpose activities: they have intrinsic environmental value, they are educational, they provide a focus for organizing, and they motivate people to go on to bigger things. While they should not be confused with systemic change, they are the activities available to most people, and represent a broad-based consciousness which can have real effect on the environment.

With the addition of technical or scientific information, economic viability and socio-cultural promotion, it is also within people's reach to use less firewood for cooking, replant hillsides with multipurpose trees, practice integrated pest management, raise cash crops with organic fertilizers, reduce erosion with soil management techniques, employ latrines and other sanitation methods, and control excessive extraction of fish, wildlife and native plants.

Consumer and producer environmental awareness is relatively more easy to develop than conservation practices, which often represent some sacrifice. The more economically marginal people are, the more unlikely they will change those income generating practices which cause long-term damage, unless changes can be shown to make good economic sense.

C. THE TASK OF THIS ASSESSMENT

There can be little disagreement that unsustainable economic exploitation of El Salvador's renewable natural resources is excessive, that it contributes to underdevelopment, that it most affects the poor majority throughout the country (who in turn severely affect the environment), and that it threatens the future well-being of every sector. The government of El Salvador (GOES) believes that deficiencies in environmental education contribute to this condition, and that more and better environmental education will play a positive role in reversing the trend of ecological degradation.

The US government through USAID is about to launch a 7-year, \$35 million natural resources management project called PROMESA, which among other things hopes to strengthen Salvadoran institutions to enable them to engage in effective environmental work. PROMESA's proposal includes facilitating and supporting activities that successfully increase awareness and change behavior by means of education.

In addition, a number of international environmental and development organizations are interested in learning what positive roles they can play, and with which institutions they can collaborate. And some Salvadoran institutions have been interested in looking critically at those educational activities which are effective, those which need strengthening, and those which fail to accomplish their purposes.

The government has been unable to take effective lead in environmental education for a number of reasons, including spending most funds on other priorities, a lack of educated, trained, skilled and experienced environmental educators and multidisciplinary ecologists, the lack of consistency between government environmental policies and practices, a lack of clarity about effective education, and insufficient follow-up to ensure that existing educational policies and programs are carried out.

For their part, Salvadoran non-governmental organizations (NGOs) have no history of effective resource management, nor tradition of skillful policy influencing. The emergence of environmentally concerned NGOs is a growing trend, but is too recent to have had major impact. These groups have a great deal of energy and commitment to environmental protection, which if channelled efficiently and strategically can develop that impact. Certainly the national political environment has not been conducive to development NGOs engaging in environmental and economic advocacy.

This assessment is intended to provide the base information for PROMESA to develop a strategically planned, integrated environmental education program. It is also intended to offer an introduction to the institutional strengths, limitations and opportunities for interested International and Salvadoran organizations concerned about improving the environment through educational processes.

It is hoped that an assessment of effective and not-so-effective environmental education efforts, and of institutions engaged in environmental education, will illustrate the roles education can play and indicate productive directions that may help to improve El Salvador's environmental situation.

D. METHODOLOGY

Preliminary discussions were held in September and October, 1991 with a variety of environmental NGOs, government personnel, local and international experts and USAID staff, to determine the scope of environmental education in El Salvador. Working definitions were developed and broad parameters were established. A number of Salvadorans were sought who, by virtue of their profession expertise, institutional access, knowledge of the field, and ability to offer disinterested observations, could help collect the information required.

Functional categories of formal, informal and non-formal education were decided upon and defined by the international consultant. Three teams of Salvadoran investigator-analysts were established and contracted, one for each functional category. Full-time coordination was provided by a Salvadoran environmentalist.

Each team was responsible for developing an outline of its area, and for indicating its perception of the breadth of activities that should be covered. A list of environmental and development NGOs was compiled in consultation with USAID, two Salvadoran consulting Firms DEICO and PREIS, and several expatriate consultants, with recommended organizations providing additional references. This list was reduced first by

phone interviews to determine which organizations had activities which fell within our broad definition of environmental education, and second after personal interviews were held, applying similar criteria.

The international consultant developed a final outline and scope of the report, and with the national coordinator provided frequent guidance to the teams regarding process and content.

All of the teams engaged in surveys of a wide variety of informants; two of the three teams, informal and non-formal, carried out formal interviews, the latter using standardized formats. Reporting was entirely different from each team, as were level of detail and degree of analysis.

Considerable overlap of material within and between teams was mediated by the international consultant, with fact-checking carried out frequently by the national coordinator. Gaps were pursued in the same way. As information obtained was edited into written documents, independent analysts (Salvadoran specialists in the specific field) were brought in to critique team reports, to point out areas needing further work, correct errors and provide focus on important patterns.

The international consultant and national coordinator held follow-up interviews with many organizations either as a check on accuracy or to obtain more detail. All entities engaged in non-formal education were invited to refine or correct a summary sheet developed by the consulting team to ensure accuracy and completeness.

On the basis of this input, overall analysis and writing was provided by the international consultant in conjunction with conversations and correspondence with the investigators and reviewing analysts, with the USAID environmental officer, and with the director of the Costa Rica-based PACA (*Proyecto Ambiental para Centro America*) which was contracted to carry out the project.

All interviewees, Salvadoran environmental professionals and education specialists were invited to participate in a one-day seminar in late April, 1992 to review a draft of the report, in order to correct any glaring errors and to offer their comments and critique on the substance of the observations and recommendations. These are summarized in appendices E attached to the report.

Substantial documentation was collected and reviewed during the process, including educational materials, clippings, curricula outlines, statistical and summative data and interview summaries. Some are referenced in the text of the summary report, and all have been collected and catalogued, to be available to people wishing further details.

E. THE FUNCTION OF ENVIRONMENTAL EDUCATION

There is not yet universal agreement in El Salvador about what environmental education is, or how useful it might be. People at one extreme, including some members of the environmental community, see it as the primary force that will power a reversal of the rapid deterioration of El Salvador's natural resources. People at the other extreme perceive it as little more than a pastime of the idle, similar to orchid cultivation: activities they perceive are unobjectionable but fail to make systemic changes, such as beach beautification and roadside tree planting.

The investigation determined that effective environmental education is neither a panacea nor a luxury. Rather, environmental education should be understood as an integrated process that includes information transfer, value change and practical experimentation that together lead to long-term changes both in consciousness and behavior.

A close look at what often passes for environmental education in El Salvador reveals that many disjointed and casual activities carry the label but not always the quality. It is not enough to exhort people to "value our heritage!" or "protect our resources!" It does not address the causes of ecological deterioration to create the mystique of a pristine environment that should be zealously protected or restored solely for its intrinsic beauty. And it is not adequate merely to broadcast new data or teach new resource management techniques without also facilitating honest discussion of the economic costs and risks, exploration of viable alternative practices and recognition of socio-cultural limitations.

Another view of environmental education is that it is best characterized by the act of providing alarming information about conditions of deterioration or unsustainable exploitation, to people who do not necessarily perceive they have an interest in the issue. It is assumed that with enough alarm and enough repetition the audience will become converted.

This report proposes that there is a qualitative difference between exhortation, denunciation or information distribution, and creating mutual exchanges and understanding. Effective education usually was found to involve two-way communication between providers of useful information that is desired by and relevant to receivers. There is an implicit exchange, with the information provider receiving and utilizing feedback in order to adapt the content and approach to be more useful to the recipient. Education also requires that both parties in information interchange be able to influence and utilize the information, and that both are strengthened by the process.

This more complex definition of environmental education legitimizes the expectation that attitudes and values can change as a result of the exchange. However, the goal of environmental education should not be limited to attitudinal change; industrialized societies are rife with cases of increased individual awareness without any collective action. When education becomes an intellectual process alone it lacks the ability to effect change.

Primary functions of education are to provide information about alternatives available to people in order to improve their lives, and to provide concrete tools, skills and data that enhance their ability to take advantage of those options. One of the most important functions of environmental education is to provide the basic information people need to live with their environment in sound ways which protect their future.

Environmental education can include communication of important information, but its goal in El Salvador should be to provoke and enable changes of behavior. Its effectiveness should be measured in its ability to facilitate change both in attitudes, and in actions.

Specifically environmental education should:

- offer information that is relevant to people's life experience that enables them to see their world in new ways;
- motivate people with new understandings of the relationships between resources and livelihood;
- empower people with information about their options;
- support people with activities that experiment with and put into practice both potential and tested options; and
- enhance people's ability to make changes that will improve conditions for themselves, their neighbors, and future generations.

There is no basis in El Salvador's environmental education experience to assume that destructive practices will be changed merely by informing people of the negative effects of those practices on the resources they depend on. Preliminary analysis indicates, for example, that effective rural environmental education surveyed in this assessment is in almost every case part of a broader ecodevelopment strategy. Methodologies include using information derived from peasants' and villagers' own experience, building on their existing awareness and know-how, utilizing comparisons between depleted and undepleted resources and between destructive and sustainable practices, and using demonstration projects to show what is possible.

Ecodevelopment strategies need to include environmental education; conversely, environmental education should always be part of broader ecological and economic development processes.

F. DEFINITIONS

After reviewing the gamut of activities in El Salvador that are intended to inform, change attitudes and influence actions regarding the environment, it became possible and useful to divide "environmental education" into three categories: Formal, Informal, and Non-formal. These are functional distinctions, and although not entirely mutually exclusive, help the processes of observation, diagnosis and evaluation.

Working definitions of each are as follow:

1. **Formal Education** encompasses all school programs carried out by the National Educational System, overseen by the Ministry of Education, including all public and private schools, technical schools and universities which are subject to the General Education Law. It also encompasses formally structured adult education programs under the Ministry of Education, which are termed "non-formal" within that system.
2. **Informal Education** includes all activities directed to mass audiences and the general public. It refers to generic information and education efforts which reach an undefined, passive audience, such as people who visit a park, read a newspaper, listen to the radio or attend a public gathering. The principal institutions which carry out informal environmental education are the communications media (radio, television and newspapers) and a variety of parks, recreational centers, natural areas, archaeological sites and cultural centers.
3. **Non-Formal Education** refers to those processes which involve the active participation of specific, voluntary groups of targeted people. The information provided is related to the socio-economic conditions of the participants, who integrate environmental concerns and criteria into their everyday lives. Three kinds of institutions specialize in non-formal environmental education: environmental NGOs, development NGOs, and some government offices and agencies whose primary mission is development or social services.

I I. THE FORMAL EDUCATION SYSTEM

The National Education System is structurally divided into "Formal" and "Non-formal" subsystems, with the formal covering pre-school through university, and the latter covering a variety of adult education programs. For the purposes of this assessment, all programs that are part of the National Education System will be considered "formal" as their primary methodology uses the formal classroom with a teacher providing lessons according to a government-approved plan.

Formal education is a systematic, permanent, planning-based process with a prescribed curriculum based on official objectives and programs. In El Salvador, private schools and universities at all levels must follow the same basic curriculum. Variations are more a matter of quality of teachers, teacher-student ratios, motivation of students, physical and financial resources available, and extracurricular opportunities.

A. STRUCTURE AND CONTENT

Within the school system, each level (nursery, basic, middle and superior) has its own academic structure, requirements and subdivisions.

1. **Nursery School** (*Parvularia*) covers up to three years, for children 4, 5 and 6 years old. Some effort is made to introduce children to nature appreciation, including topics of domestic and water animals, such as "Knowing and Caring for our Plants," "Observing and Caring for Animals," and a section on clouds and rain. These topics are part of nationally distributed teachers' manuals, and are designed to be taught with field trips and practical observation activities. However, they fail to serve as guides to behavior or to generate environmental sensitivity (see Appendix A-1).
2. **Basic Education** (*Educación Básica*), formerly divided into 6 years of "Primary" and 3 years of "Secondary," now is divided into three cycles of three years each (Cycles I, II and III). It generally covers 9 school years, beginning at age 7, and includes 5 fields: National Language, Mathematics, Natural Science, Social Studies, and Aesthetics (music, physical education and art).

Environmental education is not a formal component in the Basic Education curriculum. However, in each of the three Cycles some environmental components exist, principally within the Nature Studies program, where one of 5 sections, designated "Ecology," promotes the need for natural resource conservation under the title "Protecting and Conserving our Natural Resources" (*Protejamos y Conservemos nuestros Recursos Naturales*). This is part of the national curricular program, with universal texts which lack specific environmental lessons.

- a. In Cycle I, basic information is provided about the vital needs of humans, animals and plants, seeking to convey the relationship between humans and the environment. The student is taught similarly, but with greater intensity, than at the kindergarten level, the importance of conservation. For example, in first grade the student learns (within a subject entitled "The Natural Environment") to identify the various components of the environment and their interrelationships, to observe the degradation that humans cause and its consequences, and some practical measures that can contribute to environmental conservation. There is no interdisciplinary or integrative emphasis during this period, but as the student progresses through the three years some effort is made to describe the country's situation in regards to natural resources, environmental quality and associated problems. (A detailed list of topics can be found in Appendix A-2).

- b. **Cycle II** (grades 4-6) addresses conservation needs and tries to instill conservationist attitudes conducive to the protection and conservation of natural resources, identifying those human activities with positive and negative impacts on ecological equilibrium. The methodology is practical and the content seeks to increase basic knowledge about ecology and the environment. For example, the class entitled "Soil Protection" demonstrates techniques by using visual aids and models that compare eroded soils with soils covered with vegetation, in order to convey the importance of protecting soils from the effects of erosion. (For a complete list of topics, refer to Appendix A-3).
- c. **Cycle III** (grades 7-9) describes in more detail existing natural resources, human resource use, and conservation methods, including the effects on human health of environmental pollution and possible remedial actions (for a complete list of topics by year, refer to Appendix A-4). Emphasis is on the need for humans to undertake actions to establish a balance between population and environment. The focus is on soil resources as the basis of agricultural production and development, and methods employed for its conservation. Again at this level, students are encouraged to develop attitudes favorable to protecting and conserving natural resources.

One of the principal contents of this educational level that most contributes to environmental education is the subject of pollution: how humans contaminate the ecosystem, effects of environmental pollution on quality of life, and actions required to diminish or prevent pollution. Content is supported by research activities and discussion groups, presentation of examples that raise awareness about the harm that individual actions can cause to society, and identification of positive actions needed to reduce environmental degradation.

This kind of material continues throughout the nine years with gradually increasing complexity of content. However, to date no special texts exist. Workbooks that included environmental topics did exist until 1988 for Cycles I and II (*Colección Plana Libre*), and a workbook for Cycle III Educational TV was designed for teleclasses, which were ended in 1985. Some privately published texts exist, but their distribution has been very limited and are now out of print.

FIRST YEAR	80% General		20% Voc. . prof'l.
SECOND YEAR	General 50%		50% Vocational/ Professional
THIRD YEAR	20% General	80% Vocational/ Professional	

- 3. **Middle School**, roughly equivalent to senior high school in the US, is sometimes referred to in El Salvador as "diversified education," and is oriented toward teaching employment-related skills and citizenship. Specializations begin to emerge at this level. During its three years, content is divided proportionally into "General" and "Vocational" or "Professional". General is a continuation of basic education (science and humanities), while vocational/professional sections channel students into technical jobs. On graduation, the degree of *bachillerato* is awarded.

General subjects are required of all students, while specializations are developed under separate "Diversified Study Plans" in the following ten fields:

- a. Academic
- b. Art
- c. Vocational Arts
- d. Agriculture
- e. Industry
- f. Health
- g. Navigation and Fishing
- h. Commerce & Administration
- i. Teaching
- j. Hotel & Tourism

Ample possibilities exist -- untapped -- to insert or strengthen environmental themes in Agriculture, Navigation & Fishing, Health, and Teaching. There is some experience to draw upon. Until 1980 the Ministry of Education supervised five agricultural technical schools, but due to war-related budget cutbacks the government decided to open this field indiscriminately to for-profit private institutions, many of which had virtually no infrastructure.

Under current conditions, according to the structure and characteristics described in the high school curriculum, the "biological sciences" course is a requirement in the first year for all students regardless of their field of specialization. It is structured around four areas of general biological knowledge, one of which is ecology (see Appendix A-5).

Ecology at this level includes a reinforcement of themes addressed in Cycle III (grades 7-9), expanding on most of the topics initiated at that level, without entering into depth and without addressing socioeconomic causes or effects of environmental degradation. Biology as a unique subject at this educational level suffers from some irrelevance of course content to students' lives, and a lack of subject-matter continuity from year to year in ecological themes that inhibits the development of environmental values by the students.

Currently, the principal opportunity for ongoing environmental education is in the final year (grade 12) of a "Sciences" option of the Academic curriculum, which includes an ecology course covering such diverse topics as the ecosystem, biomass, biochemical cycles, natural resource situation in the country, and the environmental problem (see Appendix A-6). For those students who do opt for sciences, the same problems of discontinuity, limited relevance and lack of interdisciplinary integration limit the course's effectiveness as environmental education.

With respect to other high school areas of specialization, only agriculture and health contain environmental subject matter. Within the agriculture program, there is a "natural resources" option, with environmental education topics limited to a course entitled "Conservation and Soil Improvement." This course seeks to impart basic information needed to conserve and improve agricultural soils, utilizing supervised student projects to design and implement soil conservation activities that will improve agricultural production.

The health program includes an "Environmental Sanitation" option, which indirectly refers to the environment as part of a discussion of the elimination of disease-carrying vectors and treatment of infectious sites. The course does not discuss the broader relationship between environment and health.

4. **Higher Education** (*Educación Superior*) includes university and non-university structures, and is the beginning of professionalization in fields selected by students while in Middle School. Its objectives, as established by the General Education Law, are research, social service, conservation, dissemination and cultural appreciation. It is here that significant opportunities for environmental specialties exist.

Higher education is divided into two sectors, "Technical" and "University" education, with the prerequisite of approval of studies at the Middle level. Graduates of each sector receive academic degrees; technical graduates also have the option of moving over to and continuing in the university system.

Higher education in El Salvador is undergoing significant transition at the present time. The entire rationale, organization and content development will be coming under a proposed special law of higher education. A number of proposals are emerging that reflect different schools of thought, led by the University of El Salvador, the Central American University (UCA) and the Ministry of Education.

There is agreement among all of these, however, that higher education must carry out three broad functions: social outreach, research, and teaching.

It is fairly certain that when a law is finally approved and these three functions are institutionalized, a high priority will be assigned to the dynamic relationship between population and the environment. It is not yet clear whether this will include a "blame the victim" tendency that simplistically places primary responsibility on the poor for overpopulation and environmental degradation, or whether a more systemic analysis, including economic and political factors, will be incorporated. There is general agreement, however, that the environment-population relationship is a meaningful basis for research activities, for the design of national curricula, and for the development of appropriate technologies.

a. Non-University Higher Education

In 1988, after seven years of plans, reversals and institutional quarrelling, a project was finally designed to improve the technical education curriculum based on some degree of participatory planning and a defined set of objectives. It started as a three-year, six-semester program, that was reduced a year later to two years due to policy changes of the new government.

The curriculum included social studies requirements of all students, basic technical training also universally required, theoretical training in specialized fields selected by the students, and practical instruction in the same specialization, including progressive contact with practitioners in the field selected. Social studies includes four subjects: Society and Work, Psychology and Work, Technology and the Environment, and Economics and Work.

Each of the major areas of specialization are taught in separate technical schools. In the field of agriculture, the Escuela Nacional de Agricultura (ENA) is the primary institution providing professional non-university training. ENA was a dependency of the Ministry of Agriculture until 1990, when ARENA's sweeping "privatization" policy proposed the transfer of ENA to FEPADE, the Business Foundation for Educational Development (*Fundación Empresarial para el Desarrollo Educativo*). Negotiations have broken down, however, and the administrative future of ENA remains unclear (see Appendix A-7 for more information).

The agronomy major requires three years of study, and covers horticulture, agriculture and agroindustrial zoology. A fourth specialty, now under development, is agricultural irrigation engineering, which might lead to improving ecological conditions by teaching practices that reduce soil depletion, and counter deeply rooted traditional production methods. (see Appendices A-8 and A-9 for a list of other schools and subject areas.

ENA also reaches out to a wider audience through non-formal education activities. Its Extension and Communication Unit promotes short courses and conferences and oversees the 3-month post-graduation social service requirement of all students. Its emphasis is on providing production assistance to the peasant sector. It also develops plant production projects for low-cost tree replanting, processing of food products, and breed improvement of rabbits, goats and cows.

The Health Training School (*Escuela de Capacitación Sanitaria*) of the Ministry of Public Health and Social Assistance, prepares Ministry personnel in the field of health education. The curriculum includes preventive and environmental health with emphasis on detection and control of vectors and contaminated refuse from various human activities.

Nursing training for the most part has been raised to the university education level, although at the high school level a degree in health, with a nursing specialty, is available. Technical school education in nursing is still offered by the Florence Nightingale Technological Institute, which specializes in the formation of nurses by means of a 3-year course of six semesters. The second year curriculum includes a 3-part "Technology and Environment" course (see Appendix A-10) which addresses numerous environmental issues. This could mean that this profession in the future will be able to address environmental health concerns and provide practical environmental education at the community level.

b. University Higher Education

The University system in El Salvador has been undergoing major changes in the past few years, due to a governmental policy of encouraging the proliferation of private universities by relaxing accreditation and academic standards, and permitting institutions to teach a narrow range of subjects. The number of universities had risen to 32 by mid-1991, and to 39 in April 1992 (see Appendix A-11).

One result has been a dramatic decrease in advanced technical training (beyond the *bachillerato* level) because it is far cheaper to teach theoretical than practical courses, which require lab work, equipment and tools, experimental areas, travel costs, and so forth. This proliferation has resulted in more students than ever before receiving education more useful to service industries than production, scientific and environmental fields (see Appendix A-12 for more details).

The University of El Salvador (UES), through its Biology Department within the School of Humanities, got its environmental "start" by alerting people to the early symptoms of environmental degradation being caused by industrial development, when large investments in infrastructure threatened to damage the national ecosystem. For example, it called for a halt to the construction of a race track in the lava fields of Quetzaltepeque, in the belief that a substantial reduction in rainwater absorption capacity could result. It also protested the construction of the hydroelectric dam at Cerro Grande without an environmental impact study.

As its environmental concerns grew, the Department began to train a new generation of biologists and high school biology teachers. The two fields of study include such topics as "Care of the Biological Environment," "Conservation and Utilization of Natural Resources," and the development of appreciation for all life forms.

The curricula of both fields, in different degrees, consist of pure science, applied knowledge, and specialized disciplines in the field of biological sciences, as well as some work in the humanities. There are no specific objectives or content related to environmental education.

In other parts of the university system, the UES Medical School includes specializations that indirectly include aspects of environmental issues, such as the recently created Bachelor's programs in Health Education (offered by the Medical Technology Department) and Ecotechnology (an interdisciplinary program). Health Education is taught from an exclusively social point of view; the curriculum includes a human ecology course in the third semester. Ecotechnology integrates medical sciences, engineering, natural sciences, social sciences and pure sciences, has a bias toward public health, and addresses the "biophysical environment" and its relation to people's health.

The School of Agricultural Sciences has a major in agricultural engineering, with a curriculum divided into three areas of basic knowledge, technical and professional development, and one of

three fields of specialization, including phytotechnology (applied botany), zootechnology and agricultural engineering. Other specializations being planned are soils, rural development, and plant protection. Each of these fields of specialization has a required course in ecology in the fourth semester, which is more descriptive than formative due to a lack of understanding of the importance of ecology in the professional lives of graduates in these fields.

The School of Engineering and Architecture, within its Architecture department, has a required course in Principles of Ecology. The Chemistry and Pharmacy Department includes in its curriculum a course on environmental pollution and public health. Students majoring in Humanities receive a basic introductory course in biology which has some ecological content. (For a list of public and private universities, refer to Appendix A-13).

The curricula of private universities are based primarily on government regulations, and are similar to those of the UES. Some exceptions exist, notably the Albert Einstein University, which has an architectural program with a course in ecology that orients student architects toward design in harmony with the environment. This orientation is reinforced by far more research requirements, field trips and outreach activities (such as exhibits and artistic events) than at other universities. (For a list of university fields of study, refer to Appendix A-14).

Some new majors are being offered by private universities, such as agricultural chemistry and agricultural economics at the Universidad José Simeón Cañas. Here ecology has been included as a required third year course. A major in Population was recently started at the Universidad Francisco Gavidia, and a major in Environmental Design, with a course in ecology, is offered by the Universidad José Matías Delgado.

5. **Curricular Enrichment** is the term applied to all activities initiated by schools or teachers which are not officially part of the formal curriculum. Those which have relationship to the environment have usually been inspired by media campaigns and environmental and social organizations, and occasionally by government programs. School students are the target population and the educational institution is the channel by which the audience is reached. Descriptions of these activities appear in more detail under sections on informal and non-formal education.
 - a. **Adult Education** is carried out both by government entities (the Education Ministry's Adult Education Directorate [DEA], Municipal Mayors' offices, local military posts, etc.) and nongovernmental organizations (such as Youth Community Development [DJC], World Vision, the Foundation for Cooperative Promotion [FUNPROCOOP] and Girl Guides Association). Four government programs currently exist: Literacy, Basic Adult Education, Work Qualification, and Home Study.
 - b. **Literacy:** Based on 1989 field research, the DEA designed a new literacy Primer in 1990 which was printed and distributed in 1991 by the *Prensa Gráfica*, the country's largest newspaper with a circulation of over 100,000 daily copies, and an estimated readership of about 400,000. A few base words, such as "*abono*" (fertilizer), "*comida*" (food) and "*leña*" (firewood) are used with discussion guides regarding utilization, positive and negative effects, and alternative resources. Training of instructors as discussion facilitators will be necessary for this process to be effective as environmental education.

For the second, so-called "new readers" phase of literacy (*neolectura*), some 30 pamphlets have been produced, on a wide range of topics including Appreciation of Women, Rural-Urban Migration, First Aid, Pregnancy, Human Rights, and Cooperativism. Six of these address

environmental issues, with such titles as "Garbage Pollution," "Our Natural Resources," and "Produce and Reconstruct" (for more details, see Appendix A-15).

- c. **Basic Adult Education** is designed for returning dropouts and is offered at night in public schools. The first six grades are condensed into three years and offered in 216 locations (168 urban, 48 rural), with 16,121 students attending in 1991 (87% of them urban); the remaining three grades are given one year each and are taught in 73 places (63 urban, 10 rural), with 5,405 students (4,891 urban, or 90.4%, 514 rural). In 1990 the traditional grade school curriculum was modified to be more responsive to adult student input and participation, and 22 schools were selected in 1991 to experiment with the new system. There should be considerable opportunity for environmental education within this flexible curriculum (refer to Appendix A-16 for more details).
- d. **Work Qualification** is a job training program covering such diverse fields as bread baking, radio technology, dressmaking and tailoring, swine and poultry breeding, beekeeping and tropical fruit growing. Most instructors are local technicians; course length and location vary widely, and there is little formal structure. 3,500 students, of whom 85% were women, were taught in 158 courses in 1991. Training of agricultural instructors in environmental topics has not occurred; this would be necessary to utilize this program as a channel for environmental education.
- e. **Home Study** mirrors the regular school curriculum. Environmental education has been carried out within the subject of ecology at the high school educational level. Unintegrated information at the junior high level (Cycle III) is provided through the Natural Sciences curriculum. Neither is designed to address systematically the problems of the environment, nor to generate conservation attitudes.

A newly created Population Education program will address population dynamics and their causes and consequences, including the individual's contribution to social development, and education's contribution to individual development. In 1992 this component will be introduced into literacy and adult basic education programs in order to promote human, family and community development. Given that the environmental situation in El Salvador is closely related to population distribution and reproduction rates, which are in turn reflections of economic development levels, integration of these subjects would be an effective way to insert environmental themes into adult education.

B. TEACHER TRAINING

The development of teachers in El Salvador over the past several decades has been a rather unrefined process. Several efforts were begun by the Ministry of Education to restructure teacher training, but more deterioration than advance resulted. The educational reform of 1968 made some progress, establishing in 1971 a special school for teacher training, called *La Ciudad Normal Alberto Masferrer*. It lasted ten years until it was closed in 1981 and converted into barracks for a counterinsurgency battalion.

During the 1980s the effects of the political crisis were felt severely in the education sector: the university was invaded and closed by the military, the teachers' union was subjected to military repression, educational supervision was suspended, an improvised regionalization process was instituted, the administrative structure was cut back to its barest minimum, and the program of non-university technical education was arbitrarily cut from six semesters to four.

In 1990, another national curriculum revision was called for and admission to professional teacher training was suspended altogether, including the eight public technical institutes and four authorized private

institutions. The suspension was due to reductions in the education budget under pressure from military spending; it was publicly justified by pointing to the increasing number of unemployed teachers. An evaluation was then initiated of all teachers trained during the 1980s by previous governments.

Among the results of this study, some have particular relevance to environmental education. On the negative side, for example, teacher training by technical schools was of questionable quality due to lack of appropriate instructors in education. Few teachers were found to have much theoretical or practical knowledge of applied social research in education. Teacher participation in community projects was perceived as irrelevant. Teachers had little knowledge of learning theory, and literacy teaching methods were unsystematic.

On the other hand, teachers' relations with students, parents and other teachers were perceived as positive, and teachers expressed personal satisfaction with their work (although they were dissatisfied with their pay and benefits). Teachers generally had a clear understanding of the social roles they play and of their potential to be instrumental in school and community transformation, roles which are severely frustrated by their restriction to the classroom.

Some of the recommendations were to:

- Develop consistent prerequisites for admission to teacher training;
- Revise and improve the curriculum by strengthening pedagogical, psychological, sociological and technical aspects; and
- Increase practical training, and establish specialized teacher training centers divided by educational level.

To date, little progress has been made in any of these areas. The Ministry of Education has not organized effective administrative systems, schools remain shut down around the country, teachers remain undertrained and with few books, manuals or teaching tools, and teacher training has not been developed much further. The government's National Reconstruction Plan calls for the eventual rehiring of 1,400 teachers for assignment primarily to rural areas, with priority given to locations targeted for reconstruction projects, with post-war political criteria being the most important in selection of sites. The number of schools to be opened has not been made public.

Some of the suspended activities can serve as guides for future teacher training programs, and some existing ones can benefit from additional direction. An example of environmental education outreach can be found in "Programs for Ongoing In-service Teacher Training" (*Programas de Perfeccionamiento Permanente para Maestros en Servicio - PPMS*). It sought to improve teaching skills, not subject knowledge, using a modular outreach plan divided by content area: philosophy, pedagogy, psychology and curriculum development. A network of technical assistance centers (*Centros de Asistencia Técnica - CAT*) was established; Saturday workshops provided the basis for self-help (student-teacher) processes. High school teaching certificates were awarded to some, and the equivalent of junior college degrees for primary school teachers was given to others.

The program lasted nearly three years, but was terminated due ostensibly to defects in selection and registration of students.

Another area of teacher training worth further study is the recently designed "Population Education" program of the Ministry, sponsored by the UN Fund for Population Activities. The population education program covers sex education, family life, demography and ecology, and is designed to be incorporated into the regular curriculum of primary, junior high and high school (*básica, media*) education.

To accomplish this, nine grade-based teaching guides were published and distributed to assist teachers with the integration process. Each guide is divided into learning units, covering human sexuality, family life, social demography and human ecology. This last unit contains such subjects as "population and the environment," and "population and quality of life," and addresses reduction of natural resources, deterioration of quality of life, ecological degradation, and environmental health.

This is the only program identified by the assessment designed to integrate environmental themes into more traditional subjects as a methodological principle. In this case the intent is to integrate population themes, which include environmental issues. It is also the only program which appeared to address deficiencies in teaching techniques and subject matter by strengthening both together.

Training of high school teachers is carried out by six public and private universities: Universidad Gavidia, UCA, UES, Univ. de las Americas, Universidad Modular, and Univ. Pedagógica. They offer the equivalent of an "associate of arts" degree (*carreras de nivel técnico*, or *profesorados*) which require six semesters over three years to complete. Because it can be a stepping stone to the bachelor's degree (*licenciatura*) the curriculum tends more toward academic specialization than teaching skills. Only in the associate of arts in biology (*profesorado en biología*) is there any significant environmental component, and even here there is no instruction in teaching environmental subjects.

The Ministry's Office of Teacher Training (*Dirección de Capacitación de Docentes*) is developing Continuing Education courses and a structure for outreach. A one-week training of Public School nursery and first-grade teachers early this year reached 7,500 of the 22,000 total public school teachers for grades 1-9. Educational quality and management of the new (SABE-generated) school curriculum were primary themes. More advanced training, in sciences and health, for the same people is planned for May and June, 1992. The Ministry contracted four Universities to provide the 250 trainers who in turn were trained by the Ministry.

C. CURRICULUM REFORM

The Ministry of Education believes it is facing a crisis in educational quality, and has recently established a "Curricular Improvement Program" (*Programa de Mejoramiento Curricular*) to continue throughout the decade. Its objectives include:

- Curriculum development and improvement, at all educational levels;
- Improvement in teacher performance;
- Continuous review of study plans and programs, textbooks, and other curricular tools;
- Infrastructural updating to adapt building spaces to requirements imposed by the new curriculum.

The conceptual framework that will guide reform derives from an understanding of education as a formative process of aiding humans to interact with their social and physical environment, and sees part of education's purpose to improve the quality of life, making the school the "heart and mind of the community." The educational policy derived from this philosophy has focussed on preschool children (ages 4-6) and grade school levels (Cycles I and II) for priority attention in curricular improvement.

A plan exists in the Ministry of Education to design or revise all the programs of study, textbooks and other curricular tools to introduce new content in the following subject areas: language, mathematics, science and health, population (human sexuality, family life, sociodemography, human ecology), civics, educational/vocational orientation, art, and physical education. Environmental education will be most appropriate under the science and health, population, and human ecology fields, provided that good material and good methodology is available.

The Ministry's Curriculum Design Office (*Dirección de Diseño de Currículum*) is designing in 1992 a Grade School Teachers' Training Plan (*Plan de Formación de Maestros de Educación Básica*). The Plan's designers have committed themselves to introduce environmental themes, and then design training sessions and materials for new teacher trainers (*formadores*) who will be trained by special Ministry consultants.

1. **EDUCO:** The World Bank and UNICEF are supporting a four-year project called "Child Education with Community Support" (*Educación Infantil con Apoyo de la Comunidad*) which intends to strengthen the institutional system of education, and to increase efficiency and coverage of educational service provision to underserved areas through a decentralized structure. In practice EDUCO is trying to integrate the government's public health services with education, targeting preschool children and first and second graders in 78 municipalities where, according to the Ministry of Health, there are critical indices of insufficient height and weight among children due to high levels of malnutrition. Its methodology is to involve the community in an organized way with the educational process, seeking parent support of local schools, teachers and school administration. Parent classes are organized, teaching manuals are designed, and teachers are oriented to community concerns and encouraged to participate in the life of the community.
2. **SABE** (Strengthening Achievement in Basic Education): USAID is supporting an eight-year program of curriculum reform for primary education (grades 1-6) and institutional restructuring. Part of the program is to guide the administrative regionalization process, strengthening decentralized educational supervision. The part most relevant to environmental education is a year-by-year progressive curriculum design and teacher training program that bases content and methodology on social and economic needs and realities. SABE will develop curriculum, teacher training materials and processes, and texts for classroom use. It is working in close coordination with relevant parts of the Ministry of Education, and has expressed a strong desire to collaborate with PROMESA to include environmental educational materials in its design work.

D. INSTITUTIONAL LIMITATIONS

1. One of the principal weaknesses of the educational system has been its failure to serve the entire preschool and school-age population (see chart, next page). More than 500,000 children lack any access to schooling. Education funding steadily declined throughout the 80s as the government invested increasing percentages of its budget in warfare. Rural schools closed in conflicted zones, and government support was withdrawn from areas that the military did not control. Rural to urban migration, and increasing poverty in urban as well as rural areas, have further mitigated against children attending school, especially wherever their services are needed for family subsistence. Consequently, access to schooling has increasingly become an economic phenomenon in which a direct proportional relationship exists between relative wealth and access to education (see Appendix A-17 for geographic distribution of basic and middle schools).
2. Where children do have access to schools, the Ministry of Education has observed alarmingly high rates of grade repetitions and drop-outs at young ages. It takes almost 6 years for the average student to complete the third grade. The average grade completion level is 4.5 for urban children, 3.1 in rural areas. One result is that over 30% of the economically active population is illiterate. The general level is much higher, especially in rural areas where functional illiteracy is 80% (see Appendix A-18 for educational pyramid).

**1990 SCHOOL AGE POPULATION
ATTENDANCE RATES**

Level	Age	Total Population at this Age	No. of Students Attending	% of Student Attending
Pre-school	4 - 6 years	467,613	75,000	16.0%
Basic Level	7 - 15 years	1,319,575	1,076,393	81.6%
Middle	16 - 18 years	373,156	108,874	29.2%
Superior	19 - 24 years	597,282	79,605	13.3%
TOTAL		2,757,626	1,339,872	48.6%

Source: Education Ministry: *Memoria de Labores, 1989 - 1990*

3. A structural result of these conditions is that rural children from the most disadvantaged economic sectors have the least access to schooling, while having the greatest direct dependence on undeveloped natural resources. Curriculum reform will thus most effectively reach children from more financially secure sectors. Other ways to reach poor communities, children as well as adults, are necessary in an effort to generate early sensitivity to the environment's value.
4. Efforts to reach rural students with relevant materials and appropriate methods are not yet adequate but are a good start. Considerable attention has been given, for example, to the production of study guides for the National Zoo, the Natural History Museum and other urban facilities, to which the great majority of Salvadoran school students have no access. Then there are school programs which require environmental education materials which are unavailable to most public schools, especially in poor rural areas.
5. Curriculum design problems have not been solved. There is little horizontal integration of subject matter; for example, in the Hygiene & Health course of Cycle II's Nature Studies no effort is made to relate health issues to environmental deterioration. There is also a notable absence of environmental focus in other areas of Nature Studies, especially in sections on Living Beings, Hygiene & Health, and Matter & Energy.
6. In general, environmental education has not yet been incorporated into the objectives or curricular content of the National Educational System. The system does not have a structure that makes widespread reform easy. Piecemeal changes have been made, and more are possible, but will be less efficient than full reform, harder to effect, and very difficult to apply with consistency.
7. There is a general lack of coordination between public and private institutions in their efforts to design environmental education materials; this is especially true with respect to curriculum materials.
8. Environmental and natural resource management programs at the university level do not exist. There is no interdisciplinary program of environmental studies, no ecology major, and no natural resource management option in agricultural engineering or the sciences. There is no graduate training in the theory and practice of environmental education that could be applied to raise the general level of environmental awareness among students, to teach entering and in-service teachers, or to develop environmental educators.

