



Natural
Heritage
Institute

**CONSERVATION, POPULATION GROWTH AND
MIGRATION: OPPORTUNITIES FOR REFORM OF
PUBLIC AND PRIVATE PROGRAMS**

Prepared by:

**The Natural Heritage Institute
October, 1998**

About the Natural Heritage Institute

The Natural Heritage Institute ("NHI"), a non-profit, public interest environmental organization comprised of lawyers and scientists which seek to promote improved management of natural resources worldwide, began documenting environmental migration in 1992, co-publishing, with Universities Field Staff International, reports on environment and migration in Northeast Brazil, Haiti, India, and Horn of Africa. In 1993, the Institute included Mexico in its program. In 1994, NHI prepared a preliminary report entitled, "Desertification and Migration: Case Studies and Evaluation," related to Mexico, Haiti, Northeast Brazil, India and Africa, for the U.N. Secretariat for a Global Convention to Combat Desertification and Drought. Subsequently, NHI completed a more geographically focused research paper on the phenomenon in North America entitled, "Desertification and Migration: Mexico and the United States." This preliminary report was published by the U.S. Congressional Commission on Immigration Reform in 1995. In December 1997, the Commission published NHI's final report and included key findings of NHI's investigation in its final report to Congress. This work has also been featured prominently in the U.N. Environment Programme's World Atlas on Desertification, published in the Fall of 1997.

NHI Project Staff: Michelle T. Leighton, Director; Mark R. Wolfe; Michelle Passero; Stephanie Yang; Elinor Leary

We would like to acknowledge Joanne Grossi, Marie McLeod, and Frank Zadroga of US AID for their important comments and advice. We would also like to express our gratitude to Geoffrey Dabelko and Christa Matthews of the Woodrow Wilson Center – Environmental Change and Security Project for their generous collaboration on the Experts Roundtable, and to thank the UN CCD Secretariat and IFAD for their educational support.

*This project was made possible by the generous support of the Summit Foundation and the Weeden Foundation.

TABLE OF CONTENTS

Overview of Conclusions and Recommendations	i
I. Introduction	1
II. Background	4
III. Review of U.S. Foreign Assistance Programs in Mexico	6
A. Overview of USAID Activities in Mexico	6
B. Programs and Goals	8
1. Population	8
2. Environment	10
a. El Triunfo Biosphere Reserve	11
b. Calakmul Biosphere Reserve	11
3. Economic Development	13
4. HIV/AIDS Prevention	13
5. Democracy	14
C. USAID's Support for the University of Michigan's Population Fellows Program	14
D. Conclusion: USAID/Mexico's Need for a Plan to Improve Programmatic Integration	15
IV. Examples of Several Integrated Programs Achieving Success	17
A. Integrated Program Review by Population Action International	17
1. PAI's Specific Conclusions	17
2. Case Study Examples from the Report	18
B. Review of Integrated Project Development in Other Areas	19
<i>Pro-Natura International</i>	19
<i>Esperanza</i>	20
<i>ZetaMex/World Neighbors Project, Oaxaca, Mexico</i>	21
<i>Pro-Natura, Chiapas, Mexico</i>	22
<i>MEXFAM</i>	23
V. Conclusion	25
Appendix I: <i>World Neighbors Integrated, Capacity-Strengthening Approach for Participatory Community Development</i>	28
Appendix II: <i>Dryland Biodiversity Conservation Through Multistakeholder Coalitions Promoting Sustainable Use of Natural Resources</i>	31
Appendix III: <i>Conclusions and Recommendations from NHI's Report on Environmental Degradation and Migration: Published by the U.S. Commission on Immigration Reform (December 1997)</i>	34

OPPORTUNITIES FOR REFORMING CONSERVATION, POPULATION, AND MIGRATION PROGRAMS

Overview of Conclusions and Recommendations

Environmental degradation, poverty, unsustainable population growth, family health and migration, are often closely connected in a complex web of mutually aggravating cause and effect relationships. These problems are particularly acute in the developing world, where technical and financial resources are limited, and local institutional capacities are weak. Providing affected communities in less developed countries with the tools they need to meet the challenges of these interrelated problems will be critical if they are to sustain themselves and avert the consequences of famine and migration.

Our findings indicate that a serious obstacle to meeting this challenge is the lack of coordination and integration among aid programs that independently target environmental, population, public health, and economic development needs in affected areas. While there is a growing awareness of the linkages that unite these issues among development agencies, foundations and NGOs, the vast majority of U.S. foreign aid and private donor programs continue to address these issues by parceling out assistance through segregated programs. For example, a donor's *environment program* typically remains separate and distinct from its *population program*, which remains separate and distinct from the *agricultural program*, and so on. Such programs typically require recipients to demonstrate success in meeting the goals of only one programmatic area, and this has tended to limit the flexibility of NGOs receiving funds to craft innovative new programs that address cross-sectoral issues. Thus, while there has been much dialogue and rhetoric on the need to pursue cross-sectoral objectives and goals, there are few systems or models that actually encourage success.

Our investigation also reveals a dearth of programs in developing countries that address the influence of population and migration patterns on the environment, economy, and family health of affected communities. As a case study, we focused on the structure and operation of U.S.-based development programs in Mexico, particularly those of US AID. This follows from our previous analysis of Mexico's land and water degradation, loss of biological diversity, poverty, migration, and associated health problems, published by the Congressional Commission on Immigration Reform in December 1997. The conclusions and recommendations from this analysis are provided in an Appendix to this report. We have also drawn upon the results of the June 30, 1998 Roundtable Meeting of *Addressing the Related Problems of Environment, Population, and Migration: Opportunities for Institutional and Policy Reform*, convened by NHI and the Woodrow Wilson Center's Environmental Change and Security Project at the Smithsonian Institute in Washington, DC. That workshop brought together 36 participants, including key representatives from the U.S. State Department, US AID, non-governmental organizations, academic experts, and foundations, to discuss how best to advance environment, migration, and family health, and women's issues, as well as the development of techniques to monitor,

evaluate, and upscale integrated programs. Information on the Roundtable is also attached.

On a positive note, we have also found that there are in fact a number of development, family planning and environmental groups worldwide that are now beginning to design integrative programs that have great potential for success. Specifically, our findings suggest that there have been a number of NGO-based development projects undertaken in Mexico in recent years that reflect various degrees of programmatic integration, and which could provide a diversity of lessons and opportunities for comparative evaluation. In order to have a major impact in developing countries, however, these programs will need to be more broadly supported, adequately documented and, where appropriate, replicated. The challenge will be to provide adequate support for these initiatives and to broaden their application where appropriate. Our recommendations in this effort can be briefly summarized as follows:

- There is significant evidence that land degradation, population pressure, poverty and migration are dynamically linked. The impetus for migration in Mexico caused by these underlying problems has enhanced social conflict along the U.S. – Mexico border. In this way, Mexico can serve as an example of what many believe is an increasingly global phenomenon.
- Non-governmental programs that undertake integrated and collaborative efforts can serve as models for future initiatives. While some of these efforts have been documented, much more is needed to identify potential models around the world. A wider distribution of these models to policymakers, foundations and other non-governmental organizations is warranted. These are needed to demonstrate the important assets that integrated projects bring to their communities.
- Policymakers, including congressional members, non-governmental groups, and private donors do not regularly or actively engage in policy dialogue on these issues. Their interaction should be facilitated with a view towards improving the development of approaches to integrated environment, economic development, family health, and migration problems. The establishment of a mechanism to coordinate these dialogues and to facilitate partnerships is warranted. This would serve to bring groups together and facilitate the distribution, exchange of information on a regular basis. This could enhance and broaden understanding on the benefits of these initiatives, and encourage improvements in monitoring and evaluation techniques. It also suggests the need to achieve greater consensus among donors and recipients on the indicators of success for these community-based programs.
- The lack of institutional capacity of local groups in developing countries still remains a large problem in both undertaking internal or external collaborative programs, and in expanding the geographic scope of successful programs. Successful local programs should receive increased support to build their capacity and to measure the benefits or disbenefits in extending the geographic base of their programs. This

would provide groups, policymakers and private foundations with a better understanding of the limits and opportunities of expanding or “upscaling” localized initiatives of this kind.

- US AID programs face barriers to promoting the integration of economic development programs with population and demographic initiatives in Mexico and elsewhere. US AID Bureaus are, by and large, segregated in terms of their goals, programmatic development, and indicators of success. There are too few incentives or institutional mechanisms that can promote effective integration of global environment, health, agriculture or other economic development projects. Moreover, there is skepticism by some in US AID that the integration of programs would have substantial beneficial results. This may be caused in part by the lack of understanding about successful integrated initiatives operating in the field, and by the lack of a widely accepted system of indicators of success for integrated projects.

Our findings and recommendations are discussed in greater detail in the body of this report.

OPPORTUNITIES FOR REFORMING CONSERVATION, POPULATION, AND MIGRATION PROGRAMS

I. INTRODUCTION

In the developing world, problems of environmental degradation poverty, unsustainable population growth, migration, and health are often closely connected in a complex web of mutually aggravating cause and effect relationships. Despite a growing awareness of these linkages among development-oriented agencies, foundations and NGOs, the vast majority of U.S. foreign aid and private donor programs continue to address these issues by parceling out assistance through segregated programs; the environment program remains separate and distinct from the population program, which remains separate and distinct from the agricultural program, and so on. Regarding migration, there is simply a dearth of programs available to address the influence of migration patterns on the environment, development or family health of affected communities. The impact of this segregation on the effectiveness of overseas programs could be staggering when it is understood that USAID manages over seven billion dollars a year, more than one billion of which is allocated for development assistance.

The purpose of this report is to expose these deficits and evaluate avenues of reform for one sector, U.S. foreign assistance programs. We considered the operation of U.S. Agency for International Development (“AID”) programs in Mexico as a case study for this effort because land and water degradation, biological diversity loss, poverty, migration, and health problems are at or near crisis levels in some rural areas. Too, a number of different development projects have been undertaken in Mexico with varying levels of programmatic integration that provide us with a diversity of experiences and lessons.

As awareness of the links between land degradation and development problems increase, several Mexican and/or U.S.-based NGOs and PVOs have begun to address these problems in a more integrated, synergistic fashion. Several groups in countries such as Mexico are now working to implement resource conservation programs in tandem with family health and community development goals.

Similar cross-sectoral programs are being undertaken with impressive success. While this is good cause for optimism, the emulation and expansion of these efforts will need support from the well established U.S.-based aid programs like USAID and from private foundations. The challenge is to improve the understanding among officials and private groups that these cross-sectoral programs are critical to the long-term success of their goals, whether primarily related to biodiversity, health, or economic development.

Even though population growth has emerged quickly onto the environmental landscape as an issue related to durable environmental health, groups continue to struggle with

effective approaches to designing integrated programs. Few models exist. Meanwhile, government-sponsored programs have lagged behind. There are, of course, some notable exceptions, such as the University of Michigan's AID sponsored population fellows program, described in this report.

Migration, on the other hand—a key related demographic trend and indicator of environment, economic and social health—has been largely ignored by both private and public sponsored programs. This is due in part to the fact that it is less understood and viewed by some as politically sensitive.

Our investigation did find that the desire to continually improve programmatic efficiency clearly exists among some of those designing and implementing foreign aid programs. Some staff and executive level personnel we contacted expressed their goal to explore more concretely the opportunities for undertaking an integrated approach and to considering certain non-governmental projects as potential models.