9. There exists a range of obstacles to effective use of the educational system as a tool to generate environmental professionals, to create an information base for students to apply in all technical and academic fields, and to generate a culture of environmental awareness. None of these obstacles is insurmountable, but all are sufficiently entrenched to require sophisticated approaches to change them, modest expectations regarding results, and alternative strategies to complement traditional efforts in this arena.

Some of the more notable obstacles are:

- a. Environmental education has not yet been incorporated in the objectives and content of school curricula anywhere under the National Educational System.
- b. The bureaucratic and entrenched structure of the educational system - especially its planning and curriculum development aspects - serves as an obstacle to curriculum reform.
- c. The lack of experienced, skilled and inspired Salvadoran educators is endemic, and may take several student generations to change.
- d. The alarming scarcity of resources committed to education reduces the quality of people working in the field, at all levels from rural teacher to national administrator, and from curriculum designer to teacher trainer.
- e. The nature of El Salvador's predominant educational pedagogy mitigates against integration of subjects and methodology which can effectively change students' attitudes, perceptions and values, helping to create a "culture" of environmentalism.
- f. The politics of education in El Salvador place high priority on methods and subject matter which promote a docile citizenry, unquestioning loyalty to authority, and acceptance of dependent economic and social status as a function of birthright.
- g. These same methods and subject matter place low priority on critical thinking, problem solving, participatory group processes, and activist participation in civic affairs, all of which are needed for an effective environmental leadership to develop, for widespread environmental concern to take root, and for systematic behavioral change to become culturally and economically viable.

E. OBSERVATIONS

1. There is growing interest in El Salvador in educational reforms to make curricula more relevant, which will provide opportunity for information about environmental problems and solutions. Coupled with teacher training in related topics and practical instruction methods, the educational system has the potential to play a significant role in environmental education.
2. According to the Education Ministry's own analysis, the system currently lacks the capacity to retain student enrollment due to teaching methodology and quality, including irrelevance of education topics to the lives of students, undertrained teachers and insufficient materials. There is growing interest in curriculum reform that will address topic relevancy, making room for information and about environmental problems and solutions, coupled with teacher training in related topics and practical instruction methods.

3. The Ministry of Education has for some years been without vision or a sense of mission. Its leaders lacked a common understanding of the institution's role in Salvadoran society, beyond providing minimal educational opportunities to that part of the population able to access its limited resources. With a consensus emerging for reconstruction on a national scale, the Ministry has an opportunity, and the responsibility, to establish consistent guidelines for expanding and improving education throughout the country, and to acquire a budget commitment from the government to enable the necessary expansion and modernization.
4. The existence of environmental information in scattered courses is testimony to the relevance and possibly to the desire in diverse sectors to implement coordinated environmental education in the schools. The disjointed nature and lack of systematic inclusion point to the need for improvement.
5. A substantial number of existing courses provide useful ecological information, attitudinal change is possible in others, and practical methodologies are imparted to students who may later be able to apply them. But there is no apparent coordination between courses, and little progressive development of themes. It will be helpful to assess their relative value by evaluative research, to discover the degree and nature of changes brought about by these initial environmental education efforts. It may be advisable to do this in the early phases of PROMESA prior to committing to curriculum revision or reform of specific grade levels or courses.
6. The greatest need for practical environmental education through the school system is in rural communities where changes in behavior will have immediate environmental effect, and where people's unsustainable uses of natural resources are causing permanent damage and threatening their own long-term survival. Attitudes and values need to change especially among the urban middle and upper classes who currently have more political influence within policy-making circles.
7. Paradoxically, curriculum reform will reach a higher percentage of urban students, and most effectively reach children from more financially secure sectors. Other ways to reach poor communities, children as well as adults, will be required in order to generate early sensitivity to the environment's value.
8. Adults who have returned to school have a high potential for acceptance of environmental information. They are highly motivated and will probably use adult education as a step to more skilled and fulfilling employment, quite likely in fields which badly need environmental awareness. Teaching methodology should combine projects with theory. Practice and participation will maximize effectiveness.
9. While a number of courses addressing environmental issues are offered at high school, university and non-university technical school levels, there is a severe shortage of comprehensive natural resource management programs that integrate biological conservation with sustainable development. Especially needed are programs that provide an education which addresses regional and national environmental management issues, and that develop appropriate, multidisciplinary pedagogical approaches.
10. The Population Education program, integrated into various aspects of adult education as well as the primary and secondary school curriculum, will address population dynamics and their causes and consequences. Given that the environmental situation in El Salvador is closely related to population distribution and reproduction rates, which are in turn reflections of economic development levels, integration of these subjects would be an effective way to insert environmental themes into adult education as well as the rest of the educational curriculum.

F. RECOMMENDATIONS

1. Priority activities should be selected on the basis of maximizing impact. By this standard, developing diverse new materials for voluntary adoption by aware and concerned individual teachers is less urgent (although perhaps more appealing) than training curriculum developers to produce a few excellent materials based on the principle of horizontal integration, training teachers in their use, and creating a system of incentives for teacher excellence in application of environmental subjects.
2. The non-university higher education program is undergoing curriculum revision, with the objective of focussing all students' attention on the critical problems facing the country. A series of core courses will be required of all students, addressing the following topics:
 - a. degradation of the natural environment;
 - b. population structure and dynamics;
 - c. high incidence of malnutrition, morbidity and mortality among the school-age population;
 - d. social disorganization resulting from the sociopolitical and economic crises;
 - e. the crisis of the family;
 - f. vulnerability of youths and adults to drugs and AIDS.

This sector of the student population is larger than university higher education, tends to draw from lower socio-economic backgrounds, is oriented more toward practice than theory, and turns out mid-level professionals who apply their skills in the country immediately upon graduation in practical fields. It is therefore an important target group on which to focus curricular reform, both in subject matter and teaching techniques. It is also a population which will have closer contact with El Salvador's peasant and working class population. And because this sector of the educational system is currently undergoing review, it will be easier for PROMESA to facilitate change.

3. There is a need to increase Salvadoran institutions' and individuals' abilities to meet their future environmental management challenges themselves, without depending on foreign scholarships, training and international funding for expatriate specialists. There are several ways to begin this.
 - a. **Professional Training:** Faculty at several universities have expressed the need for curriculum development and enhancement, but note a dearth of available information about new training approaches, courses, and outside resources.

In-country short-courses, provided by local or regional specialists, should be the first choice. Training in other parts of Central America, such as CATIE and OET in Costa Rica, should be considered next. Both these models will have broader applicability, greater usefulness, at lower cost, than US university training, which requires English competency, a high academic level, substantial time commitment and usually has less direct relevance to the needs of El Salvador.

The temptation should be avoided to organize short courses in the US for mid-level technicians. There have been numbers of such people sent under a variety of scholarship programs; there is great competition and considerable conflict created as people vie for the few positions. Too often those who win the slots are not the most appropriate, or have little institutional support, so that on their return their ability to apply new information is severely limited. Finally, the "junket" or award function of such training often overshadows the theoretical legitimate educational value.

In special cases, however, exposing Salvadoran faculty and select professionals to an exchange with other academic or professional institutions and programs outside the country can be useful. Careful planning and appropriate design are of paramount importance, along with a requirement

that the institution where the trainee works must demonstrate commitment and ability to utilize the trainee's new skills.

- b. **Hands-on Training:** A second mechanism for strengthening environment and natural resource programs is through development of meaningful on-site training approaches that expose students to "real world" problems and experiential learning of applied research techniques.

High school and university students need practical, "hands-on" training in ENR disciplines. Practical training is needed in socio-economic studies, community needs assessments, technical assistance, organizational, community and leadership development, and experimental-demonstration activities. Locally administered support for students engaged in post-high school service and higher education practicums can be offered by environmental and development NGOs in coordination with a placement and scholarship program. Students should be encouraged to participate in multidisciplinary research, education and extension programs with skilled, experienced practitioners in the field.

- c. **Graduate Education:** Few if any Salvadorans have received graduate training in environment education. A 1989 World Wildlife Fund assessment of needs for environmental education ranked "advanced training for environmental educators" as one of four top priorities for government agencies and private conservation organizations in Latin America.

Without well-trained multidisciplinary professionals to teach and inspire students, few young people will choose environment-related fields to pursue. A core of committed, "broad-gauged" professors and teachers designing and teaching courses will open up new fields, from environmental law to conservation businesses, developing environmentally-sensitive politicians and applied researchers. In addition, future environmental education activities in El Salvador will be developed and implemented by Salvadorans themselves.

Some scholarships might be developed, for practicing professional educators who have demonstrated commitment to environmental topics and have the personal and institutional commitments to carry out graduate applied research projects in El Salvador and return to utilize their training to advance specifically the field of environmental education.

4. Pre-service and in-service teacher training should receive priority attention. It will reach more students in a short time than focussing directly on classroom teaching, and can build on the Ministry's existing program. It will not be enough to teach teachers the issues and provide them with new materials. It will also be important to train them in the use of materials in creative, participatory, discussion-based settings with students; using materials as guides to activities, not simply conveyors of information. For example, training of adult education instructors as discussion facilitators will be necessary for this to be an effective channel for environmental education. Similarly, agricultural instructors need to be trained in environmental topics and extension methods ("training for trainers") in order for any multiplier effect to be felt.
5. Development of materials should not be started from scratch when materials exist that have been field tested elsewhere. Identification of these materials, and adapting them to the Salvadoran situation, with Salvadoran vocabulary and examples, should be more efficient and more effective. For example, an environmental NGO in Honduras, *Grupo Ecológico ABC (Amigos del Bosque y del Campo)* has produced and field tested a series of teacher manuals and student textbooks for grades 1-6 in diverse environmental themes using local lore, children's stories, large pictures, simple concepts and consistent themes running from one grade to the next. They are in the process of printing a substantially revised edition of the series which will be available in June or July, 1992.

6. Horizontal integration of subject matter should be part of the design of the overall strategy from the start, in order to reduce the disjointed, uncoordinated effects of diverse curriculum changes. Thus, for example, the common theme of water quality should recur in courses of agriculture, health, biology, medicine, ecology, environmental sanitation, navigation & fishing, and architecture, to name a few.
7. Reaching rural students with relevant materials and appropriate methods will be a challenge for traditional educators. Close coordination between formal and non-formal education programs will help. There is considerable experience in El Salvador, and elsewhere in Central America, in practical education of rural communities in environmental and natural resource management, appropriate technology, sustainable agricultural practices and environmental health. Appropriate materials and methodology should be learned from the non-formal sector, especially development NGOs who have successfully carried out community education for years.
8. The field of participatory education is fairly well developed, even if it is not well known by school administrators or curriculum designers. Its methodology should be fully integrated into teacher training and formal environmental education generally.
9. The SABE program is planning to use new training methods to train in-service teachers, utilizing specially designed materials, to enable them to use more creative and active teaching methods with students. SABE is also designing a new curriculum, and is eager to include environmental topics. The combination of good materials, teaching methods linked to the materials, teachers trained in those materials, and a pedagogical approach designed to stimulate interest and participation in students has the potential to change qualitatively the way students learn, and what they do with what they learn. PROMESA would be well advised to work closely with SABE to develop a systematic curriculum of teacher training and student materials with environmental themes. This means environmental educators and curriculum designers will need specialized training as well.

I I I. INFORMAL EDUCATION

Informal environmental education in El Salvador can be divided into two parts: that which is carried out through the communications media, and that offered by physical sites where visitors learn by seeing. Examples of the former are newspaper reports, guest articles, paid advertisements, staff editorials and regular columns; television and radio news stories, independently produced topical programs, spots, paid announcements, interviews, and special reports. Examples of the latter are city and rural parks, museums, national forests, cultural centers and archaeological sites.

For the purposes of this report, these two major categories will be described and analyzed separately given the distinct roles each plays, the dissimilar kinds of institutional bases they have, and the different problems they face.

A. INTERPRETIVE SITES

The primary characteristic in common of this group is the existence of a physical location or plant which is the basis of the educational resource. In El Salvador, these are most often divided administratively, according to which institution has primary management responsibility. For analytical purposes, however, functional groupings such as those developed by this study may be more useful.

1. National Forests & Nature Reserves (*Areas Naturales*)

- a. **National Parks:** There are six in the country which are sufficiently accessible to have environmental education potential. These are Montecristo, Barra de Santiago, El Imposible, Laguna El Jocotal, Cerro Verde and Walter Deininger.
- b. **Archeological sites:** There are some 600 registered sites around the country that the Cultural Heritage Office (*Dirección de Patrimonio Cultural*) of the Education Ministry would like to have protected, excavated and eventually turned into visitor sites, with substantial extension of natural surroundings. Currently most are on private property, few are protected from poaching, and almost none have any environmental education resources at the present time. Two merit mention: San Andrés (half-way between San Salvador and Santa Ana) and Tazumal, in the city of Chalchuapa. Each has a small museum on site, and which is open to the public.

2. Recreational Parks (*Parques Recreo-educativos*)

- a. **City Parks:** San Salvador has three modest, overused and undermaintained urban parks, Children's Play Park (*Parque Infantil de Diversiones*), Saburo Hirao Park, and the Zoo (*Parque Zoológico*). They might be considered small semi-natural areas within an urban setting.
 - b. **Tourist Centers:** There are 14 urban and rural centers, distributed in 8 of the country's 14 provinces (*departamentos*), in natural and semi-natural settings, with a variety of facilities for day tourism (see Appendix B-1).
3. **Scientific Institutions:** The Museum of Natural History and the Botanical Garden, both located in San Salvador, serve research functions, are considered cultural centers, and offer public recreational facilities.
4. **Cultural Centers:** There are 84 *Casas de la Cultura* spread throughout the country in all 14 provinces (see Appendix B-2). They are supposed to offer free educational opportunities to the public.

5. Administrative Relationships

Several different institutions administer these facilities. The National Park Service (*Servicio de Parques Nacionales y Vida Silvestre*), a division of the Agriculture Ministry (MAG), is in charge of the national parks, except for Cerro Verde and Walter Deininger, which are wholly or partially administered by the National Tourism Board (*Instituto Salvadoreño de Turismo - ISTU*). The San Salvador-based environmental NGO Salvadoran Ecology Foundation (FESA) has recently taken over the active management of El Imposible, although the park still belongs to MAG.

The network of Cultural Centers is under the direct charge of the general Directorate for Cultural Promotion, of the National Council for Culture and Art (*Consejo Nacional para la Cultura y el Arte - CONCULTURA*) which was formed in November, 1991 in a restructuring of part of the Ministry of Education. CONCULTURA now is responsible for the National Heritage Department (*Dirección de Patrimonio Nacional*) and its two dependencies, Natural Heritage Office and Cultural Heritage Office. (see Appendix B-3 for organizational chart.)

The three city parks and the Natural History Museum are under the responsibility of the Natural Heritage Office (*Dirección de Patrimonio Natural*). One of these parks, the zoo, is supported but not

administered by a private Zoo Foundation. The Cultural Heritage Office has direct administrative responsibility for the two archaeological sites and related museums listed above.

The Botanical Garden is a private, non-profit NGO with strong professional relationship with collegial scientific institutions in the US, England and Germany. It is self-financed through membership dues, local donations and sales of ornamental plants.

The 14 Tourist Centers are administered by ISTU's Division of Parks and Tourist Centers (*División de Parques y Centros Turísticos*), which has a Biology Section which is responsible for what might be called environmental education, staffed by the Maintenance Section (see Appendix B-4).

6. Educational Activities

The range of educational activities, when they exist, is fairly common to most of the sites and institutions. These can be categorized as follows:

- nature interpretation (marked trails, guided tours)
- passive exhibits
- multi-media presentations
- written information
- talks

None of the institutions or sites offer all of these activities; indeed, most have at most one or two options. Some have none. (For a list of past educational activities of each institution, refer to Appendix B-5).

a. National Parks

- 1) Located in geographically remote areas, access is generally limited to the dry-season, requiring many hours of travel over very bad roads, with little public transportation.
- 2) In none of the parks is there any comprehensive educational program, nor any evaluation to measure impact of the ad-hoc activities that do exist.
- 3) Montecristo offers some education for area residents in family planning and environmental health by means of public presentations. El Imposible, managed by FESA, is attempting to provide some education to local residents in and nearby the Park, primarily related to protection of natural resources. Barra de Santiago has a marine life protection project sponsored by Friends of the Tree (AMAR), a capital-based NGO. They have organized local community participation in what may be the best example to date of environmental NGO-sponsored, community-based organizing and education. In Laguna El Jocotal the San Miguel-based "Peace University" has begun to develop environmental health activities with local communities.
- 4) Most "educational" activities are directed internally, and for park protection purposes, not addressed to the general public. There is little or no effort to use these areas as demonstrations of the value of integrated wild flora and fauna, or the nature of human exploitation of natural resources, or the economic values and costs of natural resource use.

- 5) What educational activities do exist are occasional, unstructured, poorly planned, unfunded and devoid of any institutional support.
- 6) Only the Director of the National Park Service is environmentally trained. The institution is steadily losing staff and has no plans to establish an overall educational program. It also no longer has any wildlife program.

b. Recreational Parks

- 1) None has an environmental education program, although they all attempt to provide some environmental orientation on an ad-hoc basis.
- 2) The Natural Heritage Office, which manages these parks, formed an environmental Education Department in 1984, but lost most of its staff, with the few who remained leaving to work directly in some of the parks.
- 3) Most educational activities organized by these parks are to raise the professional level of the employees, and are not intended for the general public.
- 4) Some schools send students to the parks for occasional outings, when Natural Heritage biologists give talks on environmental themes.
- 5) Every high school student must give 200 hours of social service as a prerequisite for the *bachillerato* diploma. These parks use up to 300 of these students per year in a variety of tasks, including resource inventories, resource management and dissemination of environmental messages.
- 6) Although the semi-natural physical conditions of these parks provide respite from the concrete and asphalt urban environment, no systematic efforts exist to take advantage of these conditions for educational purposes. Some Education Ministry employees talk about what they hope to do, but little has been done, and no resources exist.
- 7) None of the environmental education activities arises from any strategic planning or follow any consistent methodology.

c. Tourist Centers

- 1) Environmental education forms no part of ISTU's Division of Parks and Tourist Centers' policies. There is no education section and no staff assigned to education. (see Organizational Charts, Appendix B-4).
- 2) The biology section is supposed to design and implement reforestation, environmental health and environmental education programs, and give out information to students about the resources available. But there are no staff or financial resources, and no program framework under which environmental education activities could take place.
- 3) Under the title "sustainable tourism" at Ilopango Lake near San Salvador, the biology section gave a series of environmental and conservation talks to boat operators in 1988-89.
- 4) In Walter Deinger National Park, 15 residents of nearby communities (and six employees) received training in forest fire prevention.

- 5) Other internal training in forestry-related topics also was provided by the biology section to the maintenance section.

d. Scientific Institutions

- 1) The Botanical Garden's principal purpose is to raise and study exotic trees and plants, and some native varieties. Research in conservation of these species is published in scientific journals, including one published by this institution, called *CUSCATLANIA*.
- 2) The physical installation has a park-like atmosphere, with exhibits at the entrance showing the country's two most important National Forests (Montecristo and El Imposible). There is also a well-kept system of labels for plants along pathways, giving scientific names of native and exotic plants.
- 3) Looseleaf handouts are available for sale to park visitors, including a guide to the gardens and a brochure on the forest plants of El Salvador. It also publishes four times per year a public journal *PANKIA*, which uses popular issues and language to offer educational information to the public.
- 4) The Natural History Museum (MUHNES) engages in research into the country's natural resources, and provides information to the public through talks, exhibits and publications. Most public contact is with visitors to the museum, some of whom are school students.
- 5) Occasional training seminars have been sponsored for professionals from other institutions. Subjects range from "nonformal environmental education methods" and "environmental education with emphasis on wildlife" to "nature interpretation."
- 6) The museum has produced a visitors' guide and for two years ending in 1989 produced a regular column in the afternoon daily *El Mundo*, entitled "Knowing our Animals" (*Conozcamos nuestra Fauna*). It also obtained space in other newspapers 4 times per year to print articles related to special dates such as Earth Day and MUHNES' Anniversary.
- 7) The museum receives little institutional support from the Ministry for educational activities, there is no environmental education policy, and no paid staff for this function.
- 8) Activities that take place are the result of short-term plans; therefore anything accomplished is short-term and reactive.

e. Cultural Centers

- 1) Broad geographical coverage make this the most decentralized and accessible of all the institutions providing an informal education function (see map and list, Appendix B-2).
- 2) These centers have been used locally by various interest groups since their formation in the 1970s. It is said they often fell into the middle of partisan political struggles, failing to serve the community as a whole.
- 3) Notwithstanding this concern, some ecological clubs, "reforestation" campaigns, home gardening projects and environmental protection groups have been formed out of the centers.

- 4) Most centers have a small library, and some have furniture. Each is supposed to have a director and various cultural promoters who provide outreach to the community. There is a dearth of information about their activities, in part because there is little national cooperation.
- 5) The centers often serve as the focal point for external service and development agencies to enter the community. Some examples are PRODERE, UNESCO, FIS (*Fondo de Inversión Social*), Cooperación Italiana, and Plan Padrino. In the case of PRODERE, development support has been provided through these centers in San Marcos and Soyapango, and in conflictive zones of Chalatenango and San Miguel. It is therefore not surprising that these centers would become controversial in the capital.

7. Observations

- a. These organizations can be classified according to a number of criteria:
 - 1) geographical and social location (urban/rural, lower/middle/upper class, natural/man-made area);
 - 2) primary function (observation and conservation of flora and fauna, cultural/educational exchange, relaxation and recreation);
 - 3) public attendance (total visitors, age, educational groups);
 - 4) institutional strength and commitment (budgets, personnel, public support); and
 - 5) regularity, consistency and institutionalization of environmental education activities (regardless of their quality or effectiveness) (see Appendix B-6).
- b. As happens with many other institutions in El Salvador, urban location is a prerequisite for mass public attendance and some degree of institutional solidity. Given the transportation problems most people face in the country, as well as the size of the capital city, it is little wonder that the Zoo, the Natural History Museum and the most important recreation areas (Children's Park, Saburo Hirao Park, Botanical Garden) are all located in or near San Salvador. It is logical, therefore, that a very considerable percentage of all informal environmental education money is spent in San Salvador.
- c. The only other places where informal environmental education is offered to significant numbers of people are the Montecristo National Park and (perhaps) some of the Tourism Institute's vacation and recreation areas. The Casas de Cultura are spread widely throughout the country, but their current effectiveness seems limited.
- d. The frequently cited connection between environmental education and culture seems strained. While the protection of some archeological sites that exist in relative wilderness could preserve environmental resources, one suspects the intended benefit is in the other direction. There may be a hope to capture some of the growing popularity of environmental protection and education for the benefit of cultural heritage preservation. But how the two are genuinely integrated remains elusive.

- e. Even with sufficient funding, some institutions are not "naturals" for environmental education. ISTU, for example, is responsible for "turicentros" which most people visit on the weekend, usually urban people on day trips to flee the city. They are more interested in swimming and relaxing than receiving orientations on sound environmental practices. Two of the centers have educational potential, however, depending on the institutional support that can be developed. Museums and archaeological sites within the Cultural Heritage office have had one environmental component in their history: a series of talks to local communities several years ago.
- f. Institutional "installed capacity" in terms of funding, infrastructure and demographics for informal environmental education activities is almost entirely located in San Salvador. National Parks and nature areas can be defined more accurately as "preserves" (possibly excepting Montecristo) with little or no current impact on the environmental education of the people of El Salvador.

Most of the institutions are located in San Salvador along major city bus routes. Their location and affordability determine to a large degree the kind of people who visit. The zoo and Children's Park appeal primarily to the "popular" (poor) sectors, for whom these installations are often the only place of accessible recreation. Saburo Hirao and the Natural History Museum, with similarly low entrance fees and easy public access, are in a similar situation.

On the other hand, visits to natural areas and national parks are very limited, given the long distances that must be travelled to reach them, deplorable road conditions, and numerous restrictions placed on visitors. El Imposible National Park, for example, is off-limits to the general public; whatever education that has been done has been for local residents and primarily with protection in mind. Montecristo serves public visitors but the size of the park and its distance from major population centers severely limits how many people can reasonably be expected to visit.

- g. No institution has any formalized environmental education program. Some have a biologist or other professional on staff, but without an educational mandate.
- h. The potential of several of the institutions is fairly encouraging, but none have realized any significant program over time, so none have experience to draw upon. In spite of the personal interest of a few key staff, there is little evidence of institutional commitment to environmental education.
- i. El Salvador has no technical experts or organizations specializing in some of the environmental areas the country badly needs to address. Some of the most important of these are marine pollution, marine wildlife, air pollution (measuring conditions, identifying causal behavior), water pollution and erosion. Eventually, institutions such as universities, the botanical garden, CENREN and more highly evolved ENGOs will have to develop the capacity for research, experimentation and public education. They will need to develop the institutional capacity and professional capability.
- j. The great majority of these institutions are government dependencies, with the Ministry of Education administering most of them. Ironically, it is widely perceived to be the agency that until recently has had the least idea what its role in environmental education should be.
- k. El Salvador like most countries suffers from endemic bureaucratization of government institutions. The rare person who is highly competent in a several technical areas at once is too frequently drawn into an administrative position to oversee programs implemented by undertrained

functionaries with limited skills, experience or imagination. The Ministries and departments are often politicized at the top-most levels while competent program people in administrative positions lack access to policy-making. The committed and competent top and mid-level people need support from outside their institutions to help strengthen their efforts on behalf of creative programs.

- l. Environmental staff of most of the institutions (the Botanical Garden with few financial worries being the one exception) frequently complain about their lack of budget from the Ministries on which they depend. They perceive their financial weaknesses are due to low allocations. This assumption should be questioned, evaluated and tested. An alternative hypothesis favored by this and other observers is that they have not attracted funding (from inside or outside) because they have not developed interesting, effective and appropriate projects based on a long-range institutional strategy, with clear objectives, realistic time-lines and capable staff. It may be a "chicken-and-egg" issue; where to break into the cycle is a matter for further analysis but should not rely entirely on existing assumptions.
- m. Every institution researched in this category is eager to establish relationships with PROMESA under the impression that there will be funds available. Most staff who are interested in environmental education see funding as their most important need, and perceive it to be the only obstacle to developing successful programs.
- n. The few environmentalist staff of most of the institutions tend to blur the distinction between what they are really doing and what they would like to do. Their aspirations are laudible; the reality is somewhat more gloomy. Most environmental education activities of these institutions either have been suspended or are based on hopes for the future.

8. Problems

- a. None of the institutions has a well developed idea what its function is or should be in the field of environmental education. They know that everything they do is somehow related to the environment, but lack a sense of what their niche is or should be. For example, the Park Service knows that park management is its primary function, but does not know how that relates to environmental education.
- b. The Park Service and Botanical Garden know what messages they would like to promulgate, but lack both experience and ideas about how to convey the message. They have no training in public presentations, radio programs or audiovisuals, and do not know where these would be useful. Those that do employ these methods seldom know what results to expect, and thus are unable to measure whether they had any effect.
- c. No institution has concrete objectives for, although each continuously promotes itself as a source of, environmental education. As a result, they frequently pronounce or "educate" on issues in which they have insufficient expertise, and attempt to cover issues beyond their own areas.
- d. Training of implementing functionaries has occurred in a number of cases, both inside the country, elsewhere in the region, and outside the region. The trainees and occasionally their colleagues are enthusiastic about the opportunity. Unfortunately there is seldom a work plan developed prior to the training, designing the ways in which the trainee will utilize the skills and information acquired. No incentives exist to encourage trainees to advance their own and others' activities.

On the contrary, too often the returning trainee is marginalized from the original program or moved into an administrative position.

- e. CENREN at one time had a reputation for effective educational work, and in some quarters is still perceived as a potential player. However, its budget has been steadily eroded for several years and is now but a shell. This situation is repeated in the two main CENREN dependencies, SPNVS and the Forst Service (*Servicios Forestales*), which also lack personnel that would be needed for an educational program. CENREN would have to undergo some change in structure and add to its budget and personnel to engage in any effective environmental education. To make matters more difficult, as part of a recent restructuring CENREN as such no longer exists, being replaced by the Technical Subdirectorate of Natural Resources.
- f. According to some biologists, their training and formation in El Salvador play a role in creating some of the problems found in informal education. Their primary training is in animal and human anatomy, taxonomy and other pre-med fields. When they design a self-guided natural path, they post the scientific, not the common names of plants and trees, perhaps geographic origins, and other exotica. Plant uses, role in the ecosystem, history, growth patterns, conservation requirements and so forth - things of real interest and usefulness to civilians - are either too pedestrian or not impressive enough.

9. Recommendations

- a. Environmental education addresses environmental problems, which in some circles have been made unnecessarily esoteric or mystical. There is need for simplicity and division of labor to be applied to the design of informal environmental education programs with mass appeal. A starting point might be to divide the field into topics, which although some overlapping inevitably will occur, can help to define the appropriate participation of each institution. Such a listing might include, in no special order:
 - air pollution water
 - erosion
 - biodiversity
 - deforestation
 - wildlife extinction
 - natural areas mgmnt.
 - solid waste management
 - pollution
 - urban development
 - climatic changes
 - marine ecology
 - agricultural ecology
 - watershed mgmnt.
 - sustainable development

It should follow naturally to identify the most appropriate sources of information that can provide the basis for education on each of these components.

- b. The National Park and Wildlife Service (SPNVS) per se does not now appear to be a viable entity to mount an environmental education program. However, if CENREN itself (or its replacement) were to put together a special educational staff, it could learn from SPNVS and MAG field experience and translate that into participatory education modeled after the FAO-MAG agroforestry project. CENREN should avoid the temptation to engage in direct education of the public, but rather to work with the Ministry of Education and other institutions to develop teacher-initiated projects to design and test didactic materials. CENREN's role would be to train lead teachers (teacher-organizers) in practical environmental topics and field project methodology. Strategically

located educational teams can draw on scientific experts for the raw information, converting it into educational materials.

- c. SPNVS, AMAR and FESA have an interest in populations living in or near protected areas. There is need for analysis of how communities can benefit from the area, which will be more effective in developing conservation practices and attitudes than offering an environmental scolding to residents.
- d. Park guards are mostly trained to prevent or catch poachers, and to know the geography of their park. In El Imposible they are now receiving orientation to recognize and keep records of all wildlife spotted. In addition, Park guards could receive training in how to see and recognize interesting species, to serve as the eyes and interpreters for visitors, to describe the generic and specific functions of trees, or bees, or birds, or butterflies, or wildlife. If there were sufficient visitors coming to National parks, it should be possible to make the forest, or the garden, come alive for the uninitiated. There is not now any training for this kind of education. The Botanical Garden has made small efforts in this direction, and should be evaluated for its ability to develop it further, leading to training others.
- e. Each institution engaged in informal environmental education needs to assess its specific area(s) of expertise, take inventory of its staffing and infrastructural capabilities, and narrow its aspirations to one or two aspects of the environment, such as air, water, soil, forests, wildlife, and so on. Materials can then be developed with input on content provided by the appropriate institution, and collaborative production based on strategic analysis of objectives and the audience.
- f. Most of these institutions would like to play a role in nonformal education (targeting specific audiences with ongoing information based on long term relationships), and want to serve the masses directly by providing information through channels they create themselves. This is not making full use of their comparative advantage. Their resources would be more efficiently utilized if they generated accurate, useful information and developed appropriate pedagogy for working with teachers, offering workshops and short-courses, in order to make use of the multiplier potential of effective teachers using effective materials. Publications for teachers and professors are not now produced by these institutions, a missed opportunity given that technical professionals have greater ability to relate to and communicate with other trained people than with the general public, children or rural community people.

B. COMMUNICATION MEDIA

Virtually every organization wishing to convey environmental messages to the general public thinks first of using the commercial communications media; that is, radio, television and newspapers. Until now no systematic effort has been made by environmentalists to determine the degree of receptivity of the media to carrying such messages, or the different formats that are possible.

In El Salvador there are five national daily newspapers with vastly differing circulation numbers, all published in San Salvador, the two largest in the morning, three smaller ones in the afternoon. Distribution to provincial capitals around the country is fairly regular, but sales appear unsystematic within each city. Various cities have their own newspapers as well, which this study was unable to survey.

There are six television channels broadcasting from San Salvador, three of which are privately owned by a single company with coordinated and mostly identical programming. Two others are owned by the government and managed by the Ministry of Education, also with coordinated programming. The sixth is independently owned and operated.

Radio stations abound throughout the country, owned by churches, private individuals, government and corporations. This survey covered four San Salvador-based stations which have shown interest in environmental programming, and offer potential for environmental education. There are many other radio stations with larger rural audiences and more popularity with the poor. A more detailed review should be made if a strategy for radio education is contemplated. The Association of Salvadoran Radio Stations (*Asociación Salvadoreña de Emisoras de Radio - ASDER*) has over 45 members across the country and should be the starting point for a survey. A list of 40 of these can be found in Appendix B-7.

1. Newspapers

- a. **El Diario de Hoy** is the second largest national paper in the country with an estimated 65,000 copies sold daily. With about half its 75-80 pages dedicated to non-commercial information and editorial purposes, it has a number of sections which can be used on an occasional basis for covering environmental themes.
 - 1) Its cover, usually employing color photos, announces primary news stories, varying the themes according to daily editorial decisions, themes which range from social and cultural to political, economic and environmental.
 - 2) Domestic news stories usually occupy two pages with B&W photos, frequently carrying short stories about the environment, as a result of a press conference, event or denunciation, at the initiative of a reporter or editor. Occasionally a visit to the paper by an NGO representative will provoke a news story depending on other priorities for the space.
 - 3) International news occupies two additional pages, also with B&W photos pulled from wire services. Environmental stories appear occasionally, depending entirely on what information is received through subscription service channels.
 - 4) The editorial section covers another two pages, composed of several themes: The Daily Note (*La Nota del Día*), Today's Advice (*Consejo de Hoy*), Brief Analysis (of different topics of interest), Today in History (past events which occurred on the same date), and others. Each article is prepared and written by outside individuals, usually personalities recognized in their field, or frequent contributors. During the past two years there has been an increase in the number and frequency of articles concerning environmental problems either in the form of denunciations or affirmations of some positive trend or action, submitted by environmental NGOs, a government office or private individuals. Frequency and topics depend on the authors.
 - 5) A special weekly section of 2-3 pages entitled Agricultural Supplement (*Suplemento Agropecuario*) which regularly contain environmental topics related to the special theme of the section that week. Examples are soil conservation, agroforestry, pesticide use, and so forth. The section is organized and edited by the newspaper staff, with articles authored by reporters

assigned to the section, by contributors who have established credibility with the staff, and by occasional submissions by specialists such as the director of the San Andrés Agricultural Institute or the public relations office of the Ministry of Agriculture. The reporter assigned to this section maintains ongoing relationships with specialists and technical contributors, and periodically solicits articles from a variety of ministries and offices such as CENREN and the National Park and Wildlife Service.

- 6) Columns are published daily and weekly, of about three paragraphs each. Last Minute International (*Ultima Hora Internacional*) and Last Minute National (*Ultima Hora Nacional*) carry late breaking stories with occasional environmental themes. *Overcoming (Superación)* is a daily column of reflections on a wide range of topics, including on an irregular basis environmental issues.
- 7) A special weekly section entitled Shell Ecological Page (*SHELL Página Ecológica*) has appeared every Thursday since January 1992. One page in brilliant color and sophisticated design, it covers a variety of universal environmental themes, and does not address national issues or problems.
- 8) The Sunday Section is a human interest insert with articles and color photos covering a variety of topics each week, including environmental subjects depending on the initiative of the reporter or editor assigned to this section. There have occasionally been cover stories on ecological matters during the past two years.

The newspaper's reporters attend the majority of events and press conferences held by organizations concerning environmental themes. In addition, numerous articles and photos submitted by environmental NGOs such as UNES, CESTA, FESA and MES, and by government agencies such as MAG, have been published.

Environmental conservation is one of its principal interests, although there is no editorial policy relating to the environment, and no commitment to publish a regular section or supplement. It has the reputation of being the most conservative newspaper in the country, and its news and editorials are taken less seriously by most of the public than some of its competitors'.

- b. ***La Prensa Gráfica*** has the largest national circulation in the country (about 107,000 daily), and is read by over two-thirds of all people who read newspapers, according to a poll commissioned by this newspaper. It also published about 80 pages per day, and also has a variety of sections which occasionally carry environmental stories and information.
 - 1) Its sections are structured very similarly to those of its major competitor *El Diario de Hoy*, so will not be duplicated here.
 - 2) The weekly agricultural section, called *Campo*, has color photos and intermittent stories and information about related environmental topics such as protection of wildlife, plant conservation, prevention of erosion, and the like. Initiatives for content and articles rest as much with independent interested parties such as NGOs and government entities as with assigned reporters.