This report highlights these opportunities, utilizing Mexico as a case study that can yield larger regional and international lessons. The findings on the case study were addressed on a global level by a group of official, non-governmental, and academic experts in a Roundtable dialogue co-hosted by the Natural Heritage Institute and the Woodrow Wilson Center's Environmental Change and Security Project, June 1998. It was generally agreed that the lack of programmatic integration identified in this report is common within not only USAID bureaus but those of the U.S. Department of State as it develops foreign policy.

Our findings are presented among several sections of this report. **Section II** provides the background for our assumptions on the linkages of these issues, globally and in Mexico. These are derived largely from our four-year investigation of land use, poverty, agriculture, population, family health, and migration trends in Mexico, as published by the U.S. Commission on Immigration Reform, December 1997. A summary of these findings are presented in Appendix III of this report.

Section III presents the findings of our evaluation of USAID programs operating in Mexico and their attention to these integrated issues, or lack thereof. This was documented through interviews with officials and aid recipients, field visits, and review of agency documentation.

Section IV then presents a brief review of how non-governmental groups are designing and implementing innovative community-based programs to address environmental, agricultural, family health, and poverty issues in a more integrated fashion. In some cases this is accomplished through collaboration with other expert groups and in other cases through expansion of expertise on staff. Our conclusions and recommendations follow in Section V.

Appendices I and II are attached to provoke further thought on the following issues.

- 1) Indicators of Success: Foreign assistance programs, those often of private donors, establish criteria or indicators of success for the projects they fund depending upon which program that the funds originate from, whether it is the global environment program, agriculture program or the health program. These programs generally do not integrate their goals, funding, or indicators of success. Measuring whether a program produces more forest cover in an area over time is quite different than measuring whether women feel more empowered in the community in which a program is operating. *Yet, if the integration of programs is to be understood by policy makers as an effective means of addressing local environment, health and development issues, or migration, how do we establish true and effective indicators of success for these programs?* In Appendix II, Denise Caudill of World Neighbors presents a sketch of her effort to improve the methodology for developing indicators for community-based programs that do integrate issues and solutions.

- 2) Upscaling Local Projects: Many policymakers are still uncertain as to whether integrated programs that achieve success at the local level can do so if expanded to a larger scale. *If these programs are to achieve national or regional impacts on change, can they be upscaled to represent a larger portion of the affected country, and if so, how?* In Appendix III, Michael Brown, founder of Innovative Resources Management, presents a program under development to *upscale* innovative local programs to national and international levels.

II. BACKGROUND

Globally, land degradation has become an acute environmental, economic and social problem. Each year, the world loses 24 billion tons of topsoil through the process known as desertification, mostly in the drylands which cover about 40% of the earth's surface.¹ Desertification is defined as the degradation of drylands, in arid and semi-arid zones, to the extent that the lands can no longer sustain vegetation.

Currently, approximately 70% of the 5,200 million hectares of the world's agricultural lands are already degraded.² The primary causes of desertification, which in some cases irreversibly decreases the biological potential of soils and their ability to sustain life, include overgrazing, overcultivation, deforestation, poor water management, and climatological factors that contribute to vegetation loss and soil erosion. Because rural communities depend on local land and water resources for their continued subsistence, soil erosion directly contributes to declines in rural incomes. In regions where land remains the primary means of sustenance for vast numbers of people, land and water degradation combined with population growth often lead directly to increased levels of poverty, health problems, and migration. It is estimated that 25 million people worldwide have already been displaced due to these factors.³

The land degradation-poverty-migration phenomenon is growing in Latin America and the Caribbean. Mexico, with more than 60% of its territory severely degraded, is one of the countries most adversely impacted.

Experts and officials now estimate that each year between 700,000 and 900,000 people are forced to leave Mexico's rural dryland areas in search of livelihood elsewhere. It is generally accepted among government officials and academics that migration is a product of the expectation of higher wages, improved social services, and a comparatively high standard of living in the U.S. What is often ignored and less understood, however, is that these economic determinants are a component of a larger system of inter-connected social, demographic, and environmental phenomena that together form the motivating basis for cross-border migration. Indeed, while much has been written about the relationship between migration and employment, for example, *surprisingly little analysis has emerged from the academic and government communities to address other social and environmental factors that are now emerging as important determinants of Mexican migration.*

¹ W. Franklin Cardy, Director Desertification Programs, U.N. Environment Programme, presentation at "Improving Science and Technology for Increased Environmental Security in the Drylands Workshop (July 8, 1997)"; see also, Hassan, Hassan and H.E. Dregne, *Natural Habitats and Ecosystems Management in Drylands: An Overview* ≡ *Natural Habitats and Ecosystems Management Series*, (May 1997).

² Lean, Geoffrey. *Down to Earth*, The Centre for Our Common Future, p.5. (1995)

³ Id.

Among the least studied of these other factors are those stemming from the physical environmental degradation of agricultural lands in Mexico, particularly in the country's arid and semi-arid regions where water is most scarce. Degradation occurs from overharvesting, overgrazing of livestock, improper irrigation and lack of access to technology. Severe soil erosion and the removal of land from crop production inevitably cause serious income declines among Mexican households for whom agriculture is the primary income-generating activity. As agriculture becomes less and less viable as a source of income and wealth for these households, cross-border migration correspondingly becomes more economically attractive.

Meanwhile, the agricultural communities in Mexico impacted by land degradation are developing more sophisticated social networks in U.S. destination areas, thereby reducing the costs and risks associated with migration. For farm households in Mexico's dryland areas, a majority of which are threatened by desertification, migration is often an obvious economic choice. This is not unlike the American experience during the 1930's, when thousands of migrants streamed from the "Dust Bowl" of the midwest into western states when drought and unsustainable farming combined to induce massive poverty. Believing that Mexican migration is linked to environmental stress, a problem that is measurable and that may be eased through targeted intervention, NHI undertook this investigation.

Our findings reveal several key conclusions. There is a strong correlation between environmental stress, poverty, and population pressure which can lead to migration. Environmental degradation, poverty, population and associated migratory flows cannot be addressed through short-term fixes initiated unilaterally by the U.S., such as additional border security and employment related sanctions. Rather, official and private, or nongovernmental programs within Mexico to address these problems is warranted. The Mexican government will need to direct greater attention and resources to these issues.

Moreover, we found that the U.S. can play a catalyzing role for these reforms through binational cooperation with Mexico's private and public sectors. The U.S. has technology and expertise that can serve in building and facilitating these programs. To date, these opportunities have been little explored beyond the physical border area. We considered that an immediate step may be to ratify the U.N. Convention to Combat Desertification and Drought, already ratified by Mexico and more than 140 other countries. This can serve as a framework for cooperation between Mexico and the U.S. in addressing these issues—as a less politically charged avenue than those relating to debate on *immigration*. The key findings and recommendations of NHI's original study are presented in Appendix III to this report. The full report is published by the bipartisan congressional commission, known as the U.S. Commission on Immigration Reform, December 1997.

This report seeks to follow-up with our initial investigation to explore more closely how our government foreign policy and assistance programs are, *or are not*, moving forward to support efforts that address these cross-sectoral issues. The following section considers USAID programs in Mexico as a case in point.

III. REVIEW OF U.S. FOREIGN ASSISTANCE PROGRAMS IN MEXICO

USAID programs are one avenue of foreign policy assistance in which the U.S. government can address the integrated objectives of land degradation, population and migration trends. There has been much rhetoric and project activity with USAID regarding the *need* for integrating conservation and development. There has been much less on linking agricultural development programs with conservation and women's health or family planning issues. There has been even less attention, almost none, toward linking programs to areas with high outmigration rates---immigration being one key indicator of environmental and economic deterioration. USAID could undertake a greater effort to link the objectives of its economic, environmental and health/population programs. One important achievement in this arena is support from USAID's Center on Population, Health and Nutrition for the University of Michigan's Population Fellows Program. This program places fellows worldwide within environment and development institutions and NGOs to work alongside these groups in linking environment and women's health issues. Some of this work is noted in the discussion . A fuller discussion of the Fellow's program is presented at the end of this section.

A. Overview of USAID Activities in Mexico

USAID's mission in Mexico operates within the framework of the agency's global mandate to work toward the goals of: (1) encouraging economic growth; (2) stabilizing world population growth and protecting human health; (3) protecting the environment; (4) building democracy; and (5) providing humanitarian assistance.⁴ Within this framework, specific USAID programs, projects, and activities focus on promoting individual "strategic objectives" or "special objectives" that represent concrete steps toward attaining these broader goals.⁵ Within its five program areas, USAID's Mexico Mission has established objectives and benchmarks for success. Its reports indicate that the Mission is working well toward achieving these objectives. Our investigation on the links between environment, population trends, and migration reveals that USAID could improve opportunities for reaching several of its stated goals by better integrating objectives of the programs it funds and promoting closer collaboration among the groups it funds.

The USAID Mission in Mexico generally pursues each of its goals and objectives independently from one another, by participating in or funding discrete efforts designed to meet one, or perhaps two goals at a time. There appears to be little integration, communication, or connection among the different programs and projects across the five goal categories. Although there have been a number of USAID-funded/NGO-implemented projects that have met with considerable success in combining community development with conservation concerns, this sort of integration has not risen to a programmatic level, and USAID does not recognize it as a goal or strategic objective in

⁴ USAID, FY1998 Congressional Presentation (1998).

⁵ Id.

and of itself. At present there is little indication of formal integration across USAID's population, health, economic and environment portfolios. Moreover, there is little official attention to the problem of migration, even in the states with the highest out-migration rates: areas that indicate high levels of poverty, land and water degradation, and high population growth rates. There is a growing recognition of the potential for improving programmatic synthesis that exists at some levels within the Agency. For example, the Agency's Latin American and Caribbean Bureau recently reported that: "Awareness is growing throughout the [Latin American and Caribbean] region that environmental degradation, economic decline, and social and political instability are closely linked."⁶ USAID/Mexico indicated recently that it has begun to actively explore ways to address migration, environment, and population issues to attain more synergy and sustainable outcomes in its programs.

Nevertheless, a preliminary review of USAID programs in other regions and discussion with USAID officials and groups funded by the Agency suggests that an absence of programmatic integration is applicable to U.S. foreign assistance programs generally. This may in part be due to a lack of internal mechanisms to link the various programs more formally, and their objectives more systematically, as well as to the reduction in funding for foreign assistance programs by Congress. But this is only part of the problem. Even among bureaus within the Department of State, at least until recently in relation to a food security task force, there appears to have been a lack of meaningful integration of U.S. foreign policy objectives related to addressing environment, population, and migration problems.

NHI believes the level of programmatic integration should be increased for several reasons. By continuing to fund one or perhaps two goals or strategic objectives at a time, USAID/Mexico may be forsaking the opportunity to make efficient progress toward achieving all at once. As was demonstrated in the NHI Congressional Report, environmental degradation, poverty, population growth and migration are closely correlated with one another. As a result, programs targeted at promoting conservation of species that ignore stabilizing population growth, or promoting community development, will likely be less successful in alleviating the loss of biodiversity. Moreover, the deepening poverty associated with the lack of attention to these related issues is likely to increase migration of the rural population to Mexican cities and across the border into the U.S. Mexico, however, is not an isolated circumstance but one that exemplifies other regions where natural resource degradation is fueling migration, such as Africa.

If, as we believe is certainly the case, the physical and social factors that contribute to population growth, poverty, and environmental degradation are closely interrelated in many areas, then programs that address all these factors in tandem will be more likely to succeed than will programs focusing exclusively on one or two. Recent efforts by NGO and citizens groups outside the USAID funding framework provide strong evidence that a more integrated approach to promoting environmental protection, encouraging economic

⁶ USAID, "The Strategic Role of U.S. Assistance in the Americas" (1996).

development, stabilizing population growth, and building democracy can be enormously effective. NHI and other groups have recently begun to document a growing number of such programs that, hopefully, will serve to demonstrate the success of designing programs that are collaborative among groups working on, or that integrate, economic development, environmental protection and gender issues. These are described in a subsequent section of this report.

B. Programs and Goals

Since the beginning of the 1990s, USAID has funded projects and programs in Mexico designed to promote one or more of the agency's strategic or special objectives. These projects, which range from provision of family planning services, to HIV/AIDS education, to forest management planning, to improvement of cross-border labor relations, are generally implemented at the local level by partnerships or coalitions of Mexican and U.S.-based non-governmental organizations and community groups. The problem, again, is that although many of these projects have been successful in accomplishing their stated purposes, most remain oriented toward a single goal. The various linkages among problems of population, health, environment, and economic development identified in the NHI Congressional Report are not fully addressed in either program design or implementation.

This section of the report presents an overview USAID's programs and activities in Mexico, highlighting those in which programmatic integration has so far been successful, and those in which further integration would likely produce even more progress toward achieving agency goals and strategic objectives. The descriptions of these activities are taken from the USAID's 1996 "Results Review and Resource Request for 1999" (R4), the "USAID FY1998 Congressional Presentation," from a number of reports, project descriptions, and other documents related to agency activities in Mexico and Latin America, as well as from meetings with USAID staff and both official and NGO USAID partners.

1. Population

USAID's strategic objective in this area is the achievement of a "sustainable increase in contraceptive prevalence." The means to this end are the increased supply of quality family planning services in targeted areas; increased demand for family planning services in targeted areas; and increased sustainability of family planning delivery systems in targeted areas. As identified by the Mexican government, these areas are the following states: Chiapas, Guanajuato, Guerrero, Hidalgo, Oaxaca, Puebla, Veracruz, Estado de Mexico, Michoacan, Jalisco, Queretaro, San Luis Petosi, and Zacatecas.

Since 1992, USAID has supported the Mexican government and two Mexican NGOs, MEXFAM and FEMAP, in achieving these goals. USAID's role has been one of coordination and administration. Direct service provision is the responsibility of the government and participating NGOs. Through a network of U.S. PVOs, the Agency has

provided technical assistance, training in family planning service delivery, and funding to promote establishment of a reproductive healthcare framework to serve remote areas of high poverty. Although USAID assistance to MEXFAM and FEMAP is scheduled to be phased out entirely in the near future, until then the Agency continues to support these institutions' capacity to be self-sustaining once funding ceases.

USAID has indicated that its activities in the area of population have been successful, citing statistics indicating that contraceptive prevalence increased by 8.3% between 1992 and 1995, and the fertility rate dropped from 3.1 to 2.8 during the same period. Our analysis in the Congressional Report demonstrates, however, that several rural areas of Mexico have not shared in this level of success, with some reporting double the national fertility rate. There is little indication that the Agency's population programs formally integrate economic development and/or environmental protection goals into the workplans of the implementing organizations or groups. One USAID population program does, however, link population and public health concerns. USAID recognizes that in San Quintín, Baja California Norte, or "Oaxacalifornia," a migration destination for indigenous people escaping poverty and desertification in their home state of Oaxaca, 12,000 families live in 42 communities and 33 camps with the nearest medical facility 120 miles away in Ensenada. Through the Mexican Social Security Institute (IMSS), USAID-funded activities include reproductive health services, with a particular focus on men, management of STDs, promotion of prenatal care, family planning and counseling, preventative medicine, and health education. Yet despite its implicit recognition of the link between population, poverty, public health, and migration, there currently is no USAID/Mexico program that expressly addresses these four linked problems in the sending state of Oaxaca. Moreover, as the NHI Congressional Report notes, Oaxaca is one of the states most critically affected by desertification and rural poverty.

USAID/Mexico has elsewhere made progress in integrating population and environment concerns, specifically through two pilot population and environment projects in the Calakmul Biosphere Reserve undertaken with the organization Pronatura Península de Yucatán in conjunction with a population fellow from the Michigan Population Fellows Program, funded by USAID's Center for Population, Health, and Nutrition. The fellow helped WWF and Pronatura conduct a regional analysis of population dynamics as they relate to the environment within the state of Campeche and particularly in the study area. This analysis was aimed at determining the most critical areas around the reserve where population dynamics have affected the environment. In addition, the Fellow helped carry out applied case study research in four select communities. The ultimate objective is to link this work with that being carried out by Pronatura's reproductive health team to gain a fuller understanding of the natural increase factor of population growth in the ejidos and to integrate reproductive health issues into community-level discussions.

According to Pronatura, the results of their efforts have been very positive. Program evaluations determined that targeted communities in Calakmul positively changed their attitudes toward reproductive health, improved their understanding of the interrelationship of child-bearing, natural resource use, and future job opportunities. Two

factors, however, make the future for this program uncertain: Pronatura has indicated that USAID no longer is funding their effort, and the Population Fellow is ending her work in August, 1998. It is uncertain how the deficits in funding and women's health education will be addressed in these communities in the future. The environmental components of these projects are discussed in further detail in the following section.

Of the \$9,366,000 USAID plans to spend on development assistance in Mexico in FY1998, \$3 million will fund population programs.

2. Environment

USAID maintains a broad Agency goal of protecting the environment in every country in which it operates. In Mexico, the agency's primary strategic objective towards this goal is to "increase environmentally sound natural resource and energy use." Specifically, USAID is funding activities that promote the following: (1) adoption of energy efficient and/or renewable energy practices and technologies by business firms; (2) adoption of cleaner, pollution-preventing production techniques by manufacturers and other business firms; (3) reduction in the annual deforestation rate in targeted regions through the establishment and management of natural protected areas; and (4) maintenance of key biological resources in targeted areas.

USAID has committed substantial resources to achieving these specific sub-objectives. Since 1989, USAID has participated in an environmental partnership with Mexican NGO and government policymakers aimed primarily at global climate change and biodiversity conservation. These areas remain the focus of agency activity in FY1998.

In the area of global climate change, USAID has focused on reducing and preventing carbon emissions by promoting the adoption of renewable energy sources and environmentally friendly production techniques among communities and business firms. For example, in a program co-sponsored by the U.S. Dept. of Energy, USAID implemented 100 projects to meet rural energy needs using solar and wind-powered generation. The agency has also demonstrated and promoted energy-efficient technological improvements ranging from compact fluorescent light bulbs for consumers to new power plant burners for businesses and utilities, all of which reduce electricity costs while reducing emissions of greenhouse gases. In the future, USAID proposes to develop a new "Mexico Energy Initiative" that will expand the capacity of government institutions responsible for enforcing and promoting energy efficiency in Mexico. In the area of biodiversity conservation, USAID has co-funded and supported the development of the "Mexico Nature Conservation Fund." USAID contributed \$19.5 million toward the capitalization of this fund to support biodiversity conservation throughout Mexico, including ten priority protected areas. The fund will be used to make grants to improve the institutional capacity of Mexican NGOs working in biodiversity conservation and development.

Of all USAID programs in Mexico, the environment program is perhaps the area into which other agency goals, particularly economic development goals, gender, and population have been most integrated. In the past USAID, in cooperation with WWF, TNC, World Resources Institute, has invested in a number of conservation and development projects together known as the Mexico Ecodevelopment Program. Many of these projects have proven successful in reducing pressures on natural resources, particularly forests, by offering alternative sources of income to local communities to reduce reliance upon resource extraction. At the same time, they mitigate the tension that can arise when national and international conservation goals conflict with local economic development needs. Examples of activities under the Mexico Ecodevelopment Program include:

a. El Triunfo Biosphere Reserve⁷

El Triunfo is considered by many to be a very successful attempt to preserve a critical landscape in Mexico. Initiated in 1991, this eco-development project has focused on training, technical assistance, and outreach to local coffee growers to encourage them to switch to organic farming methods from agrochemical farming methods. The project was instrumental in creating a new grassroots organization, CESMACH, which is now the organization executing the project using WWF funds. CESMACH is a *campesino* organization whose members are *ejidatarios* in 3 communities in the buffer zones of the El Triunfo Reserve. Since project inception, some 180 *socios* in five communities have switched from agrochemical coffee farming methods to organic farming methods, and CESMACH has recently begun to export organic coffee to the U.S.

b. Calakmul Biosphere Reserve

The Calakmul Biosphere Reserve includes slightly more than 700,000 hectares and is one of the largest remaining tracts of tropical forest in Mexico. It houses more than 250 bird species, five of the six Mexican cats, 45 species of butterflies, monkey, and numerous other important species. According to an independent evaluation of the project, the implementing NGO, Pronatura Península de Yucatán, has been enormously successful in promoting alternative agricultural practices and in supporting sustainable harvesting of non-timber products in the Reserve, while simultaneously improving community understanding of reproductive health and its connection to development.⁸ The result has been that forest burning has substantially decreased, farming practices have changed from one crop per year followed by slash and burn to two harvests per year, and several products – including several fruits and spices – are being harvested from the standing forests and sold, thereby reducing the incentive to burn. Pronatura is also supporting economic activities using the standing forest, with important results not only in generating income but also in altering opinions and behaviors regarding the importance

⁷ This and the following descriptions are borrowed from the independent program evaluation by Meganck, Zabin, and Stern (1997) Integrating Conservation and Development, Mexico Ecodevelopment Program, Final Evaluation 1995-1997.

⁸ Id.

of forest conservation among local communities. Today, Calakmul is the only biological reserve site in Mexico where the double strategy of promoting the economic value of the standing forest while increasing productivity on sedentary agricultural plots is taking place.⁹

The experience of the Calakmul Reserve offers an example of how community development may successfully be integrated into conservation work. First of all, the Pronatura team leader is himself a *campesino*, and the Pronatura team reportedly has established exceptionally positive relationships with *campesinos* in the Calakmul area. Moreover, women were relatively active participants in the program, aided by a very competent female agronomist in charge of a home garden project. Pronatura personnel were reported to have a very high level of sensitivity regarding community development as a key element of their larger conservation effort.¹⁰ Indeed, Calakmul has been described as having the “most favorable prognosis for conservation and development of all the sites in the ecodevelopment program.”¹¹

Other recent environmental projects funded by USAID/Mexico include:

- Marine biodiversity conservation and coastal zone management initiatives, including educational workshops and training led by Conservation International Mexico
- Development of deforestation baseline data, in cooperation with TNC, WWF, and the Biodiversity Support Program (BSP).
- Institutional development among conservation NGOs through training and technical assistance as part of TNC’s “Parks-in-Peril Program”
- Development of a natural cosmetics enterprise and an organic coffee-growing business among seven communities in Mazunte, Oaxaca, in an effort to provide alternative livelihoods for residents who had previously worked in a seaturtle slaughterhouse
- Training and technical assistance to shrimp fishermen to install turtle excluder devices on boats
- Strengthening coastal zone management through community-based conservation training, in cooperation with Amigos de Sian Ka’an.
- Forest conservation and community development in threatened buffer zones, including institutional strengthening, policy reform, education, and research

Despite the success of several of the above projects, a significant program deficit exists in both the conservation and population programs: the lack of resources and concerted effort to integrate issues of gender, including family health services, into environment and development efforts. There are only one or two direct examples of this type of effort supported by USAID in Mexico, as described above. These efforts do reflect the recognition that environmental protection is often closely linked with economic

⁹ Id.
¹⁰ Id.
¹¹ Id.

development needs. USAID/Mexico staff believe that by establishing alternative sources of livelihood for local communities formerly dependent upon exploitation of valuable forest and other resources, economic development goals and deforestation prevention goals are accomplished simultaneously. A fuller incorporation of gender and population activities into community environment activities would increase the overall impact of USAID/Mexico's programs. USAID/Mexico staff reported that many of the Agency's environment partners in Mexico are attempting this in their activities, but that additional resources are needed to accelerate the process. It is hoped that this Mission will more broadly promote linked conservation, population, gender, and development activities.