- 3) Beginning in March, 1983 *La Prensa* began what it called a "reforestation campaign" using the slogan "Plant a Tree with Love" with the objective of increasing the public's awareness of the need to plant trees. In addition to using its own pages, it promoted the campaign by frequent radio and television announcements. The campaign has dropped off to sporadic notices but is still of interest to the staff, and is widely cited by the public as having had impact. Public and private individuals and organizations as well as reporters continue to publish articles in the paper regarding reforestation.
 - 4) *La Prensa* has demonstrated some degree of consistent interest in frequent publication of environmental stories, and has a fairly open door to initiatives from outside regarding these issues. However, it also has no policy regarding environmental topics, no declared set of priorities that would include ecology or conservation, and no regular section, column or supplement on environmental matters.
 - 5) The paper has a special Sunday magazine entitled *Revista Dominical de la Prensa Gráfica* with a special staff of three people. Environmental issues are published about two times per month, including cover story and a color centerfold.
 - a) This attention is due to the individual interest of the director and her staff, with institutional support but not as a matter of editorial policy from the publisher.
 - b) In order to stay up to date, the magazine subscribes to a diversity of environmental publications, tries to get on environmental NGO mailing lists, maintains membership in the Interamerican Press Society from which the staff obtains leads on international environmental issues and events which they attend, and participates in field trips organized by Salvadoran and international environmental entities such as UICN, FESA, National Park and Wildlife Service and the MAG. In most cases, the initiative comes from outside the magazine.
 - c) Currently there is little communication on the part of NGOs and government agencies which work in conservation and management of natural resources with the magazine. Invitations to visit projects and requests to publish related articles are rare. Normally, the magazine staff (director-reporter, reporter, photographer) make the contacts to get news or background, although once contact is made collaboration has been positive.
 - d) The magazine receives little or no correspondence, brochures, announcements or documents from environmental groups or individuals. If it did, samples of the diversity of opinion and experiences would be published, according to the director.
- c. *La Noticia* is a six-year old afternoon daily of approximately 24 pages, with a daily circulation estimated between 5 - 10,000.
- 1) It is structured in permanently defined sections as the other papers are, and covers topics similar to those described for the larger morning papers, although with shorter articles and less sophistication.
 - 2) Although there is no page or section specifically designated for environmental topics, the paper publishes with some degree of regularity - normally once a week - a varied group of

environmental articles under the title "*Ecología*." Most of the authors are reporters of this newspaper, and ordinarily the articles are the result of reporters' attendance at environmental events such as seminars, press conferences and field trips.

- 3) Additionally, articles are published that have been submitted by environmental NGOs, particularly by CESTA, UNES, ASACMA and REPAC-ES, the Central American Environmental Journalists Network (*Red de Periodistas Ambientalistas de Centro América*), which have initiated and established relationships with the newspaper.
 - 4) A relatively high proportion of the reporters at this paper are members of the Salvadoran chapter of REPAC, and have received technical support and educational materials from those environmental NGOs mentioned above.
- d. *Diario Latino* is also an afternoon daily, with a daily size and readership similar to that of La Noticia, and an editorial policy perceived as more liberal, or balanced, than some others.
- 1) It is also structured into regular sections which carry national and international news, with occasional environmental themes depending on the news priorities of the day.
 - 2) The paper has no regular agriculture or environmental section.
 - 3) However, the editors make regular space for articles, special reports, graphic illustrations and coverage of events related to environmental issues.
 - 4) The publication receives technical assistance and informational materials from AMAR, CESTA and UNES. A number of its reporters are members of REPAC-ES through which they receive periodic presentations on environmental themes presented by specialists provided by these NGOs, with initiative shared by the publication and the NGOs.
- e. *Diario El Mundo* is the country's smallest national daily, also published in the afternoon, in content and structure similar to the other afternoon papers.
- 1) It has no special sections on agriculture or environment, and no formal policies related to covering such topics.
 - 2) Fairly frequent coverage of environmental issues is evident, usually based on attendance at events, press conferences and other public activities related to denouncing or publicizing environmental issues.
 - 3) Public and private organizations which have taken the initiative have generally been met with positive responses by the editors and reporters. MES and CESTA provide technical assistance and informational resources on environmental topics to the paper on a regular basis.

2. Television

- a. **Channel 12** is an independent broadcaster owned by a private business. It is seven years old and known best for producing the largest number and highest quality of national programs, which it

airs from 5:40 am until noon every day, after which soap operas and foreign produced programs fill out the schedule.

News and in depth interviews run full time from 6 am to 9 am, including an hour of international and national news, and an hour entitled "*Entrevista del Día*" of face-to-face interview and discussion usually with one individual related to politics, economics, government affairs, cultural matters, and so forth. Environmental topics have arisen fairly frequently, although seldom is the environment itself the focal point of the interview.

The final hour's program, called "*Comunidad al Día*", consists of an open-microphone format with letters and live phone callers and occasional interviews, denouncing, explaining, defending or criticizing a very wide range of problems or activities, from potholes to pollution. The interviewers attempt to solve or facilitate resolution to some of the problems described by callers or writers, by intervening on the air with appropriate government or other authorities.

A half-hour Sunday program entitled "Ecology Today (*Ecología Hoy*") airs at 10:45 am and is rebroadcast every Tuesday at 10:30 pm. This program is produced and hosted by Lic. Laura Henríquez of the Movimiento Ecológico Salvadoreño (MES). Studio facilities and air time are provided by the TV station, as long as commercial sponsorship is obtained by Lic. Henríquez. She selects the topics, uses a film crew provided by Channel 12 for on-site interviews and other footage, and produces the programs herself.

- b. **Salvadoran Telecorporation (*Telecorporación Salvadoreña - TCS*)** owns Channels 2, 4 and 6, which have identical programming from 6am to noon, Monday through Friday. Similar to Channel 12, they air an hour-long international and domestic news program, followed by one or more interviews for an hour. Most frequently interviewed are government, religious and military leaders, as well as private enterprise professionals and international guests. Normally from Monday through Thursday socio-political current events dominate, with Friday reserved for a wider variety of special themes. This is where some government and NGO representatives have had a chance to make an environmental appeal on occasion.

TCS is owned and operate by a single individual, and has no policy regarding environmental programming, which is not a stated priority. However, they have aired 30-second spots and special programs related to the environment, when requested by government officials, NGOs or interested individuals. Usually the station leaves the arranging of corporate sponsors up to the interested parties. They also cover press conferences, field trips and seminars within their news format.

After 12:00 noon each channel resumes individual programming, none of which is related to environmental or other social or economic themes.

- c. **Educational Television (Channels 8 and 10)** belongs to the government, and is run by a department within the Ministry of Education. Currently only Channel 10 is functioning, and airs from 10 am to approximately 10:30 pm. Content ranges widely among scientific, educational, cultural and environmental themes. Periodically a foreign-produced documentary on an environmental or ecological subject is aired, addressing anything from national to global issues.

3. Radio

- a. "Radio Horizontes" (Horizons Radio) is two and a half years old, is national in scope, but has its greatest concentration of listeners in the eastern part of the country, according to advertising surveys. All its music is spanish-language tropical-salsa, with a predominantly young adult and adolescent audience, more rural than urban.

Of the station's 30 employees, 9 are reporters. In January, 1992 the station decided to establish a programming priority related to environmental themes, and committed itself internally to a number of activities.

- 1) They will attend as many press conferences and occasional environmental events as possible, to provide news coverage.
 - 2) The station initiated the planning and implementation of two environmental training seminars for the entire staff (administrative, management, maintenance, technical and reporters). They contacted CESTA and CREMA for assistance in the training.
 - 3) They will continue to provide 30 minutes of air time every Tuesday and Thursday to CESTA for its ecological program. CESTA originally initiated the idea, and selects the topics, does the interviews and produces the shows on its own.
 - 4) Its programs "*Campesino*" and "*Opiniones*" will be continued and strengthened with interviews and the integration of information regarding environmental problems. The "*Campesino*" program is designed to provide useful information to the agricultural producer sector; "*Opiniones*" consists of three half-hour interviews every week with specialists on areas of policy, economy, culture and the environment.
 - 5) The station will continue and improve its in-house presentations on diverse themes, and is planning with CESTA to provide more orientation in environmental subjects. These will be carried out weekly.
 - 6) Some of the reporters are REPAC-ES members, who have arranged for the station to receive technical assistance and information resources in environmental topics from FAO, CESTA, UNES and CREMA.
- b. *Radio Clásica* (Classical Radio) is owned by the private sector and has among its stated priorities to actively promote and broadcast cultural-artistic-environmental messages, and to develop programs which encourage the preservation of natural, historical and cultural heritage. The station uses classical music to present ecological themes, and requires its advertisers to use environmental messages as background to their paid commercials.

The station has three programs on environmentally-related subjects which are aired on a regular basis. Each has a program director responsible for acquiring the necessary information, selecting the themes, phrases, thoughts and music. They also review bibliographical material, decide on interview subjects, and review magazines, newsletters and information from NGOs for background.

- 1) "Ecological Horizons" ("*Horizontes Ecológicos*") is broadcast three months of each school year. It consists of classical music combined with bird themes, and the broadcasting of phrases related to Salvadoran bird conservation. The most recent activity of this program was the promotion by radio and sponsorship of a national drawing competition for grade school student at the British School, emphasizing Birds of El Salvador. The winning drawings were used for a national advertising campaign announcing the *Radio Clásica* broadcast schedule.
- 2) "Singing for Nature" ("*Canto a la Naturaleza*") is a three-month-per-year program started in 1989, in which music by composers inspired by nature is played, along with thoughts, phrases and reflections on the songs' lyrics. The most recent production of this program was commercially sponsored by the fertilizer distributor company FERTICA. The radio station adapted the commercials to include cultural-environmental messages in such a way as to avoid diluting the commercial purposes of the sponsor.
- 3) "Ecological Promotion" ("*Promociones Ecológicas*") consists of inserting phrases, thoughts and specific environmental information throughout the broadcast day, including emphasizing ecological themes in the news programs of 12:30 pm and 6:00 pm.

In the near future *Radio Clásica* will participate in the co-production of a musical series entitled "*Bio-Manejo, el Duende de la Naturaleza*". The series will be designed to expose to environmental problems children from each of the countries involved, and will be sponsored by Radio Nederland, Radio Deutsche Welle, UNICEF and others, and will include other Latin American radio stations. The first program in the series is being produced in Costa Rica, with a representative of *Radio Clásica* participating.

c. "*Radio El Mundo*" (World Radio) is 30 years old, broadcasts nationally to an audience of adolescents to adults, and specializes in instrumental music and motivational messages. The station has three daily programs which include environmental themes.

- 1) "Living Today" ("*Viviendo Ahora*") has been on the air since 1986, and consists of six microtransmissions of 4 minutes each, of which two daily messages concern the environment. These usually include interviews with representatives of public and private institutions which carry out ecological activities, or which want to announce events, activities or reflective thoughts. "Living Today" has a director who plans, researches and implements the programs, and who depends heavily on environmental professionals and NGOs to provide the necessary raw material.
- 2) "The Search for a Way" ("*Una Búsqueda de un Camino*") is aired every day from 6:00 - 6:30 am, offering nature advice, as well as informational messages and inspirational comments. The program coordinator follows a similar process in preparing programs to that of "Living Today."
- 3) "Nature and its Health" ("*La Naturaleza y su Salud*") is a small program transmitted every day at 11:50 am, and includes environmental themes. It is quite similar to "The Search for a Way."

Radio El Mundo also has a series of daily short news reports of four minutes' duration each, rebroadcast six times per day. Environmental themes are carefully sought out by the three

reporters assigned to the program, who travel to press conferences and on field trips, carry out interviews initiated both by the station and by interviewees. The station receives regular bulletins and news from foreign radio stations and foreign embassies to guide or inform the staff.

- d. "*Radio UPA*" was founded in May, 1991, and broadcasts out of San Salvador from 6:00 am to 8:00 pm. All its programming is designed for and directed to children.

The station has a daily program called "Let's Protect the Environment" ("*Protejamos el Medio Ambiente*") which lasts two minutes and is rebroadcast four times daily. Themes and information are adapted for children 0-12 years of age, with the intention of planting seeds for future conservationist attitudes. Both adults and children serve as speakers, who also carry out the programming.

4. Observations

- a. There seems to be an inverse relationship between public concern about a problem and how directly people are affected by it. There is no way of predicting how long general interest in the environment will last, or whether it will endure a public discussion of hard economic choices that must result from scrutiny of policies that contribute to or limit environmental destruction.
- b. For those seeking to use the communications media to influence public opinion about the environment, there is currently a "window of opportunity" open in radio and newspapers. For a short time, at least, environmental issues have attracted the interest of many socially concerned professionals. However, their concern may be only "skin deep" and an early systematic effort to educate media owners, managers and journalists in the most important environmental issues may be timely and prudent.
- c. If any consistent pattern can be observed about El Salvador's primary media outlets, it is that they are open to more environmental information and better relationships with environmental activists and organizations. Currently there is more interest being demonstrated by some media professionals than by environmental organizations and agencies in developing ongoing relations between the two.

It is a missed opportunity. CESTA's media relations program is a good example of what is possible; two newspapers and several radio stations regularly carry their information, use them as a primary source for environmental information, analysis and opinions, and invite them to provide orientation to personnel.

The media have numerous priorities, first among them being the profitability of the business. The initiative has to come from environmental organizations, which must develop the capacity to demonstrate to the media the "marketability" of their messages, and develop the internal capacity to design strategically effective approaches to information dissemination.

- d. Use of the communications media by environmentalists is inconsistent and lacks sophistication. Most environmental NGOs have little understanding of how editorial decisions are made by the

various kinds of media, how deadlines work, how to write an article or produce a radio spot, or how to present information so that the media will give it credibility and attention.

- e. The communications media are not approached systematically by environmental organizations. Few have a media program, fewer still have a communications or media strategy. It is the rare organization which has analyzed what the media can - and more importantly, cannot - do to assist in environmental education. More often, the assumption is made that since a medium reaches masses of people an article or radio announcement will reach masses of people, without determining how much penetration into people's consciousness might result.
- f. The purpose of most media efforts by environmental organizations appears to be to stimulate widespread but superficial awareness of an issue or problem, not to educate in any substantive way. No research has been done to determine how effective this "scattergun" approach is, although the assumption that something is better than nothing is probably accurate. However, there are numerous opportunities being missed which good analysis, training, strategic planning and well-designed programs can rectify over time.
- g. Most efforts to use the media are to publish denunciations, events, and activities of environmental organizations. Occasionally a "human interest" story is promoted; more infrequently, a campaign is launched, with frequent repetitions of similar information regarding a single issue. Few efforts have been made to develop a long-term educational program which gradually builds on people's growing knowledge, sparks their interest and motivates them to learn more.
- h. There has been little exploration of alternatives to conventional uses of the mainstream communications media as a means to get widespread coverage of a message. National school competitions, campaigns such as the *La Prensa Gráfica* reforestation effort, replications of the campaign against cholera, and information distribution by bus drivers, at rural markets and as special supplements to newspapers are some examples.
- i. Given the urban bias of many environmentalists, television is frequently thought to be the most important media outlet. Functional illiteracy in rural areas is 80%, yet newspapers are seen as having the greatest outreach. However, radio reaches more people in El Salvador than newspapers, and far more than TV. Ironically, it appears to be the medium least considered by most environmental professionals.

5. Problems

- a. Most environmental organizations and professionals have access to good information, understand certain issues well, and have the best of intentions. Unfortunately, they are not necessarily skilled communicators, they lack expertise in information dissemination, they have little experience in media relations, they haven't determined what role information dissemination should play in an environmental education strategy, and they often do not realize they have these needs.
- b. Accurate, hard information on the environment is scarce in El Salvador. The government has no overview of the state of natural resources in the country. Little research has been done on the environmental effects of population movements and density, or the effects of agribusiness practices, or the effects of traditional land tenure, or the amount, if any, of reforestation. Without

such information, educational strategies are difficult to design, credibility with the media is more tenuous, and results of media efforts tend to be limited to building awareness rather than providing information and changing practices.

- c. No media outlets covered in this survey have a stated policy regarding environmental issues, and none have regular programs or sections dedicated to the subject. Therefore, environmental use of the media is wholly dependent on the individual interest and good will of journalists, programmers and editors. If there should be a personnel change at a particular newspaper, radio or TV station, access currently enjoyed by environmentalists might well be lost.
- d. The media have severe limitations as educational instruments. There is an unfortunate mystique of glamor built around television which masks the medium's limited outreach, high cost per audience unit and low penetration value. Newspapers provide the most durable message (the audience controls the speed, frequency and number and timing of repetitions) but only to the most educated. Radio reaches more people but with non-visual, one-shot messages which tend to be unabsorbed in the absence of a well-designed ongoing program.
- e. Although radio reaches the largest number of people in the country, it is the medium most unappreciated, underrated and underutilized by environmental education purveyors. There is little knowledge in the environmental community of the effectiveness elsewhere in Latin America of radio schools and other educational uses of this medium.

6. Recommendations

- a. An important part of institutional strengthening of environmental organizations and government agencies with environmental education functions should be the development of outreach strategies, so that they develop the capacity to determine what they want and how to get it from the media.
- b. Training is needed in journalism and media affairs for environmental and development organizations which use or should use the media as part of their educational efforts. REPAC is well-situated to facilitate such training, but is not yet sufficiently organized given its all-volunteer nature and its lack of administrative capacity.
- c. Institutional strengthening of REPAC, therefore, should be considered a high priority, including training for trainers, training in strategic planning, and non-profit voluntary organization management.
- d. Ongoing, quid-pro-quo relationships are possible between environmental groups and specialists and media professionals. The latter need good orientation to the issues, and frequent updates on trends, problems and activities; the former need outlets to the public. The former can train the latter in the issues, while the media in turn can train the environmentalists in how to reach people effectively using their channels.
- e. The media generally should be seen as tools to reach people, and need to be demystified. Orientation to its limitations will be as important as training in its uses.

- f. A small team of journalist-writers shared by all environmental NGOs could provide a constant source of articles and programs on Salvadoran environmental problems, issues, research findings and activities.
- g. The mainstream media can be encouraged to develop or support alternative distribution methods in conjunction with environmental organizations and sympathetic sponsors (whose products do not conflict with the message). For example, special weekly pull-out sections in newspapers can be designed for semi-literate people to accompany a radio education program, supported by trained teacher-promoters in specially targeted areas of the country.
- h. The leadership of NGOs such as CESTA (radio and newspapers), MES (television), FESA and CREMA (newspapers) should be sought to provide orientation and training to other NGOs wishing to make use of their successful experiences.
- i. International organizations such as the Tropical Environmental Information Bureau based in Costa Rica can provide regular information to Salvadoran media outlets, and training to environmental organizations in how to use media effectively.

I V. NONFORMAL EDUCATION

During the past few years interest in the environment has grown considerably in El Salvador, from remote rural hamlet dwellers to professional office workers in the capital city. More than 30 self-defined "environmental organizations" (ENGOs) have sprung up, as interested professionals and amateurs seek to make some impact, or to engage in activities not possible through their jobs, or to obtain international funding for environmental protection.

Much of the environmental education now being carried out by these organizations is unplanned and non-strategic, but it is having an impact, if not on people's actions, at least in creating an atmosphere in which stronger government policies can be established, regulations can be created, and both voluntary and coercive enforcement can have real success.

Other organizations, with histories of working closely with poor people to help them solve socio-economic problems, are also increasingly engaging in environmental work as part of their overall program to strengthen people's abilities to influence their surroundings and improve their quality of life and economic conditions.

This assessment reviewed a broad and diverse variety of nongovernmental organizations and some government agencies that are trying to work directly with resource-poor people whose futures depend on more sustainable exploitation of natural resources, and who are El Salvador's best hope for mass reform of conservation practices (see Appendix C-1 for complete list).

A. CONTEXT AND TRENDS

To assess existing nonformal environmental education efforts, it was necessary to discover the nature of the relationship between educators and target populations, and to determine the degree of participation the latter has in the educational process.

A look at the range of organizations which engage in nonformal environmental education reveals two major categories of activity: those directed at people's attitudes by means of presentations by outside professionals, and those directed at people's practices, by means of outside facilitation of participatory community organizing and extension. Also quickly evident is the existence of three groups of practitioners: environmental NGOs, development NGOs, and government agencies.

Some general observations can be made about the context in which different institutions are trying to carry out environmental education, and the institutional trends which are evident.

1. Reconstruction is on everybody's mind now that the war is essentially over. Economic development, the key to reconstruction, will not work in this rural-based economy without incorporating natural resource management programs. Sustainable exploitation of natural resources will not occur without education. Education will not be effective without realistic, viable, practical alternatives to unsustainable practices. Integration of environmental education with social and economic development activities will be as essential as creating a mass consciousness about the deteriorating environment and its negative effects on everybody's economic and social future.
2. There is not yet a coherent environmental "movement" in El Salvador. There are some beginnings, but as with all such processes the actors are as much recognized for conflicts between them as for their common causes. This is as it must be. In other places the "shake-down" process has taken years; in El Salvador the process seems to be accelerated, although from close at hand it appears frustrating, irritating, wasteful and sometimes destructive. Issues and organizational positions are being defined, key people are developing their skills, organizational relationships, political identities and followers, and organizations are forming, splitting, merging, restructuring and disappearing.
3. Environmental non-governmental organizations have been proliferating rapidly over the past five years, reaching about 30 now, by some counts. Their increase is to a substantial degree a reaction to and product of government and business sector lack of action in addressing in meaningful ways the serious environmental degradation the country is suffering, which is increasingly affecting the lives and futures of most Salvadoran people. This proliferation seems to have contributed directly to a significant and recent increase in the popular awareness of environmental problems, which may promote change.
4. Development and "social promotion" organizations have grown in number and sophistication over the past 15 years, in great measure due to successive governments' commitment to a military strategy for addressing social problems, and related lack of commitment to economic development strategies for the majority poor population. These organizations, some of which were interviewed for this study, have developed primarily local structures and grass-roots, participatory methodologies, and most have discovered the relationship between environmental and economic health. As a result they have begun to develop locally-focused educational activities which are practical environmental intervention strategies, with concrete behavior changes as their objective.
5. Some departments or offices of government agencies have programs which carry out nonformal environmental education as a fundamental part of their purpose. Some, like the FAO-sponsored, MAG-implemented agroforestry project are excellent. However, there are not many of these, they are severely understaffed, staff are undertrained for the special demands of this kind of education, and funding ranges from inadequate to non-existent.

Additional conditions exist that are not unique to government but are much more important limitations there. An essential ingredient for successful nonformal education is a relationship of trust between the institution and staff providing the program and the intended audience. In El Salvador, regardless of their political sympathies, many people assume the government's purposes are partisan, not developmental. Another ingredient of nonformal education is a methodology that builds autonomy and self-reliance. It is perhaps contradictory for government to play an organizing, empowering role, which is antithetical to the dependency-creating aspects of providing welfare, social services and infrastructure, much less regulatory and enforcement functions.

B. ENVIRONMENTAL NGOS

Developing a systematic understanding of the roles played by ENGOs is not a simple matter. They are widely diverse, and their rapid proliferation of the last few years means many are too new to have defined themselves. For strategic environment education planning to be effective, however, an understanding of how their resources can and cannot be applied is necessary. This assessment reviewed approximately 25 self-defined ENGOs, and surveyed in greater depth 13 that appeared to have structured education programs or activities, according to the definition advanced earlier in this report. Some of these, either with a distinct educational focus or which promote themselves as such, should be looked at more closely by PROMESA.

The problems these organizations face are formidable. Staffed almost entirely by dedicated volunteers who work full time in other jobs, most are funded predominantly by volunteer contributions. Few have well-developed relationships with international environmental donor agencies.

They are at various stages in their organizational growth, membership and leadership are constantly undergoing change, and relationships with each other are in flux. That they have accomplished a widening awareness in El Salvador is a symptom of much hard work.

The following observations are based on interviews, literature review and numerous discussions with environmentalists. They are not summaries or overall descriptions; rather, they are specific comments to assist international organizations and others unfamiliar with the groups to understand something of their individual histories and conditions, and to generate general discussion of the overall problems endemic to these groups.

1. **Fundación Montecristo** specializes in education of students - mostly high school students - through training teachers to organize and serve as advisors to school-based environment clubs. Students are free to select from a wide range of activities, from cleaning up the school grounds and planting ornamentals, to raising hydroponic vegetables. Many find this preferable to receiving lectures about, for example, the biological names of exotic plants; on the other hand, there is little evidence that students' participation in these activities will affect their values, lifestyle and career choices as adults, or reduce soil erosion, deforestation or urban pollution. The organization in the recent past had one professional staff member who was responsible for overseeing the teacher advisors, but that position is currently open.
2. **AMAR** (*Amigos del Arbol*) (Friends of the Tree Association): The acronym literally means "to love." The organization puts most of its energy into saving sea turtles partly because its founder and former

president had a graduate degree and considerable experience in sea turtle biology. It is now the activity that has gained AMAR most of its public interest and individual support. Tree planting does occur in a variety of dispersed communities in and around San Salvador, but AMAR is more effective in rescuing mangrove forests. Volunteers are now designing a bumper sticker with the name slightly revised to "A-Mar" or "To the Sea" which is a more accurate reflection of the direction they have taken. It has one full-time paid staff member who doubles as an office manager and general manager.

3. **MES** (*Movimiento Ecológico Salvadoreño*) (The Salvadoran Ecological Movement): promotes flower tours and numerous micro-agroindustrial projects in fruits, vegetables, flowers and ferns, and registers ancient trees. MES is publicly known for its vivacious, aggressive and enterprising reporter-environmentalist member who produces a weekly half-hour television program on the environment, for which she has successfully obtained corporate sponsorship (see section III.B of this report). MES is also well known for its public denunciations of environmental problems caused by past and present actions, and its warnings of repercussions if nothing is done. They also work in some rural communities in the eastern part of the country. Its founders hoped it would grow into a broad-based movement of environmentalists and concerned members of other ENGOs, but that has not happened. It has no paid professional staff.
4. **Amigos de La Tierra** (Friends of the Earth Association) (unrelated to FoE in the US) was founded in the late 1940s and is by far the oldest ENGO in El Salvador. It has gone through several transformations, with major changes in personnel and program. In recent years *Amigos de la Tierra* has organized rural schools, two now-defunct newsletters, planted trees, and helped form an agricultural vocational school. They have some training activities in rural communities in the eastern part of the country. There are no paid professional staff.
5. **ASACMA** (*Asociación Salvadoreña de Conservación del Medio Ambiente*) founded and incorporated in 1985 is one of the country's oldest ENGOs. It considers itself primarily an environmental education organization. ASACMA sends biology students out to rural communities to give talks to local children, has produced for 5 years an attractive two-page monthly newsletter sent to 125 people that is part self-promotion and part reprints, writes occasional articles for newspapers, does a biweekly half-hour radio program denouncing specific abhorrent environmental practices or conditions, and joins other organizations in making newspaper denunciations. These diverse and often *ad hoc* activities are all considered environmental education by its very small group of loyal volunteers. It has no paid professional staff.
6. **FESA 20-30** (*Fundación Ecológica Salvadoreña Activo 20 - 30*) was formed by prestigious notables including the current Minister of Agriculture as an umbrella organization in part to collect and distribute funding to other ENGOs (a role never requested or accepted by the ENGOs and now assumed by SEMA), and in part to carry out technical studies. They now manage the Bosque El Imposible under an agreement with the MAG, and have produced papers for the Action Plan for the National Strategy for Environmental and Natural Resource Management, and the Inventory of Environmental Policies. They have one full-time professional staff member and several support staff, in addition to Park-based personnel.

Since receiving an initial USAID grant, FESA now supports itself primarily by collecting dues from individual and corporate members. Its primary educational activity consists of working with employees and residents in and around El Imposible national park, to reduce wildlife poaching and other illegal resource exploitation. FESA also engages in occasional public speeches.

7. **FUTECMA** (*Fundación Tecléña Pro - Medio Ambiente*) was founded and incorporated in 1988 by a Rotary Club in Santa Tecla, a suburb of San Salvador. It has been more successful in fundraising than many other ENGOs by appealing to other local entrepreneurs for donations. As a result, it has had higher visibility than some of its colleague organizations, and is sometimes expected by the public to do more than it is able. With three permanent staff it is the third largest ENGO in the country after CESTA and FESA. Its primary activities are cleaning up city parks, replanting wooded areas, and city beautification. Its major educational activity is making public presentations on environmental topics. FUTECMA focusses on students and the business community, through which it hopes to change attitudes of the general public.
8. **CESTA** (*Centro Salvadoreño de Tecnología*) was founded in 1980 and restructured in 1987 as a "social-environmental" organization. Its program takes the broadest possible approach to ecology, to include promoting bicycle use for cargo and transportation, handicapped people, construction of environmentally sound latrines, promoting recycling, nutritional food production, processing and storage, and campaigns against toxic waste dumping, pollution and other environmentally destructive practices permitted or supported by political authorities.

In addition to denunciations, CESTA's environmental education activities include organizing community-based ecology groups, ecology-related knowledge transfer to resource-poor Salvadorans, production of radio programs (see section III-B of this report), public speeches to professional and labor associations, a series of seminars on social, political and economic dimensions of environmental problems, and managing a 15 hectare rural training center for environmentally sound appropriate technology. It also reaches guild and professional audiences through formal and informal associations such as UNES and the Ecological Forum (see below).

CESTA receives most of its funding from US and European donor NGOs which share CESTA's concern that environmental destruction hurts the poor the most. CESTA has 11 professional staff members.

9. **UNES** (*Unidad Ecológica Salvadoreña*) (Salvadoran Ecological Unity) is an unincorporated association of about 20 social, professional, development and environmental organizations. UNES was founded in 1987 with the broad purposes of supporting, coordinating and integrating Salvadoran organizations committed to more rational use of the nation's resources. UNES' members include some ENGOs (ASACMA, AMAR, CESTA, Montecristo, among others) and a number of educational entities including two universities, five professional associations (chemists, engineers, architects, agronomists and agricultural engineers) and several social development organizations. Most identify political action as an important function and are sympathetic to "Green" party philosophy.

UNES sometimes functions as an organization, sometimes as an association of member organizations. As an organization it has started "Ecology Committees" (*Comités Ecológicos*) in several communities around the country, to engage in environmental education and action. In this capacity, according to some of its members, UNES sometimes competes with other ENGOs, including its own members, for the loyalty of community groups to serve as their "base," and implicitly competes for funding, demonstrating the difficulty of maintaining inter-ENGO harmony. UNES has tried to serve as an umbrella for environmentally activist groups across the country, providing a facilitative, coordinative role parallel to one of the functions SEMA is assuming on a broader scale. As an association, in sharp contrast to its mainstream ENGO members, UNES maintains a public position fiercely independent and highly critical of the government.

During the last presidential campaign UNES called on all political parties and public institutions to take strong pro-environment stands, and it authored in 1990 the "Cerro Verde Proposal," a brief, tightly written overview of El Salvador's environmental problems and proposal for "national environmental recovery," which included brief and very general proposals.

10. The Foro de Concertación Ecológica is not an organization as such, but deserves special mention as it represents an early effort to develop a broad-based environmental movement in El Salvador. The Foro was formed in late 1991 by CRESTA and a small group of convenors to oppose El Salvador's ecological deterioration, to demonstrate that the great majority of Salvadorans are victims of this deterioration, and have the responsibility and right to take action.

In November, 1991, 87 local, national and international organizations signed a joint statement at the founding conference. They include universities and faculties, student groups, guild, professional, peasant and labor associations, environmental groups and organizations, foundations, research centers, social organizations, political organizations and parties, development organizations and religious agencies (see Appendix C-2 for a complete list).

The Foro is a network looking for a mission. They know what they stand for, but have not yet decided what they can or should do. They are in the process of slowly developing in a participatory manner some options for how the Foro will function. It is possible that the Foro may not receive the outside support and attention its breadth and diversity deserve, given its vocal opposition to the government.

The Foro currently has no paid staff and is seeking its first grant from European donors. Much of its work is performed by staff and volunteer representatives of affiliated organizations.

C. ENGO PATTERNS

The ENGOs are the most widely known promoters of environmental awareness in the country. They tend to specialize in changing people's attitudes by means of information provided by professionals and committed amateurs. Few engage systematically in long-term work with community groups in an effort to change practices or get at the root causes of those practices. They tend to have a "professionalist" perspective, making it difficult to establish close ties and trust relationships with rural people.

An assessment of their practices, strengths and weaknesses reveals a number of general patterns:

1. The bulk of environmental NGOs are multi-purpose entities, more because they have not yet decided their priorities and strategic niches, than because they are large enough to offer a wide range of functions. Their strengths are in their hard-working volunteers whose individual commitment and energy outweigh their limited training in specific environmental areas. A few ENGOs have one or two people with substantial environmental/natural resource training or experience, but most have no in-house technical expertise. Few have the funds to hire technically qualified people, nor programs to utilize them effectively if they had the funds.
2. As multi-purpose entities, they employ a wide range of tactics: occasional denunciations, ad-hoc audience-specific educational activities, organizational self-promotion, participation in public and private conferences and forums, and mass-media public information efforts.

3. Most ENGOs (with the exception of FESA) have not yet developed the administrative or institutional sophistication to manage specific projects, nor have they yet decided that such projects should be managed by NGOs (with the additional exception of AMAR and possibly MES). Instead they respond to opportunities and issues that emerge from time to time.
4. Few environmental NGOs are accustomed to determining priorities or making program decisions. Indeed, some proudly announce that they indiscriminately undertake any issue that comes along, and that their priorities are determined by availability of funds.
5. Selection of activities based on a strategic plan or a conscious decision about their most effective role is also rare at this stage in the evolution of Salvadoran ENGOs. In an interview for a recent newspaper article, AMAR's only full-time staff person described his group's activities as including "conservation of mangrove forests, protection of sea turtles, control of nuclear-derived toxic wastes, elimination of noise and carbon monoxide, and recycling."
6. Some organizations are dedicated substantially to public denunciations, providing a "watchdog" function in an effort to prevent further degradation of the environment due to government inaction, special interests, lack of enforcement, short-sighted policies, or popular ignorance. ASACMA, CESTA, MES, AMAR and UNES all spend significant portions of energy in this manner. This is frequently considered environmental education by its practitioners.

Denunciations are also made by organizations for which such activity is part of a specific project or ongoing commitment, such as FESA demanding publicly that the Minister of Agriculture halt further illegal road building through Bosque El Imposible by an Army colonel who (it was rumored) had made private arrangements with the MAG. These are as often considered protection, not educational, activities.

7. Several organizations have begun to specialize in tree planting (*arborización*) which they usually call reforestation. In El Salvador a mystique about trees is growing faster than the trees are multiplying. There is a generalized (and accurate) perception that too many trees have been cut, and that trees are good to have. There is no commensurate understanding of why deforestation has occurred, or how strategically to address the problem.

Ad-hoc tree planting activities abound. The quasi-governmental CREMA attempted to plant one million trees in numerous communities around the country using school children and employees of private enterprise; without follow-up the survival rate was low and little information existed to indicate how to improve the project. Nevertheless, the project continues with higher numerical targets the second time around. Asociación Amigos de la Tierra plants trees in La Union province, also by organizing small groups, also by developing a mystique about trees. MES and FUTEPCMA plant trees along roads and highways. Several other ENGOs also plant trees as part of a range of activities, and also call this activity reforestation. Fundación Montecristo organizes high school students whose projects occasionally include raising seedlings in school nurseries for planting on school grounds. FUTEPCMA plants trees in the town of Santa Tecla on the outskirts of San Salvador. APAES plants trees with primary school students. ASACMA visits a few rural communities near San Salvador and includes tree planting among its promotional activities.

8. Although soil conservation is generally recognized as the single most important environmental challenge in El Salvador, no environmental NGO has yet undertaken to address this area (although

FESA is designing with PADF an agroforestry training station in Chalatenango which includes erosion control as one of several objectives). Trees are much higher in the public consciousness, and the closest to a universal activity.