A further concern is that most of USAID-funded environmental programs in Mexico concentrate on tropical areas in the poorer southern regions of the country. These areas comprise only 10 to 15% of the country's total land area. As a result, between 85 and 90% of the country's land degradation, deforestation, and problems of biodiversity loss are largely ignored because they occur in dryland areas. This leaves a considerable deficit not only in dryland species protection, soils, and water conservation, but in conservation-development assistance to the arid and semi-arid regions in which most of Mexico's poor reside. USAID/Mexico staff have recently indicated, however, that the Agency's biodiversity program has increasingly been graduating sites and moving out of southeastern Mexico and into the priority biodiversity sites in central and northern Mexico. As the program evolves further in the future, it is hoped that more deleterious activities will be mitigated in dryland areas.

Of the \$9,366,000 USAID plans to spend on development assistance in Mexico in FY1998, \$5.266 million will fund environmental programs.

3. Economic Development

USAID/Mexico formerly maintained a special objective of "encouraging improved performance of institutions involved in innovative technologies/processes that offer potential for leveraging significant investments of others and generate new job opportunities." (FY1998 Congressional Presentation.) The Agency reports that this program has been eliminated.

4. HIV/AIDS Prevention

USAID's goal is to enhance access, quality, and sustainability of HIV/AIDS/STI information and services in targeted areas. In this regard, the agency cooperates with several government agencies and NGOs, including the National U.S. AIDS Prevention Council, the Mexican Health Foundation, the Common Front Against AIDS, Michoacanos Against AIDS, and the National Institute of Public Health. Specific activities include translation of HIV/AIDS information into indigenous languages; training health promoters to teach marginal communities; strengthening key NGOs; strategic planning in target states; and cross-border coordination between Mexico and the Central America AIDS Prevention Program.

Of the \$9,366,000 USAID plans to spend on development assistance in Mexico in FY1998, \$400,000 will fund HIV/AIDS prevention programs.

5. Democracy

Until recently, USAID maintained a special objective in Mexico for advancing democracy through the “strengthened capacity of target institutions to address human rights/democracy issues.” (FY1998 Congressional Presentation.) The agency’s efforts were to focus on promoting: (1) administration of justice; (2) congressional exchanges; (3) civil society participation; and (4) human rights and the rule of law. Activities involving governance will center on promoting fair elections through increased citizen participation in the electoral process, particularly among women, developing programs to support cooperation among local government agencies, the private sector, and NGOs to accomplish specific policy objectives in areas such as environmental protection.

USAID/Mexico staff have indicated that Mission’s democracy program is being modified substantially, but we are uncertain what changes are being undertaken. Past programs provided no evidence that the Agency’s democracy objectives integrate environmental, population, or development concerns. This is unfortunate in light of the fact that in Mexico, human rights, democracy, and security issues can be inextricably linked to degradation of scarce land resources, as the violent conflicts we have witnessed in the states of Chiapas and Guerrero demonstrate. Undegraded, arable land in Mexico’s rural areas is the key to livelihood for many rural poor. Given the continuing land tenure conflicts among some rural communities, human rights and security issues are likely to remain tied to the availability of land and water resources. As these become more scarce, our findings suggest that migration will continue, and the frequency of conflict will increase.

C. USAID’s Support for the University of Michigan’s Population Fellows Program

The Population-Environment Fellows Program (PEFP) is funded by USAID’s Center for Population, Health and Nutrition and administered by the University of Michigan. The Program offers a two-year Fellowship for individuals with a Master's degree or PhD in a relevant field. Fellows are placed with a local or international development organization to work on projects that focus on the linkages between population, health and environmental issues. All Fellows are treated as overseas employees of the University of Michigan, and are primarily responsible to their designated supervisor within the host organization.

The PEFP has the following primary objectives: to provide training and work experience to entry-level professionals in international; population-environment field work, to provide technical assistance to the organization or agency that requests a Fellow and to further the development of integrated approaches to population, health and environmental issues.

Population-Environment Fellows are involved in a wide range of activities related to the development, implementation and management of interdisciplinary initiatives. Potential Fellows are initially reviewed by the Program Advisory Board and must also be approved by the host organization before beginning a placement. Since it was established in 1993, the Program has placed 23 Fellows in Africa, Asia and Latin America with a wide range of host organizations including Pathfinder International, the Nature Conservancy, CARE, and World Neighbors as well as a number of local community organizations, government ministries and international agencies. In addition to the Fellow working with WWF and Pronatura in the Calakmul project area, another Fellow worked from 1994-1996 with National Audubon Society and communities along the Mexico-U.S. border, around Sabel Palm Grove Sanctuary. The Fellow collected data on population and environment trends in the Lower Rio Grande Valley to better understand the impact of demographic and social patterns on quality of life and habitat issues. Based upon data he collected regarding water quality and population trends, the Fellow began a newsletter and education program in his two year fellowship for local communities.

The fellows program appears to be one of the few *global* USAID programs that are actively responding to the need for coordination of environment and reproductive health programs/expertise. The success of the program suggests that broadening this effort can improve the effectiveness of USAID programs in achieving stated goals. This program is not designed, however, address the larger concerns related to a more programmatic or systematic dialogue within USAID to improve the coordination of objectives and projects located in the various centers related to population, environment, and economic development. As discussed below, this type of programmatic integration is warranted, and should involve in some cases migration-related issues.

D. Conclusion: USAID/Mexico's Need for a Plan to Improve Programmatic Integration

Although there have been a number of USAID-funded/NGO-implemented projects that are documenting some notable success in integrating community development needs with conservation concerns, this sort of programmatic integration has not been accorded a strategic or special objective in itself. Furthermore, a comparable level of integration has not been achieved across USAID's population, health, and environment portfolios at the global level. The University of Michigan's Population Fellow's Program funded by the USAID Center for Population, Health and Nutrition, appears to be one of the few cross-cutting programs supported by USAID, though it is not linked to other global USAID programs, such as in the environment economics centers. It is also a *fellows* program, rather than one that bridges the considerable expertise of groups in the environment, development, and women's health arenas and thus should not serve as the only focus of USAID in promoting the integration of USAID and US foreign policy objectives and programs.

This integration may be critical to the achieving the goals and objectives developed by USAID under separate bureaus and frameworks. As has been demonstrated, population growth, poverty, environmental degradation, and migration are correlated as well as interrelated with one another, without any clear chain of cause and effect from one to the other. Thus, programs to ameliorate population pressures without addressing the relationship between population and environmental degradation, are less likely to succeed in mitigating either problem.

Moreover, attention to soil conservation and water resource management in rural dryland areas, where migration is endemic and rapidly growing, is only beginning to take place in USAID program goals, objectives, or projects. In many countries the migration issue related to the destruction of natural resources is the source of conflicts and will continue to serve as a key indicator for the deterioration of environmental and economic health of a region. Mexico thus serves only as an example in this regard. The little attention paid by either the Mexican or the U.S. government to rural development in areas with high out-migration and population rates will likely portend increased poverty, conflict and migration in the future.

As discussed in the following section, integrating conservation, development and women's health issues is *doable*. Efforts in Mexico and other countries to more broadly integrate conservation, development, and population programs among NGOs are proving successful in promoting population stabilization and economic development in tandem with natural resource conservation and protection of environmental quality. Lessons derived from these efforts may offer a road map for agencies such as USAID to improve integration of goals, objectives, and projects in the future. The new USAID Mission Director in Mexico has expressed an interest in receiving more information on NGO success stories and is taking steps to explore ways to address migration, environment, population, and other issues to attain more synergy in the USAID/Mexico program. The following section documents several such success stories.

IV. EXAMPLES OF SEVERAL INTEGRATED PROGRAMS ACHIEVING SUCCESS

This section of the report presents the work of groups involved in integrated environment, population, and development projects in various regions of the world, highlighting several programs in Mexico. This is by no means comprehensive but is meant to serve as a basis for further exploration and dialogue. Before discussion specific projects investigated by NHI, we present a summary of a review of 42 integrated population and environment projects by NGOs worldwide recently published by Population Action International.

A. Integrated Program Review by Population Action International

Population Action International (PAI) recently published a report on the findings of its examination of groups worldwide that are integrating conservation, development and reproductive health activities, entitled “Plan and Conserve: A Source Book on Linking Population and Environmental Services in Communities.” The report indicates that natural resource conservation and sustainable development are inextricably linked to community health and that the need for both environmental and family planning work is quite evident to many of the women in the communities investigated. It suggests that there is much for those who work in environment, conservation, community development, and reproductive health to gain by collaborating or by integrating their programs within the communities in which they work.

Even so, PAI found that many in both the environment and community development fields remain unaware of the benefits of these integrated programs, and there is a dearth of information on the methodology of successful programs. PAI concludes, the potential gains from seeking to integrate programs can be great, and public agencies and NGOs should consider how to improve integration of programs as well as how best to monitor the results. It recognizes that while collaboration provides the technical knowledge needed in addressing conservation and development issues in project areas, such collaboration can be difficult to coordinate between agencies and workers. As these programs become more fully developed, their lessons on coordinated efforts can serve to improve the knowledge base of other organizations and promote the upscaling of these efforts to reach a broader segment of the affected population.

1. PAI’s Specific Conclusions

PAI investigated 42 projects or groups of projects over the past several years in Bangladesh, Bolivia, Brazil, Cambodia, Cameroon, China, Ecuador, Egypt, Ethiopia, Guatemala, Haiti, Honduras, India, Kenya, Madagascar, Mali, Mexico, Nepal, the Palestinian Territories, Peru, the Philippines, Sudan, Tanzania, Togo, and Uganda. It considered programs initiated by either environment and development groups or family planning organizations, that then moved to integrate the other. Of the 42 projects, 24

programs were integrating or collaborating efforts to meet both environmental and health needs. PAI reached several key conclusions:

- The integration of family planning issues and women's and children's health with environmental concerns, appears to increase the effectiveness of natural resource conservation efforts;
- The need for both environmental and family planning education and training services is evident to many of the women participating in the projects documented;
- As women become more involved in development activities in their communities, their needs for family planning services increases;
- Community-based integration efforts are the most effective as they coordinate with the people in reaching the breadth of their needs, and ask that all members of the community actively participate in the development and family planning activities;
- Further work needs to be conducted in developing comprehensive indicators that deal with success in integrated and collaborative efforts, though, , the best indicators will most likely relate to how successfully the actual people are contributing to the improvement of their own lives, and the satisfaction earned by the community.

2. Case Study Examples from the Report

Some of the cases studies by PAI are poignant examples of these conclusions. For example, sponsored by the Centre for Population and Development Activities (CEDPA) in Mali, an integrated family health project is underfoot to deal with family planning, public health, while incorporating women into the natural resource conservation education effort. The project is managed by women, and was originally an expansion project of existing family planning programs in the area. Each project site is run by a community based health team, consisting of a rural midwife, community based distribution agent and a traditional birth attendant. The education effort entails courses for the health workers on environmental conservation, which is included as a part of the health work given traditionally to women and couples in their homes. As an incentive, an annual "cleanest village" contest is planned between communities.