9. Potable water is also a grave environmental problem which no ENGO addresses directly or strategically. One indirect step in this direction is ENGO opposition to a plan to urbanize a large coffee plantation on the edge of San Salvador, in part because of the potential destruction to the aquifer and groundwater systems that supply the capital. The Foro Ecológico and FESA have initiated separate technical studies, and MES has drafted a bill for the Assembly. All hope to engage the public in discourse concerning the lack of strategic and environmental planning of urbanization schemes.
10. A few organizations seek to rescue and manage natural resources in specific geographical areas, such as AMAR's marine turtle project in Barra de Santiago and FESA in Bosque El Imposible. These activities complement functions previously presumed to belong to government entities, which lack resources, know-how and/or the will. The ENGO provides attention, expertise, finances and personnel that government agencies do not. Similarly, FUREMAR and the newly formed Asociación Ecológica Amigos de las Playas have limited their scope to protect coastal resources such as beaches, sea turtles, mangroves and coral reefs, although administratively neither is capable of assuming the management of such areas.
11. All ENGOS consider environmental education to be a significant part of their work, and for two (ASACMA and Fundación Montecristo) it is their primary function. However, definitions differ widely, with most groups lacking a comprehensive educational program. Many assume that organizational self-promotion, information about their project activities, and the activities themselves are all intrinsically educational.
12. Virtually all environmental organizations say they work at the "national level." Taken literally this would be misleading. More accurately, they have not made conscious decisions to limit their focus to a specific geographic area. However, most do concentrate their efforts in defined and limited areas, such as AMAR in Barra de Santiago and San Diego Estuary, FUITECMA in Santa Tecla, FESA in Bosque el Imposible, Asoc. Amigos de la Tierra in La Union and Montecristo in San Salvador.
13. Each organization works wherever occasional opportunities arise, whether or not they have a local presence, and without regard to another organization's presence. They all have their headquarters in San Salvador, and virtually all focus the majority of their educational efforts on urban dwellers.
14. Relationships between ENGOS are complex and not always smooth. They have sometimes been grouped into anti-government and pro-government camps, or (a) those which are members of UNES and (b) those which are not. These are not useful delineations. UNES-affiliated ENGOS are often privately as competitive toward each other as UNES is in public toward those it considers too closely related to the government. Conversely, a few ENGOS, such as ASACMA, Montecristo and AMAR are members of UNES and also work closely with SEMA, the government agency overseeing environmental issues. Alliances for project proposals and joint short-term activities cut across "with-government"/"anti-government" divisions.
15. Tensions between organizations, by their own admission, are as often based on interpersonal resentments, jealousy and competition as it is based on ideological differences, and both are more frequent than conscious differences over strategy or goals. Private conflicts are almost always hidden

at public forums or meetings, reemerging only in private. They are seldom resolved by deliberate efforts to address their underlying causes, which are generally hidden behind rumors, misunderstood actions and misinformation.

16. Unity among environmental NGOs is far deeper, based on the recognition of the seriousness of environmental degradation and the need for rapid and dramatic changes in policy and enforcement of existing laws. Unity also exists in a belief that the government has not yet done enough, and that the government's role will be critical in the future. There is much less agreement about what role the government can, should, or likely will play.
17. Inadequate funding is the single most commonly expressed problem of the environmental NGOs. Almost all believe that their primary needs are a vehicle, fax machine, copier, rented office and furnishings, library, or office and audio-visual equipment. Few organizations have strategies to convert financing or equipment into improved program performance.
18. Skilled organizational managers, policy-making boards and paid staff are rare. Clearly defined staff functions are not even perceived as desirable in many cases. Board development, staff training and strategic internal restructuring are low priorities in many organizations.
19. Only seven NGOs have legal status (*personería jurídica*) although none who lack it expressed that to be an obstacle to their functioning. Indeed, their organizational weaknesses, including their relative lack of public or professional attention and support, have little to do with legal status. The process of seeking such status, if desirable for other reasons, will require definition of objectives which many have not undertaken and which they need to in order to develop more substantial abilities. Better motivations than legal status exist, however, for defining goals and objectives and planning strategically. It should be noted that in Central America it is not uncommon for functioning organizations to exist for years, even decades, without formally incorporating or registering their statutes with government agencies.

C. DEVELOPMENT NGOS

There are many organized activities in El Salvador which seek directly to change practices of natural resource users in order to generate sustainable exploitation systems. Ironically, most of these are carried out by organizations whose primary self-identification is not "ecologist," and which do not necessarily call their activities environmental or educational.

This assessment surveyed 17 development and social NGOs (DNGO) whose programs include activities or projects which provide information, training or organizational support related to changing resource management practices. Details about all of these organizations are found in Appendix C-2. Because they have not travelled in environmentalist circles, little is known about DNGOs there. Their language and terms of reference are often different, and they may not see "environmentalism" to be as important as ENGOs perceive it. In, anycase the survey discovered that among others, the following DNGOs have significant environment-related programs and are willing to collaborate more directly with environmental NGOs in the future.

1. **ASAPROSAR** (*Asociación Salvadoreña pro-Salud Rural*) (Salvadoran Rural Health Association) is based in and works with rural communities throughout the Department of Santa Ana. It seeks to

develop self-reliance (*autogestión*) in health through integrated education and social development. ASAPROSAR trains local women to be promoters and extensionists in community organization, reproductive health, community medicine and children teaching children. Environmental education is integrated into each of these areas. Using a participatory methodology to integrate information with people's daily lives, ASAPROSAR has developed activities in clean-up campaigns, latrine promotion and construction, family biointensive gardening and community nurseries using environmentally sound principles, reforestation, water filtration, soil conservation using "appropriate technology" principles, biological pest management, and community garbage disposal.

ASAPROSAR has 16 paid technical and professional staff and receives most of its budget from small European and US foundations, churches and civic organizations. They employ sociodramas, debate competitions in which the community serves as judges, field trips to assess environmental hazards, and small workshops discussing community problems. They work through existing community and civic associations such as youth groups, couples groups, literacy committees, community centers, *directivas cantonales*, infant centers (*nucleos infantiles*) and community work committees. They find most people reject public speeches, theory and conferences, so they try to make the connection between general social and economic conditions felt most intensely by the people, and environmental and health problems that cause or result from these problems.

Over the last six years ASAPROSAR has developed a training program for community promoters using agronomic engineers from CENTA, agronomists from CONARA, technical staff from World Vision, and environmental promoters trained by NAPA. They ensure that trainees' communities of origin will provide places to work on their return through schools, community associations and so forth. Promoters also work with the ASAPROSAR team to help plan projects and train others. ASAPROSAR is willing to work with PROMESA in training staff, community promoters, leaders and extensionists in the techniques and technical areas in which they have developed expertise.

2. **DJC (*Desarrollo Juvenil Comunitario*)**(Youth Community Development) is the Salvadoran affiliate of the US-based Save the Children Foundation. With locally generated funds, USAID support and funding from US donations, DJC promotes a wide range of local projects, especially in the eastern part of the country, that combine infrastructure and participatory community education. In the last few years the agricultural program has been changed to management of natural resources, reflecting their recognition of the need for sustainability and environmental protection.

DJC's natural resource projects are soil conservation, rainwater catchment (*represamiento de aguas lluvias*), animal health and agricultural diversification (including fruit trees, root crops, nitrogen-fixing ground cover, leafy vegetable gardens and soybeans). USAID restrictions and guidelines regarding the use and application of agricultural chemicals have been incorporated. DJC perceives its role to be facilitative, attempting to ensure that projects are of, for and by the communities. DJC provides technical knowledge, funding and skill training, credit for inputs, encouragement and guidance to community participants, but lets the communities decide what they want to learn and implement.

DJC has noted significant deterioration over the years in natural resources in communities where they work. Chronic water deficiencies, erosion, farming on steeper hillsides and poorer soil quality are conditions which suggest the need for more agroforestry, reforestation and permanent crops, and less cultivation of perennial crops. DJC makes a commitment of 5-6 years to each community, the minimum amount of time, according to their experience, for attitudes and techniques to change significantly. Without a significant commitment to each community, they believe, community people

feel more like objects or targets than participants. DJC works through natural leaders, usually two "*voluntario-lider*" (leader-volunteers), never pastors, military authorities or elected politicians. They have a structure starting with 124 communities, divided into five "impact areas" advised by 2-4 agronomists, further divided into "development zones" served by multidisciplinary teams comprised of an agronomist, nurse, teacher and marketing or business administration technician. Each of these teams serves 8-15 communities.

DJC has a well-developed training program for village trainers, using participatory "popular education" methodology adapted to Salvadoran conditions and culture. They would be willing to assist PROMESA with training of ENGOs and local community leaders in practical environmental education approaches and methods.

3. **FUNPROCOOP** (*Fundación para la Promoción de Cooperativas*) (Foundation for Promotion of Cooperatives) was founded in the mid-1970s with support from the Rockefeller Foundation to promote and organize precoops and assist them to become legally constituted cooperatives, including but not limited to agricultural producers. In the past several years this organization has taken on new roles, particularly related to assisting peasant coops, groups and associations to succeed in the marketplace by developing more sustainable and economically viable methods of production. They have developed an "Agro-ecology" program which includes training in crop diversification, integrated pest management, soil conservation, modern small livestock husbandry techniques, social forestry, cultivation of medicinal plants, and organic agriculture.

To further this program, FUNPROCOOP has started a training center near Nueva Concepción, southern Chalatenango, where they have a 1,700 cubic meter experimental/demonstration garden, organic citrus grove, a one mz. model organic corn plot, a school farm with poultry, rabbits and goats, and other facilities. They provide 6-day, 2-week and 3-month training courses, some in specific topics, some on a broad range of topics. Trainees are drawn from other rural institutions, community leaders, cooperative promoters and peasant groups. Changing destructive farming practices into sustainable, environmentally sound practices is the school's major function.

The methodology is still in a process of development, as they have evaluated disappointing adoption rates and are making changes. Assimilation by technicians has been high, but lower among community people. In part, technicians such as extension agents and agronomic engineers have been trained in traditional, "top-down" instruction techniques, using scientific terminology, Latin species names, written materials and complex concepts. FUNPROCOOP's experience is that peasants and rural leaders learn by practice. The training process now incorporates a tutorial system in which teams of 4-5 students are guided by a tutor through practical projects of research and experimentation, planning and developing their own topics, then teaching it to the other student teams.

The program is also developing a decentralized follow-up training system based on "Appropriate Training Centers" (*Centros de Capacitación Apropriada - CECAP*) which will number five in all, with two to be established in 1992 in San Vicente and Cabañas-Cuscatlan Departments. After three months' training at the center, students will return to their home communities to put into practice what they learned. two day per month they will visit the closest CECAP for refresher follow-up training, and occasionally will receive visits from CECAP staff in their own communities.

FUNPROCOOP receives most of its budget from US and European church groups, has 9 professional and technical staff, and is interested in an exchange of training, technical information and pedagogical

experiences with environmental and development NGOs. FUNPROCOP is also interested in exploring with PROMESA the possibility of collaboration in "action areas" and environmental education.

E. OBSERVATIONS

1. Applied research and project experience by international environmental organizations (mixed technology in the Peruvian Amazon, organic pest management in Costa Rica, agroforestry in Honduras and the Philippines, etc.) increasingly demonstrate what this study corroborated: the most effective way to encourage more sustainable extraction and farming practices, or urban dwellers' consumer demands and waste management practices, is to include the primary users' perceptions and practices in the process of designing solutions. Providing successful models ensures that proposed solutions will create social, economic and environmental benefits, will improve people's livelihoods over the long term, and will conserve the resource base.
2. No matter how well-intentioned, scientifically sound, or technologically appropriate, "top-down" approaches to natural resource management and environmental clean-up in developing countries have been universally disappointing. This requires special attention to group organization, participatory planning, and economic motivation, and suggests that the most effective implementors are those people and organizations with the greatest credibility among target populations. This is where some DNGOs excel, due to their long-term work at the local level, employing participatory techniques within a conceptual framework that insists on responsiveness to local needs and priorities.
3. Some specific conclusions can be drawn from a review of a wide range of economic and social development activities in the country.
 - a. Few Salvadorans currently have a clear understanding of the overall ecosystem in which they live and its relation to their quality of life. Environmental education can change this only if communities and sensitive professionals together define appropriate development efforts and new forms of resource utilization.
 - b. Applied research in other countries has begun to show that a combination of modified traditional practices and recently developed, environmentally sound, simplified techniques can protect, preserve, produce and reproduce greater quantity and quality of consumable and marketable products. Nonformal environmental education can promote this kind of development effectively, especially by drawing on pedagogical techniques successfully employed elsewhere, and in some places being used effectively in El Salvador.
 - c. Environmental education will be most effective if it mediates among natural resource management, sustainable resource use, and human and environmental needs. Research corroborates extension experience that rural producers' behavior changes when there is economic motivation.
 - d. Insights and adoptive skills of local people are derived from many years of experience. Conversely, resistance to change is often a rational response to local conditions, is a logical adaptation to risk, and a reaction to new and untested methods which may be unsuited to the needs and environment of resource-poor communities.

- e. Not all traditional practices and knowledge are valuable, accurate or useful. Sometimes practices which were well-adapted to former conditions become inappropriate in the face of rapid socio-economic change, interventions, population increase, landholding size decrease, and the like.
- f. Effective projects support the development of local institutions capable of taking the lead in determining priorities, managing projects, protecting natural resources and promoting sustainable economic development.

F. PROBLEMS AND CHALLENGES

1. Self-Interest

- a. Observing the dire results of years of unrestricted urbanization, monocultural agroexport and agroindustrial development, grossly negligent pollution by industrial activities, traditional peasant farming practices, and effects of the war, many people suspect that Salvadorans (government officials, large landowners, businessmen, peasants or the public at large) either don't care, or don't want to change. The truth, more often, is that they do not know they need to change, or don't know how to change.
- b. Analysis of relevant literature and substantial empirical evidence demonstrate that in most countries most individuals tend to protect the resources they depend on if (a) they understand how their behavior affects their resources and their economic interests, and (b) they have information about realistic ways of sustainably managing their resources.
- c. There are two principal situations in which these conditions are insufficient. First, when families are forced by circumstance to choose between unsustainable methods to ensure short-term survival, and long-term sustainability at the expense of short-term survival. Second, when large-scale (state, individual or corporate) interests, removed from the direct consequences of their actions, seek to maximize short-term profitability at the expense of long-term sustainability.
- d. In the first instance, changes in national economic policies are required. Sufficient opportunities must exist for people to protect their resource-based family economies without degrading the resources. In the second, a combination of protective environmental policies, consistent enforcement of regulations, and incentives for compliance are required.
- e. Farmers who cut trees for firewood or land clearing or house building are trying to meet their basic needs; the deforestation that results is an unintended outcome. It is not in their interest for the family economy to deteriorate because of a loss of soil due to erosion due to deforestation. Understanding the relationship between their practices and deteriorating conditions may be motivation to change. But only if they have economically viable and technically feasible alternatives will they be able to change.
- f. Education to halt environmental over-exploitation can be effective only if economic conditions make viable the sustainable practices that are proposed as alternatives. Awareness of the problems alone will not motivate people to change; they need supportive policies which enable them to change.

2. Relationship to Social Development

- a. Some of the most effective non-formal environmental education in El Salvador is emerging from organizations that do not consider themselves primarily environmentalist, or whose founding purposes were not principally ecological. This is partly because many of the new environmental non-governmental organizations have not yet developed much institutional sophistication or social impact; or are too narrowly "ecological" to earn the trust of poor communities, families or students whose primary concerns are economic survival; or have not found ways of motivating politically powerful sectors who perceive their economic interests threatened by environmental imperatives.
- b. It is also due to a change in the understanding of what are the most critical obstacles to development. Over the past 6-8 years many Salvadoran community and economic development organizations such as those reviewed by this assessment have begun to address environmental issues as part of their overall program. This is not because ecology is now "in style." Rather, it is a result of growing empirical recognition that environmental problems are inextricably linked to many economic and social problems that these organizations are trying to solve.
- c. Practitioners of participatory community development efforts are discovering that sound management of natural resources (land, soil, water, food, forests, etc.) are one side of a coin, with environmental protection and restoration on the other side. Both are logical and necessary components of a sound development strategy. The result of this trend is that effective environmental educational efforts, when part of a broader development process, grow out of, rather than are inserted into, ongoing community efforts at self-improvement, and are far more effective than self-styled environmental specialists from the outside bringing their pre-packaged messages to convert the non-believers.
- d. There has been an unfortunate tendency for some traditional environmental leaders to divide the world of non-governmental organizations (NGOs) into two halves: those whose primary purpose is to protect the environment (either emphasizing the remaining "pristine" natural areas or seeking to "rescue" degraded areas), and those who promote human socio-economic interests (especially of the poor) presumably at the expense of the environment. For example, when the government's environmental office (SEMA) last year began to develop an "environmental agenda and action plan," and a "national plan for the environmental emergency," it invited the participation only of the self-described "environmentalist" organizations. It neither included in the process, nor invited to the public forum, any of the development organizations which have for a long time been addressing environmental problems in practice.
- e. Recent experience throughout the developing world contradicts this false dichotomy. People whose livelihoods are directly dependent on natural resources have the most to gain from sustainable management, and the most to lose from irrational exploitation, pollution and destruction of resources. Users with alternatives are the most highly motivated conservationists.

3. Relevance of Method

- a. A major objective of environmental education should be identified as motivating people to develop environmentally sustainable practices as producers and consumers. In El Salvador, however, the most frequently selected activity chosen by environmental organizations is to give talks to

audiences. This ignores that the greatest motivator for participation in ecological protection and improvement is the self-interest of people who know how to change their practices to protect their resources and their health and advance their economic interests. Environmental activism and changed behavior far more often result from sound participatory socio-economic development than speeches and audiovisual presentations.

- b. Grassroots educational efforts are different from mass education campaigns carried out through the media, from distribution of written or audiovisual materials, and from audience-oriented topically based conferences, public lectures and school classes. An essential ingredient absent in these other kinds of education is the participation of the beneficiaries, or target population. Subject matter is not selected by experts who package a message they think the audience should hear. Rather, the intended audiences' perceived needs and problems direct the selection, resulting in environmental topics becoming integrated parts of discussions of other social and economic concerns.
- c. At the level of peasant agriculture, people do only what they must to survive. If they know their practices are long-term unsustainable they are invariably interested in learning sustainable techniques, provided that the educational and extension methodology encourages their participation, is culturally sensitive, and directed toward meeting their perceived needs.

4. Process of Transfer

- a. A common error of many environmental education efforts reviewed in this assessment is the unconscious presumption that because the biologist, the ecologist, the agronomist or other "expert" can observe the symptoms (often unaware of the underlying causes) they must have the solutions, the solutions must either be attitudinal or technical, and the imparting of information about the problem will alone alter behavior.
- b. Successful efforts are invariably long-term, involve gradually increasing numbers of people in processes of self-awareness, problem identification, problem solving, and practice. Technical changes that are introduced and experimented with through this process have a much higher rate of success.
- c. Development (*promoción*) of natural leadership, compared with training of elected officials, goes much further toward motivating larger groups of people whose enthusiasm and commitment make them effective broadcasters of the message or the techniques. When natural leaders and community people direct the educational process and experimental activities, they feel they are the owners of the solutions they help generate, and will commit themselves to transform their practices.

G. RECOMMENDATIONS

For a non-formal environmental education strategy to be successful in El Salvador, its central focus, or at least a major part of it, will have to be community promotion, by which people at the lowest economic level have a major part to play in determining and initiating solutions to their own problems. Effective nonformal environmental education promotes "development" based on sound environmental management and conservation principles. The challenge of nonformal environmental education is to harmonize economic and social

development of communities with the maintenance of diverse, natural ecosystems. This kind of integrated, participatory program will depend on systematic, targeted processes of education, extension and training.

A few recommendations for effective nonformal environmental education emerge from the review of activities now being carried out. They imply an active and participatory role for PROMESA, working closely with Salvadoran ENGOs and DNGOs to enhance and expand what is already being done.

1. It may be more difficult to employ a decentralized strategy for institution-building, but in the long run it is more effective, because it builds local initiative and autonomy, leading to self-reliance, sustainability, local ownership of innovation and long-term commitment to changes in practices.
2. Community-based environmental learning activities have been designed to change both behavior and attitudes on the part of lower socio-economic groups. The activities are characterized by interactive approaches in which residents' knowledge and practices serve as starting points and foundation to identify the need for and applicability of additional information and alternative practices. Examples of this are to be found in AMAR's work in Barra de Santiago, ASAPROSAR's work in Santa Ana department, and DJC in the eastern part of the country.
3. The distinction between organizing, promotion, extension and education begins to blur when looking at the activities of these development organizations. "Extension" and "education" are a process of interaction between some people with practical and empirical knowledge and others with theoretical and scientific knowledge. More than the act of transferring technical information to people who lack it, education-extension is a complex (and sensitive) process in which a promoter engages people from the community in discussions that help them identify and recognize problems, encourages them to search for solutions, and guides them to start modest activities to solve their problems.
4. Participatory extension-education depends on having trained and skilled people to manage the process, people who are technically competent and process sensitive. It is essential that they fully understand and manage participatory extension methodology. They accompany the communities with which they work through diagnosis, analysis, decision-making, planning, implementation, monitoring, revision and evaluation. They should live in the area, and preferably be from the area.
5. PROMESA has an opportunity to facilitate exchanges between grassroots development organizations with community skills, and selected ENGOs which have the social sensitivity and technical knowledge to offer environmental information and focus. ASAPROSAR, for example, would make an excellent trainer in community environmental health assessment and intervention for ENGOs wishing to work directly with rural communities. DJC has considerable experience in training community extensionists or promoters, and would be able to provide "training for trainers" for ENGOs. FUNPROCOOP's recent experience with training in social ecology and alternative agricultural practices would be useful for ENGOs beginning to provide environmental education to rural communities.
6. In "action areas" PROMESA will work with local communities and NGOs to develop environmental projects. A number of DNGOs surveyed have considerable experience supporting community organizing and popular education, and should be consulted both for guidance and for possible involvement.
7. The most theoretically and technically "correct" and professionally designed project will fail in the long run if it is not introduced appropriately, while even poorly planned projects sometimes have

lasting positive effect if communities feel ownership. Who PROMESA works with, both local leadership and external organizations, will be at least as important as what kind of projects are designed. DNGOs experienced in identifying natural (as opposed to elected) leaders and promoting community development from the bottom up should be consulted at the earliest design stages.

8. A planning group of ENGOs, DNGOs and natural leader representatives from communities targeted by PROMESA should be formed, to develop a community needs assessment process, utilizing participatory rural appraisal techniques. Salvadorans experienced in community development and community organizing, and Salvadorans experienced in grass-roots environmental education, should be involved. As much as possible local people should be trained to manage and staff the projects, with training provided by DNGOs.

V. CONCLUSIONS

A. GENERAL OBSERVATIONS

1. Public concern in El Salvador about environmental issues is growing rapidly, although until the peace accords were signed little public discussion could be seen in official and mainstream circles, nor in poorer sectors. With increasing attention to reconstruction needs, the environment is finally getting more notice, but may be overshadowed by new roads, telephone exchanges, hydroelectric construction, urbanization, and other infrastructural priorities.
2. Education is almost always assumed to be an integral part of any environmental activity, including resource management, wildlife protection, preserve administration or restoration activities. The assumption may well be erroneous if the activities are not strategically planned with specific long- and mid-range goals in mind. The perception that environmental education is always part of any environmental activity is not necessarily good when it means that education is seen simply as a byproduct of every tree planting project, policy conference or wildlife management program.
3. By law, it is SEMA's responsibility to "coordinate technical cooperation between international organizations, official institutions [and] non-governmental entities related to the environment." It is also supposed to develop conservation and natural resource recovery activities through local governments and implement media campaigns in favor of the environment. SEMA is also designated as the implementer of CONAMA environmental policies and strategies, and is supposed to provide technical advice to CONAMA and make proposals through the Minister of Agriculture.

In practice, SEMA has taken on the responsibility of coordinating, managing, advising, licensing, regulating and funding the ENGOs. It has stopped short of executing and implementing projects, although that line becomes a thin one in practice. In the process of designing projects with and raising international funds for ENGOs, SEMA has also begun to identify institutional needs of the organizations and offer technical support. SEMA has developed requirements for formal registration of all non-governmental organizations ENGOs and DNGOs alike - as prerequisites for receiving SEMA support.

In this analyst's opinion, government and non-government agencies are most effective when they play separate roles, and when the government does not restrict or regulate NGO activities. There is nothing in SEMA's founding charter that suggests its focus should be to promote or limit environmental activism or to implement (by direct or indirect means) environmental projects. The most effective and appropriate functions of such a government institution generally are to facilitate

policy formulation, ensure government compliance with policies and laws, and mediate dialogue between government, environmentalists, the private sector and the general public.

4. The educational system has long been neglected financially and strategically. Efforts to revive formal education as an important function of government are mixed, complicated by an undercurrent of disagreement over methodology; that is, the relative merits of private enterprise and public services in delivering effective educational service. Assuming that this will be an ongoing and unresolved question, the role of formal education in Salvadoran society needs to be debated publicly, with public educational policy clarification, and recommitment to education in general, the obvious results. Some environmental and development NGOs have collaborated closely with the formal education system to carry out nonformal environmental education. Others are in a position to provide assistance in curriculum reform.
5. Environmental education is not now a structural part of the educational system. However, some environmental topics are addressed (although not in a strategic fashion), opportunities exist for major reform of the educational curriculum, and the possibility exists of long term restructuring, to enable systematic integration of environmental issues in the national educational system.
6. El Salvador has a number of public institutions, and one private one, which have physical installations potentially useful for informal (mass audience) educational purposes. Currently they depend on a handful of undertrained people, without funds, lacking experience in utilizing physical resources as educational tools. These installations include parks, the zoo, natural areas, tourist centers, the natural history museum, the botanical garden, archaeological sites and cultural centers. Notwithstanding the aspirations of some personnel, these institutions are under-equipped at present to offer educational programs to a wide audience with significant environmental messages.
7. The communications media - radio, television and newspapers - have diverse audiences with broad geographic reach and substantial information regarding environmental problems. Single-issue campaigns and ongoing awareness building have been carried out effectively, and many media outlets are interested in carrying more material. Some treatable shortcomings are a lack of systematic provision of information, uncoordinated approaches by environmentally concerned institutions, and lack of skilled, strategic and goal-oriented initiatives by the media and environmental organizations.
8. The professional subculture is changing in El Salvador as environmentalism gains acceptance and popularity. Working for an environmental organization has gone from being a mystery to being socially acceptable to being socially respected among the urban middle class, not unlike working to end cancer. It is non-threatening and "good" work because it addresses a general condition that everyone suffers from in a non-immediate way.

This perspective is a step in the right direction, as it results from successful environmental awareness-building among the urban middle class, who are frequently on the front edge of emerging trends. In the US, two very simple complaints (air and water were polluted, and everybody suffered) sparked a gradual awakening of the public. Over the years that public developed a more sophisticated understanding of the complexities of environmental issues, with policy changes and some systemic improvements following.

9. The perspective also has its limitations, which require analysis in order to minimize their negative effects. "Que bonito tener un arbol" (How nice it is to have a tree) and "Que lindo sembrar un

arbolito" (It's so good to plant a little tree) are heard frequently in El Salvador. They reflect two very common beliefs: that lack of trees is the country's biggest environmental problem, and to keep or plant trees is to improve the environment. The danger of such oversimplification is that people may not go further, to learn that the causes are deeper, that the solutions are more complex, and that they will have to engage in significant changes of attitude and practice before the environmental crisis is resolved.

10. It is, naturally, the visible aspects of environmental degradation of which the public is most aware, while the causes are harder to perceive. For example, most people still tend to blame the victims - the peasants for cutting trees for firewood, the urban poor for dumping garbage on the streets, or drivers of old cars for spewing black smoke into the air.
11. Not many Salvadorans yet are asking why their rivers are polluted, or what they can do about it; or where their garbage is taken, or what alternatives there are. Few people wonder if farmers are too dependent on chemicals, and if so why; nor do they wonder if there are safer application methods, safer chemicals, or alternatives to chemicals. Few voices are heard questioning the trade-offs of endemic pollution of the assembly plants receiving tax-free incentives to locate on the outskirts of San Salvador in exchange for low-wage unskilled employment. Few urban people question why the rural poor have cut down all the trees on steep hillside plots, much less ask what land use policies would improve matters. Fewer still wonder what land tenure changes would be necessary, and what alternative technologies, extension, credit, training and education projects will be effective both to solve the tree problem and the health and income and shelter problems.
12. The greater challenge for environmental education in El Salvador is to help people understand the root causes, and to take action. This can build on, but goes well beyond, simply raising the general level of awareness among the public that the environment is in trouble and needs help.
13. A systemic understanding suggests that informed people might take responsibility for the conditions they are beginning to abhor. It is a much more "political" kind of education because it compares the beneficiaries of environmental degradation with those who are victimized by ecological destruction. It also recognizes that only with a sense of responsibility will Salvadorans change widespread destructive practices and begin system-wide constructive actions.
14. While effective environmental activism has historically used tactics ranging from collaboration to confrontation, the underlying common principle is that changes in practices and policies are necessary. Without an aware and concerned public behind them, environmentalists - researchers, teachers, analysts, managers and activists alike - will have little effect at influencing economic decisions. Environmental education, by whatever means, is an essential component in achieving informed support and effective influence.
15. Public *denuncias* are a common and acceptable phenomenon in El Salvador, where there is little tradition of responsive government or effective public interest lobbying. Environmental organizations, as well as development groups and others concerned about environmental effects on social and economic conditions, employ this medium frequently, although without noticeable effect in many cases. Such activities may be directed at government officials (as in the case of FESA demanding the Minister of Agriculture to enforce his ministry's regulations regarding illegal road construction by private interests), at specific government agencies (as in a recent case in which Parque Infantil was going to cut 101 trees to construct buildings), at private individuals or families (such as the Dueñas

family and El Espino cooperative), at specific businesses (La Constancia's decision to market beer in cans, and later decision to recycle the cans), or at broader groups of officials (the mayors of San Salvador, Antigua Cuscatlán, Santa Tecla, Colón and Zaragoza as well as the ministries of Public Works, Agriculture, Public Health & Social Assistance, the National Assembly, CONAMA and OPAMSS regarding suburban hillside urbanization schemes).

16. Without questioning the legitimacy of denunciations, to measure their educational effectiveness a distinction should be made between those *denuncias* that carry some analysis of why a situation or condition exists and/or that propose viable means for resolution, and those which stop at demanding the situation to change. A distinction can also be made related to the objectives of the denunciation, between "call to arms" efforts to maximize immediate opposition, and those which seek to inform in order to organize conscious participants in a process of change.

At this stage in El Salvador these distinctions are not often made; virtually all mass media efforts are thought of as educational. However, as time progresses some environmental activists will learn what kinds of messages are most effective at generating desired changes. Pragmatists, more interested in results than drama, will consciously adapt their techniques to respond to what works. At this level, then, Salvadoran environmental organizations need assistance more in communication tactics than techniques.

17. The stridency of the message should not be confused with the value of the message. No environmental NGO - and no other social or development organization concerned about the state of El Salvador's environment - is satisfied that enough is being done. Especially in a society trying to emerge from systematic suppression of dissent and widespread silence, there is value and legitimacy in public debate, differences of style and disagreements about objectives. However discomforting it may be, vigorous public debate is healthy for El Salvador's nascent attempts at democracy, and healthy for the environment. Indeed, the sometimes strident and occasionally self-serving demands often serve to attract needed attention to problems of which others are aware but working more quietly to solve, without public support. The more vocal environmentalists also open political space which is then available for others who can become stronger advocates without loss of credibility.

B. GENERAL PROBLEMS

1. Some specifics of each development and environmental NGO surveyed can be found in Appendices C. Additional information is available by reviewing their published and internal materials collected by this assessment, and the questionnaires used for the survey. Of course, more detailed information can be obtained by another survey. There is a danger, already beginning to be expressed in some quarters, that PROMESA will survey, research and study endlessly, then select a few "favorites" to receive the benefits, leaving out the others for reasons that will not be clear.
2. Conflicts between organizations competing for scarce support is endemic to underdeveloped conditions. This situation is not entirely avoidable, but should not be unnecessarily exacerbated by PROMESA.
3. PROMESA was not conceptualized through a widespread, public process, and its design is primarily in the hands of foreigners. There is naturally considerable speculation in El Salvador about the role PROMESA will play in environmental education, and in the political economy of the country. This speculation is accompanied by early posturing and jockeying for position in some sectors, while others

view PROMESA with open suspicion and mistrust (not altogether for bad reasons). Others have adopted a neutral "wait-and-see" attitude, and some express a cautious optimism. It is unavoidable for a large-scale program to attract this kind of attention, but when the facilitator rather than the process becomes the central focus, it detracts from the outcome of the process.

4. Environmental education is sometimes seen as a mistaken effort which "blames the victims" or deflects attention from the really major polluters or resource exploiters. This is avoidable, but is not always understood by educators who focus on a narrow slice of the problem.

C. GENERAL RECOMMENDATIONS

1. Although currently there is little contact among the ENGOs, DNGOs and government agencies involved in nonformal environmental education, their functional complementarity suggests considerable value could be gained by collaboration. Some representatives of each group recognize they have things to learn from and offer to the others, and have expressed interest in more contact. Outside efforts - by PROMESA or others - to strengthen the institutions and their programs should encourage and support mutual collaboration between these different kinds of organizations.
2. The first two steps in establishing a comprehensive and effective nonformal environmental education program will be to (a) identify existing institutional resources and priority areas of expertise needed, based on (b) the results of community needs assessments done in conjunction with ENGOs and DNGOs already working in the field.
3. Communities should be selected based on a number of characteristics, including the existence of natural leaders or organizers as potential promoters, some level of community organization, existence of producers', women's or civic associations, expressed interest in participation on the part of some members of the community, available facilities (land, infrastructure, etc.) and the existence of a positive working relationship between the community's formal and informal leadership.
4. The great diversity of roles and styles of Salvadoran NGOs will challenge outsiders who wish to assist the process, and who are tempted to put priority on those activities with which they most readily identify or with which they are most familiar. This will be a mistake. Little would more weaken this country's incipient environmental movement if its growth and development were skewed by the imposition of external biases.
5. Bi-directional relationships are needed between resource providers and implementing organizations to avoid creating dependency. Salvadoran NGOs with viable educational programs and activities should have some input into the creation of PROMESA program plans which will affect them further along.
6. Assuming that PROMESA will play more than a funding role and less than an implementation role (eg., a facilitative role), it should work closely with organizations already carrying out nonformal environmental education of both the awareness-building and practice-alteration varieties. It can seek collaboration and program enhancement where appropriate, supporting effective existing projects and breathing life into others.
7. Criteria for inclusion of partner NGOs should include commitment to environmental concerns, demonstrated appreciation for the communities' perspectives and respect for the people, recognition

that technology alone cannot solve problems, demonstrated ability to learn new educational techniques, and willingness and ability to learn from and teach others.

8. The role(s) that PROMESA will play need to be determined and made clear as soon as possible. PROMESA may implement demonstration and environmental education projects, fund existing projects, encourage and enable local organizations to alter existing or start new projects, discourage continuation of non-productive activities, facilitate collaboration, provide training, and so on. Internal clarity and public clarification will be very helpful in encouraging positive relationships to develop.
9. Lest environmental and development organizations begin to feel over-studied by numerous interviews, surveys and meetings, some feedback should be given as soon as possible that can help them in understanding their own strengths and weaknesses. If outside parties are to be useful to Salvadoran organizations, their concerns and perspectives - however valid they may or may not appear to others - need to be heard, understood, and perceived to be heard and understood. This includes their perspectives regarding the appropriate roles for outsiders to play.
10. It will be essential for PROMESA to respect existing organizational and institutional structures, including the natural leaders, decision-making processes, and program priorities when determined by the people themselves.
11. SEMA's program emphasis on NGOs rather than on government policies and practices is focussing in the wrong direction. It may be more satisfying, and more visible, but it is misplaced. There is considerable public perception in environmental sectors that SEMA is trying to control virtually all activities related to environmental change in the country. This may not be accurate, but the ambiguity creates unnecessary mistrust and reluctance to cooperate with the government.

According to its charter, SEMA was established to define government strategies, to promote (but not direct, lead or guide) protection and conservation, to formulate plans, and to create awareness. The only relationship to NGOs mentioned is to coordinate technical cooperation. Facilitating, supporting, regulating, managing, coordinating or overseeing NGOs was not part of SEMA's charge.

Focussing its attention in the direction of the government rather than non-government sectors, SEMA can have far more positive effect than by intruding into areas more appropriately the domain of the private sector. Developing independent institutional capacity and analysis, establishing environmental programs and technical capabilities, and carrying out specific actions are more effectively carried out independently of government involvement.

As the government's environmental office, SEMA is in an ideal position to press for more enlightened environmental laws and policies, and to ensure compliance on the part of all government Ministries and the private sector. It can design, promulgate and ensure enforcement of sound and consistent environmental policies. It can mediate dialogue between government, the private sector, environmentalists and the general public. And it can provide resources for those private entities meeting its criteria and willing to work within the policy framework of a government agency. In this way SEMA can have a dramatic and far-reaching effect, commensurate with the extraordinary fact of its creation.

12. Notwithstanding many individual and collective weaknesses of the environmentally-related organizations, the trends are certainly positive, and the ENGOs' potential is great. To enhance

Salvadoran ENGOs' efforts to create widespread public concern about and involvement in environmental change, a balanced approach will be required. Partner relationships should be sought. A sensitive ear to listen to a variety of voices and approaches is needed. And a flexible, creative and diversified funding pattern will be most effective in promoting open dialogue, respect for differences, and the ability to solve problems through discussion and negotiation rather than coercion or manipulation. That would indeed be a good legacy for US public and private assistance to El Salvador as a new century opens.

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NUMERO DE CENTROS EDUCATIVOS DE EDUCACION
PARVULARIA POR DEPARTAMENTOS, AÑO 1990,
SECTORES PUBLICO Y PRIVADO.

DEPARTAMENTOS	NUMERO DE CENTROS EDUCATIVOS		
	Total	Sect. Pub.	Sect. Priv.
Totales	1110	659	451
1. San Salvador	417	130	287
2. La Libertad	130	60	70
3. San Miguel	97	79	18
4. Chalatenango	84	81	3
5. Santa Ana	82	60	22
6. La Paz	50	45	5
7. Usulután	50	45	5
8. San Vicente	43	40	3
9. Sonsonate	40	23	17
10. La Unión	31	26	5
11. Cuscatlán	26	20	6
12. Ahuachapán	25	18	7
13. Morazán	24	23	1
14. Cabañas	11	9	2

Sector Público : 59.46 %

Sector Privado : 40.54 %

* FUENTE: Memoria de Labores 1990-1991 Ministerio de Educación

CONTENIDO PROGRAMATICO DEL AREA CONSERVEMOS NUESTROS RECURSOS NATURALES (CICLO I)

Appendix A-2

GRADO	CONTENIDO	GRADO	CONTENIDO	GRADO	CONTENIDO
PRIMERO	<ul style="list-style-type: none"> - El medio natural - Los animales: <ul style="list-style-type: none"> a) medio en que viven b) Cubierta de su cuerpo c) Forma de locomoción - Plantas de la localidad: <ul style="list-style-type: none"> a) medio en que viven b) Árboles, arbustos y hierbas - Diferencias entre plantas y animales - Beneficios de las plantas para con los animales - Componentes físicos del medio ambiente - Necesidad que los seres vivos tienen del sol, el agua y el aire - El medio natural y la satisfacción de las necesidades de hambre - Conservación de la fauna y la flora - Fertilizantes naturales 	SEGUNDO	<ul style="list-style-type: none"> - El medio natural - Factores que rodean al niño - Necesidad de ellos - El ecosistema - Recursos - Recursos naturales: <ul style="list-style-type: none"> a) Recursos naturales no renovables b) Recursos naturales renovables - Normas de conservación y uso racional de recursos - Medio natural; medio modificado por el hombre; medio creado por el hombre; modificaciones beneficiosas; modificaciones perjudiciales; el papel del hombre en la naturaleza - Formas de deterioro ambiental, sus causas y efectos - Efectos del crecimiento de la población sobre el ambiente - Efectos de la concentración poblacional sobre el ambiente - Artículos de consumo - Consumo innecesario - Consumo exagerado - Consumo perjudicial - Problemas que ocasiona la basura - Forma tradicional de eliminar la basura - Cómo convertir la basura en abono - Ventajas de convertir la basura en abono - Cultivo de plantas alimenticias en el hogar - Formas elementales de abonar el suelo - Conservación del suelo por medio de la vegetación 	TERCERO	<ul style="list-style-type: none"> - El medio natural y sus interrelaciones: productor, consumidor y descomponedor. - Equilibrio natural - Relaciones entre el hombre y la naturaleza. - Daños que el hombre causa a la naturaleza y viceversa - Concepto de recursos naturales renovables y no renovables. - Beneficios que los recursos naturales proporcionan al hombre - Necesidad de conservar los recursos naturales, renovables y no renovables. - Desequilibrios en la naturaleza debidos al crecimiento poblacional en El Salvador y al consumo excesivo de algunos artículos - Importancia de la flora y la fauna. Su conservación - Uso racional de energéticos, agua y alimentos - Medidas para el ahorro de los mismos. - Focos de contaminación en la comunidad. <ul style="list-style-type: none"> a) Posibles causas y sus efectos b) Acciones remediales para eliminar focos de contaminación - La erosión. Causas y consecuencias y medidas para combatirlas - Abonos orgánicos

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CONTENIDO PROGRAMATICO DEL AREA CONSERVENOS NUESTROS RECURSOS NATURALES (CICLO II)

Appendix A-3

GRADO	CONTENIDO	GRADO	CONTENIDO	GRADO	CONTENIDO
QUARTO	<ul style="list-style-type: none"> - El crecimiento de la población humana y la destrucción de los recursos naturales: <ul style="list-style-type: none"> a) bosques como recurso natural b) los bosques como fuente de adquisición de recursos c) Causas y efectos de la destrucción de los bosques d) Medidas de protección de los bosques - Poblaciones humanas y equilibrio ecológico: <ul style="list-style-type: none"> a) Cómo afecta el crecimiento de la población al equilibrio ecológico b) Acciones para evitar la ruptura del equilibrio ecológico - Relación entre el incremento poblacional, la producción y el consumo de alimentos <ul style="list-style-type: none"> a) Variación en la cantidad de tierras de cultivo b) Producción de alimentos de la comunidad - La contaminación y el deterioro ambiental por efecto del crecimiento de la población humana <ul style="list-style-type: none"> a) Fuentes de contaminación b) Efectos de la contaminación en la calidad de vida c) Medidas de protección del ambiente, mejoramiento de la vida 	QUINTO	<ul style="list-style-type: none"> - Relación entre el tamaño de la población y el uso de los recursos naturales - Medidas de conservación y preservación de los recursos naturales - Causas que alteran la cantidad y calidad de los recursos naturales - Consecuencias de alterar el equilibrio ecológico - Condiciones que establecen equilibrio entre el tamaño de la población y los recursos naturales existentes - Efectos de la conducta humana en la flora y la fauna: <ul style="list-style-type: none"> a) Relación entre población humana, flora y fauna b) Causas de la extinción de especies c) Acciones de protección a la flora y la fauna del país - Elementos de desarrollo del país y sus efectos sobre las condiciones ambientales - Uso de pesticidas, detergentes, aerosoles - Uso de maquinaria - Protección del suelo - Agentes formadores de suelo - Huertos escolares 	SEXTO	<ul style="list-style-type: none"> - La población humana y el equilibrio ecológico - Características de los recursos naturales del país - El crecimiento de la población de El Salvador - Uso racional del suelo agrícola - Cultivos del país <ul style="list-style-type: none"> Usos y costumbres de utilización de tierras de cultivo - El hombre recolector, el hombre agricultor, el hombre industrial y el hombre ecológico, sus formas de relación con la naturaleza - Características ambientales de las zonas urbanas y rurales - Causas y consecuencias de la situación ambiental en las zonas urbanas y rurales - Métodos de conservación de suelos - Cómo evitar la erosión

11.

CONTENIDO PROGRAMATICO DEL AREA CONSERVEMOS NUESTROS RECURSOS NATURALES (CICLO III)

GRADO	CONTENIDO	GRADO	CONTENIDO	GRADO	CONTENIDO
SEPTIMO	<ul style="list-style-type: none"> - Elementos que constituyen el medio ambiente <ul style="list-style-type: none"> a) Bióticos b) Abióticos - Equilibrio natural del medio - Intervención humana sobre el medio ambiente y el papel que juega en el desequilibrio natural - Efectos del crecimiento de la población en el medio ambiente <ul style="list-style-type: none"> a) por incremento de demandas b) Por hábitos de consumo y desperdicios(contaminación) - Importancia del suelo agrícola - Proceso de formación del suelo (agentes) - Cultivos de exportación y subsistencia del país 	OCTAVO	<ul style="list-style-type: none"> - Formas como el ser humano contaminan el ecosistema - Efectos de la contaminación ambiental en la calidad de vida de la población - Acciones tendientes a disminuir o evitar la contaminación ambiental - Macronutrientes - Desarrollo agrícola y eficiencia en la producción de alimentos - Población-Producción <ul style="list-style-type: none"> a) técnicas agrícolas y rendimientos productivos b) Superficie cultivable, producción y población - Proceso de formación del suelo (agentes) - Depósitos naturales de agua (superficiales y naturales) 	NOVENO	<ul style="list-style-type: none"> - Ecosistema: elementos que lo constituyen; etapas de desarrollo de la comunidad; equilibrio natural del ecosistema - Ciclo de agua y ciclos de macronutrientes y micronutrientes - El crecimiento de la población aparejado al crecimiento de necesidades - Los hábitos de consumo humano presionan el nivel de producción - Uso de tecnologías más apropiadas para optimizar la producción: fertilizantes y pesticidas - Efectos del desarrollo tecnológico sobre el ambiente: - Relación entre el principio de tolerancia, la población y la contaminación - Agricultura y asentamientos - Etapa post-industrial - Medio ambiente en El Salvador. Un caso: los bosques salados

MP

CONTENIDO PROGRAMATICO DE CIENCIAS BIOLÓGICAS. BACHILLERATO DIVERSIFICADO. PRIMER AÑO

AREA	NOMBRE	CONTENIDO
No. 1	ORGANIZACION DE LOS SERES VIVOS	<ol style="list-style-type: none"> 1. CITOLOGIA <ul style="list-style-type: none"> - La célula vegetal y animal: estructura. - Fisiología celular: respiración, nutrición, fotosíntesis y reproducción. - La herencia biológica: fundamentos citológicos y bioquímicos. Genética aplicada. 2. HISTOLOGIA <ul style="list-style-type: none"> - Tejidos animales: epitelial, sanguíneo, óseo nervioso, conjuntivo, cartilaginoso, muscular: estructura y función. - Tejidos vegetales, epidérmico sostén, conductor, meristemas, parénquima: estructura y función. 3. ORGANOGRAFIA <ul style="list-style-type: none"> - Organografía vegetal: raíz, tallo, hoja, flor, fruto y semilla: estructura y función. - Organografía animal: estructura general de los artrópodos y de los vertebrados.
No. 2	TAXONOMIA	<ol style="list-style-type: none"> 1. TAXONOMIA <ul style="list-style-type: none"> - Objeto y fundamento de la taxonomía. - Principios de nomenclatura biológica. 2. TAXONOMIA VEGETAL <ul style="list-style-type: none"> - Estudio de las antofitas: familias de mayor importancia económica para el país. 3. TAXONOMIA ANIMAL <ul style="list-style-type: none"> - Estudio de las clases: insectos, crustáceos, peces, aves y mamíferos.
No. 3	ECOLOGIA	<ol style="list-style-type: none"> 1. ECOLOGIA GENERAL <ul style="list-style-type: none"> - Conceptos y alcances de la Ecología. - El ecosistema. - El medio ambiente. - La comunidad 2. ZONAS ECOLOGICAS DE EL SALVADOR <ul style="list-style-type: none"> - Tierra caliente. - Tierra templada. - Tierra fría. - Flora y fauna de cada zona ecológica, destacando aquellas especies de importancia económica.

AREA	NOMBRE	CONTENIDO
No. 4	HISTORIA DE LA BIOLOGIA	<ol style="list-style-type: none">1. La Biología en época antigua, medieval y renacimiento.2. Grandes descubrimientos biológicos del siglo XIX.3. Fundamentos filosóficos de la Biología.4. Reseña histórica de la Biología en El Salvador.

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CONTENIDO PROGRAMATICO DE LA ASIGNATURA ECOLOGIA, EN TERCER AÑO DE BACHILLERATO ACADÉMICO, OPCIÓN CIENCIAS

AREA	NOMBRE	CONTENIDO
No. 1	CONTENIDO GENERAL	<ul style="list-style-type: none"> - Breve historia de la Ecología - Definición de Ecología. - Ecosistema. - Factores Abióticos. - Proceso de formación del suelo. - Elementos bióticos. - Interacción entre organismo y ambiente. - Tolerancia ecológica. - Concepto de climax y desclimax. - Bioma, composición, funcionamiento. - Principales biomas de la tierra. - Bosque templado caducifolio. - Bosque tropical lluvioso. - Pradera. - Desiertos. - Sabanas. - Océanos. - Estuarios. - Lagos, lagunas, ríos y arroyos. - El Ecotono. - Comunidad.
No. 2		<ul style="list-style-type: none"> - Energía. - Primera y segunda ley de la termodinámica. - Cadenas alimenticias. - Pirámides ecológicas. - Pirámide de número. - Pirámide de biomasa. - Pirámide de energía. - Concepto de magnificación. - Nicho ecológico y hábitat. - Ciclo biogeoquímico. - Ciclo del carbono. - Ciclo del nitrógeno. - Ciclo del fósforo. - Sales minerales. - Ciclo del azufre.

ESCUELA NACIONAL DE AGRICULTURA (ENA)

Fué fundada en agosto de 1956 con el fin de formar técnicos que asesoraran al sector agrícola en el incremento de producción agropecuaria, por medio de transferencia tecnológica.

Desde su fundación hasta 1989 ha graduado a 2133 agrónomos. En 1982 se le otorgó calidad de Institución Autónoma adscrita al Ministerio de Agricultura y Ganadería con el fin de convertir en Institución Administrativa de nivel superior. Generalmente hay intención de convertirla en una entidad Universitaria, por medio de un plan complementario de 2 años sobre los estudios de Agronomía y en la especialidad de Agricultura bajo riego. Este plan ha sido auspiciado dentro del proyecto GOES/AID 5190303 "Araujo de Aguas".

El perfil del agrónomo que forma la ENA lo define como un profesional en Ciencias Agropecuarias, para una ocupación de extensionistas y administrados dentro del contexto del Desarrollo Rural Integrado. En 1990 en su trigésima promoción graduó a 64 agrónomos.

En los cuadros anexos, se puede advertir el alcance del proceso de formación profesional tanto del agrónomo, como del Ingeniero en Agricultura Bajo Riego.

CARRERAS DE ING. AGRONOMICA A NIVEL DE TECNICO
ATENDIDAS EN INSTITUTOS TECNOLOGICOS OFICIALES,
ESTUDIANTES EN-CICLO 1989 *

CARRERAS DEL AREA ING. AGRONOMICA	Numero de Estudiantes	NUMERO DE INST. TEC.
1. Produc. Agropecuario	29	3, 5
2. Produc. Agrícola	96	2, 3, 4, 5
3. Conservación de Suelo y agua	11	1
4. Mecanización Agrícola	30	1
	116	

NOMINA DE INSTITUTOS TECNOLOGICOS QUE SIRVEN CARRE-
RAS DE TECNICO EN ING. AGRONOMICA.

- | | |
|--------------------------------|------------|
| 1. Tecnológico Centroamericano | (ITCA) |
| 2. Tecnológico de Sonsonate | (ITSA) |
| 3. Tecnológico de Usulután | (ITSU) |
| 4. Tecnológico de Chalatenango | (ITCHA) |
| 5. Tecnológico de Zacatecoluca | (ITECZA) |

* FUENTE: Educación Superior en Cifras
1989-1990, Dirección de Educación Superior
Ministerio de Educación , Nva. San Salvador.

FUENTE: ODEPOR
(p) CIFRA PRELIMINAR Y/O ESTIMADA

Appendix A-9

MINISTERIO DE EDUCACION
OFICINA DE PLANEAMIENTO
Y ORGANIZACION (ODEPOR)

NUMERO DE ESTUDIANTES EN INSTITUTOS TECNOLOGICOS Y ESCUELAS DE EDUCACION SUPERIOR NO UNIVERSITARIA
POR AÑO Y SEXO MASCULINO, 1986-1990 (EL SEXO FEMENINO ES CALCULADO POR RESTA)

NOMBRE DE LOS INSTITUTOS TECNOLOGICOS Y ESCUELAS DE EDUCACION SUPERIOR NO UNIVERSITARIA	MATRICULA TOTAL POR AÑO									
	1986		1987		1988		1989		1990	
	TOTAL	MASCULINO	TOTAL	MASCULINO	TOTAL	MASCULINO	TOTAL	MASCULINO	TOTAL	MASCULINO
T O T A L	7.926	3.720	7.949	3.503	5.923	2.604	5.651	2.358	5.802	2.893
1. INSTITUTO TECNOLOGICO DE SANTA ANA	609	315	739	337	536	220	379	167	522	277
2. ESCUELA NACIONAL DE ENFERMERIA	66	-	-	-	-	-	-	-	-	-
3. INSTITUTO TECNOLOGICO DE SONSONATE	626	276	359	165	310	126	265	119	340	169
4. INSTITUTO TECNOLOGICO DE CHALATENANGO	370	144	254	107	196	87	214	77	183	63
5. ESCUELA NACIONAL DE AGRICULTURA	351	337	250	240	303	296	302	297	196	184
6. INSTITUTO TECNOLOGICO CENTROAMERICANO	1.724	1.272	1.566	1.127	1.576	1.047	1.197	820	1.428	1.054
7. INSTITUTO TECNOLOGICO GENERAL FRANCISCO MENENDEZ (SAN SALVADOR)	926	264	408*	109	b/	b/	-	-	-	-
8. INSTITUTO TECNOLOGICO METROPOLITANO (SAN SALVADOR)	-	-	-	-	-	-	136	66	242	123
9. ESCUELA SUPERIOR DE EDUCACION FISICA	NO INF.	NO INF.	122	95	112	89	103	90	112	86
10. ESCUELA NACIONAL DE ENFERMERIA DE SAN SALVADOR	81	4	-	-	-	-	-	-	-	-
11. INSTITUTO TECNOLOGICO DE ZACATECOLUCA	330	153	297	138	288	114	274	103	238	92
12. INSTITUTO TECNOLOGICO DE SAN VICENTE	326	105	384	138	345	106	291	79	204	59
13. INSTITUTO TECNOLOGICO DE USulután	657	235	408	147	382	138	281	131	278	125
14. INSTITUTO TECNOLOGICO DE SAN MIGUEL	1.288	526	431	127	422	118	282	60	335	77
15. ESCUELA NACIONAL DE ENFERMERIA DE SAN MIGUEL	44	-	28	-	-	-	-	-	-	-
16. ESCUELA SUPERIOR DE ENFERMERIA L INSTITUTO FLORENCIA NIGHTINGALE (S.S.)	182	-	194	2	130	-	184	1	204	-
17. COLEGIO TECNOLOGICO ESPRITU SANTO (SAN SALVADOR)	60	-	320	6	137	3	75	6	72	6
18. INSTITUTO TECNOLOGICO SALARRUE (SAN SALVADOR)	110	28	110	19	105	17	80	7	77	7
19. ESCUELA SUPERIOR DE TECNOLOGIA Y ADMINISTRACION (SAN SALVADOR)	NO INF.	NO INF.	595	333a/	NO INF.	NO INF.	416	239	562	301
20. INSTITUTO SUPERIOR DE TECNOLOGIA "LA SALLE" (SAN SALVADOR)	96	15	92	23	60	14	46	12	12	2
21. INSTITUTO SUPERIOR DE COMPUTACION Y ADMINISTRACION (SAN SALVADOR)	80	46	55	33	67	40	11	8	9	7
22. INSTITUTO SUPERIOR DE VENTAS PUBLICIDAD Y MERCADEREO (SAN SALVADOR)	-	-	240	152	222	140	NO INF.	NO INF.	NO INF.	NO INF.
23. CENTRO TECNICO DE CAPACITACION CONTABLE (SAN SALVADOR)	-	-	85	27	93	22	88	46	100	43
24. INSTITUTO TECNOLOGICO DE EL SALVADOR (SAN SALVADOR)	-	-	54	10	NO INF.					
25. CENTRO INTERNACIONAL DE PROGRAMACION DE COMPUTADORAS (SAN SALVADOR)	-	-	740	121	NO INF.					
26. COLEGIO TECNOLOGICO SUPERIOR "SPENCER" (SAN SALVADOR)	-	-	-	-	415	-	797	13	332	-
27. INSTITUTO TECNOLOGICO LAS AMERICAS (SAN SALVADOR)	-	-	-	-	62	9	41	9	14	5
28. COLEGIO TECNOLOGICO "ANA GUERRA DE JESUS" (SAN VICENTE)	-	-	-	-	36	-	78	-	74	-
29. CENTRO TECNICO DE CAPACITACION CONTABLE (USULUTAN)	-	-	60	10	60	6	NO INF.	NO INF.	NO INF.	NO INF.
30. LICEO TECNOLOGICO "DOCTOR MANUEL ESCAMILLA" (SAN MIGUEL)	-	-	150	37	66	17	111	14	111	15
31. CENTRO DE CAPACITACION BANCARIA (SAN SALVADOR)	-	-	-	-	-	-	-	-	157	93

a/ SE ESTIMO EL SEXO
b/ EN ESTE AÑO FUNCIONO INCORPORADO AL ITCA

* FUNCIONO EN LAS INSTALACIONES DEL ITCA
FUENTE: ODEPOR

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CONTENIDO PROGRAMATICO, ASIGNATURA TECNOLOGIA Y MEDIOAMBIENTE. 2o. AÑO ENFERMERIA TECNICO SUPERIOR NO UNIVERSITARIA

AREA	NOMBRE	CONTENIDO
No. 1	NOCIONES DE ECOLOGIA	<ol style="list-style-type: none"> 1. El ambiente como sistema. 2. El ecosistema como unidad funcional y los sistemas biológicos. 3. Estructura, funcionamiento y evolución del ecosistema.
No. 2	LA SOCIEDAD Y EL MEDIOAMBIENTE	<ol style="list-style-type: none"> 1. Los ecosistemas humanos. 2. El hombre, la biosfera y el desarrollo. 3. Crecimiento, desarrollo y medio ambiente. <ol style="list-style-type: none"> 3.1 Población y el ambiente 3.2 El desarrollo y el ambiente 4. Tecnología, desarrollo y medio ambiente. <ol style="list-style-type: none"> 4.1 La ciencia y la tecnología 4.2 La tecnología contemporánea. 4.3 La tecnología blanda y el ecodesarrollo. 4.4 Transferencia de tecnología. 5. Ingeniería y medio ambiente. <ol style="list-style-type: none"> 5.1 Explotación y protección de los recursos naturales: agua, aire, fauna y flora. 6. Derecho y ambiente. 7. Patrones de consumo.
No. 3	LOS PROBLEMAS ECOLOGICOS DE EL SALVADOR Y SUS POSIBLES SOLUCIONES	<ol style="list-style-type: none"> 1. Impacto de la población en el medio ambiente. 2. La desertificación y la contaminación. 3. Problemática social: <ol style="list-style-type: none"> 3.1 Alimentación, nutrición y salud. <ul style="list-style-type: none"> - Situación nutricional. - Hábitos alimentarios - Relación nutrición-salud. - Situación de salud a nivel nacional. 3.2 La vivienda y el proceso de urbanización. 3.3 Tecnología alternativa y fuente de energía (tradicionales y no tradicionales) 3.4 Los agrosistemas y los sistemas industriales. 3.5 Impactos ambientales de las acciones bélicas. 3.6 La familia y el ambiente. 3.7 La educación y la problemática ecológica.

AREA	NOMBRE	CONTENIDO
No. 3		<ul style="list-style-type: none"> - El suelo y su significado ecológico. - Vocación del suelo. - Actividades de organismos estatales en la conservación del suelo. - Repercusiones ecológicas de la agricultura. - Efectos nocivos de la agricultura. - Control biológico. - Control integrado. - Efectos de la deforestación. - Irrigación, ventajas y desventajas. - Influencia de las quemas en la flora, fauna, suelo y agua. - Tipos de vegetación, evolución y estado actual. - Especies en peligro de extinción. - Formas de conservación de especies. - Los bosques como reserva biológica. - Jardines botánicos y zoológicos como reservas naturales. - Legislación nacional sobre conservación de recursos forestales y faunísticos. - Problemas del agua en El Salvador. - Cuencias hidrológicas. - Relación entre recursos forestales y mantos acuíferos. - Asentamientos humanos en relación con los recursos acuíferos. - Función de los organismos estatales en la administración del servicio de agua potable. - Contaminación ambiental. - Implicaciones socio-económicas de la contaminación. - Problema poblacional. - Historia del crecimiento población mundial. - Repercusiones del crecimiento poblacional en los recursos naturales. - Acciones estatales, soluciones al problema poblacional.

The Ministry of Education, through the Department of National Education and the Department of High School and Higher Education, published a list of legally recognized private universities in El Salvador as of April 10, 1992, as follows:

1. ALBERT EINSTEIN

Carreras Aprobadas:

- Ing. Mecánica
- Ing. Eléctrica
- Ing. Civil
- Ing. Industrial
- Arquitectura
- Lic. en Admón. de Empresas
- Lic. en Diseño Ambiental

2. AMERICANA

Carreras Aprobadas:

- Lic. en Economía
- Lic. en Admón. de Empresas
- Lic. en Ciencias de la Educ.
- Prof. en Educación Parvularia

En proceso de Aprobación:

- Lic. en Cultura General
- Prof. en Idioma Inglés

3. AUTONOMA DE SANTA ANA

Carreras Aprobadas:

- Lic. en Admón de Empresas
 - Lic. en Trabajo Social
 - Doctorado en Medicina y Cirugía
 - Doctorado en Odontología
 - Lic. en Psicología
 - Prof. en Educación Especial
 - Prof. en Psicología
 - Lic. en Ciencias Jurídicas
- ### En proceso de Aprobación:
- Lic. en Ciencias de la Educ.
 - Tecnología en Fisioterapia

4. CAP. GRAL. GERARDO BARRIOS

Carreras Aprobadas:

- Ing. Agron. Fitotecnista
- Ing. Agron. Zootecnista
- Ing. Agron. Generalista
- Ing. Civil
- Lic. en Ciencias de la Educ.
- Prof. en Matemát. y Física
- Prof. en Biología y Química
- Prof. en Ciencias de la Educ.
- Lic. en Admón. de Empresas
- Lic. en Ciencias Jurídicas
- Lic. en Psicología
- Prof. en Ciencias Sociales
- Prof. en Ciencias Comerciales
- Lic. en Computación
- Lic. en Mercadeo

En proceso de Aprobación:

- Prof. en Computación

5. CATOLICA DE OCCIDENTE

Carreras Aprobadas:

- Prof. en Ciencias Sociales
- Prof. en Idioma Inglés
- Prof. en Letras
- Prof. en Filosofía
- Prof. en Biología y Química
- Prof. en Matemática y Física
- Lic. en Ciencias de la Educación
- Ing. Agron. Desarrollo Rural
- Lic. en Comput. Admón. de Empresas
- Téc. en Comput. Admón. de Empresas
- Lic. e.: Ciencias Jurídicas
- Ing. Industrial
- Prof. en Ciencias Comerciales

6. CRISTIANA DE LAS ASAMBLEAS DE DIOS

Carreras Aprobadas:

- Lic. en Ciencias de la Educación
- Lic. en Teología Esp. Misiología
- Prof. en C. de la Educ. Opc. Admón.
- Prof. Esp. Misiología
- Lic. en Admón. de Empresas
- Prof. en Inglés
- Prof. en Letras
- Prof. en Matemática y Física
- Prof. en Ciencias Sociales
- Prof. en Ciencias Comerciales
- Lic. en Contaduría Pública
- Lic. en Economía
- Lic. en C. de la Educ. Opc. Admón.

En proceso de Aprobación:

- Lic. en Idioma Inglés
- Téc. en Comunicaciones
- Prof. en Educación Parvularia

7. DE ADMINISTRACION DE NEGOCIOS

Carreras Aprobadas:

- Lic. en Contaduría Pública

En proceso de Aprobación:

- Lic. en Economía
- Lic. en Mercadeo
- Lic. en Admón. de Empresas

8. DE EDUCACION INTEGRAL

Carreras Aprobadas:

- Prof. en Letras
- Lic. en Ciencias de la Educación
- Prof. en Biología y Química

En proceso de Aprobación:

- Prof. en Matemática y Física

9. DE LA PAZ

Carreras Aprobadas:

- Lic. en Ciencias de la Educación
- Prof. en Ciencias Sociales
- Prof. en Biología

En proceso de Aprobación:

- Prof. en Ciencias Comerciales

10. DE ORIENTE

Carreras Aprobadas:

- Ing. Agron. Zootecnista
- Ing. Agron. Fitotecnista
- Ing. Civil
- Arquitectura
- Ciencias Jurídicas
- Prof. en Biología y Química
- Prof. en Matemática y Física
- Prof. en Letras
- Prof. en Ciencias Sociales
- Lic. en Ciencias de la Educac. Opc.
- Prof. en Ciencias Comerciales
- Lic. en Admón. de Empresas
- Lic. en Psicología

En proceso de Aprobación:

- Lic. en Sociología
- Lic. en Letras
- Lic. en Ciencias de la Computación
- Lic. en Ciencias de la Educación
- Prof. en Ciencias de la Educación

11. DE SONSONATE

Carreras Aprobadas:

- Ing. Agronómica
- Ing. Civil
- Ing. Eléctrica
- Ing. Mecánica
- Ing. Industrial
- Lic. en Ciencias Jurídicas
- Lic. en Admón. de Empresas
- Lic. en Contaduría
- Lic. en Economía
- Téc. en Mercadeo
- Prof. en Letras
- Prof. en Física y Matemáticas
- Prof. en Biología y Química
- Lic. en Ciencias de la Educación
- Lic. en Psicología

12. DEL VENDEDOR SALVADOREÑO

No tiene carreras aprobadas ni en proceso de aprobación

13. DON BOSCO

Carreras Aprobadas:

- Lic. en Ciencias de la Educación
 - Ing. Mecánica
 - Ing. Eléctrica
 - Ing. Electrónica
 - Prof. en Teología Pastoral
 - Lic. en Teología
 - Téc. en Ciencias de la Comunicación
 - Lic. en Ciencias de la Comunicación
 - Téc. en Ingeniería Mecánica
 - Téc. en Ingeniería Eléctrica
 - Téc. en Ingeniería Electrónica
 - Téc. en Ingeniería en Computación
- ### En proceso de Aprobación:
- Prof. en Biología y Química
 - Prof. en Mat. Física y Computac.

14. DR. JOSE MATIAS DELGADO

Carreras Aprobadas:

- Lic. en Derecho
- Lic. en Psicología
- Lic. en Ciencias de la Comunic.
- Lic. en Filosofía
- Lic. en Letras
- Artes Aplic. Esp. Diseño Amb.
- Lic. en Economía
- Lic. en Admón. de Empresas
- Lic. en Mercadotecnia
- Lic. Agro-Industrial
- Bach. Mayor en Mercadotecnia
- Est. Téc. en Comerc. Internac.
- Lic. en Admón. Bancaria
- Lic. en Contaduría Pública
- Bach. Mayor Secret. Ejecutivo
- Bach. Mayor Admón. Pública
- Lic. en Admón. Pública
- Lic. en CC. de la Computación
- Lic. en Diseño Ambiental
- Lic. en Diseño Gráfico
- Lic. en Diseño Artesanal
- Ing. Agro-Industrial
- Ing. en Alimentos

En proceso de Aprobación:

- Téc. en Cultivos Agroindustriales
- Téc. en Procesam. y Conserv. Alim.

15. DR. MANUEL LUIS ESCAMILLA

Carreras Aprobadas:

- Lic. en Psicología
- Lic. en CC. de la Educación

En proceso de Aprobación:

- Prof. en Idioma Inglés
- Prof. en Educ. Parvularia
- Prof. en Educ. Especial
- Lic. en Admón. de Empresas
- Lic. en Educ. Parvularia
- Lic. en Informática
- Téc. Proc. de Alimentos
- Téc. en Computación

16. EVANGELICA DE EL SALVADOR

Carreras Aprobadas:

- Ing. Agron. Produc. Agrícola
- Ing. Agron. en Zootecnia
- Ing. Agron. en Sanidad Vegetal
- Ing. Civil
- Arquitectura
- Lic. en CC. de la Educación
- Doctorado en Medicina
- Doctorado en Cirugía Dental
- Prof. en Educación Especial
- Lic. en Educación Especial
- Prof. en Educ. Parvularia
- Lic. en Educ. Física y Deportes
- Lic. en Trabajo Social
- Prof. en CC. Comerc. y Tec. Secretariales
- Lic. Traduc. Idioma Inglés
- Prof. en Idioma Inglés
- Ing. Eléctrica
- Ing. Electrónica
- Prof. Física y Matemática
- Prof. en Biología y Química
- Lic. en Nutrición y Dietética
- Lic. en Psicología
- Lic. Educ. mención Currículo

17. FRANCISCO GAVIDIA

Carreras Aprobadas:

- Lic. en Admón. de Empresas
 - Lic. en Contaduría Pública
 - Lic. en Economía
 - Téc. en Comercialización
 - Lic. en Ciencias de la Educación
 - Lic. en Psicología
 - Lic. en Educación Parvularia
 - Lic. en Trabajo Social
 - Prof. en Letras
 - Prof. en Matemática y Física
 - Prof. en Biología y Química
 - Prof. en Educación Parvularia
 - Lic. en Admón. de la Educación
 - Prof. en Educación Especial
 - Prof. Univ. y de Maest. Clínica
 - Lic. en Mercadeo y Publicidad
 - Lic. en Educación Especial
 - Prof. en Idioma Inglés
 - Lic. en Letras
 - Prof. en Ciencias Comerciales
 - Téc. en Relaciones Públicas
 - Téc. en Contaduría Pública
- En proceso de Aprobación:**
- Ing. en Computación
 - Lic. en Sist. de Comp. Administrativa
 - Téc. en Sist. de Computación
 - Prof. en Computación

18. SIMON BOLIVAR

Carreras Aprobadas:

- Prof. en Ciencias de la Educ.
- En proceso de Aprobación:**
- Lic. en Ciencias de la Educación
 - Lic. en Educación Parvularia
 - Lic. en Educación Especial
 - Lic. en Educ. Opc. Admón. de la Educ.
 - Lic. en Trabajo Social
 - Prof. en Educ. Parvularia
 - Prof. en Educ. Especial
 - Prof. en Física y Matemática
 - Prof. en Química y Biología
 - Prof. en Letras
 - Prof. en Ciencias Sociales
 - Prof. en Ciencias Comerciales
 - Téc. en Producción Agropecuaria
 - Téc. en Producc. Agro-industrial
 - Lic. en Ciencias Jurídicas

19. JOSE SIMEON CAÑAS

Carreras Aprobadas:

- Téc. en Admón. Financiera
 - Téc. en Comercialización
 - Lic. en Ciencias de la Computación
 - Ciencias Jurídicas
 - Ing. Agron. Econ. Agrícola
 - Lic. en Ciencias Políticas
 - Química Agrícola
 - Arquitectura
 - Lic. en Sociología
 - Ing. Civil
 - Prof. en Filosofía
 - Prof. en Letras
 - Prof. en Ciencias Sociales
 - Prof. en Sociología
 - Prof. en Cienc. Relig. y Morales
 - Prof. en Matemáticas
 - Prof. en Matemática y Física
 - Prof. en Biología y Química
 - Lic. en Filosofía
 - Lic. en Letras
 - Lic. en Psicología
 - Lic. en Economía
 - Lic. en Contaduría Pública
 - Lic. en Admón. de Empresas
 - Ing. Química
 - Ing. Eléctrica
 - Ing. Mecánica
 - Ing. Industrial
- En proceso de Aprobación:**
- Comunicación y Periodismo

20. LAS AMERICAS DE EL SALVADOR

Carreras Aprobadas:

- Lic. en Economía
- Lic. en Admón. de Empresas
- Lic. en Contaduría Pública
- Lic. en Administración Pública
- Lic. en Ciencias Jurídicas
- Lic. en Psicología
- Prof. en Ciencias Comerciales
- Lic. en CC. de la Educación
- Prof. en Administración

21. LEONARDO DA VINCI

Carreras Aprobadas:

- Lic. en Admón. de Empresas
- Lic. en Relac. Públicas y Publicidad
- Téc. en Comercialización
- Téc. en Administración
- Téc. en Relac. Públicas y Publicidad
- Lic. en Mercadeo

22. LUTERANA SALVADOREÑA

Carreras Aprobadas:

- Lic. en Teología
- En proceso de Aprobación:**
- Lic. en Economía
 - Lic. en Trabajo Social
 - Lic. en Sociología
 - Lic. en Agroecología

23. METROPOLITANA DE EL SALVADOR

Carreras Aprobadas:

- Lic. en Admón. de Empresas
- Prof. en Idioma Inglés
- Lic. en C. de la Educ. Opc. Ac
- Lic. en Mercadeo
- Lic. en Contaduría Pública

En proceso de Aprobación:

- Tec. y Lic. en Trabajo Social
- Tec. y Lic. en Relac. Púb. y Cc
- Ing. Industrial
- Ing. en Sistemas y Computaci
- Prof. en Computación
- Prof. en Ciencias Comerciales
- Prof. en Ciencias Sociales

24. MODULAR ABIERTA

Carreras Aprobadas:

- Lic. en Admón. de Empresas
- Lic. en Contaduría Pública
- Lic. en Economía
- Tec. en Comercialización
- Tec. en Admón. de Personal
- Tec. en Admón. Financiera
- Tec. en Admón. de Empresas
- Lic. en CC. de la Educación
- Prof. en Letras
- Prof. en Ciencias Comerciales
- Lic. en Psicología
- Prof. en Educ. Parvularia
- Prof. en Idioma Inglés
- Lic. en Letras
- Lic. en Ciencias Jurídicas
- Prof. en Educ. Especial

25. NUEVA SAN SALVADOR

Carreras Aprobadas:

- Lic. en Admón. de Empresas
 - Lic. en Economía
 - Lic. en Contaduría Pública
 - Lic. en Comercialización
 - Lic. en Ciencias Jurídicas
 - Lic. en Química y Farmacia
 - Ing. Civil
 - Ing. Electrónica
 - Ing. Industrial
 - Ing. Eléctrica
 - Doctorado en Medic. y Ciruj
 - Doctorado en Cirugía Dental
 - Lic. en CC. de la Educación
 - Lic. en Public. y Relac. Pública
 - Lic. en Trabajo Social
 - Lic. en Ciencias Políticas
 - Lic. en Psicología
 - Prof. en Ciencias Sociales
- En proceso de Aprobación:**
- Lic. en Enfermería

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26. OCCIDENTAL DE EL SALVADOR**Carreras Aprobadas:**

- Ing. Agrícola
- Ing. Civil
- Ing. Mecánica
- Ing. Industrial
- Ing. Agroindustrial
- Lic. en Economía
- Lic. en Admón. de Empresas
- Lic. en Contaduría Pública
- Téc. en Comercialización
- Lic. en Psicología

27. PANAMERICANA**En proceso de Aprobación:**

- Lic. en Admón. de Empresas
- Lic. en Contaduría Pública
- Lic. en CC. de la Educación
- Prof. en Ciencias Comerciales
- Prof. en Letras

28. PEDAGOGICA DE EL SALVADOR**Carreras Aprobadas:**

- Lic. en Educación Inicial
- Lic. en Filosofía y Letras
- Lic. en Ciencias Sociales
- Lic. en Idioma Inglés
- Lic. en Matemática y Física
- Lic. en Biología y Química
- Lic. en Ciencias Comerciales
- Lic. en Admón. de la Educación
- Lic. en Desarrollo Social
- Prof. en Educación Inicial
- Prof. en Filosofía y Letras
- Prof. en Ciencias Sociales
- Prof. en Idioma Inglés
- Prof. en Matemática y Física
- Prof. en Biología y Química
- Prof. en Ciencias Comerciales
- Prof. en Desarrollo Social
- Lic. en Enfermería
- Enfermero Graduado

En proceso de Aprobación:

- Lic. en Mercadotecnia y Publicidad
- Lic. en Orientación Educativa

29. POLITECNICA DE EL SALVADOR**Carreras Aprobadas:**

- Ing. Civil
- Ing. Eléctrica
- Ing. Agroindustrial
- Ing. Química
- Arquitectura
- Ing. Agronómica
- Lic. en Admón. de Empresas
- Lic. en Economía
- Lic. en Contaduría Pública
- Téc. en Comercialización
- Ing. en CC. de la Computación
- Secretario Superior Administrativo
- Téc. Bancario
- Lic. en Mercadotecnia

En proceso de Aprobación:

- Lic. en Ciencias Jurídicas
- Lic. en Psicología
- Prof. en Educación Parvularia
- Lic. en Ciencias de la Educación

En proceso de Actualización:

- Lic. en Admón. de Empresas
- Lic. en Economía
- Lic. en Contaduría Pública
- Lic. en Mercadotecnia
- Téc. en Comercialización

30. SALVADOREÑA**Carreras Aprobadas:**

- Ing. Industrial
 - Ing. en Sist. Computacionales
 - Lic. en Economía
 - Lic. en Mercadotecnia
 - Lic. en Admón. de Empresas
 - Lic. en Contaduría Pública
 - Lic. en Ciencias Jurídicas
 - Lic. en Relaciones Internacionales
- En proceso de Aprobación:**
- Ing. Eléctrica
 - Téc. en Program. y Análisis de Sistem.