In Bangladesh under CARE-Bangladesh projects, women are being taught the basics of renewable agroforestry, renewable aquaculture and flood prevention. Women are also being involved in road maintenance projects in some regions. These projects are addressing the issue of sustainable development by linking education in family planning and reproductive health to agricultural skills training. Through these programs, women learn about hygiene, nutrition, breast-feeding and family planning, as well as receive practical financial help with savings management and loan possibilities.

The Comprehensive Rural Health Project (CRHP) has been providing assistance to the people in the town of Jamkhed, India since 1971, initiated and run by two physicians, Drs. Mabelle and Rajanikant Arole. This project is based on principles of capacity learning and community development and uses an integrated approach towards health care and local resource management. Projects involve training the people in the community in areas such as reproductive health and soil and water conservation activities. PAI suggests that CRHP has served as a model of integrated approach for many global projects¹² and development and population indicators reveal the initial signs of success. Expansion has occurred through the establishment of sub-centers throughout the region, as well as through pilot activities in other countries.

B. Review of Integrated Project Development In Other Areas

The following are examples of programs in Mexico which NHI has investigated at a preliminary level and which we believe offer opportunities and lessons for official and private efforts seeking to develop and implement integrated programs. This is by no means an exhaustive list of organizations or projects in this arena. We have tried to present a variety of programs undertaken by conservation, development, and reproductive health organizations to demonstrate the wide range of interest in integrated program development.

Pro-Natura International

The organization was founded in 1986 in Brazil and is represented in 17 countries. It seeks to preserve biodiversity and unique ecosystems through community based sustainable development. It does this in three ways:

1) It works with agricultural communities on demonstrating the viability of alternative livelihoods or improved techniques in land management that result in conservation of natural resources. Pro-Natura provides education and training to communities on the economic advantages of integrating social and long-range economic development with conservation of the communities' natural resources.

In Juruena, located in the Amazon, a project aimed at improving the quality of life has been operating under the auspices of the Pro-Natura International, called the Catholic Pastoral Health Program. Overall, this project aims to create and maintain healthy members of the population, promote and teach collective health beginning at the grade school level, integrate school and community in maintaining sanitary health, and encouraging communities through the production of alternative medicines and products.

In a community with increasingly high occurrences of infectious disease with few and constrained professional medical resources available, health became a primary concern of the population. Through the program also referred to as the living pharmacy approach,

¹² PAI, "Plan and Conserve," p. 83

rural women operate a community garden of medicinal herbs and plants. This garden is for the benefit of the entire community. In conjunction with the garden, there are programs working in the schools and in the community which are focused on education and health awareness issues. The project hopes to define a concept of public health integrated with education in order to improve the quality of life of the population, and consequently, improve the quality of life of the worker.

Desengano State Park comprises 22,400 hectares of continuous forest that remains one of the region's most pristine. In its education program of local +youth, where children are taught courses and provided practical experience in forestry and medicinal plant growth and harvesting, Pro-Natura is planning to introduce the living pharmacy approach adopted by the Catholic Pastoral Health program run by rural women in Juruena, Mato Grosso and the collective health and environmental education program thriving in Pro-Natura's CELMAR project in the Tocantina Zone of Maranhao.

2) It works with local, national and international businesses on the sustainable utilization of biological resources involving local production of goods from raw materials grown and harvested under a sustainable management plan, and eco-tourism.

3) It works on promoting global exchange of technical and scientific knowledge on sustainable resource management.

Pro-Natura is now working to *upscale* its programs in the local arena to the national level. In Peru, the organization is serving as a catalyst for a multi-national corporation's investment in community health, development and environmental protection as the corporation undertakes oil development in the region. It is utilizing the methodology developed in other settings around the world, including Juruena, Brazil, to work with the corporation, Peruvian national officials, and local communities on the design of environmental and economic development plans that would incorporate needs of women as well in affected communities. Instead of the corporation "farming-out" to other agencies funds to assuage community impacts, Pro-Natura's methodology includes bringing corporate officials together with government officials and local community groups to work jointly in designing long-term programs that will address community concerns. This type of partnership in community development, the organization believes, will serve not only to ensure that durable programs in health and environment are undertaken for communities affected by the corporate activities, but to ensure that these types of programs are built into national policy applicable to a larger set of community development initiatives.

ESPERANZA

Proyecto Esperanza is a non-profit corporation registered with the Mexican government, and guided by a board of Mexican community leaders. Esperanza is now starting to implement a comprehensive program that coordinates efforts in job training, personal and

educational enrichment, productive employment, rural restoration and microenterprise development. The programs involve young immigrants who have returned to, or are in the process of returning to Mexico from the United States. Furthermore, the programs work to provide possible emigrants with alternatives for remaining in Mexico. Program centers are set up in regions of extremely high percentages of out-migration. Esperanza seeks to reduce migration from Mexico's rural population through dealing with its root causes, reducing the reasons for leaving, and assisting the returning immigrant in productive re-integration. In this regard, it is one of the most unique efforts being developed to address soil erosion, agricultural productivity, and migration. The program's use of three separate training centers and its integration of women into the programs is also laudable.

The programs encourage sustainable development through a program of capacity building and the improvement of living standards, increasing the productivity of farm labor and preparing people for non-farm enterprises. In the State of Puebla, the Tlancualpican Agricultural/Environmental Training Center provides Environmental Sensitivity Training which includes organic gardening techniques, construction of a simple, low-cost water purification system, development of odorless, dry-composting latrines, solar energy, irrigation, and straw-bale house construction. The focus of these activities is to help the people learn to sustain life in an environment greatly devastated by desertification. Working in conjunction with the agricultural and development training centers, is La Union Health Career Training Center, which trains individuals in health care, personal hygiene, reproductive health, abuse and addictions, money management, and conflict resolution. The training in this center is provided by midwives, community health providers and medical equipment repair technicians, and is advised by FEMAP. All Centers are open to both men and women, involving them both to full capacity in all development and health activities.

ZetaMex/World Neighbors Project, Oaxaca, Mexico

Together with World Neighbors support, ZetaMex, a local community based organization in Notchixlan, Oaxaca, Mexico's indigenous Mixteca region, has undertaken an Integrated Agricultural Development Program. In this region, 70% of the land is no longer arable and most families produce enough food only to feed themselves for a few months. According to locals, and some groups working in the region, including World Neighbors, 7 out of 10 household heads have migrated to the U.S. or urban centers of Mexico. NHI's state data analysis and its field visit to this region and to the project supports this conclusion. Remittances, or wages sent back to the Mixteca region from migrants are the principle source of income for many families. The program director, Anacleto Sajbochol, has worked with 50 villages in the region on promoting sound agricultural techniques and has undertaken a reforestation project with the assistance of students from the Yale School of Forestry. The program promotes soil and water conservation and the use of organic fertilization rather than pesticides. It trains farmers on better seed selection, crop rotation, and intercropping of other food varieties with the staple of corn. The reforestation projects are designed to help prevent the massive soil

erosion that has occurred in this region and to improve the retention of water in underground aquifers. The program promotes the growth and replanting of native species of trees, which are developed in at least one nursery in the region. Every two years, groups meetings are convened with community members from the communities participating in the project to evaluate/discuss the programs.

The program is now reaching out to women in the communities, as potential promoters, to enlist their participation in the education and training programs the organization sponsors, and to begin addressing women's health issues. They were seeking to undertake training in nutrition and natural medicines, and to develop two botanical gardens for women. Given that the region sustains increasing rates of outmigration, women and children, as well as elders, are left behind to tend the fields, livestock and community needs.

The support of ZetaMex is part of a larger program of World Neighbors in Mexico, including programs related to other indigenous groups in Oaxaca, such as the Amuzgos Integrated Agriculture Program (working with 300 people in two parishes comprised of 6,000 people) and a Oaxaca Training and Coordination Unit serving 21 parishes in Oaxaca and Guerrero states.

World Neighbors programs and its effort to develop comprehensive indicators of success for integrated programs are described in more detail in Appendix I of this report.

PRONATURA, Chiapas, Mexico

Pronatura, Chiapas, not affiliated with Pronatura International, has undertaken several programs in southern Mexico to address natural resource management and community economic development. In some projects, Pronatura has developed an integrated approach to addressing the health, family and agricultural productivity needs of women in the communities. It recently revised its approach in the areas of reproductive health, sustainable alternative production, participatory methodologies, human development, biodiversity conservation, other gender issues and family needs. Last year, with Ford Foundation support, the organization undertook a survey and convened seminars on the interrelationship between conservation and population issues. They are completing a report on their investigation and plan to undertake a program that would systematize the most successful of their methodologies in this area to a broader segment of rural communities. This *upscaling* of their project would include training of those working in many other conservation projects in Mexico beyond Chiapas.

Pronatura has, for example, a field project involving both population and environmental issues in El Ocote Reserve. It is assessing the needs and integration of various issues in the community, including population and migration trends. It is experimenting with technologies to increase economic productivity and with ways to empower local women to improve their economic circumstances and reproductive health. This project is partnering with the American-based Center for Population and Development Activities

(CEDPA), a women-focused, nonprofit international organization which since its founding in 1975 is now working in 37 countries. The goals of CEDPA are to empower women at all levels of society to become full partners in development. To do this, it seeks to mobilize women's participation in national policy-making, linking reproductive health to the empowerment of women, and involving youth more closely in the development agenda. This project has been significantly affected by a cut in USAID funds, and ProNatura Chiapas is currently seeking support to continue efforts at existing levels, or even increase them.

The following are suggestions of this group and others in terms of supporting integrated project development. These include that

- In Mexico, the financial support for programs must include support to NGO's working in rural areas to help improve the services and methods at use by the health institutions;
- Activities should be included which relate to population and migration issues, including along the southern and northern borders. Activities related to migration should also include support for employment services and opportunities;
- Integration of population programs with environmental programs is important. There is an overlap of goals in some areas, and management of financial resources could occur at a shared level;
- Gender perspective need to be better integrated into all projects.

MEXFAM

The Mexican Family Planning Association ("MEXFAM"), a nonprofit organization founded in 1965, seeks to provide quality and state of the art services in family planning, sexual health and education, preferably to the most vulnerable of the population in Mexico, the young and poor. It has indicated that it is committed to greater demographic and ecological balance in the world. It estimates that 65% of the unmet need for family planning lies in rural areas and urban slums in Mexico and thus targets these areas through the use of "promoters" within these communities. They seek to promote reproductive responsibility, gender equity, communications and love among young people, 10-20 year-olds, which comprise nearly a third of Mexico's population. The organization has established 250 medical offices and clinics in 22 Mexican states, offering services in general health, family planning, gynecology, cancer prevention, pediatrics and urology. It serves factories where owners are interested in improving the health of employees. In order to broaden their ability to serve the communities in which they work and to provide others with information on their programs, they have an exchange of information link with groups in Latin America, the Middle East, and Africa.

MEXFAM has begun to integrate environmental and conservation issues into their educational efforts. For example, the organization provides educational materials on not only family planning but environmental sanitation, energy conservation, water management and waste disposal. In certain rural communities, MEXFAM is training promoters on these issues. These promoters then organize groups in their communities to implement proposed activities related to conservation. These may be the most effective conservation programs because the promoters are from the communities and have already established relationships of trust with community leaders and members on health matters. The most successful programs according to MEXFAM are in the states of Durango, Oaxaca, Michoacan, Guanajuato, Veracruz, Guerrero and Hidalgo.

These states have some of the highest rates of migration or are the fastest growing in terms of migration to the United States. As such, the continued success of these types of integrated programs have the potential to improve community education and economic productivity which can translate into lower out migration rates.