31. SALVADOREÑA "ALBERTO MASFERRER"**Carreras Aprobadas:**

- Ing. Civil
- Arquitectura
- Ing. Agrícola
- Medicina Veterinaria
- Doctorado y Lic. en Quím. y Farmacobiol.
- Lic. en Ciencias Jurídicas
- Lic. en Admón. de Empresas
- Lic. en Contaduría Pública
- Lic. en Economía
- Doctorado en Medicina y Cirugía
- Doctor en Cirugía Dental

32. SALVADOREÑA BERRY**Carreras Aprobadas:**

- Lic. en Contaduría Pública
- Lic. en Economía

33. SALVADOREÑA ISAAC NEWTON**Carreras Aprobadas:**

- Lic. en Admón. de Empresas
- Lic. en Contaduría Pública
- Téc. Univ. en Admón. de Empresas
- Prof. en Ciencias Comerciales
- Prof. en Letras y Estética
- Prof. en Ciencias Sociales
- Prof. en Física y Matemática
- Prof. en Biología y Química
- Lic. en Psicología
- Lic. en Letras
- Lic. en Ciencias Jurídicas

En proceso de Aprobación:

- Lic. en Matemática

34. SANTANECA DE CIENCIA Y TECNOLOGIA**Carreras Aprobadas:**

- Lic. en Admón. de Empresas
- Lic. en Contaduría Pública
- Lic. en Economía
- Arquitectura
- Téc. en Admón. Empresas Esp. Con y Fl.
- Téc. en Admón. de Empresas
- Téc. en Admón. de Personal
- Téc. Espec. Mercadotecnia
- Lic. en Trabajo Social
- Lic. en Psicología

En proceso de Aprobación:

- Téc. en Computac. Administrativa

35. TECNICA LATINOAMERICANA**Carreras Aprobadas:**

- Ing. Agrícola
 - Lic. en Zootecnia
 - Ing. Civil
 - Ing. Mecánica
 - Ing. Elec. Opc. Sist. de Potencia
 - Ing. Eléctrica Opc. Electrónica
 - Ing. Industrial Opc. Admón.
 - Ing. Agronómica
 - Lic. en Admón. de Empresas
 - Lic. en CC. de la Educación
- En proceso de Aprobación:**
- Lic. en Contaduría Pública

36. TECNOLOGICA**Carreras Aprobadas:**

- Lic. en Admón. de Empresas
- Lic. en Contaduría Pública
- Lic. en Mercadotecnia
- Lic. en Admón. Emp. Esp. Seguros
- Ing. Civil
- Ing. Industrial
- Arquitectura
- Lic. en Trabajo Social
- Lic. en Idioma Inglés
- Lic. en Psicología
- Lic. en Comunic. y Relac. Públicas
- Téc. Univ. en Periodismo
- Lic. en Ciencias Jurídicas
- Ing. en Sistemas de Computación

37. TOMAS ALVA EDISON**Carreras Aprobadas:**

- Lic. en Admón. de Empresas
- Lic. en Mercadeo
- Ing. Industrial
- Ing. en Sistemas Computacionales
- Ing. Electrónica
- Lic. en Contaduría Pública

38. ANDRES BELLO**En proceso de Aprobación:**

- Lic. en Trabajo Social
- Lic. en Computación Administrativa
- Prof. en Ciencias de la Educación
- Prof. en Matemática y Física
- Prof. en Ciencias Sociales
- Prof. en Biología y Química
- Prof. en Letras y Estética
- Lic. en Ciencias Jurídicas
- Prof. en Electrónica
- Prof. en Computación
- Prof. en Inglés
- Lic. en Ciencias de la Educación
- Lic. en Computac. Administrativa

39. SIMON BOLIVAR**Carreras Aprobadas:**

- Prof. en Ciencias de la Educación
- Téc. en Produc. Agropecuaria
- Téc. en Producción Agroindustrial

En proceso de Aprobación:

- Lic. en Educación Especial
- Prof. en Educación Especial
- Lic. en Ciencias Jurídicas
- Lic. en Trabajo Social
- Lic. en Ciencias de la Educación
- Lic. en Educación Parvularia
- Prof. en Educación Parvularia
- Prof. en Matemática y Física
- Prof. en Ciencias Sociales
- Prof. en Ciencias Comerciales
- Prof. en Letras
- Prof. en Biología y Química

PROLIFERACIÓN DE UNIVERSIDADES PRIVADAS

En 1965 entró en vigencia la ley de Universidades Privadas, con la cual se autorizó el funcionamiento de la Universidad Centroamericana José Simeón Cañas (UCA). Posteriormente entre 1978 y 1979 se autorizan las Universidades privadas Albert Einstein, Dr. José Matías Delgado y Politécnica de El Salvador. Período en el cual la crisis socio-política se agudiza a tal grado que ocurre por decisión gubernativa, el cierre de la Universidad de El Salvador, cierre que prácticamente duró 2 años, 1980, 1981. Sin tener en cuenta ninguna política educacional sobre educación Universitaria, se facilita por medio de la ley ya citada, el surgimiento de 33 Universidades Privadas en la década de los años 80. A 1990 funcionaban 37 y a 1992 38.

De acuerdo con la ley en inversión, el funcionamiento debe ser aprobado por una Comisión Ad-hoc formado por un representante de la Universidad de El Salvador, uno del Ministerio de Educación y uno de la Universidad interesada, con el fin de que los planes de estudio de las carreras que ha de atender una Universidad Privada, tengan como patrón comparativo los planes de la Universidad de El Salvador. Sin embargo la comisión no funciona cuando una Universidad privada solicita autorización para carreras que la Universidad de El Salvador no tiene, ó cuando se ofrecen metodologías de estudio incompatibles con la naturaleza de la profesión.

Como correlación al problema de la Educación Superior, el Ministerio de Educación, crea por acuerdo otros institutos tecnológicos en el ámbito de la educación superior no universitaria, esta vez adscritos a instituciones de educación media que administraban planes de estudio de bachillerato diversificado.

La gráfica No.5 formada de la Memoria de Labores del Ministerio de Educación (85-86) evidencia la dinámica del proceso de surgimiento de Universidades Privadas en el período de 1978-1985.

Se refiere que el fenómeno ha ocurrido dentro de la dinámica de la Oferta y la Demanda de estudios de Educación Superior y no por una política definida de formar el recurso humano que requiere el aparato productivo. El incremento de graduados en bachillerato en el quinquenio 80-84 fue un factor propio del problema. Un promedio de 20,000 graduados en cada año forman una demanda significativa frente a la oferta reducida de Universidad de El Salvador al iniciar su período de exilio, atendiendo estudios de infraestructura fuera de su campus y el elevado costo de estudios en las pocas universidades privadas.

MINISTERIO DE EDUCACION
DIRECCION DE EDUCACION SUPERIOR

EDUCACION UNIVERSITARIA, POBLACION ESTUDIANTIL POR UNIVERSIDAD, POR FACULTAD DE ESTUDIO Y SEIO
SEGUN UNIVERSIDAD. MATRICULA INICIAL AL 30 DE JUNIO DE 1990

No. CORRE LATA VO	UNIVERSIDADES	TOTAL GENERAL		CIENCIAS ECONOMICAS		INGENIERIA Y ARQUITECTURA		CIENCIAS Y HUMANIDADES		CIENCIAS JURIDICAS		MEDICINA		CIENCIAS AGRONOMICAS		ODONTOLOGIA		QUIMICA Y FARMACIA		
		TOTAL	MASC	FEMEN	MASC	FEMEN	MASC	FEMEN	MASC	FEMEN	MASC	FEMEN	MASC	FEMEN	MASC	FEMEN	MASC	FEMEN	MASC	FEMEN
TOTALES -		72047	24930	22750	7640	7039	7453	2063	5209	0700	1974	1621	1066	1154	940	ERR	440	907	90	253
01	UNIVERSIDAD DE EL SALVADOR a/	24389																		
02	UNIVERSIDAD CENTROAMERICANA JOSE SIMEON CAMAS	7830	2064	3174	1290	1366	1922	510	300	500	277	313	0	0	67	39	0	0	0	0
03	UNIVERSIDAD ALBERT EINSTEIN	1307	027	480	30	22	797	450	0	0	0	0	0	0	0	0	0	0	0	0
04	UNIVERSIDAD JOSE NATIAS BELGARD	3911	1739	2172	1283	1637	0	0	79	105	339	339	0	0	30	11	0	0	0	0
05	UNIVERSIDAD POLITECNICA DE EL SALVADOR	2540	1703	757	269	276	1207	466	0	0	0	0	0	0	227	15	0	0	0	0
06	UNIVERSIDAD SALVADORENA ALBERTO MASFERRER	1591	667	924	0	0	0	0	0	0	118	105	301	344	64	31	113	230	71	214
07	UNIVERSIDAD TECNOLOGICA	7566	4250	3300	1400	1222	1020	652	710	1230	232	196	0	0	0	0	0	0	0	0
08	UNIVERSIDAD EVANGELICA DE EL SALVADOR	0672	1101	1571	0	0	0	129	69	30	400	0	0	541	570	104	20	209	495	0
09	UNIVERSIDAD TECNICA LATINOAMERICANA	454	305	69	50	20	140	17	27	19	0	0	0	0	160	5	0	0	0	0
10	UNIVERSIDAD LEONARDO DA VINCI	005	374	421	216	203	0	0	120	220	0	0	0	0	0	0	0	0	0	0
11	UNIVERSIDAD OCCIDENTAL DE EL SALVADOR b/																			
12	UNIVERSIDAD FRANCISCO GAVIDIA	2577	1207	2290	539	455	0	0	740	1025	0	0	0	0	0	0	0	0	0	0
13	UNIVERSIDAD NUEVA SAN SALVADOR	1101	467	714	50	53	0	0	56	104	129	93	150	151	0	0	55	194	27	39
14	UNIVERSIDAD LAS AMERICAS DE EL SALVADOR	1275	080	395	331	07	0	0	50	55	459	253	0	0	0	0	0	0	0	0
15	UNIVERSIDAD AUTONOMA DE SANTA ANA	557	224	333	11	21	0	0	16	110	60	46	74	00	0	0	0	0	0	0
16	UNIVERSIDAD AMERICANA	170	100	70	0	0	0	0	100	70	0	0	0	0	0	0	0	0	0	0
17	UNIVERSIDAD CAPITAN GENERAL GERARDO BARRIOS	904	369	615	27	52	0	0	239	515	62	40	0	0	33	0	0	0	0	0
18	UNIVERSIDAD SALVADORENA b/																			
19	UNIVERSIDAD CATOLICA DE OCCIDENTE	007	441	366	130	176	66	9	94	101	66	71	0	0	77	9	0	0	0	0
20	UNIVERSIDAD DE ORIENTE	1045	741	1104	105	211	06	7	343	771	109	103	0	0	90	12	0	0	0	0
21	UNIVERSIDAD SANTAMECA DE CIENCIA Y TECNOLOGIA	254	131	123	62	42	32	24	37	57	0	0	0	0	0	0	0	0	0	0
22	UNIVERSIDAD SALVADORENA ISAAC NEWTON	197	96	101	15	17	3	0	71	00	7	4	0	0	0	0	0	0	0	0
23	UNIVERSIDAD DE SONSONATE b/																			
24	UNIVERSIDAD MODULAR ABIERTA	0060	2636	2232	1206	922	0	0	1274	1260	76	50	0	0	0	0	0	0	0	0
25	UNIVERSIDAD PEDIAGOGICA DE EL SALVADOR	630	254	305	0	0	0	0	254	305	0	0	0	0	0	0	0	0	0	0
26	UNIVERSIDAD CRISTIANA DE LAS ASAMBLEAS DE DIOS	679	339	340	73	56	0	0	266	204	0	0	0	0	0	0	0	0	0	0
27	UNIVERSIDAD DON BOSCO	1292	906	306	0	0	004	133	106	173	0	0	0	0	0	0	0	0	0	0
28	UNIVERSIDAD DE EDUCACION INTEGRAL SISTEMA MODUL	174	07	07	39	40	0	0	0	40	47	0	0	0	0	0	0	0	0	0
29	UNIVERSIDAD TOMAS ALVA EDISON	200	211	69	43	22	160	47	0	0	0	0	0	0	0	0	0	0	0	0
30	UNIVERSIDAD METROPOLITANA DE EL SALVADOR	995	661	334	249	122	115	33	297	179	0	0	0	0	0	0	0	0	0	0
31	UNIVERSIDAD DE ADMINISTRACION DE NEGOCIOS b/																			

FUENTE: DIRECCION DE EDUCACION SUPERIOR.

a/ NO INCLUYE DATO DESAGREGADO POR SEIO, POR NO INFORMAR.

b/ NO HAY PROPORCIONADO INFORMACION A LA FECHA PARA EL AÑO 1990. POR TAL MOTIVO NO SE INCLUYE MATRICULA.

POBLACION ESTUDIANTIL UNIVERSITARIA
POR FACULTAD, SECTOR PRIVADO MATRICU -
LA INICIAL A JUNIO. -1989.-

FACULTADES	Número Universidades	Población Estudiantil
1. Ciencias Económicas	24	14505
2. Ciencias Humanidades	24	13151
3. Ingeniería y Arquitectura	16	10050
4. Jurisprudencia	13	3370
5. Ciencias Agronómicas	11	1180
6. Odontología	4	1333
7. Medicina	4	1969
8. Química y Farmacia	2	279

* FUENTE: Educación Superior en Cifras 1989-1990, Dirección de Educación Superior, Ministerio de Educación.

POBLACION ESTUDIANTIL UNIVERSITARIA POR FACULTADES DE
ESTUDIO (1985 a 1989)

FACULTADES \ AÑOS	1985	1986	1987	1988	1989*
Ciencias Económicas	17,553	18,019	17,495	17,890	14,505
Ciencias Agronómicas	2,408	2,434	2,518	2,493	1,180
Ingeniería y Arquitectura	13,689	13,954	12,944	13,125	10,050
Medicina	5,337	6,433	6,936	8,694	1,969
Odontología	1,250	1,498	1,684	2,174	1,333
Química y Farmacia	1,139	1,378	1,250	1,095	279
Jurisprudencia y C.Sociales	5,251	5,813	6,060	6,737	3,370
Ciencias y Humanidades	14,367	16,066	17,628	19,401	13,151
TOTAL	60,994	65,595	66,515	71,609	45,837

* No incluye datos de la Universidad de El Salvador.

ETAPA DE NEOLECTURA

FOLLETOS SOBRE EDUCACION AMBIENTAL

1. CONTAMINACION POR BASURAS
Lleva al lector a que analice y reflexione sobre todos los problemas que ocasiona la disposición inadecuada de la basura, especialmente para la salud; al final invita a que los lectores adquieran el compromiso de velar por su propia salud y la de otras personas.
2. UNA BASURA ORIGINA UN BASURERO
Muestra cómo las costumbres y los hábitos de cada una de las personas pueden influir negativa ó positivamente sobre el medio ambiente. Luego da a conocer algunas formas para disponer adecuadamente la basura y contribuir así a la protección de la salud de todos.
3. NUESTROS RECURSOS NATURALES
Muestra cómo el hombre es parte de la naturaleza y cómo las actividades de los miembros de la familia puede afectar positiva ó negativamente cada uno de nuestros recursos naturales: agua, flora, suelo, fauna, aire. Al final invita a proteger y usar adecuada y racionalmente los recursos naturales.
4. HACIA DONDE VAMOS
Invita a reflexionar sobre qué nos espera si continuamos deteriorando el medio ambiente e invita a cada uno de los lectores a cambiar los hábitos y actitudes para frenar la destrucción del medio ambiente y presenta alternativas de solución al problema.
5. USO DE LOS RECURSOS NATURALES
Presenta al hombre como parte de la naturaleza y que para vivir tiene necesidad de aprovechar los recursos naturales, muestra que algunos de estos son renovables y otros son no renovables. Propicia la reflexión sobre qué clase de ambiente dejaremos a las futuras generaciones y presenta alguna alternativas para proteger y usar adecuadamente los recursos naturales.
6. PRODUCIR Y RECONSTRUIR
Muestra los efectos de la acción del hombre en la naturaleza, hace referencia a los cambios que ha tenido el ambiente en pocos años. Hace énfasis en la buena voluntad de cada persona para cambiar técnicas de cultivo, y poner en práctica técnicas que protejan al suelo, la fauna y la flora.

EL SALVADOR: FORMACION ATENDIDA EN EDUCACION BASICA DE ADULTOS POR ZONA Y SEXO, SEGUN SUBREGION Y DEPARTAMENTO DE ENERO A DIC. 1991, EN CIFRAS ABSOLUTAS.

SUBREGION Y DEPARTAMENTO	TOTAL NACIONAL			ESCUELA NOCTURNA DE ADULTOS						TERCER CICLO LIBRE					
				ZONA URBANA			ZONA RURAL			ZONA URBANA			ZONA RURAL		
	TOTAL	MASC	FEM	TOTAL	MASC	FEM	TOTAL	MASC	FEM	TOTAL	MASC	FEM	TOTAL	MASC	FEM
TOTALES	21,576	14,078	17,448	13,985	9,052	14,933	2,136	1,332	804	14,891	13,355	11,536	514	339	175
CENTRAL OCCIDENTAL	8,711	5,484	13,227	5,697	3,557	12,140	961	579	382	1700	11,116	584	353	232	121
CUSCATLAN	733	517	216	381	272	109	82	58	24	270	187	83	0		
LA LIBERTAD	1,225	734	491	648	400	248	233	136	103	338	190	140	0		
SAN SALVADOR	6,753	4233	2520	4,668	2,885	11,783	640	385	255	1092	731	361	353	232	121
CENTRAL OCCIDENTAL SUP	2,535	1,802	733	2,017	1,363	654	150	120	30	394	239	95	34	20	14
LA LIBERTAD (S)	715	454	261	535	314	221	26	20	6	154	120	34	0	0	0
SANTA ANA	1,980	1348	532	1,482	1,049	433	124	100	24	240	179	61	34	20	14
CENTRAL OCCIDENTAL SUP	3,815	2,765	11,080	1,934	1,401	533	378	246	132	1452	11,064	388	81	54	27
LA LIBERTAD (S)	675	462	213	241	174	67	304	195	109	49	39	10	81	54	27
SONSONATE	3,170	2303	867	1,693	1,227	466	74	51	23	1403	11,025	378	0		
CENTRAL OCCIDENTAL SUP	4,410	2,778	1,670	3,050	1,806	11,164	500	303	197	852	556	236	46	33	13
LA UNION	260	170	90	260	170	90	0			0			0		
MOCTEZUMA	31	208	183	239	160	138	93	48	45	0			0		
SAN DIEGO	1,544	912	632	1,060	620	448	166	107	59	310	185	125	0		
SUSUTAN	2,253	1488	765	1,424	936	488	241	148	93	542	371	171	46	33	13
CENTRAL OCCIDENTAL SUP	1,052	611	438	643	372	271	147	84	63	262	158	104	0	0	0
MORATAN	1,052	614	438	643	372	271	147	84	63	262	158	104	0		
CENTRAL OCCIDENTAL SUP	875	635	240	644	473	171	0	0	0	231	162	69	0	0	0
CAPANAS	225	175	50	181	138	43	0			44	37	7	0		
LA PAZ	598	421	177	411	296	115	0			187	125	62	0		
SAN VICENTE	52	39	13	52	39	13	0			0			0		

Reporte al: 31 de diciembre de 1991

MINISTERIO DE EDUCACION
DIRECCION DE EDUCACION DE ADULTOS

Appendix A-16 p.2

EL SALVADOR: POBLACION ATENDIDA EN EDUCACION BASICA DE ADULTOS POR NIVEL O GRADO, SEGUN SUBREGION Y DEPARTAMENTO DE
ENERO A DICIEMBRE 1991, EN CIFRAS ABSOLUTAS.

SUBREGION Y DEPARTAMENTO	POBLACION TOTAL	ESCUELA NOCTURNA DE ADULTOS				TERCER CICLO LIBRE			
		TOTAL	I NIVEL	II NIVEL	III NIVEL	TOTAL	7o. GRADO	8o. GRADO	9o. GRADO
TOTALES	21,526	16,121	5,533	5,105	5,483	5,405	2,227	1,711	1,467
CENTRAL METROPOLITANA	8,711	6,659	1,943	1,992	2,723	2,053	857	640	556
CUSCATLAN	733	463	125	151	187	270	108	81	81
LA LIBERTAD	1,225	887	337	230	320	338	165	95	78
SAN SALVADOR	6,753	5,308	1,481	1,611	2,216	1,445	584	464	397
OCCIDENTAL NORTE	2,555	2,167	777	708	682	428	191	130	107
AHUACHAPAN (N)	715	561	220	199	142	154	54	57	43
SANTA ANA	1,880	1,606	557	509	540	274	137	73	64
OCCIDENTAL SUR	3,845	2,312	826	713	773	1,533	615	509	409
AHUACHAPAN (S)	675	545	218	148	179	130	54	62	14
SONSONATE	3,170	1,767	608	565	594	1,403	561	447	395
ORIENTAL	4,448	3,550	1,447	1,208	895	898	368	270	260
LA UNION	260	260	86	98	76	0			
MORAZAN	391	391	137	138	66	0			
SAN MIGUEL	1,544	1,234	525	395	314	310	121	95	94
SUSUTAN	2,253	1,665	649	577	439	588	247	175	166
PARACENTRAL NORTE	1,052	790	321	272	197	262	91	84	87
CHALATENANGO	1,052	790	321	272	197	262	91	84	87
PARACENTRAL ORIENTE	875	644	219	212	213	231	105	78	48
CAROLINAS	225	181	76	62	43	44	27	17	
LA PAZ	598	411	115	142	154	187	78	61	48
SAN VICENTE	52	52	28	8	16	0			

Reporte al: 31 de diciembre de 1991

EL SALVADOR: CENTROS DE EDUCACION BASICA DE ADULTOS (ESCUELAS NOCTURNAS Y TERCEROS CICLOS LIBRES) POR ZONA, SEGUN SUBREGION Y DEPARTAMENTO, DE ENERO A DIC. DE 1991, EN CIFRAS ABSOLUTAS.

SUBREGION Y DEPARTAMENTO	TOTAL NACIONAL			ESCUELA NOCTURNA DE ADULTOS			TERCER CICLO LIBRE		
	TOTAL	URBANA	RURAL	TOTAL	URBANA	RURAL	TOTAL	URBANA	RURAL
TOTALES	289	231	58	216	168	48	73	63	10
CENTRAL METROPOLITANA	100	75	25	76	58	18	24	17	7
CUSCATLAN	5	4	1	3	2	1	2	2	0
LA LIBERTAD	12	8	4	10	6	4	2	2	0
SAN SALVADOR	83	63	20	63	50	13	20	13	7
OCCIDENTAL NORTE	30	23	7	26	20	6	4	3	1
AHUACHAPAN (N)	5	4	1	4	3	1	1	1	0
SANTA ANA	25	19	6	22	17	5	3	2	1
OCCIDENTAL SUR	51	45	6	32	27	5	19	18	1
AHUACHAPAN (S)	13	10	3	10	8	2	3	2	1
SONSONATE	38	35	3	22	19	3	16	16	0
ORIENTAL	69	55	14	53	40	13	16	15	1
LA UNION	4	4	0	4	4	0	0	0	0
HORAZAN	6	2	4	6	2	4	0	0	0
SAN MIGUEL	27	23	4	20	16	4	7	7	0
SULUTAN	32	26	6	23	19	5	9	8	1
PARACENTRAL NORTE	25	19	6	20	14	6	5	5	0
CHALATENANGO	25	19	6	20	14	6	5	5	0
PARACENTRAL ORIENTE	14	14	0	9	9	0	5	5	0
CABAÑAS	3	3	0	2	2	0	1	1	0
LA PAZ	9	9	0	5	5	0	4	4	0
SAN VICENTE	2	2	0	2	2	0	0	0	0

Reporte al: 31 de diciembre de 1991

21

NUMERO DE CENTROS EDUCATIVOS DE EDUCACION
BASICA, POR DEPARTAMENTOS, AÑO 1990, SECTO-
RES PUBLICO Y PRIVADO.-

DEPARTAMENTO	NUMERO DE CENTROS EDUCATIVOS		
	TOTAL	S/Pub.	S/Priv.
TOTALES	4237	3648	589
1.San Salvador	849	474	375
2.La Libertad	372	292	76
3.Santa Ana	362	330	32
4.San Miguel	340	316	24
5.Usulután	314	303	11
6.La Unión	286	280	6
7.Chalatenango	271	268	3
8.San Vicente	226	225	5
9.La Paz	220	212	8
10.Sonsonate	218	196	22
11.Cabañas	216	214	2
12.Ahuachapán	203	192	11
13.Morazán	200	196	4
14.Cuscatlán	160	150	10

Sector Público : 86.09%

Sector Privado : 13.91%

* FUENTE : Memoria de Labores 1990-1991 Ministerio de Educación

- (12)

NUMERO DE CENTROS EDUCATIVOS DE EDUCACION
MEDIA, POR DEPARTAMENTOS, AÑO 1990. SECTO-
RES PUBLICO Y PRIVADO.

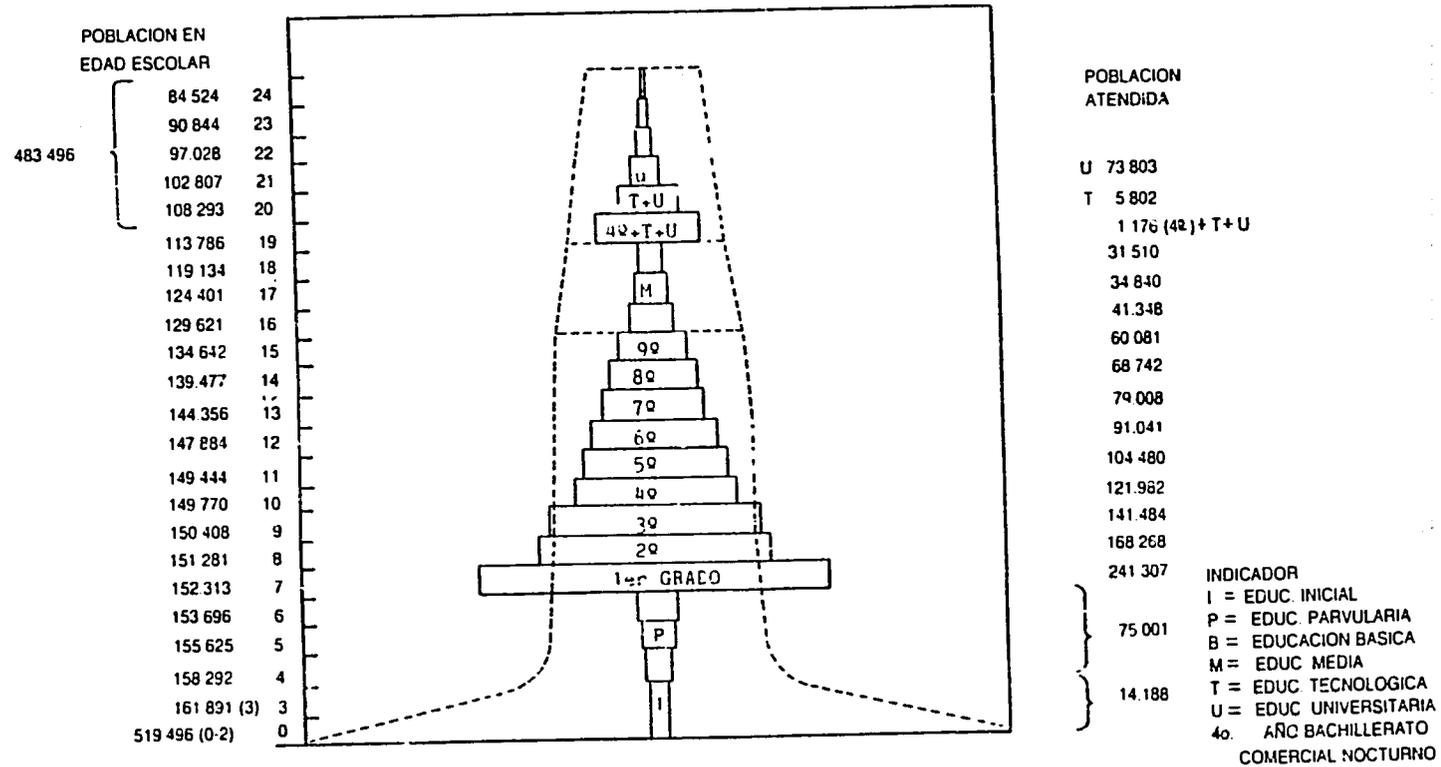
DEPARTAMENTO	NUMERO DE CENTROS EDUCATIVOS		
	TOTAL	S/Pub.	S/ Priv.
TOTALES	457	186	271
1.San Salvador	185	39	146
2.La Libertad	50	14	36
3.Santa Ana	36	11	25
4.San Miguel	34	20	14
5.Usulután	26	16	10
6.Sonsonate	20	11	9
7.La Paz	19	13	6
8.La Unión	17	12	5
9.San Vicente	16	10	6
10.Chalatenango	15	14	1
11.Ahuachapán	14	7	7
12.Cuscatlán	10	5	5
13.Morazán	9	9	--
14.Cabañas	6	5	1

Sector Privado : 59.30%

Sector Público : 40.70%

*FUENTE: Memoria de Labores 1990-1991 Ministerio de Educación.

CONFIGURACION DE LA PIRAMIDE EDUCATIVA SALVADOREÑA
AÑO 1990



NOTA:1) LA LINEA PUNTEADA TRAZA LA CONFIGURACION IDEAL DE LA PIRAMIDE EDUCATIVA, SI SE AMPLIARA SATISFACTORIAMENTE LA COBERTURA.

2) LA POBLACION ATENDIDA INCLUYE ESTUDIANTES EN EDAD NORMAL Y EXTREDADE

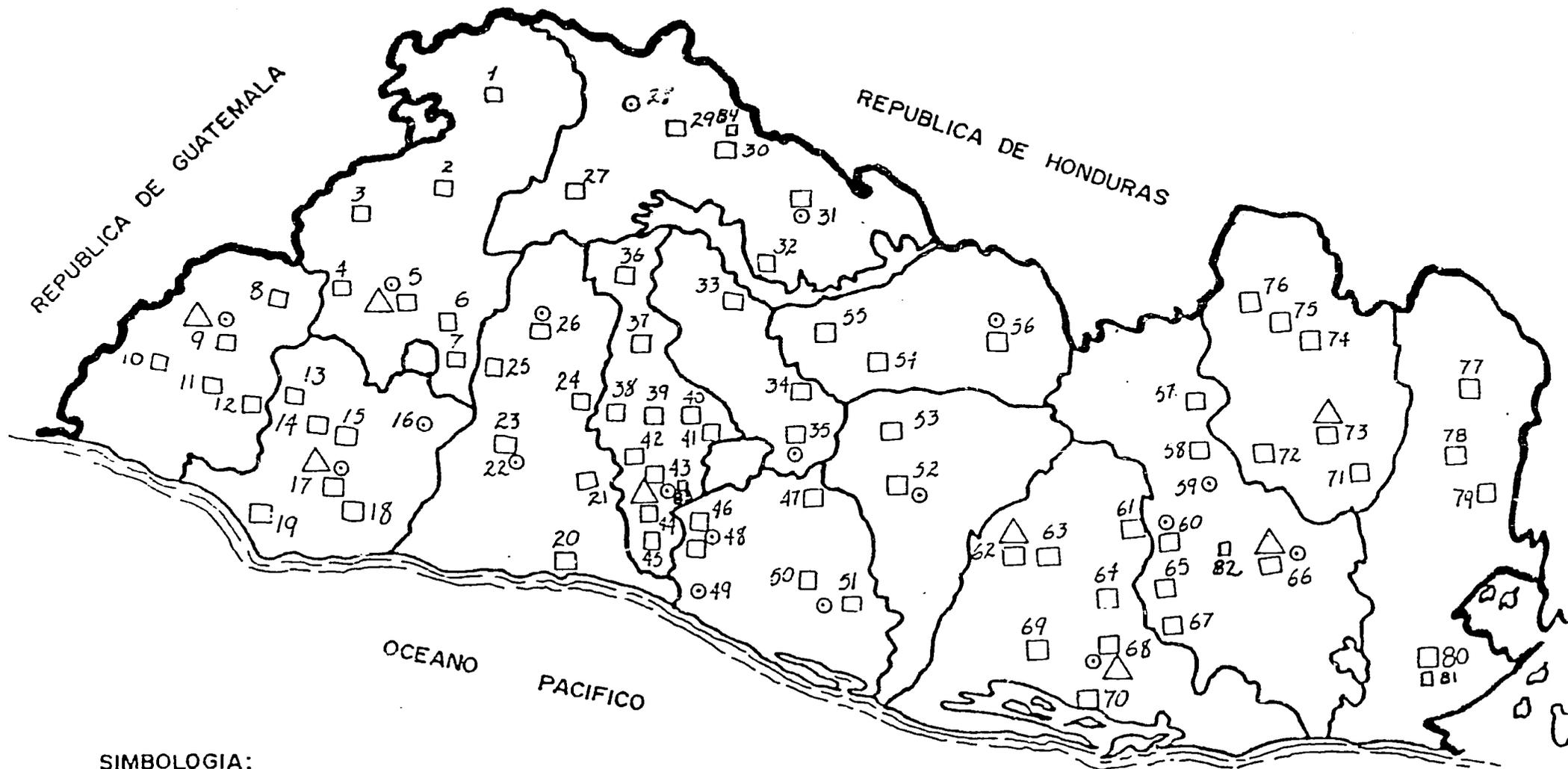
FUENTE: DIRECCION DE POBLACION, MIPLAN Y ODEPOR

GRAFICA HIPOTETICA

* Memoria de Labores, Ministerio de Educación 1990-1991

CA

SISTEMA DE ACCION DE LA DIRECCION GENERAL DE PROMOCION CULTURAL
 UBICACION GEOGRAFICA DE LAS CASAS DE LA CULTURA, CIRCULOS ESTUDIANTILES
 Y PROMOTORIAS JUVENILES. DE EL SALVADOR.