MEXFAM has, however, identified several challenges in continuing its existing integrated programs or in expanding these programs to broader application in Mexico. Its funding from USAID has largely diminished, now covering only certain administrative costs (USAID had funded a number of clinics MEXFAM initiated and some of its social extension programs) and Mexican official sources are diminishing. There is no official programs to promote collaboration with other environmental or community development groups that could maximize or expand their efforts. Given that funding is being cut by federal agencies in Mexico as part of the decentralization effort, and that states will be left to support these programs, they expect to be forced to drop some of these newer integrated programs. This has come at a time when MEXFAM representatives believe the numbers of impoverished have increased and demand for their services and educational information is needed more urgently than ever.

MEXFAM has received USAID funding via their collaboration with the American-based Family Planning Management and Development (“FPMD”) organization, which provides technical assistance to improve institutional capability and management operations of public and private family planning organizations. FPMD has indicated that they base their Mexico program goals on USAID’s population strategy: “to target high levels of unmet demand for family planning in rural areas by increasing contraceptive prevalence; and to leverage non-U.S. government resources so that programs will become self-sustaining.” FPMD’s goals do not include the promotion of integrated conservation program development or collaborative efforts in this regard.

MEXFAM receives some funding through fees paid USAID by users of the medical and educational services, private donations. It also supports its efforts through the sale of educational materials on environment and family planning, including flip charts, videos and books.

V. CONCLUSION

The problems of environmental degradation poverty, unsustainable population growth, migration, and health are closely connected with one another in developing world, particularly in Mexico. Existing U.S. assistance programs so far have not, however, recognized the strength of these linkages in carrying out environment, population, and development projects. As the programs identified in the preceding section demonstrate, several development NGOs have not only recognized these links but have designed projects and activities to address the problems in a more integrated, synergistic manner. The remarkable success of many such projects demonstrates that a more integrated approach may carry substantial economies of scale in both program design and implementation.

U.S.-based aid programs should explore more formally recognizing the interconnectedness of the development problems they are charged with addressing. If they carry out their programs in the more integrated fashion of their NGO counterparts, it is likely they will realize similar efficiency gains while accelerating progress toward meeting overall program objectives. Furthermore, the more successful integrated NGO projects could, in theory, serve as structural models for improving programmatic integration by development agencies at the institutional level.

Such an undertaking would of course require the development of reliable indicators of project success on larger scales. This is a concern that has been repeatedly voiced by private foundation as well as government aid donors. Two organizations, World Neighbors and Innovative Resource Management, have proposed methodologies/programs for upscaling integrated environment and development project efforts that include indicators to measure their success at larger scales. These methodologies are attached to this report as Appendices I and II.

Our findings and recommendations can be summarized as follows:

- There is significant evidence that land degradation, population pressure, poverty and migration are dynamically linked. The impetus for migration in Mexico caused by these underlying problems has enhanced social conflict along the U.S. – Mexico border. In this way, Mexico can serve as an example of what many believe is an increasingly global phenomenon.
- Non-governmental programs that undertake integrated and collaborative efforts can serve as models for future initiatives. While some of these efforts have been documented, much more is needed to identify potential models around the world. A wider distribution of these models to policymakers, foundations and other non-governmental organizations is warranted. These are needed to demonstrate the important assets that integrated projects bring to their communities.

- Policymakers, including congressional members, non-governmental groups, and private donors do not regularly or actively engage in policy dialogue on these issues. Their interaction should be facilitated with a view towards improving the development of approaches to integrated environment, economic development, family health, and migration problems. The establishment of a mechanism to coordinate these dialogues and to facilitate partnerships is warranted. This would serve to bring groups together and facilitate the distribution, exchange of information on a regular basis. This could enhance and broaden understanding on the benefits of these initiatives, and encourage improvements in monitoring and evaluation techniques. It also suggests the need to achieve greater consensus among donors and recipients on the indicators of success for these community-based programs.
- The lack of institutional capacity of local groups in developing countries still remains a large problem in both undertaking internal or external collaborative programs, and in expanding the geographic scope of successful programs. Successful local programs should receive increased support to build their capacity and to measure the benefits or disbenefits in extending the geographic base of their programs. This would provide groups, policymakers and private foundations with a better understanding of the limits and opportunities of expanding or “upscaling” localized initiatives of this kind.
- US AID programs face barriers to promoting the integration of economic development programs with population and demographic initiatives in Mexico and elsewhere. US AID Bureaus are, by and large, segregated in terms of their goals, programmatic development, and indicators of success. There are too few incentives or institutional mechanisms that can promote effective integration of global environment, health, agriculture or other economic development projects. Moreover, there is skepticism by some in US AID that the integration of programs would have substantial beneficial results. This may be caused in part by the lack of understanding about successful integrated initiatives operating in the field, and by the lack of a widely accepted system of indicators of success for integrated projects.

There has been one notable exception, US AID’s support of the University of Michigan Population Fellows Program, which places fellows in environmental organizations to build capacity in understanding demographic issues related to the work of these groups. This program has achieved a great deal of success, but its funding is relatively small and it is a *fellows* program, rather than a part of US AID’s bureaus. Too, the fact that this innovative program is only funded by one US AID bureau – the Center for Population, Health and Nutrition – evidences a lack of inter-agency support for integrated program development throughout the Agency.

The issue should be addressed more concretely by US AID. It could begin to do so by establishing an inter-agency mechanism to more effectively promote dialogue and, where appropriate, partnerships among its bureaus. There is considerable potential among the global environment, population and health, and agriculture and natural

resource sectors of US AID. The goal should be to actively coordinate programs among these bureaus to support, if even on an experimental basis, projects that combine environmental, economic developmental, family health, and demographic expertise. Too, these initiatives could serve to clarify the monitoring and assessment needed to objectively evaluate the success of these programs. The deficit of this information now limits the Agency's understanding about the important benefits provided to communities by these integrated groups.

Appendix I

WORLD NEIGHBORS INTEGRATED, CAPACITY-STRENGTHENING APPROACH FOR PARTICIPATORY COMMUNITY DEVELOPMENT

Dr. Denise Caudill, Action Learning Coordinator, World Neighbors

For presentation during the Natural Heritage Institute and Woodrow Wilson Center
Roundtable "Addressing the Related Problems of Environment, Population and Migration:
Opportunities for Institutional and Policy Reform"
June 30, 1998, Washington DC

Through extensive experience with people-centered community-based development, World Neighbors (WN) has seen the evolution of a diversified, integrated approach to working with marginalized rural people in Third World countries. For the rural poor, issues of survival, food production, natural resource use, family health, reproduction and family size are inseparable. Thus for WN integration of program priorities has come about as a result of this people-centered, capacity-strengthening approach to needs assessment and problem-solving.

Working in partnership with marginalized communities in Asia, Africa and Latin America since 1951, World Neighbors is recognized as a leader in participatory "people-centered" development methods. World Neighbors' purpose is to enable marginalized people to meet their basic needs in a sustainable and equitable manner by strengthening group or community capacities to assess, plan, organize, mobilize local resources, and negotiate for outside services. These capacities can empower people to identify, test, and adapt low-cost technologies and improved practices, to access better services, and to better manage natural resources. The initiative and priorities come from the community, without an imposed agenda from outside.

Many World Neighbors programs are integrated and respond to a wide spectrum of locally identified priorities. The integrated, capacity-building approach is an effective empowerment strategy in communities beyond the reach (for reasons such as remoteness, cultural constraints, gender-related disparity, extreme poverty) of conventional service delivery and development programs.

Key Aspects of the WN Approach

There is no universal WN formula for successful integration, except to start "where the people are" and build on those mobilizing themes of need identified at the community level. The significance of improved self-confidence, trust and respect for the outside facilitators, and individual and community empowerment achieved through small successes cannot be underestimated. These factors are apparently significant in the synergistic process of change.

Another vital element for efficient, equitable and sustainable development is the strengthening of community capacities for assessment, planning and organization. By enabling full participation (especially of women and the poorest social groups) in the setting of community-level priorities with no "sectoral" boundaries, some degree of "demand-led" integration will be inevitable.

Capacity-building for reproductive health and natural resource management is not limited to technical training. WN experience has shown that leadership development, participatory analysis and planning, more democratic and transparent decision-making, mobilizing resources and negotiating with outside resource providers are all vital in strengthening community capacity to achieve improved reproductive health and natural resource outcomes.

A key element of success in integrated programs has been group formation or organization. A common mistake of vertical service delivery agencies is to form groups exclusively around the project's targeted objectives or interventions. World Neighbors has found that the strongest groups are those which may already exist or are formed to manage a diversity of locally-defined community development priorities, not only the project-specific priorities.

A summary of important aspects of WN integrated program approach are:

- Start small, slowly, simply and strategically
- Identify a mobilizing theme and build on initial successes
- Early emphasis on community capacity building
- Use participatory planning, action and learning methodology and tools
- Strengthen program staff competency and collaboration
- Establish strong linkages with other sources of resources and services

Assessment of the Integrated Approach

World Neighbors has received funding from The Summit Foundation for a three-year, multi-faceted project to strengthen the integrated nature of programs, in particular the reproductive health and gender aspects, and to make the lessons and methods available to other organizations. The overall objective of this project is to inform and shape both policy and practice toward a community-based approach for integration of reproductive health, livelihoods, and natural resources management. Fieldwork is underway on this project in Nepal, Ecuador, Honduras, Mali, Burkina Faso and Ghana; and is planned for India, Kenya and the Philippines.

Emphasis is being placed on a systematic action learning process for understanding and documenting the synergistic process of integration. Because integration is fundamentally process-oriented, process indicators are needed for the assessment of integrated programs. Examples of these may include: linkages between community groups and service providers;

coordination of planning and action among services; community organization and management of program.

WN is working to develop a process and tools for participatory definition and use of indicators for assessing integrated programs. It is envisioned that the process and tools may be applied generally across programs and countries yielding program-specific indicators in each case. In this way the process is consistent and the indicators are relevant.

For WN, integrated programs are ones through which individuals and communities gain the capacities to improve their livelihoods, manage their natural resources, control their fertility safely and voluntarily, prevent ill-health and disease in an equitable and sustainable manner. In monitoring and evaluating such programs, a range of different indicators are useful -- integration indicators, capacity indicators and sector-specific indicators to assess process, outputs and impact. Because integrated programs are somewhat unpredictable, in terms of choice and sequence of project priorities, often the indicators will emerge as the program evolves. When the integrated program is driven by participatory development principles, the participants themselves set program objectives and define their indicators to match. Participatory evaluation of such programs would facilitate an assessment by the people of context-specific changes over time.

WN hopes to blend the use of indicators from the conventional and participatory evaluation disciplines. By combining key indicators from both the 'outsider' and 'insider' perspectives, and by assessing the combinations of participation in various project activities within single households, a deeper understanding of the integrated development process and outcomes may be attained.

INTEGRATION INDEX						
INDICATORS	POPULATION		ENVIRONMENT		LIVELIHOODS	
	FP	RH	PARK	<u>NRM</u>	FAMILY	FEMALE
OUTSIDERS (conventional)						
INSIDERS (project specific)						
Sector Sub-totals						
Sector Total						
INTEGRATION SCORE						

World Neighbors 4127 NW 122nd Oklahoma City OK 73112
 Tel: 405 752 9700 Fax: 405 752 9393 Email: info@wn.org

APPENDIX II

Dryland Biodiversity Conservation Through Multistakeholder Coalitions Promoting Sustainable Use Of Natural Resources

by Innovative Resources Management

A major concern among the donor community is the need to develop reliable indicators of project success on larger scales. Innovative Resource Management is undertaking a project that broadens the scale of current successful project activities to the regional and even global levels. The “Dryland Biodiversity Conservation Through Multistakeholder Coalitions Promoting Sustainable Use Of Natural Resources” (DBC) project has been developed with potential strategies that will lead to success in an upscaled effort, through integration of programs and an increase in involvement by the project stakeholders. The question of reliable indicators then, lies in the reconsideration of integrated efforts and a resituation of project objectives.

The DBC project is aimed at working with eight developing nations who are part of the International Action Research Coalition to Combat Desertification (ICARD), a group of countries struggling with similar problems of land degradation and desertification of dry forest areas. The ecoregions selected in the eight countries (Bolivia, Burkino Faso, Cameroon, Madagascar, Mali, Morocco, Pakistan, South Africa) are arid and semi-arid ecosystems that also represent areas of outstanding biodiversity, yet from a socio-economic perspective comprise some of the world’s poorest people, being characterized by acute poverty indicators. The lack of successful sustainable development programs in these ecoregions has led to a marginalization of these drylands from the global economy. Project activities have taken place in some of the above regions, but there is a need for a more global scale of effort, as the threat of desertification and land degradation is not a confined problem, but rather is a global issue which affects everyone. Much of the work to be done will focus on improving the economic aspects of these regions through the development of activities that would promote conservation and sustainability in the environment, while promoting an economically sustainable product supply. All aspects of the communities are to be involved through collaboration of indigenous resources and participating institutions.

The effort focuses on conserving biodiversity through natural forest management and natural product development. Two developed countries (Spain and the United States) will be included in this project, for purposes of comparative research and financing. The DBC project hopes to identify key generic issues in these regions which relate to how sustainable natural forest management, sustainable agriculture and natural product development can feasibly be linked to promote biodiversity conservation, remove barriers to development, to identify public and private partnerships to jump-start the previously identified development activities in these countries, and to provide a case study in

methodology development for the implementation of ecosystem approaches to the Convention on Biological Diversity (CBD) as adopted by the COP in Special Session, June 1997.

The DBC project builds on past lessons from a variety of projects which have been gained through other sustainable use and integrated conservation and development programs around the world. Past experience on a smaller scale demonstrates that the major constraint to sustainable economic development is lack of capacity to design and implement appropriate and feasible activities at levels of scale where biophysical and human welfare impacts are meaningful beyond isolated communities. Many of the lessons gained were from experience that the USAID/Washington funded PVO-NGO/NRMS Project had in NGO capacity building in natural resource management in sub-Saharan Africa from 1989-96. These lessons have taught what is and what is not feasible in these types of ecoregions. From these lessons, it is also clear that a scaling up of the efforts is called for, as many similar ecoregions are affected globally, and as biodiversity and land degradation are not isolated problems. An effort on a broader scale can be more effective. There is still the need to further develop strategies and more encompassing methodologies, but the tools to begin with are in place. The DBC project will work with these tools with the hope of developing more efficient strategies and methods to be implemented and passed on to larger scale projects. There is the hope that through successful implementation of projects in these eight countries, there will be the likelihood of similar programs being replicated in many more. Past efforts at the local level have also not taken much advantage of the potential of coalition building that would have a greater impact on the effort.

The ICARD builds on years of development of soil and water conservation technologies by communities, NGOs, and research centers at the community level. In Mali, for example, in the context of significant recent changes to forestry legislation which theoretically offers incentives to farmers to sustainably manage forest resources, the DBC will test out different strategies to determine how effective soil and water conservation technologies can be disseminated across all landscapes where the technology from a technical and socioeconomic standpoint appears appropriate, but for unclear reasons has not yet occurred within the communities and what in the Sahel is referred to as their *terroirs villageois*, roughly those areas over which villages and pastoral nomadic communities have loosely defined rights of use and access based on both traditional resource tenure and modern law.

In South Africa, the ICARD will work together with the South African Steering Committee on the CCD, chaired by the Ministry of Environment, on similar issues to those in Mali. In South Africa the technical capacity of government agencies, parastatals, and NGOs is quite high. There are groups at the local level already working to address the interrelated problems of land degradation, family health and nutrition, and which involve the participation of women. The GOSA realizes that without the primary constraint to upscaling is not the absence of potentially applicable technologies, but is rather the absence of proven strategies and methods to effectively mobilize the necessary

stakeholder groups in post-apartheid South Africa. South Africa represents a society in which dependency relationships between master and servile castes within the population continue to function. In fact, this is true of all northern Sahelian societies, making the ICARD work on identification of strategies and methods to enable creation of frameworks integrating stakeholder groups a precondition for any upscaling to be achieved.

Two other such projects from which the GBC is learning, are the Sub-Regional Action Program (SRAP) for sustainable development in Gran Chaco Americano (funded by Spanish government), which is working to combat desertification in the dry land areas of Bolivia, Paraguay and Argentina; and the Pakistani Mountain Areas Conservancy Project (MACP) which is working to empower local communities towards sound use, management and conservation of biodiversity resources and habitats in several mountain regions. The MACP also successfully takes advantage of grass root participatory approaches, thus validating their use among the ICARD countries.

Resulting from these projects, the ICARD will test out strategies and methods to upscale successful NRM technologies by emphasizing the respective institutional relationship required to do so. Thus, the challenge now is to develop strategies, methods and tools which allow for effective actions to be taken at the community level, and which can be (1) replicated as appropriate under given agro-ecological conditions, and (2), upscaled as appropriate to address issues at levels of scale beyond the community. Immediate objectives for this project are natural forest management and sustainable agriculture programs to be up and operational in all eight ICARD countries, as well as integrated sustainable development programming through forest management and non wood forest product development. The ultimate goal in this project is to make these ICARD nations suffering from land degradation in the dry forest habitat, simultaneously economically and ecologically sustainable, through the promotion of biodiversity conservation and sustainable use via multi-stakeholder coalition building. In order to do so, lessons must be learned and methodology must be borrowed from other efforts, both past and present. This is an integrated and collaborative effort and must be undertaken at a multi-national level, in order for affects to be felt at the global level. The effort needs to carry global significance. Linkages need to be both identified and enacted between this effort and those under the different Conventions, in order to achieve synergies. All implemented programs in these ICARD countries will involve a range of approaches that meet both specific and global needs.

APPENDIX III

CONCLUSIONS AND RECOMMENDATIONS FROM NHI'S REPORT ON ENVIRONMENTAL DEGRADATION AND MIGRATION

Published by the U.S. Commission on Immigration Reform (December 1997)

In 1995, the Natural Heritage Institute organized a Roundtable meeting of binational experts in the environment, economic, legal and demographic fields to discuss initial findings and to identify a framework for an interdisciplinary work plan. NHI's "Roundtable on Defining the Relationship Between Environment, Population Trends, Trade and Migration: Identifying the Data Gaps and Policy Solutions in Mexico and the U.S." was held, in association with the U.S. Commission on Immigration Reform, November 14, 1995 in San Francisco. Based upon preliminary data then available to characterize environmental degradation, there was general opinion among the participants that a significant correlation exists between environmental degradation, population trends, and migration in Mexico, complicated by U.S. and Mexican economic and immigration policies. It was also recognized that the controversy about migration continued to be fueled by gaps in existing data and lack of consensus on findings. The participants determined that further research of these correlations is warranted to develop sound policy responses, particularly to clarify the degree of associations among factors. NHI accordingly undertook such research in conjunction with the University of California at Berkeley, and several institutions in Mexico.

In December, 1997, NHI prepared a report entitled "Environmental Degradation and Migration" for the U.S. Congressional Commission on Immigration Reform. The report presented the findings of a four-year investigation led by NHI into the environmental and developmental causes of cross-border migration from Mexico to the U.S. The purpose of NHI's effort is to broaden understanding about the interrelationship between the social, economic, demographic, and natural resource management-related determinants of transnational migration. Mexico-U.S. migration is a problem shared by both countries. Solutions will require joint action. We have produced this report in the spirit of catalyzing binational cooperation and the development of lasting solutions.

Experts and officials now estimate that each year between 700,000 and 900,000 people are forced to leave Mexico's rural dryland areas in search of livelihood elsewhere. It is generally accepted among government officials and academics that migration is a product of the expectation of higher wages, improved social services, and a comparatively high standard of living in the U.S. What is often ignored and less understood, however, is that

these economic determinants are a component of a larger system of inter-connected social, demographic, and environmental phenomena that together form the motivating basis for cross-border migration. Indeed, while much has been written about the relationship between migration and employment, for example, surprisingly little analysis has emerged from the academic and government communities to address other social and environmental factors that are now emerging as important determinants of Mexican migration.

Among the least studied of these other factors are those stemming from the physical environmental degradation of agricultural lands in Mexico, particularly in the country's arid and semi-arid regions where water is most scarce. Degradation occurs from overharvesting, overgrazing of livestock, improper irrigation and lack of access to technology. Severe soil erosion and the removal of land from crop production inevitably cause serious income declines among Mexican households for whom agriculture is the primary income-generating activity. As agriculture becomes less and less viable as a source of income and wealth for these households, cross-border migration correspondingly becomes more economically attractive. Meanwhile, the agricultural communities in Mexico impacted by land degradation are developing more sophisticated social networks in U.S. destination areas, thereby reducing the costs and risks associated with migration. For farm households in Mexico's dryland areas, a majority of which are threatened by desertification, migration is often an obvious economic choice. This is not unlike the American experience during the 1930's, when thousands of migrants streamed from the "Dust Bowl" of the midwest into western states when drought and unsustainable farming combined to induce massive poverty. Believing that Mexican migration is linked to environmental stress, a problem that is measurable and that may be eased through targeted intervention, NHI undertook this investigation.

Our findings reveal several key conclusions. There is a strong correlation between environmental stress, poverty, and population pressure which can lead to migration. Environmental degradation, poverty, population and associated migratory flows cannot be addressed through short-term fixes initiated unilaterally by the U.S., such as additional border security and employment related sanctions. Rather, official and private, or nongovernmental programs within Mexico to address these problems is warranted. The Mexican government will need to direct greater attention and resources to these issues. The U.S. can play a catalyzing role for these reforms through binational cooperation with Mexico's private and public sectors. The U.S. has technology and expertise that can serve in building and facilitating these programs. To date, these opportunities have been little explored beyond the physical border area. An immediate step is to ratify the U.N. Convention to Combat Desertification and Drought already ratified by Mexico and more than 100 other countries. This can serve as a framework for cooperation between Mexico and the U.S. in addressing these issues as it recognizes the direct link between desertification and migration. Below is a summary of the key findings and recommendations warranting official consideration.

Results From Analysis of Demographic, Economic and Environmental Data

In 1994, Professor Alain de Janvry of the Department of Resource Economics at the University of California at Berkeley, in conjunction with the Mexican Secretary for Agrarian Reform (SRA), undertook a comprehensive demographic survey of *ejido* households in Mexico. *Ejidors* are cooperative farming communities with common land ownership, which together account for more than 70% of the Mexico's farmers and 52% of all its arable land. The survey was designed to obtain data on the nature and incidence of migration from *ejido* households and the socio-economic characteristics of the migrants. Data from the over 14,000 survey responses were analyzed, first independently, and then cross-tabulated against existing data, in association with NHI, on land degradation, deforestation, and population growth in Mexico to determine whether and to what extent significant correlations existed. This analysis was then compiled and organized in a special report developed by Professor de Janvry for NHI, attached as Appendix 1.