SIMBOLOGIA:

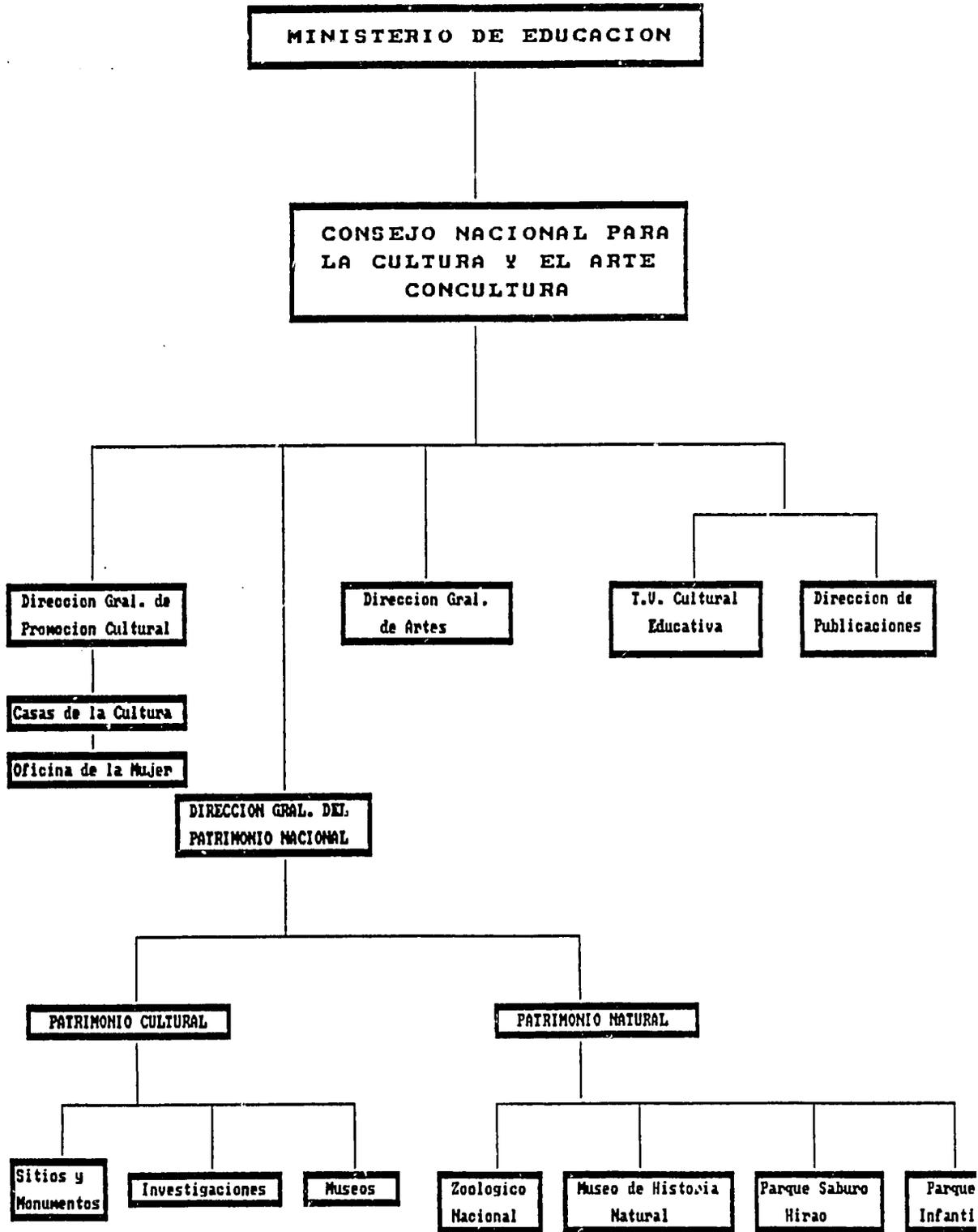
- CASAS DE LA CULTURA
- △ CIRCULOS ESTUDIANTILES
- PROMOTORIAS JUVENILES

- Actualmente en el sector de Educación.

40

CASAS DE LA CULTURA

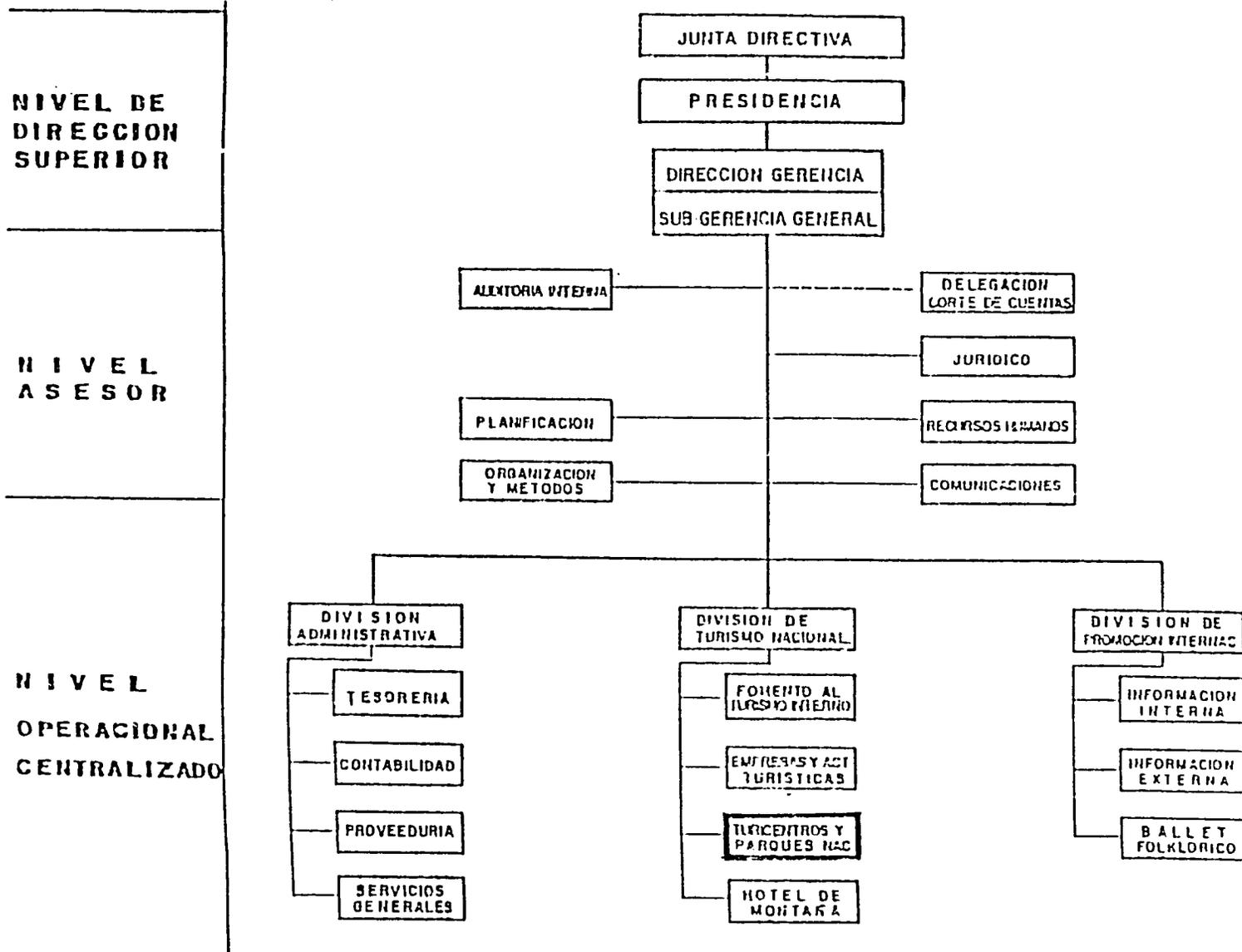
- | | | |
|---------------------------------|------------------------|----------------------------|
| 1. METAPAN | 29. TEJUTLA | 58. CHAPELTIQUE |
| 2. TEXISTEPEQUE | 30. SAN RAFAEL | 59. HDA. TANGOLONA |
| 3. CANDELARIA DE LA
FRONTERA | 31. CHALATENANGO | 60. CHINAMECA |
| 4. CHALCHUAPA | 32. SAN FCO. LEMPA | 61. JUCUAPA |
| 5. SANTA ANA | 33. SUCHITOTO | 62. BERLIN |
| 6. COATEPEQUE | 34. SAN RAFAEL CEDROS | 63. SANTIAGO DE MARIA |
| 7. EL CONGO | 35. COJUTEPEQUE | 64. SANTA ELENA |
| 8. ATIQUIZAYA | 36. AGUILARES | 65. SAN RAFAEL ORIENTE |
| 9. AHUACHAPAN | 37. GUAZAPA | 66. SAN MIGUEL |
| 10. TACUBA | 38. NEJAPA | 67. EL TRANSITO |
| 11. ATACO | 39. APOPA | 68. USULUTAN |
| 12. APANECA | 40. TONACATEPEQUE | 69. JIQUILISCO |
| 13. JUAYUA | 41. CTON. LA FUENTE | 70. PTO. EL TRIUNFO |
| 14. NAHUJIZALCO | 42. ZACAMIL | 71. JOCORO |
| 15. IZALCO | 43. CIUDAD DELGADO | 72. GUATAJIAGUA |
| 16. HDA. LOS LAGARTOS | 44. SAN MARCOS | 73. SAN FRANCISCO GOTERA |
| 17. SONSONATE | 45. PANCHIMALCO | 74. CACAOPERA |
| 18. NAHULINGO | 46. OLOCUILTA | 75. DELICIAS DE CONCEPCION |
| 19. PTO. ACAJUTLA | 47. SAN PEDRO NONUALCO | 76. OSICALA |
| 20. PTO. LA LIBERTAD | 48. HDA. LOS ANGELES | 77. ANAMOROS |
| 21. SANTA TECLA | 49. HDA. SANTA CLARA | 78. SANTA ROSA DE LIMA |
| 22. HDA. AGUA FRIA | 50. SANTIAGO NONUALCO | 79. PASAQUINA |
| 23. CTON. LOJRDES | 51. ZACATECOLUCA | 80. PTO. LA UNION |
| 24. QUEZALTEPEQUE | 52. SAN VICENTE | 81. CONCHAGUA |
| 25. CTON. ZAPOTITAN | 53. SAN SEBASTIAN | 82. MONCAGUA |
| 26. SAN JUAN OPICO | 54. ILOBASCO | 83. SOYAPANGO |
| 27. NUEVA CONCEPCION | 55. TEJUTEPEQUE | 84. DULCE NOMBRE DE MARIA |
| 28. LA PALMA | 56. SENSUNTEPEQUE | |
| | 57. CIUDAD BARRIOS | |



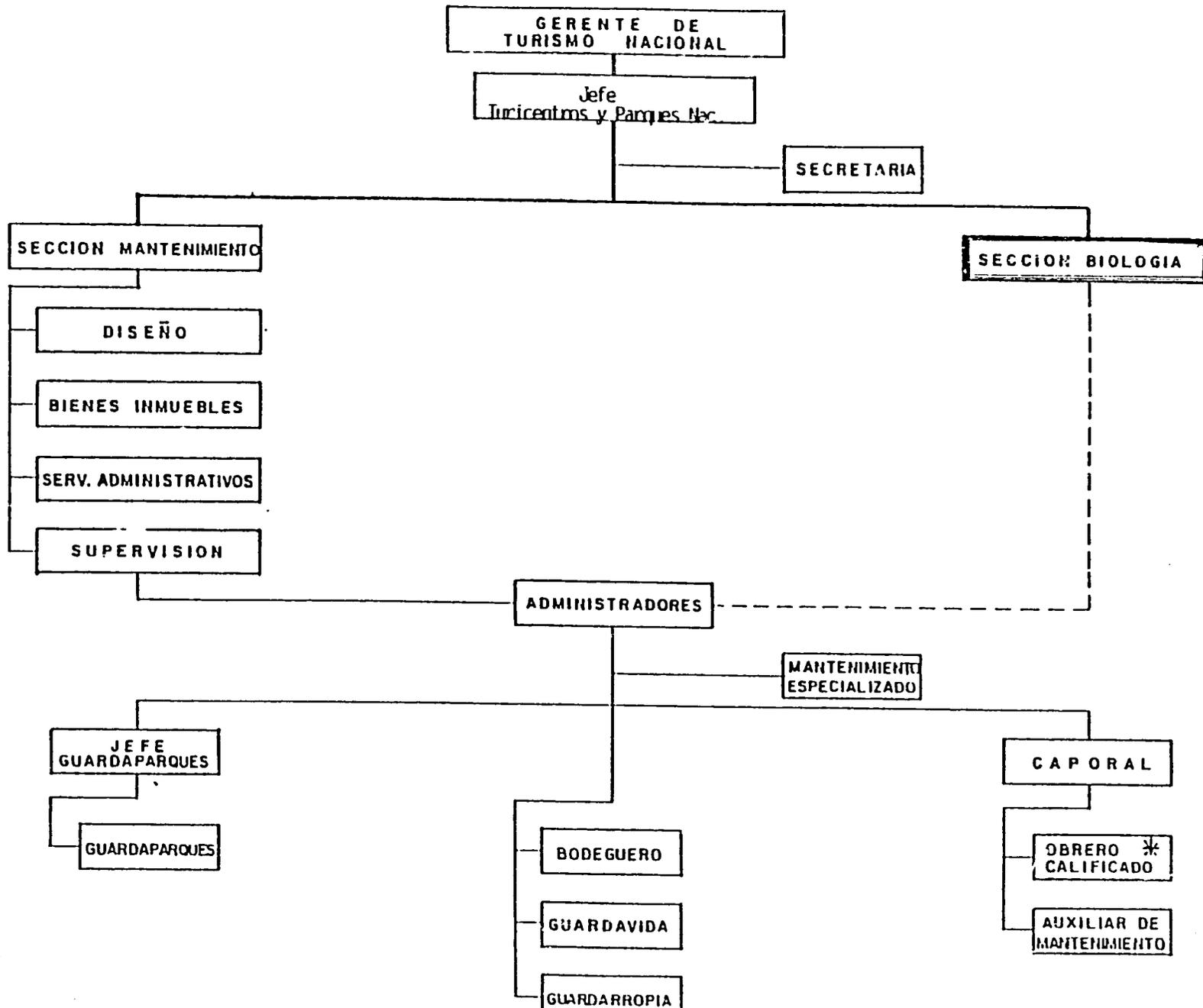
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INSTITUTO SALVADOREÑO DE TURISMO

GRAFICA OPERATIVA FUNCIONAL



ORGANIGRAMA FUNCIONAL DEL DEPARTAMENTO DE TURICENTROS Y PARQUES NACIONALES - 1989



1989

**RESUMEN DE PROYECTOS Y ACTIVIDADES SOBRE EDUCACION
AMBIENTAL REALIZADAS EN DIVERSAS INSTITUCIONES DE EL
SALVADOR**

PARQUE INFANTIL DE DIVERSIONES(1892 ; 1976).

- Asesoría Técnica, supervisión y facilitación de instalaciones para realización de horas sociales (300 alumnos al año): valoración de recursos naturales (conservación, manejo de recursos y divulgación de mensajes ambientalistas).
- Cuñas radiales de contenido ambientalista.

PARQUE SABURO HIRAO (1976).

- Charlas y prácticas sobre conservación de suelos in situ (500 personas al año).
- Siembra y cuidado de plantas en el parque, institución de procedencia y la comunidad de origen.
- Programas divulgativos mediante despleables, usando la radio, prensa y televisión.
- Asesoramiento de 3 tesis (universidades nacionales y privadas).
- Programas de rescate de juegos tradicionales (capirucho, yoyo, trompo y piscucha). Evento anual.

PARQUE ZOOLOGICO NACIONAL (1883 ; 1953).

- Cursos de capacitación en Educación Ambiental (dinámicas grupales) para guías voluntarios(12), estudiantes universitarios(30) y miembros de grupos ecologistas.
- Charlas sobre Educación Ambiental a visitantes.
- Formación grupos ecológicos (4).
- Folletos didácticos sobre la fauna autóctona.
- Exhibición de películas de contenido conservacionista.
- Charlas sobre manejo de fauna (para univesitarios).
- Curso de verano y campamentos infantiles en período vacacional (50 niños)
- Exposiciones de recursos faunísticos (en asocio con FUNZEL).
- Asesoramiento en trabajos de comportamiento animal, diseño y ambientación.

- Charlas para estudiantes de escuelas del área metropolitana y del interior del país (2000 al año), relativas a la estructura y funcionamiento del Parque.
- Instalación de sendero interpretativo autoguiado.
- Plan de adopción de un animal por persona o institución (Plan Padrino).
- Programa de conservación de la tortuga marina en la Barra de Santiago.
- Reintroducción de animales donados al Parque Zoológico a su ambiente natural.
- Formación de un Banco de Proteína Vegetal, con la colaboración de universitarios en servicio social.

MUSEO NACIONAL "DAVID J. GUZMAN" y MUSEOS DE SITIOS ARQUEOLÓGICOS (1883; Sitio El Tazumal, 1954; Sitio San Andrés, 1988).

- Organización de Comités y Patronatos para la protección del Patrimonio Natural y Cultural (mediante charlas, seminarios y folletería).
- Capacitación de personal salvadoreño (como promotores para la defensa del recurso natural y cultural).
- Producción de recursos educativos para visitantes de los Museos (folletos, charlas, videos, diapositivas y visitas guiadas).
- Proyecto de utilización del Museo de Sitio San Andrés como Centro de Interpretación del Museo Arqueológico.
- Formación del Comité de apoyo Pro Joya de Cerén.
- Difusión de los recursos culturales del Sitio Arqueológico Tazumal por conducto del Club de Leones de Chalchuapa.

SERVICIO DE PARQUES NACIONALES Y VIDA SILVESTRE (1974 ; 1981).

- Capacitación sobre métodos de Educación Ambiental e Interpretación (3 cursos, 1987-89).
- Distribución de panfletos informativos sobre el Parque Nacional Montecristo (7000 ejemplares, 1977-83).
- Distribución gratuita de la publicación "Supervivencia o extinción: El Dilema de nuestra Fauna" (3000 ejemplares), a estudiantes de 2a y Universidades.
- Distribución gratuita del folleto "Hazlo y muéstralo" (1000 ejemplares) a estudiantes de 2a y universidades.
- Realización y distribución de 4 audiovisuales (20 diapositivas c/u); 320 copias en total, para institutos nacionales (población cubierta: 25000).

- Exposiciones de maquetas, mapas y fotografías de áreas naturales (en ferias locales, nacionales e internacionales).
- Asesoría Técnica para el diseño y funcionamiento del Departamento de Educación Ambiental de la Dirección del Patrimonio Natural.
- Proyecto de campo sobre Educación Ambiental (con apoyo del Peace Corp, UICN y WWF, 1977-78).
- Charlas sobre Métodos de Saneamiento Ambiental en la Comunidad del Parque Nacional Montecristo.
- Charlas sobre Educación Ambiental en el Parque Nacional El Imposible (con el apoyo de la FESA 20-30).
- Programa conservación de tortugas marinas y reforestación del Manglar (AMAR, desde 1989).
- Charlas de Educación Ambiental de la Laguna El Jocotal (Universidad por la Paz).

MUSEO DE HISTORIA NATURAL (MUHNES, 1974).

- Multiplicación del curso "Identificación y tratamiento de Problemas Ambientales" a técnicos del Patrimonio Nacional (16 pers. 1984).
- Curso sobre problemas ambientalistas p/profesores (el cual gestó el GEDMO, hoy Fundación Montecristo).
- Curso de Educación Ambiental no formal (20 personas, 1988).
- Curso de Interpretación de la Naturaleza (25 técnicos y profesionales, 1988).
- Curso de Educación Ambiental con énfasis en Vida Silvestre (20 técnicos, 1991).
- Cursos de Educación Ambiental y su integración en la educación formal e informal (para técnicos y profesionales, 1991).
- Formación de grupos ecológicos (Comunidades San Diego y Santa María Ostuma).
- Realización del film "El Sueño Dorado de la Tortuga Marina" (TVCE, 1987).
- Exhibiciones y dioramas (desde 1985): "Dicotyles tajassu en el bosque El Imposible" (Febrero 1988).
- Publicación de folleto informativo del MUHNES (No. 1, 1988 ?).
- Divulgación de una autoguía de visita.
- Publicación en el diario El Mundo de la Sección "Conozcamos nuestra Fauna" (Sept. 1987 - Sept. 1989).

- Publicación en otros periódicos de temas alusivos a fechas especiales (portadas donadas): Día Mundial del Medio Ambiente, Día de la Fundación del MUHNES, especies en vías de extinción y comercialización de fauna silvestre.
- Taller de Interpretación de la Naturaleza (participantes: MUHNES, JBLL, Saburo Hirao y Zoológico).
- "Campaña contra la comercialización de la Vida Silvestre: Fauna Mayor" (radio, prensa, TV, afiche y hoja volante). Ejecución 30%.
- Forestación de un tramo de la Autopista Sur (Patrimonio Natural).
- Programa televisivo FORO ECOLOGICO en TVCE (Canal 10): La Educación Ambiental alternativa a la crisis ecológica" (Patrimonio Natural, 1997-1988).
- Programa televisivo "Medio Ambiente y Conservación" en Canal 12 (Agosto- Octubre 1988).

CASAS DE LA CULTURA (1973).

- Organización de grupos ecológicos (sin nombres ni fechas).
- Campaña de Arborización y Reforestación (sin fechas).
- Organización de grupos de protección del Medio Ambiente (sin nombres ni fechas).
- Formación de Huertos caseros (sin nombres ni fechas).

JARDIN BOTANICO LA LAGUNA (1978).

- Constitución de una Area de Interpretación: Dioramas representando un bosque Nebuloso (Montecristo) y un bosque tropical de tierras medias (El Imposible).
- Señalización moderna de senderos y rotulación taxonómica completa de las muestras vivas.
- Publicación trimestral de la revista divulgativa PANKIA.
- Publicación de la revista científica CUSCATLANIA (Reportes nuevos para la ciencia, nuevos records y especies amenazadas).
- Distribución de material divulgativo (vendido) sobre la importancia económica y ecológica de plantas nativas y exóticas (café, algodón, caucho, maní y tabaco).
- Distribución de hojas volantes (Guía del Buen Jardinero y Clasificación moderna de los bosques de El Salvador).
- Asesoría sobre Educación Ambiental a instituciones educativas de nivel primario, secundario y universitario.

- Charlas interpretativas in situ sobre las colecciones vivas del Jardín.
- Asesoría para estudiantes en servicio social.
- Proyecto "Inventario Florístico del Parque Nacional El Imposible" (1991-1993).
- Proyección de videos sobre Educación Ambiental y estructura y funcionamiento del Jardín Botánico La Laguna.
- Asesoría tesis (Plantas Medicinales, Heliconias de El Salvador, Diseño de Remodelación JBLL, Landscaping Tropical Plants, El Bálsamo, etc.).
- Asesoría técnica y científica a instituciones gubernamentales (Proyecto PLANTER del MSP & AS, ISTU, CENTA, PARQUES NACIONALES, TVCE, MINISTERIO DE EDUCACION, UES, etc.) y ONG's.
- Facilitación de las instalaciones a expertos botánicos (Herbario y Biblioteca).
- Asesoría en viajes de campo y técnicas de Herbario.
- Identificación de material botánico arqueológico (Joya de Cerén).

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	Ubicación	Visitas por año	Población Servida	Recursos e Instalaciones	Prog. en Educ Ambiental	Presupuesto	Administración
Parque Inf. de Diversiones	Centro de Sn. Salv.	500,000	Niños y Jóvenes de Sectores Pop.	Juegos, Jardines ha perdido tierra	Ninguno	Insuficiente	Patrimonio Nat.
Parque Saburo Hirao	Sur de Sn. Salv.	400,000	Niños y Jóvenes de Sectores Pop.	Juegos, Jardines	Limitados	Insuficiente	Patrimonio Nat.
Parque Zoo. Nacional	Sur de Sn. Salv.	800,000	Público en Gral. principalmente de Sectores Pop.	Áreas Verdes, Jaulas	Limitados	Insuficiente	Patrimonio Nat.
Museo de Historia Nat.	Sur de Sn. Salv.	N.D.	Población en General	Edificio Viejo Áreas Verdes	Limitados	Insuficiente	Patrimonio Nat.
Jar. Botánico La Laguna	Oeste de S.S Ant. Cuscatlán	120,000	Población en General	Áreas Verdes, vivero Senderos Interpretat.	Limitados, pero constantes	Suficiente	ONG
Parque Nac. El Imposible	Ahuachapán acceso difícil	muy pocos		Casa de antig. hacienda, entrada, comunicación por radio	Charlas a vecinos del parque	Del MAG para salario de 13 guarda parques FESA invierte fondos en infraestructura	SPNVS - MAG y FESA
Parque Nac. Monte Cristo	Santa Ana acceso restringido	Varios Miles	Población Urb.	Oficinas, Caminos	Orientaciones generales a visitantes	Salarios para Guarda parques	SPNVS - MAG
Parque Cerro Verde	Santa Ana acceso fácil	Decenas de miles	Población Urb.	Jardines, Hotel Restaurante	Muy Limitado	Adecuado	ISTU

LISTA DE AFILIADOS A ASDER

Appendix B-7 p.1

IGO	NOMBRE	ENCARGADO
	San Salvador	
	CIRCUITO YSR, S.A. Kilometro 5 Carretera a Santa Tecla	Lic. Jose Andres Rovira
	TELEFONOS: 23-1425 23-0936	
	FAX:	
	San Salvador	
	MULTICABLE Calle Arde y 19 Av. Sur 1045	Lic. Jose Alfredo Dutriz
	TELEFONOS: 21-3188 22-8493	
	FAX: 22-8351	
	San Salvador	
	RADIO AMERICA Colonia San Benito Avenida Las Palmas Pje. 6 # 9	Don Alfonso Rivas Cañas
	TELEFONOS: 24-4821	
	FAX:	
	San Salvador	
	RADIO CADENA HORIZONTE 4a. Calle Poniente y 43 Avenida Sur Colonia Flor Blanca	Sra. Diana Hasbún de Soriano
	TELEFONOS: 71-5465 71-5361 71-2569	
	FAX:	
	San Salvador	
	RADIO CADENA 1060 25 Calle Poniente 113	Dr. Enrique Restrepo Sigui
	TELEFONOS: 25-4713	
	FAX:	

LISTA DE AFILIADOS A ASDER

Appendix B-7 p

CODIGO	NOMBRE	ENCARGADO
	San Salvador	
RA6	RADIO CADENA CENTRAL 25 Calle Poniente 113 TELEFONOS: 26-5277 26-3722 FAX:	Dr. Enrique Restrepo Sigui
	San Salvador	
RA7	RADIO CADENA DE ORO 27 Calle Poniente 544 Colonia Layco TELEFONOS: 26-4450 26-9722 26-6401 FAX:	Arq. Brenda Elandón de torra
	San Salvador	
RA9	RADIO CADENA SONORA, S.A. 25 Av. Norte Diagonal Principal 1322 Urbanización La Esperanza TELEFONOS: 26-0900 26-2188 FAX: 26-8743	Don Rodolfo Alfredo Cabezas
	San Salvador	
RA10	RADIO CADENA YSKL, S.A. 4a. Calle Oriente 528 TELEFONOS: 81-4111 21-0417 FAX: 22-8809	Don Manuel Antonio Flores
	San Salvador	
RA11	RADIO CADENA YSU, S.A. Edificio YSU, Av. Olimpica Calle a Santa Tecla TELEFONOS: 24-1551 24-0701 FAX: 23-5721	Lic. Jorge Mauricio Suvilla

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LISTA DE AFILIADOS A ASDER

FIG	NOMBRE	ENCARGADO
	San Salvador	
2	RADIO CLASICA Final 5a. Avenida Norte Mejicanos TELEFONOS: 25-3224 FAX: 25-3224	Sra. Elizabeth T. de Salazar
	San Salvador	
3	RADIO EL MUNDO Final 5a. Avenida Norte Mejicanos TELEFONOS: 25-3224 FAX: 25-3224	Doña Betty de Teague
	San Salvador	
4	RADIO EXITOS Urbanización Buenos Aires 2 Calle Berlin No. 212 TELEFONOS: 26-5086 26-3722 FAX:	Lic. Jos Andrs Rovira
	San Salvador	
5	RADIO FEMENINA Colonia y Calle Roma 3-B TELEFONOS: 23-9329 24-2544 24-1297 FAX: 24-2677	Don Francisco Monterrosa
	San Salvador	
6	RADIO FIESTA Colonia y Calle Roma 3-B TELEFONOS: 23-9329 24-2544 24-1297 FAX: 24-2677	Sra. Esther Maria de Alfaro

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LISTA DE AFILIADOS A ASDER

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CODIGO	NOMBRE	ENCARGADO
	San Salvador	
A17	RADIO INTERNACIONAL - LA MAXIMA 29 Calle Oriente 2184 Colonia Flor Blanca TELEFONOS: 25-8868	Don Gustavo Adolfo Bustillo
	FAX:	
	San Salvador	
A18	RADIO LA MONUMENTAL Ciudad S�atelite Pasaje Galaxia Polig. Q 422 TELEFONOS: 74-3509	Lic. Ricardo Alejandro Reca
	FAX:	
	San Salvador	
A19	RADIO LA ROMANTICA 4a. Calle Oriente 528 TELEFONOS: 81-4119	Ing. Manuel Antonio Flores
	FAX: 22-8809	
	San Salvador	
A20	RADIO LA UNO, DOS, TRES 25 Calle Poniente 113 TELEFONOS: 26-5277	Dr. Enrique Restrepo Siguf
	FAX:	
	San Salvador	
A21	RADIO LASER Colonia y Calle Roma 3-B TELEFONOS: 20-9329 24-1297 21-2544 FAX: 24-2677	Don Francisco Monterrosa

CGO	NOMBRE	ENCARGADO
	San Salvador	
	RADIO RANCHERA Colonia y Calle Roma 3-B	Sra. Esther Maria de Alfaro
	TELEFONOS: 23-9329 24-2544 24-1297 FAX: 24-2677	
	San Salvador	
	RADIO SCAN Edificio Centro Scan, 2da. Diagonal y Avenida San Jose Urb. La Esperanza TELEFONOS: 25-7569	Sra. Carmelina Cevallos Coto
	FAX: 26-9277	
	San Salvador	
	RADIO STEREO DOBLE L Residencial y Pje. San Bernardo Calle El Carmen 36 sobre 75 Av. Norte TELEFONOS: 74-3406	Don Luis Flores
	FAX:	
	San Salvador	
	RADIO VANGUARDIA Pasaje Vilanova 114 Entre 8a. y 10a. Av. Norte TELEFONOS: 22-4909	Don Enrique Salazar
	FAX:	
	San Salvador	
	RADIO VERSATIL 5a. Avenida Norte 1903 Planta Alta TELEFONOS: 25-7982	Don Manuel de Jesús Salazar
	FAX:	

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LISTA DE AFILIADOS A ASDER

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CODIGO	NOMBRE	ENCARGADO
	San Salvador	
RA29	STEREO AMOR Colonia La Rabida entre 37 y 39 Calle Oriente Pasaje YSI # 2021 TELEFONOS: 26-2807 FAX: 26-2807	Don Francisco Parada
	San Salvador	
RA30	STEREO CLUB Pasaje Carbonell # 28 Colonia Roma TELEFONOS: 23-9249 23-0993 24-0204 FAX:	Lic. Federico Escobar Pacas
	San Salvador	
RA31	STEREO MI PREFERIDA Urbanizacion Buenos Aires 2 Calle Berlin No. 212 TELEFONOS: 26-5086 26-3722 FAX:	Lic. Jos Andrs Rovira
	San Salvador	
RA32	SUPER STEREO 1a. C. Poniente Condominio Monte Maria Edificio A 4a. Planta # 21 TELEFONOS: 23-5269 98-0414 23-5264 FAX: 98-0535	Don. Ciro Moya Bolaños
	San Salvador	
RA33	TELEONDA MUSICAL Colonia Nicaragua Calle "A" #224 TELEFONOS: 22-7878 FAX:	Don Jorge Alberto Molina Ma

LISTA DE AFILIADOS A ASDER

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30	NOMBRE	ENCARGADO
	Santa Ana	
	ESTACION H 9a. Calle Poniente 25	Don Manuel Montes
	TELEFONOS: 41-3840 41-3839	
	FAX:	
	Santa Ana	
	RADIO MODERNA 4a. Avenida Norte y Calle Don Bosco # 14 TELEFONOS: 41-3855	Lic. Ricardo Recinos
	FAX:	
	Santa Ana	
	RADIO MUSICAL 4a. Avenida Sur # 21 Condominio Plaza de Vidrio #4 TELEFONOS: 41-2937	Don Manuel Antonio Flores
	FAX:	
	Santa Ana	
	RADIO STEREO SHABACH Colonia Loma Linda # 69 El Portezuelo- Santa Ana TELEFONOS: 40-4265	Lic. Jorge A. Bichara
	FAX:	
	Santa Ana	
	RADIO TECANA 59 Avenida Norte 309 Edificio Anuncio Publicidad TELEFONOS: 41-0671 41-8881	Doña Bertha de Gonzalez
	FAX:	

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CDIGO	NOMBRE	ENCARGADO
	Sonsonate	
01	RADIO CENTRO 5a. Calle Oriente final TELEFONOS: 51-0845 FAX:	Dr. Luis Gudiel Y Gutierrez
	San Miguel	
M1	CRICUITO RADIOFONICO DE ORIENTE Avenida "A" #125 Colonia San Jose S.S. TELEFONOS: 61-1140 61-0814 26-0284 FAX:	Ing. Joaquin Aparicio
	San Miguel	
M2	ONDAS ORIENTALES Carretera Panamericana TELEFONOS: 61-0629 FAX:	Don Manuel Antonio Flores
	San Miguel	
M3	RADIO CARNAVAL 75 Av. Norte y Prolongacion Av. Juan Pablo II Condominio del Futuro # B TELEFONOS: 98-1316 61-0536 FAX:	Dr. Ricardo Rivas Larrave
	San Miguel	
M4	RADIO STEREO CRISTAL Colonia Hirlemann 14 C. Pte. Block 6 # 9 TELEFONOS: 61-2501 FAX:	Don Rene Ayala Ayala

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NOMBRE

ENCARGADO

Ahuachapán

RADIO 1090
ATIQUIZAYA

Don Alfredo Mendoza

TELEFONOS: 44-1190
22-0479

FAX:

Ahuachapán

RADIO FRONTERA
Avenida 2 deAbril y
8a. Calle Poniente
TELEFONOS: 43-0566

Prof. Rafael Armando Ramos P.