The survey results are illuminative. 12.4% of the *ejido* households surveyed had members who had migrated to the U.S. at least once during the last four years, and 26.8% had members who had migrated to the U.S. at least once in their lifetimes. The survey also reflects that fully 75% of the migrants originated from the same ten states in the central, northern, and North Pacific regions of the country. The areas of destination in the U.S. are similarly concentrated, with 56% of all migrants surveyed ending their journeys in California, and 23% in Texas. Although the typical migrant is a male head of household over 35 years old, and more likely to be *mestizo* than of uniformly indigenous origin, this profile appears to be in the process of transforming. The survey reflects that migration among those younger than 35 and of indigenous origin is on the rise, particularly in those states with already high rates of migration.

Traditional Economic and Demographic Determinants of Migration

From a microeconomic analytic standpoint, two theories of migration currently predominate. According to the "classical" migration economics, the decision to migrate stems primarily from perceived wage differentials and income gaps between the U.S. and Mexico. A more recent theory, termed the "new" migration economics, argues that migration stems more from the motivation of households to gain remittances from the employment of one or more family members in the U.S. as a means of coping with agricultural insurance and credit market failures at home. It can be said that the "classic" economics theory views migration as a substitute for agriculture, while the "new" migration economics view it more as a complement. In other words, the traditional economics of migration suggests a reason for permanent migration while the new theories suggest why there may be temporary or seasonal migration. Whatever the motivation, the decision to migrate is clearly a function of higher-wage employment opportunities in the area of destination, whether in Mexico's urban areas or the U.S.

In the case of the U.S., it is widely believed that Mexico-U.S. historic migration patterns arose in large part from the U.S. "Bracero" Program, instituted in 1942, which promoted legal immigration to the U.S. as a means of serving the labor needs of American agribusiness, but ended up stimulating illegal immigration by creating the expectation of upward mobility dependant upon movement north. The Bracero Program also contributed to the establishment of strong networks of support among migrants in the U.S., which to this day facilitate employment of migrants and otherwise work to reduce the perceived costs and risks associated with migration.

Population Pressure and Migration

It is clear from our investigation that population growth is associated with migration: our data reveals that population pressures at the municipal level in Mexico are associated with poverty, and poverty is a major determinant of migration. Currently, more than 31 million people -- more than one-third of Mexico's population of 92 million -- live in small rural communities of fewer than 5,000. Mirroring a situation familiar to many agricultural communities in the U.S., particularly in California, rapid increases in the densities of Mexico's urban areas are exacerbating environmental degradation in adjacent agricultural lands. This is the beginning of a malevolent cycle: as cities grow with the population, more and more agricultural lands will be taken out of production, spurring more migration from rural areas to the cities. Although government population policies of the last twenty years have helped lower the national average birthrate to 3.2 children per woman in 1992, with an expected further decrease to 2.5 per woman in 2000, the poorest regions of Mexico continue to experience a population surge.

The impacts of these population trends on land degradation and migration are difficult to predict. Many experts believe that rapid population growth in the rural dryland areas could place increased stress on land and water resources, cause greater subdivision of land, reduce farm income, and result in greater social fragmentation and migration. Others believe that population growth, in the context of Mexico's rapid integration into the global economy, will lead to the adoption of new technologies and new forms of social organization that will mitigate such adverse impacts. In Mexico's *ejido* areas, Professor Alain de Janvry found that population pressure on agricultural land increases the likelihood of migration, suggesting that policies to reduce population pressures could play a significant role in reducing incentives to migrate.

Land Tenure Reform and NAFTA

Many experts predict that changes in the institutional structure of agricultural land tenure in Mexico will lead to an increase in the consolidation of smaller family farms into larger corporate-owned farm enterprises. A likely impact could be the displacement and unemployment of small land-owners and farm workers, resulting in increased rural-to-urban or cross-border migration. A 1992 Constitutional amendment, however, now allows *ejido* land owners to receive title to, and to sell or rent their lands independent of government bureaucracy. The hope is that this will promote greater access to credit, open

the *ejido* sector to outside investment, and generally improve agricultural efficiency. Whether it will have the effect of a widespread sell-off of land to larger farm interests remains to be seen. Economic changes resulting from the North American Free Trade Agreement, or "NAFTA," could also affect cross-border migration patterns in Mexico indirectly through their potential impacts on investments and employment in agriculture. Some economists predict a migration surge that will endure until NAFTA-related reforms deliver higher employment. Although it is uncertain to what degree and how quickly agricultural investment based on a Mexican comparative advantage (warmer winters, for example) will increase because of NAFTA, economists agree it will almost certainly continue to decrease in the short-term.

The Role of Agricultural Land Degradation in Migration

The roles of wage and income differentials, population pressures, and economic reforms in contributing to Mexican migration have been studied far more deeply than the role of environmental degradation. Our research shows, however, that the degradation of agricultural lands in Mexico can contribute directly to cross-border migration via its impacts on household incomes in the agricultural sector. Data demonstrate that high levels of environmental stress and high population pressures at the municipal level are associated with poverty. As poverty is a major determinant of migration, environmental degradation may be seen to influence migration through its impacts on poverty in the agricultural sector.

Indeed, three-quarters of all lands affected by soil erosion and other forms of desertification in Mexico are agricultural. The most critically affected states are Oaxaca, Tamaulipas, Yucatan, Veracruz, and Chiapas. The environmental factors responsible for this degradation are myriad. Erosion-causing deforestation is a primary contributor, and indeed today Mexico has only about 130,000 square kilometers of forests remaining. Data indicate deforestation rates of 24% to 34% per year in *ejido* communities. Climate change at both the global and local levels is also a major factor, and there is evidence suggesting that land degradation and climate change are reciprocal contributory factors. Yet poor land and water management practices remain the most significant -- and preventable -- contributors. Increasing degradation and scarcity of Mexico's agricultural water supplies is combining to aggravate the already serious problems stemming from overgrazing, overharvesting, and other unsustainable practices. The resulting land degradation dramatically impacts agricultural productivity. Migration can become the only means to avoid economic ruin, as declines in land quality in dryland areas lead to cessation of cultivation and abandonment of lands. In other words, higher environmental degradation increases the level of poverty, which in turn increases the expected income gains from migration. Under the "new" migration economic theory, migration may also be a temporary or seasonal avenue to generate income to compensate for market failures, *i.e.*, remittances from migration are used to invest in capital or land at home as a means of increasing agricultural productivity and income.

This intuitive link between land degradation and migration is borne out by our research. Two environmental stress indicators, municipal-level deforestation rates from 1980-1990 and municipal population pressure (measured as the product of average farm size and average rainfed corn yield in the municipality) were analyzed with the results of the 1994 *ejido* survey. Although no nationwide soil erosion data were available, these two indicators serve as adequate proxies, since 75% of Mexico's remaining forests are located in *ejido* areas, and corn yield is an excellent indicator of agricultural land productivity.

Our analysis of the 1994 *ejido* survey data with other economic and environmental variables substantiates the correlations between environmental stress, poverty, and migration. As this report describes, the results of the analysis show a systematic inverse relation between environmental stress variables and income levels. At the municipal level, high levels of environmental stress are highly associated with poverty, which in turn, is highly correlative with migration the *ejido* survey also makes clear. Since much of the land degradation in Mexico is the result of human factors, particularly unsustainable land management practices, it follows that programs to improve these practices will likely have a positive impact on stabilizing agricultural incomes, reducing the acceleration of poverty rates, and, by extension, reducing the incidence of cross-border migration.

Conclusions and Recommendations

Although the U.S. will no doubt continue to attract large numbers of migrants from Mexico for a variety of economic reasons, it is becoming increasingly apparent that the degradation of agricultural lands as a result of preventable, human-induced factors is a major determinant of the migration phenomenon. Accordingly, public and official efforts should be designed and implemented with an aim toward preventing further unnecessary land degradation through improving the institutional, economic, and technological landscape in which Mexico's poorer farm households engage in agriculture. This report offers the following recommendations as a preliminary framework from which U.S. and Mexican policy-makers may begin to craft more sophisticated strategies and cooperative programs.

1. Promote Improved Land and Water Management Practices

Returning Mexican agriculture to sustainable levels by improving local land and water management practices should be a priority. Agricultural education programs should be developed to promote the use of quality fertilizers, high-yield seed, crop variegation and rotation, and other efficiency-improving techniques. Emphasis should also be placed on reducing water-intensive dryland crop-cultivation, and on promoting the adoption of water-conserving irrigation systems. Water conservation will only increase in its degree of necessity in Mexico in the future, particularly in the desertified dryland areas.

2. Promote Reform of Forest Management and Land Tenure Institutions

Most of the Mexican forests, many of which are threatened by over-harvesting, are located on *ejido* land, as discussed in this report, where much of the property is communal and cooperation among communities in forestland management has been problematic. This has led to the overuse of land, including overharvesting and soil erosion. One solution may be to direct policy efforts at resolving property rights on these lands and enhancing the ability of these communities to cooperate and effectively manage common property resources. Part of this solution must include continued regulation of forest management and improved enforcement of laws/policies.

3. Promote the Integration of Economic Development Programs with Population and Demographic Initiatives

More research into the correlations between population trends and migration is warranted to quantify the former's contribution to the latter. In the interim, decentralized industrialization in the wake of NAFTA is key to stemming the growing influx of rural-to-urban migration in Mexico. The Mexican and U.S. governments should cooperate to foster economic development programs to reduce over-concentration of industry in urban areas by promoting the diffusion of industrial activity across the country's geography.

4. Promote Local Community Development Initiatives

Because municipalities with high levels of environmental stress also have high rates of migration, community development programs should be instigated to provide alternative employment sources for households currently cultivating degraded areas. New investments and entrepreneurship promoted by NAFTA and other reforms should be re-directed to the extent possible to rural areas where farm employment is expected to suffer as a result of land degradation. Successful local economic development initiatives in some smaller U.S. communities could serve as models.

5. Promote and Target U.S. Investment in Migrant-Emitting Areas

U.S. policy should promote improved rural development and agricultural productivity in the high poverty, migrant-emitting states with extensive soil erosion problems, particularly Oaxaca, Puebla, Veracruz, Tabasco, Campeche, Yucatan, Quintana Roo, and Chiapas. To the extent feasible, USAID and investment should be promoted and channeled toward these localities. The exploration of a binational program encouraging use of remittances for development in these areas is warranted.

6. Assist in Strengthening of Local Credit and Insurance Markets

To the extent that migration is employed by agricultural communities as a means of coping with the lack of access to credit and insurance markets, these markets should be developed and strengthened, particularly in the dryland areas. To the extent that

unsustainable land and water management practices are the result of communities' inability to invest in new capital, the development of credit markets could have a two-fold effect on reducing migration.

7. Integrate U.S. Environment, Population, and Migration Research and Policy Development

Currently, U.S. foreign policy addresses environment, population, and migration problems separately. There is little thematic integration at the bureaucratic level. We strongly recommend establishing an inter-agency task force comprised of the Department of Interior Bureau for Land Management, Department of Agriculture, Geological Survey, Immigration and Naturalization Service, and State Department Bureaus on environment, population, and/or migration. Similarly, within the State Department's Global Affairs Bureau coordination and integration of these issues can be improved. The sharing of data and the cross-fertilization of ideas and approaches to problem-solving will likely result in more efficacious program and policy development.

8. Support Integrative Research Initiatives

There is an immediate need for integrated research on the environmental causes and consequences of migration in Mexico. Most of the research on migration to date has been sector-specific, e.g., research on agricultural productivity has not addressed related environmental degradation and social or economic transformations. This in turn has led to policies that are similarly not integrated, and policy implementation methodologies that are necessarily ineffective. A shift in research priorities toward more integrated approaches will likely contribute to a marked improvement in future policy-formation, particularly if it is within the context of the inter-agency.