FAX:

Usulután

LA VOZ DEL LITORAL
Urbanizacion La Esperanza
Pasaje 3 casa 114 S.S.
TELEFONOS: 62-0097
26-2115
25-7469

Don Jose Infanzuzi

FAX:

Usulután

STEREO DOBLE C
1a. Calle Poniente # 1

Don Miguel Angel Centeno

TELEFONOS: 62-0106

FAX:

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ORGANIZACIONES ENTREVISTADAS

ONG-A

AMAR	Francisco Rivas	Presidente	Col. Las Mercedes, calle Los Granados #9	23-1841
APAES	Manuel Cerrato	Presidente	Col. Villas de Sn.Fco.3, Av. Las Amapolas #49	
ASACMA	Alexander Vásquez	Director Ejecutivo	Urb. Buenos Aires #3, calle Maquilishuat #208	26-5514
A.A.T.	Fidel Blanco	Presidente	Col. Zacamil, Edf.51 #18	26-1026
CESTA	Rosa Anzón	Encargada del Programa	33 calle Pte.#316	25-6746
FESA	Juan Alvarez	Vice-Presidente	75 Av.Nte.#509	23-8947
FUREMAR	Ricardo Ibarra	Presidente	Final 1a.Av.Nte. y calle al volcán	28-4878
FUTECMA	Jorge Domínguez	Director Ejecutivo	2a.Av.Sur 2-2, Centro Comercial Li-Roma	28-4168
F.M.	Daisy Dinarte	Presidente	Col. 5 de Nov. #932	25-2235
MES	Laura Henríquez	Ejecutiva	Col. Flor Blanca, calle El Progreso pje. Peralt	73-2678
S.A.S	Zoila Pérez	Presidenta	Resid. Palermo, pje.1 #8-C, Autopista sur	98-0338
UICN	Manuel Benítez	Director	Calle Nueva #2, casa #9, col.San Benito	23-5385
UNES	Mauricio Sermeño	Presidente	4a.Av.Nte.#2-5, Sta. Tecla	28-4775

ONG-D

APA	Raúl Gochez	Gerente	Condominio Metro 2000	79-1017
ASAPROSAR	Eduviges de Luna	Directora Ejecutiva	Km.62 1/2, carretera Panamericana	40-7216
CADES	Eugenia Prado	Secretaria Junta Directiva	75 Av.Nte.Centro Escalón 2-2	74-2936
CATIE	Joaquín Larios	Representante en el País	61 Av.Nte.y 1a.calle Pte.	23-8224
CESAD	José Lémus	Director General	45 Av.Sur #423, Col Flor Blanca	22-0215
CIPROF	Alma Carballo	Primer Vocal	Col. El Bosque calle B #221	25-4368
CONFRAS	Miguel Alemán	Ejecutivo	Col. y calle Centroamerica #128	25-8568
DJC	Ricardo Flores	Gerente de Planificación	35 Av.Sur #626, Col. Flor Blanca	25-8568
FEDECOPADES	Leonel Meza	Coor. Depto. Proyectos	14 calle Pte. y 43 Av.Sur #2330	23-9854
FIPRO	Lorena Barba	Jefe de Seguridad e Higiene	Calle Padres Aguilar #525, Col. Escalón	79-0580
FUCRIDES	Roberto Figueroa	Presidente	1a.calle Pte.2904, Cond. Monte María	
FUNDASAL	José Santamaría		Repart.Sta.Alegría, calle L-b #7	26-7676
FUNPROCOOP	Antonio Baños	Director Ejecutivo	59 Av.Nte. #226-A	
PROCADES	Claudia Cáceres	Directora Ejecutiva	Col. El Roble Av.B #2-B	22-0215
Scouts/ES	Julio Arango	Sub-Jefe Nacional	Final 33Av.Sur	
U.T.L.A.	Rosendo Sermeño	Rector		

OG's

CENREN	Antonio Villagran	Jefe Servicio Forestal	Cantón El Matazano, Soyapango	77-0622
CENREN	Carlos Hasbún	Jefe Servicio de Parques	Cantón El Matazano, Soyapango	77-0622
CONARA	Luis Bermudez	Jefe de Planificación	Casa Presidencial	71-2898
CREMA	Marisol de Toledo	Directora	5a. Av. Sur Centro Roosevelt	79-1867
DESAP	Carlos Ventura	Director	Alameda Roosevelt #2823	25-8000
FAO/Proy. Agroforestal	Manuel Ponce	Asesor Técnico	Alameda Roosevelt #2803	23-4452
Lab. del Ambiente/MAG	Nelson Martínez	Jefe del Laboratorio del	Final 1a.Av.Nte. calle al Volcán	28-1333
Of. de La Mujer	Juana de Serrano	Jefe	Alameda Roosevelt #2823	25-8000
UNICEF	María Carbonell	Coordinadora de Programas	1a.calle Pte.#3646, Villa Las Margaritas	98-1911
Unidad de Educ./ M.Sa	Delmy Hernández	Jefe de Unidad	calle Arce #827	21-0966

LISTADO DE ORGANIZACIONES QUE FIRMARON COMO MIEMBROS
DEL FORO DE CONCERTACION ECOLOGICA
(18 de noviembre de 1992)

1. Asociación Nacional de Indígenas Salvadoreños (ANIS)
2. Universidad Luterana Salvadoreña (ULS)
3. Iglesia Bautista Emanuel
4. Consejo de Instituciones Privadas de Promoción Humana de El Salvador (CIPHES)
5. Asociación Cristiana de Jóvenes (ACJ)
6. Instituto Salvadoreño de Administración Municipal (ISDEM)
7. Comité de Defensa del Consumidor (CDC)
8. Programa Regional de Investigaciones sobre El Salvador (PREIS)
9. Movimiento Nacional Revolucionario (MNR)
10. Centro Universitario de Investigaciones Científicas de la Universidad de El Salvador (CUIC)
11. Comité del Debate Nacional por la Paz
12. Coordinadora Nacional de la Mujer Salvadoreña (CONAMUS)
13. Asociación de Capacitación e Investigación para la Salud Mental (ACISAM)
14. Consejo Coordinador de Comunidades (CCC)
15. Centro Salvadoreño de Tecnología Apropiada (CESTA)
16. Fundación Promotora de Cooperativas (FUNPROCOOP)
17. Consejo Coordinador de Trabajadores Estatales y Municipales (CCTEM)
18. Brigadas Defensores del Gavilán Blanco
19. Centro de Salud Integral y Promoción Familiar
20. Asociación de Comunicadores Ecologistas
21. Instituto Salvadoreño de Formación Ecológica (ISFECO)
22. Brigada Las Gaviotas
23. Unión Nacional de los Trabajadores Salvadoreños (UNTS)
24. Asociación Amigos de El Arbol (AMAR)
25. Centro de Estudios Feministas
26. Asociación Nacional de Trabajadores Agropecuarios (ANTA)
27. Universidad Evangélica de El Salvador
28. Fundación Maquilishuat
29. Amigos de la Bicicleta (AMBI)
30. Federación de Asociaciones de Trabajadores y Sindicatos Independientes de El Salvador (FEASIES)
31. Departamento de Biología de la Universidad de El Salvador
32. Universidad Centroamericana José Simeón Cañas (UCA)
33. Instituto de Estudios Jurídicos de El Salvador (IEJES)
34. Grupo Ecológico La Palomera
35. Fundación Montecristo
36. Fundación Campesina para la Reconstrucción Ecológica Nacional
37. Comité Internacional de Rescate (CIR)
38. Sindicato de Trabajadores Bancarios e Instituciones Financieras (SITRABIF)
39. Federación Nacional de Sindicatos de Trabajadores Salvadoreños (FENASTRAS)
40. Asociación Coopertiva de Ahorro, Préstamo y Comercialización de Motoristas Salvadoreños
41. Centro de Investigación para la Acción Social (CINAS)

42. Asociación para la Salud y el Servicio Social Intercomunal de El Salvador (APSIMEI)
43. Asociación Salvadoreña de Profesionales en Mercadeo Independiente
44. Asociación Estudiantil Pro-Ecología de la Escuela Americana
45. Concertación de organismos comunales urbanos y rurales de El Salvador
46. Convergencia Democrática (CD)
47. Asociación Salvadoreña de Trabajadores de telecomunicaciones (ASTTEL)
48. Asociación Salvadoreña de Investigación y Promoción Económica y Social (ASIPES)
49. Asociación Bautista de El Salvador
50. Centro de Capacitación para el Desarrollo Rural (CEDRO)
51. Grupo Ecológico Sabana Grande
52. Asociación Audubón de El Salvador (ASAS)
53. Brigada El Quetzal
54. Instituto de Estudios Latinoamericanos (IDELA)
55. Confederación de Cooperativas de la Reforma Agraria Salvadoreña de R.L. (CONFRAS)
56. Unidad Ecológica Salvadoreña (UNES)
57. Asociación Salvadoreña de Ingenieros Mecánicos, Electricistas e Industriales (APSIMEI)
58. Colegio de Ingenieros y Arquitectos de El Salvador
59. Fundación de Protección al Niño Olef Palme (FUNNOPROP)
60. Federación de Cooperativas de la Región Paracentral de R. L. (FECORAPCEN)
61. Consejo Salvadoreño de Protección y Recuperación Ecológica
62. Caritas Arquidiocesana
63. Grupo Ecológico de Zapotitán
64. Misión Alemana Proyecto Atiocoyo
65. Sociedad de Ingenieros Agrónomos de El Salvador (SIADES)
66. Alianza Democrática Campesina (ADC)
67. Instituto para el Desarrollo Económico y Social de El Salvador (IDESSES)
68. Asociación de Pequeños y Medianos Empresarios de El Salvador (AMPES)
69. Proyectos Comunitarios de El Salvador (PROCOMES)
70. Consejo de Comunidades Marginales de El Salvador (CCM)
71. Servicios Integrados de Comunicación (SOMOS)
72. Centro de Estudios y Asesoría Jurídica (CEAJES)
73. Movimiento Comunal Salvadoreño (MCS)
74. Universidad Técnica Latinoamericana (UTLA)
75. Programa de Educación Ambiental de Zacamil
76. Partido Unión Democrática Nacionalista (UDN)
77. Movimiento Social Cristiano (MCS)
78. Programa Nacional de la Soya (PNS)
79. Unión Nacional de Damnificados de El Salvador (UNADES)
80. Fundación para la Cooperación de los Refugiados y Desplazados Salvadoreños (CORDES)
81. Centro de Reorientación Familiar y Comunitario (CREFAC)
82. Consejo Juvenil de Comunidades (CJC)
83. Federación de Cooperativas de Producción Agropecuaria

- (FEDECOOPADES)
- 84. Confederación de Asociaciones cooperativas de El Salvador (COACES)
- 85. Instituto de Desarrollo Alternativo de El Salvador (IDEAS)
- 86. Centro de Estudios de la Mujer (CEMUJER)
- 87. Fundación Salvadoreña para el Desarrollo Económico y Social (FUNSALPRODES)

ANTECEDENTES

En diciembre de 1989, los Presidentes de los países de Centroamérica firmaron en San José, Costa Rica, el Convenio mediante el cual quedó constituida la Comisión Centroamericana de Ambiente y Desarrollo (CCAD).

Con esto se dió respuesta a una aspiración regional, cual es la de contar con un instrumento para propiciar mejores niveles de vida de nuestros pueblos, impulsando un modelo de desarrollo sostenible basado en el respeto al medio ambiente y la ecología.

Correspondientemente a la CCAD, en El Salvador se creó, por Decreto Ejecutivo No 73, el Consejo Nacional del Medio Ambiente (CONAMA). Dicho Decreto fue publicado en el Diario Oficial del 14 de enero de 1991.

DECRETO No. 73

EL ORGANISMO EJECUTIVO DE LA REPUBLICA DE EL SALVADOR

CONSIDERANDO:

- I.- Que el daño ecológico a los recursos naturales y la contaminación al medio ambiente ocasionado por el creciente desarrollo industrial, aumento en el tráfico de vehículos, la incineración de desechos, la presencia en el aire atmosférico de materia particulada, gases, cenizas, polvo natural, ácidos, óxidos y plaguicidas, creando con ello desequilibrios, alteraciones y daños en la atmósfera, y especialmente en el ser humano y en toda forma de vida animal o vegetal; es una realidad a nivel mundial y preocupación constante de todas las naciones;
- II.- Que con el objeto de lograr un manejo racional de los recursos naturales del área, el restablecimiento del equilibrio ecológico y el de alcanzar una mejor calidad de vida a los habitantes de los pueblos centroamericanos, los Presidentes del Istmo firmaron un Convenio Constitutivo de la Comisión Centroamericana de Ambiente y Desarrollo integrada por Representantes nombrados por los Gobiernos de cada país, suscrito el 12 de diciembre de 1989 en San José, Costa Rica;
- III.- Que es de fundamental importancia contar con un plan específico que coordine la acción a nivel nacional y responsable de la protección, conservación y mejoramiento del medio ambiente, mediante un desarrollo sostenido.

POR TANTO,

en uso de sus facultades constitucionales,

DECRETA:

Art. 1.- Créase el Consejo Nacional del Medio Ambiente, que en lo sucesivo se denominará "EL CONSEJO", para velar por la óptima y racional utilización de los recursos naturales, el control de la contaminación ambiental y el restablecimiento del equilibrio ecológico; para ello, el Consejo propondrá políticas y estrategias que propicien el desarrollo sostenido de la protección de los recursos naturales y del medio ambiente.

Art. 2.- El Consejo Nacional del Medio Ambiente estará integrado por los Ministros: de Agricultura y Ganadería, Salud Pública y Asistencia Social, Justicia, Hacienda, Obras Públicas, Planificación y Coordinación del Desarrollo Económico y Social, Economía, Defensa y Seguridad Pública, Educación, Interior, Trabajo y Previsión Social, y Relaciones Exteriores; Representantes de la Presidencia; un Representante del Instituto Salvadoreño de Desarrollo Municipal (ISDEM).

Art. 3.- Atribuciones del Consejo:

- a) Definir la estrategia nacional de planificación y administración ambiental;
- b) Velar porque se implementen los procesos de protección del medio ambiente en forma continua y permanente;
- c) Planificar actividades tendientes a proteger, mejorar y conservar el medio ambiente tomando las medidas necesarias para eliminar, o detener la contaminación ambiental y el deterioro de los recursos naturales;
- d) Crear conciencia en la población sobre los beneficios que proporcionan los recursos naturales y la respon-

sabilidad de la actual generación con respecto a las futuras generaciones;

- e) Velar a través de su Secretaría Ejecutiva, por el cumplimiento de las medidas y recomendaciones para evitar el desarrollo o aparéamiento de nuevas fuentes de contaminación;
- f) Gestionar la obtención de recursos financieros necesarios para lograr sus objetivos;
- g) La vigilancia de sus fondos adquiridos, asignados y administrados por la Secretaría Ejecutiva;
- h) Formular un plan maestro de educación ambiental;
- i) Darle cumplimiento a las resoluciones o acuerdos tomados por la Comisión Centroamericana de Ambiente y Desarrollo (CCAD).

Art. 4.- El Consejo será presidido por el Ministro de Agricultura y Ganadería y en su ausencia, el Viceministro del Ramo.

Corresponderá al Ministerio de Agricultura y Ganadería la iniciativa de convocatoria a reuniones ordinarias del Consejo que se realizarán cada treinta días, las que serán convocadas por cualquier medio de comunicación y por lo menos con veinticuatro horas de anticipación. También podrá ser requerido el Consejo a reuniones extraordinarias cuando dos o más Ministros de los integrantes así lo decidieren.

El quórum de asistencia para reuniones ordinarias y extraordinarias del Consejo, será de cinco miembros como mínimo y sus acuerdos o decisiones se tomarán con el voto favorable de la mayoría de los presentes.

Art. 5.- La Secretaría Ejecutiva será la unidad oficial responsable de coordinar y velar por el cumplimiento de las políticas y estrategias emanadas del Consejo, tendien-

tes a cumplir con las metas fijadas para la defensa de los recursos naturales y el control de la contaminación ambiental.

Art. 6.- La Secretaría Ejecutiva estará integrada y dirigida por un Secretario General que será nombrado por el Ministro de Agricultura y Ganadería y contará con el personal técnico y administrativo necesario para el cumplimiento de sus fines.

La Secretaría Ejecutiva estará adscrita al Ministerio de Agricultura y Ganadería.

Art. 7.- La Secretaría Ejecutiva contará para el desempeño de sus funciones, con los recursos financieros y fondos provenientes del Gobierno Central, de contribuciones que reciba de Organismos Internacionales y personas particulares, sean éstas naturales o jurídicas.

Art. 8.- Corresponde a la Secretaría Ejecutiva:

- a) Ser la unidad ejecutora de políticas emanadas por el Consejo Nacional del Medio Ambiente;
- b) Asesorar técnicamente al Consejo en los asuntos que son de su competencia y formular propuestas a través del Presidente del Consejo;
- c) Coordinar la cooperación técnica entre los organismos internacionales, instituciones oficiales, entidades no gubernamentales relacionadas con el Medio Ambiente;
- d) Desarrollar actividades de conservación y recuperación de los recursos naturales, por medio de las municipalidades y su comunidad;
- e) Implementar campañas de prensa, radio y televisión sobre el Medio Ambiente;
- f) Administrar el fondo y recursos financieros de acuer-

do con las regulaciones establecidas por la legislación hacendaria;

- g) Administrar el personal a su cargo;
- h) Coordinar acciones a nivel nacional con la colaboración de los Ministerios que conforman el Consejo;
- i) Rendir informe al Consejo mensualmente de sus actividades y situación financiera;
- j) Las demás acciones encomendadas por el Consejo.

Art. 9.- Derógase en todas sus partes, el Decreto Ejecutivo No.18 de fecha 31 de enero de 1974, publicado en el Diario Oficial No. 25, Tomo 242 de fecha 6 de febrero del mismo año.

Art. 10.- El presente Decreto entrará en vigencia el día de su publicación en el Diario Oficial.

DADO EN CASA PRESIDENCIAL: San Salvador, a los dieciocho días del mes de diciembre de mil novecientos noventa.

ALFREDO FELIX CRISTIANI BURKARD
Presidente de la República.

ANTONIO CABRALES
Ministro de Agricultura
y Ganadería.

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AGENDA

TALLER DE CONSULTA

EDUCACION AMBIENTAL EN EL SALVADOR:
UN DIAGNOSTICO

PACA/CARE/USAID

28 de abril de 1992

- 7:45 a 8:00 Inscripción
- 8:00 a 9:30 Plenaria
- Bienvenida
 - Inauguración: Lic. Miguel E. Araujo,
 - Secretario General del CONAMA
 - Palabras de Representante de USAID
 - Presentación del Documento:
Lic. Rusty Davenport, Consultor
 - Orientación de Mesas de Trabajo
 - Presentación de los participantes
- 9:30 a 9:45 Café
- 9:45 a 12:30 Inicio de Mesas de Trabajo
- 12:30 a 2:00 Almuerzo
- 2:00 a 3:30 Continuación de Mesas de Trabajo
- 3:30 a 3:45 Café
- 3:45 a 4:45 Plenaria
- Resúmenes de los resultados de las Mesas
 - Discusión
- 4:45 a 5:00 Clausura

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ENVIRONMENTAL EDUCATION IN EL SALVADOR:
AN ASSESSMENT

PACA/CARE/USAID

Public Workshop:
List of Participants

April 28, 1992

- María Luisa Reyna de Aguilar
Bióloga
SEMA/CONAMA
Consultora en Biodiversidad y Areas Protegidas
Centro Roosevelt, 55 Ave Sur, Torre A ler nivel
79-3830, 23-9041 fax 23-9083
- Manuel Benitez Arias
Biólogo
UICN
Representante en El Salvador
Calle Nueva #2, Casa #9, Col Escalón
Tel.23-5385 Fax 24-2478
- Ciro David Alvarez
Profesor y Lic. en Ciencias de la Educación
Dirección de Diseño y Curricular
Nueva San salvador
- Fidel Angel Blanco
Profesor y Licenciado en Ciencias Jurídicas
como en Ciencias de la Comunicación
Amigos de la Tierra
Secretario
Edificio 51 Apto. #18, Col. Zacamil
26-1026
- Juan Marco Alvarez
Lic. en Administración de Empresas
Fundación ECO-ACTIVO 20-30
Vicepresidente Director Ejecutivo
79 Ave Norte #509, Colonia Escalón
23-8947 Fax 23-3620
- Ana Celia Dominguez Pantoja
Bióloga
SEMA
Coordinadora Educación Ambiental
Centro Roosevelt 55 Ave Sur, planta baja Edif.A
- Miguel Eduardo Araujo Padilla
Economista y Abogado
SEMA/CONAMA Director Ejecutivo
Calle Los Cedros 17-D, Villas del Bosque,
Urb.Santa Elena
Antiguo Cuscatlán
- Jorge Alberto Domínguez Rivas
Arquitecto
FUTEOMA
Gerente Ejecutivo
2a Ave Sur Centro Comercial LI-Roma #3
2a planta, Santa Tecla
Tel.28-4168
- Lorena Cecilia Barba Rivas
Ingeniero Industrial
FIPRO
Jefe de Seguridad e Higiene Ocupacional
Calle Padres Aguilar #525, Col.Escalón
- Rodolfo Fernández Calderón
Profesor
Dirección de Educación de Adultos-MINED
Técnico
Col., Calle y Edif.Quezaltepec,
Nueva San Salvador
- Miriam Bazo
Programa EDUCO Ministerio de Educación
Coordinadora del Programa
- Marisol Ferrer
Médico Veterinario
Secretaria del Medio Ambiente
Asistente Ejecutiva
55 Ave Sur Edif.Centro Roosevelt,
Edif.A planta baja
Tels. 23-9041 Fax 23-9083
- Silvio Hernán Benavides Masferrer
Profesor Especialista en Educación en Población
Dirección de Capacitación del Ministerio de
Educación
Técnico Especialista en Educación en Población
Dirección de Capacitación
Final Ave. Badem Powel
Tel.28-0158

- Roberto Figueroa Díaz
Ingeniero Agrónomo
FUCRIDES
Director - Presidencia
98-0150
- Ricardo Alfredo Flores Huevo
Desarrollista Rural
Desarrollo Juvenil Comunitario
Gerente de Planeación
35 Ave Sur #626, Col Flor Blanca
Tel.71-4900
- Raúl Eduardo Góchez
Asociación de Proveedores Agrícolas
Gerente
Cond.Metro 2000 Local C-23, 47 Ave Nte,
San Salvador
Tel y Fax 79-1017
- Nelson Olaf González
Consultor Agrícola-Ingeniero Agrónomo
Asesor FRPADE Depto.Técnico Vocacional
Consultor
Col.Maquilishuat Calle La Jacaranda y
Masferrer Sur
- Peter Gore
Profesor/Asesor
USAID
Asesor Ambiental
Ave.Olimpica
- María Joaquina Grande
Profesora
Educación de Adultos
Coordinador del Sistema de Educación a
Distancia
Ministerio de Educación
Col.Quezaltepec- Santa Tecla
- Don Farrington
Economista Agrícola
USAID
Sob Jefe Oficina Agricultura y Recursos
Naturales
Torre M, Ave Olimpica
98-1666
- Milagro Cristales de Harrouch
Biólogo
Audobon El Salvador
Dirección de Comunicaciones
Urb. Palermo, Autopista Sur Pje.1 #8-C
Telfs. 98-0338 74-1877 Fax (503)23-5267
- Laura Henríquez
Periodista
MES
Director Secretaria
Calle El Progreso Pje. Peralta # 43, Colonia
Flor Blanca
23-3390
- Elba Cecilia Hernández Cabrera
Trabajadora Social
ASAPROSAR
Supervisora de Proyectos
Km. 62 1/2 Colonia El Mora, Santa Ana
40-7216 / 41-0646
- Modesto Antonio Juárez Vásquez
Ingeniero Agrónomo
CATIE
Coordinador Nacional Proyecto MADELEÑA-3
61 Ave Nte. y la. C. Pte., Edif. Bukele,
Planta Baja
- Ernesto López Zepeda
Ecólogo
Escuela de Biología, U. E. S.
Director de la Escuela
Universidad de El Salvador,
Ciudad Universitaria,
Final 25 Ave Norte
- Henry Geovanni Magaña P.
Biólogo
UNES
Supervisor de Proyectos
4a. Ave Norte #2-5, Santa Tecla
28-4775
- Rosy Mejía de Marchesini
Ejecutiva de Publicidad
Asociación Ecológica Amigos de las Playas
Coordinadora General
Local #3, ler. Nivel, Hotel Presidente
23-4913
- Nelson Martínez Ramírez
Químico Farmacéutico
Laboratorio del Ambiente
Jefe
Final 1a. Ave Norte, Santa Tecla,
Complejo MAG
28-0657
- Dr. Constance M. McCorkle
Científico
Equipo PROMESA
Jefe
Hotel Presidente

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- Misaela Molina Ardón
Bióloga
Patrimonio Natural - CONCULTURA -
Ministerio de Educación
Directora Patrimonio Natural
Parque Saburo Hirao- Col. Nicaragua
22-7680
- Julie Noble
Capacitadora
NAPA
Directora
12 C. Pte. 2422, Colonia Flor Blanca
23-0453 Fax 24-2590
- Nelson Antonio Nuila Flamenco
Ingeniero Industrial
UNES-ASIMEI
Coordinador de Proyectos - Director
Secretario - Director RRRP
UNES: 2a. Ave Norte 2-5, Santa Tecla
Telef. 28-4775
ASIMEI: Av. El Prado, C. Los Cedros #1129,
Colonia Buenos Aires #1
Telef. 26-2406 Fax 25-3931
- Rafael Orantes
Publicista - Periodista
Red de Periodistas Ambientalistas
Presidente
8a. Ave Norte y 25 C. Ote.,
Residencial El León # 13, S.S.
24-4990
- José Rubén Pérez Moz
Trabajador Social
CESAD
Presidente
45 Ave Sur #423, Colonia Flor Blanca
- Zoila Esperanza Pérez Molina
Biólogo
Audubon El Salvador
Directora Ejecutiva
Residencial Palermo, Pje. 1, #8-C
98-0338
- María Fulvia León de Pérez
Profesora
Audubon El Salvador
Directora Administrativa
Residencial Palermo Pje. 1, #8-C,
Autopista Sur, S. S.
- Gladis Aida Polio M.
Periodista
Repac-El Salvador
Jefe de Prensa y Comunicaciones
- Claudio Saito
Asesor
ROCAP - RENARM
Asesor de ONG
10a. Ave 14-14, Zona 14, Guatemala
(502) 313515
- Julio H. Salamanca
Profesor de Educación Media
Ministerio de Educación
Director de Destino de Curricular
Final Ave Baden Powell, Santa Tecla
- Francisco Serrano
Biólogo - Ecológo
FESA 20-30
Asesor
79 Ave Norte 509, San Salvador
23-8947 Fax 23-3620
- Victor Manuel Serrano Merino
Promotor Social
PROCADES
Supervisoría de Proyectos
Col. El Roble, Ave B # 2133, San Salvador
25-1002 / 25-4138
- María Erlinda de Solórzano
Profesora en la rama de Ciencias
Dirección de Materiales Educativos del
Ministerio de Educación
Autora de libros de Texto de Estudio de la
Naturaleza
Calle L-3 Oligono B # 8, Jardines de Cuscatlán,
Ciudad Merliot
78-7979
- Alexander Vásquez
Ecologista
ASACMA
Director Ejecutivo
Urbanización Buenos Aires 3,
Calle Maquilishuat 208
- Victor Veron Lezcano
Consultor de Informática (Diseño)
Publicart (Agencia) División Publicaciones
Consultor - Asesor Educativo
Col. Maquilishuat, Calle La Jacaranda # 12-K
23-0334

- Knut Walter
Historiador
Promesa
Consultor
Hotel Presidente

- Ana Carolina Martínez.
Arquitecto
PACA/CARE
Coordinadora Nacional/El Salvador
Tel.23-8947

- Rusty Davenport
Sociólogo
PACA/CARE
Consultor
1201 6th Ave #9,
San Francisco CA, 94122
Tel.(415) 6647644

- Zulma Ricord de Mendoza
Bióloga
Consultora Nacional
Calle Ixchell #33 Cumbre de Cuscatlán,
Antiguo Cuscatlán
Tel.73-3682 Apartado Postal 129A Ant,Cus.

- Melany Machado
Bióloga
NAPA/CAPS/EL SALVADOR
12 Calle Pte. #2422, Col Flor Blanca
Tel.23-9489 Fax 24-2590

WORKING GROUP MEMBERS

**MESA EDUCACION INFORMAL
MEDIOS DE COMUNICACION MASIVA**

- | | |
|---------------------------------|-----------------------------|
| - Jorge Alberto Domínguez Rivas | - Henry Geovanni Magaña P. |
| - Victor Manuel Serrano Merino. | - Victor Veron Lezcana. |
| - Dr.Constance M McCorkle. | - Rosy Mejía de Marchesini. |
| - Laura Henriquez. | |

MESA EDUCACION FORMAL

- | | |
|--------------------------------|----------------------------------|
| - María Erlinda de Solórzano. | - Francisco Serrano. |
| - Ernesto López Zepeda. | - Modesto A. Juárez Vásquez. |
| - Rodolfo Hernández Caiderón. | - María Joaquina Grande. |
| - Ana Celia Domínguez Pantoja. | - Silvio H. Benavides Masferrer. |
| - Julio H. Salamanca. | - Ciro David Alvarez. |

**MESA EDUCACION INFORMAL
INSTALACIONES PUBLICAS RECREO-EDUCATIVAS**

- | | |
|---------------------------------|---------------------------------|
| - Misaela Molina Ardón. | - Manuel Benítez Arias. |
| - Don Harrington. | - María Luisa Reyna de Aguilar. |
| - Peter Gore. | - Zulma de Mendoza. |
| - Zoila Esperanza Pérez Molina. | |

MESA EDUCACION NO FORMAL #1

- | | |
|----------------------------|------------------------------|
| - Jose Ruben Perez. | - Alexander Vasquez. |
| - Nelson Martínez Ramírez. | - Elba C. Hernández Cabrera. |
| - Marisol Ferrer. | - Nelson Antonio Nuila. |
| - Roberto Figueroa Díaz. | |

MESA EDUCACION NO FORMAL #2

- | | |
|--------------------------|-------------------------|
| - Julie Noble. | - Milagro de Harrouche. |
| - Nelson Olaf González. | - Knut Walter. |
| - Ricardo Flores Huevo. | - Lorena Cecilia Barba. |
| - María Fulvia de Pérez. | |

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ENVIRONMENTAL EDUCATION IN EL SALVADOR: AN ASSESSMENT

CONSULTATIVE WORKSHOP

April 28, 1992

SUMMARY OF WORKING GROUPS

I. EDUCACIÓN AMBIENTAL FORMAL

1. **Precisar las etapas más importantes en la implementación de un programa de capacitación de docentes, tomando en cuenta los procedimientos y estructuras existentes. Qué papel pueden jugar las organizaciones gremiales, las ONG con experiencia en capacitación y las universidades que han realizado tareas similares?**

Se propone como eje básico para la incorporación del la Educación Ambiental:

- El mal manejo de los recursos naturales
 - Deterioro Ambiental
- A. Identificar los problemas ambientales
 - B. Definir criterios de priorización de los problemas ambientales
 - C. Que los problemas sean identificados y tratados por: nivel, lugar y en forma participativa.
2. **Como se pueden integrar tópicos y temas de medio ambiente en toda materia educativa impartida en las escuelas y colegios? Como se llevaría a cabo específicamente?**
 - A. Formación de un equipo integrado por diseñadores curriculares y especialistas ambientales
 - B. Incorporar la dimensión ambiental en forma integrada en los contenidos y sugerencias metodológicas en las diferentes areas de estudio.
 - C. Las acciones educativas ambientales estarán fundamentadas en la metodología del currículo flexible.
 3. **Cuales condiciones de mal manejo de los recursos naturales y depredación del medio ambiente, son los más propicios para emplear en un proceso de educación práctica (aprendiendo y haciendo)? Porqué? Como se utilizarían?**
 - A. Elaborar materiales técnicos básicos que contengan la información básica necesaria para el programa de Educación Ambiental (crear unidad de Educación Ambiental, Ministerio de Educación).
 - B. Preparar a los técnicos de la Dirección de Capacitación y Formación Docente.

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- C. Aprovechar la regionalización educativa para trasladar la información mediante seminarios talleres.
 - D. Complementar lo anterior con la experiencia de O.N.G. etc.
4. En El Salvador, falta (a) cursos en medio ambiente, (b) carreras en temas ambientales, y (c) carrera en educación ambiental [como ser un educador de medio ambiente]. Cuales son las etapas específicas para adiestrar profesionales en educación ambiental? Qué recursos académicos, profesionales e institucionales serían necesarios y como se obtendrían?
- A. Realizar inventario de profesionales en Educación Ambiental existentes en el país; identificar recursos humanos externos complementarios.
 - B. Formar equipos multidisciplinarios (Ministerio de Educación, Universidad) que diseñe y elabore programa básico integrado en el Ministerio de Educación.
 - C. Formar educadores ambientales generalistas para atender los niveles:
 - Parvulario
 - Básico
 - Medio

I I. EDUCACION AMBIENTAL INFORMAL

Centros Recreo-Educativos

Dinámica de Trabajo:

- Comentarios generales del documento en especial educación informal
- Observaciones específicas
- Preguntas del cuestionario
- Conclusiones

Comentarios Generales:

- Documento real-calidad singular-valioso
- Conveniente que se destaque los antecedentes positivos en el campo de la Educación Ambiental
- No se consideran otros aspectos que han limitado en el desarrollo de los proyectos (dedicar un area del documento a esto).
- Hay errores de contenido que se han hecho sobre el documento

Educación Informal:

- Proyectos existen y ha habido - no hay apoyo - no son prioritarias.
- El análisis es unidireccional - solo el componente educativo sin traslape.

- 1. Priorizar las instalaciones en base a su potencial a proporcionar educación ambiental. Por qué estas? En cuales rubros o temas deben especializarse? (véase pag.33 "Recomendaciones" literal a y b) Quienes deben ser sus audiencias prioritarias y porqué?**

Instalaciones: bajo los criterios de mayor afluencia del público.

- Previo entrenamiento y experiencias en el campo de la Educación Ambiental

A. Zoológico-museos-Jardín Botánico

B. Areas Naturales

C. Sitios Arqueológicos (coordinación para desarrollar su potencial)

D. Casas de la Cultura

E. Turicentros

Rubros:

A. Desarrollo urbano

B. Extinción de vida silvestre

C. Biodiversidad

1. Areas Naturales

- Extinción de vida silvestre
- Manejo de cuencas
- Biodiversidad
- Ecología marina
- Manejo de areas naturales
- Desarrollo sostenible

2. Sitios arqueológicos

- Casas de la cultura (orientadas a las comunidades locales principales)
- Turicentros

D. Audiencias

- Escolares a todo nivel
- Visitantes y grupos familiares

- 2. Qué instalaciones son las más apropiadas para trabajar conjuntamente con ONG's, con el fin de perfeccionar proyectos de Educación Ambiental? Qué resultados y productos deben esperarse?**

Consideraciones: Las ONG'S pueden lograr un papel sumamente importante y vital como FACILITADORES y administrar programas de educación ambiental, pero no la conducción de la institución. Deberán capacitarse técnicamente y colaborar en el fortalecimiento institucional.

- A. Areas naturales (establecimiento claramente injerencias y funciones)
- B. Parques urbanos y museos
 - Impacto a la conciencia nacional
 - Enfoque integrado en actividades educativas
 - Multidisciplinarias e inter institucional
 - Agilización financiera

Medios de Comunicación

1. Qué mensajes ambientales específicos, pueden tener mayor efecto al emitirse por los medios?
Qué resultados deben esperarse?

- A. Mensajes Reflexivos
- B. " Orientadores
- C. " Concientización
- D. " Incentivos
- E. " Motivación

Resultados:

- A. Campo de conducta individual y colectiva
 - B. Organización de la comunidad
 - C. Cambio patrones culturales
 - D. Concientización de la población
 - E. Calidad de vida
2. En qué técnicas, habilidades y conocimientos debe capacitarse el personal de instituciones (ONG y OG), los cuales desean desarrollar un programa de Educación Ambiental masiva?
- A. Técnicas de producción
 - B. Habilidades: Expresión y Liderazgo
 - C. Conocimientos:
 - Mercadeo (investigación de mercado)
 - Sociología
 - Legislación
 - Economía
 - Psicología
 - Ecología
 - Banco de Datos

3. **Cuales son los resultados concretos que se pueden o deben esperarse de los lectores, oyentes o televidentes, de los mensajes emitidos por los diferentes medios masivos? Cuales son las limitaciones?**
- A. **Resultados Concretos:** Cambio de actitudes para recuperar y conservar el Medio Ambiente.
- B. **Limitantes:**
- a) Analfabetismo
 - b) Credibilidad en el medio
 - c) Mala interpretación del mensaje
 - d) Limitaciones económicos
 - e) Acceso del receptor al medio

OBSERVACIONES GENERALES

Debido a que el documento se nos ha entregado a escasos minutos de iniciado el evento: nuestra mesa ha tenido poco tiempo para hacerle un análisis detenido, pero por lo que hemos leído aseguramos que existe un total desconocimiento de la realidad nacional en el campo de la comunicación social relacionado con el Medio Ambiente. Recomendamos un nuevo estudio del cual participemos las ONG'S aquí relacionados.

I I I (A). EDUCACION NO-FORMAL

1. **Cuales son los obstáculos concretos que más dificultan la coordinación entre las mismas ONG Ambientalistas (ONG-A) y entre estas con las ONG de Desarrollo (ONG-D), en pro de la educación ambiental? Qué pasos se pueden hacer para eliminar estos obstáculos?**
- Falta comunicación entre ONGS y entre ONG-A <--> ONG-D
2. **Cuales recursos de las ONG-A son de mayor utilidad a las ONG-D y vice-versa? Como concretamente puede beneficiar una a la otra?**
- Falta ordenamiento de misiones de ONGS - duplicación de esfuerzos
 - Misiones de ONG-A y ONG-D son diferentes
 - Falta entre coordinador asalariado que canaliza las acciones entre ONGs
 - Trabajo solo de voluntarios limita las acciones de la ONG-A
 - Falta presupuesto del Estado

Pasos:

- A. **Coordinación entre ONG - definir areas de trabajo para no duplicar esfuerzos.**
- B. **Que CONAMA organiza a las ONG para hacer inventario (diagnostico) para definir las acciones de las ONG**
- C. **Concertaciones locales**

3. **Cuales actividades, cambios de prácticas y reformas estructurales pueden resultar de la educación ambiental no-formal? Qué es necesario hacer para incrementar la frecuencia de obtener tales resultados?**
- A. ONG-D --> ONG-A
1. Personal capacitado
 2. Información sobre RRKN y MA
 3. Uso de técnicas participativas
 4. Comunidades organizadas
 5. Integración de actividades
- B. ONG-A --> ONG-D
- Información ecológica
 - Señalamientos de problemas y cruces
 - Fuente de info.sobre proyectos ambientales
 - Estudios técnicos en apoyo a ONG-D y comunidades
- C. • Lograr cambios a través de EA en la población infantil
- Conocimiento de leyes de protección del MA porque que la gente exige cumplimiento
 - Formulación y gestión de políticas y leyes de protección del MA
- D. Elaboración de un plan de EA en base a prioridades
- E. ONG fuertes a través de intercambios de información, técnicas - vía capacitación en servicio - formulación y gestión de proyectos
- F. Capacidad auto gestonaria de comunidades ejercer acciones entre problema de Medio ambiente
4. **Cuales deben ser los papeles de SEMA y PROMESA, para ayudar a las ONG, tanto Ambientalistas como de Desarrollo, en el debido cumplimiento de sus esfuerzos en educación práctica-participativa?**
- A. SEMA:
1. Identificar y priorizar problemas ambientales
 2. Identificar criterios basados en resultados concretos para funcionamiento de las ONG
 3. Facilitar y promover la comunicación entre las ONG en el país (de acuerdo a las actividades concretas en pro del MA)
 4. Apoyar la autogestión de las ONG y de las comunidades - mencionar/exigir/quejar/sugerir sobre problemas
- B. PROMESA:
1. Apoyar el papel de SEMA (arriba)
 2. Priorizar los problemas del MA
 3. Financiamiento de actividades coordinadas

I I I (B). EDUCACION NO-FORMAL

1. **Cuales son los obstáculos concretos que más dificultan la coordinación entre las mismas ONG Ambientalistas (ONG-A) y entre estas con las ONG de Desarrollo (ONG-D), en pro de la educación ambiental? Qué pasos se pueden hacer para eliminar estos obstáculos?**

- Desinformación
- Falta de coordinación efectiva
- Celo profesional egósta
- Estructura institucional débil

Propuestas

- Creación de un banco de datos
- Establecimiento de un consejo coordinador
- Facilitar procesos de relación inter institucional

2. **Cuales recursos de las ONG-A son de mayor utilidad a las ONG-D y vice-versa? Como concretamente puede beneficiar una a la otra?**

- Intercambio de recurso humano calificado
- Intercambio de experiencia y documentación
- Intercambio de experiencia financiera

3. **Cuales actividades, cambios de prácticas y reformas estructurales pueden resultar de la educación ambiental no-formal? Qué es necesario hacer para incrementar la frecuencia de obtener tales resultados?**

- Promover la participación activa de la sociedad salvadoreña
- Promover el cambio de conducta del individuo hacia el medio ambiente
- Divulgación de proyectos exitosos
- Fortalecer y ampliar la capacidad ejecutora institucional

4. **Cuales deben ser los papeles de SEMA y PROMESA, para ayudar a las ONG, tanto Ambientalistas como de Desarrollo, en el debido cumplimiento de sus esfuerzos en educación práctica-participativa?**

- Apoyo financiero
- Apoyo para capacitación de personal
- No condicionamiento político de los recursos otorgados.