

Mexico's new policies for the conservation and management of natural resources

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Scientific evidence on our country's environment has amply demonstrated two points: 1) Mexico is one of the world's richest nations in terms of bio-diversity, a country where almost every type of ecosystem can be found (with the exception of those climates characteristic of extreme cold); and 2) the accelerated degradation of nature puts its renewability at risk.

These concerns, which in previous times were voiced only by the academic sector, are now shared by almost all of society.

International discussion over the past few years, which found its maximum expression in the United Nations Environmental and Development Conference, has made it clear that environmental themes are one of the basic pillars of national planning, since the material basis of development is at risk of irreversible deterioration.

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A new responsibility has been incorporated into reflections and decisions about the course development policies should take. This has to do with an inter-generational commitment demanding the establishment of policies for solving current problems of poverty and inequality without compromising the development possibilities of future generations. This is sustainable development. A complex, integral and long-term process, it means taking on the responsibility of replacing the natural capital that we are consuming with our current way of life.

For the first time in Mexico, the National Development Plan incorporates the concept of sustainable development; the chapter on the economy also defines the broad parameters for environmental and natural-resource management policies. The addition of environmental criteria in economic planning, without diminishing the link between environmental and social development, highlights the importance of economic

growth, which is indispensable for the strengthening of the country's development. This must occur within the framework of environmental sustainability, in order to be long-lasting and fair to future generations.

Visible environmental deterioration has taken place over the course of decades, reducing the capacity to renew forests and an important part of our fishing resources, affecting water quality and impoverishing the soil. There are cases in which the efforts of a whole generation will be insufficient to correct the errors committed by society, since resources have long life cycles.

In large metropolitan areas, norms have been lowered due to pollution; we have grave problems in the collection and disposal of waste products; more waste is being thrown out than nature can assimilate; technology and infrastructure are incapable of disposing of solid waste

Biodiversity

Flora and fauna

Mexico is one of the world's seven richest countries in plant and animal species, thereby belonging to the group of "megadiverse" countries which, among them, hold around 60 percent of the planet's living species.

One of the most important characteristics of Mexico's biological diversity is that between 30 and 50 percent of all its species are endemic; in other words, they are found only in this country. Suffice it to note that it has 200 species of butterfly, 128 of birds, 144 of mammals, more than 300 kinds of phanerogamous species, 373 types of reptile, as well as the amphibians, which occupy a key position since 177 of the 282 amphibian species in Mexico are endemic. According to the National Commission for the Knowledge and Use of Biodiversity (CONABIO), 38 species of vertebrates and 11 types of vascular plants have become extinct.

With regard to fauna, of the 4,170 species existing on the planet, Mexico has 449. Bird fauna is particularly rich, both in resident and migratory species; 1,150 of the 9,198 registered species may be found in this country. 717 of the 6,300 known reptile species are found in Mexico.

Of the species of flora and fauna existent in Mexico, preliminary estimates state that 336 are in danger of extinction, of which 170 are endemic; 801 are threatened, of which 442 are endemic; 1,130 are considered rare species, 605 of which are endemic; and 154 are subject to special protection, of which 43 are endemic. Reptiles are the group with the largest number of threatened species, with more than 300; the amphibians include the largest number of species in danger of extinction. Of the endemic species, the largest number of cases is among the mammals, with around 100, while the fish group has the largest number of species in danger of extinction. With regard to flora, threatened species include around 140 cacti, followed by approximately 100 types of orchid; both groups occupy leading positions in terms of endemic species as well as those in danger of extinction.

products. Even more worrisome are the 7 million tons of dangerous industrial waste products that are produced annually. This country still lacks an infrastructure with sufficient capacity to deal with the elimination of dangerous industrial waste.

The main problems confronted by rural environments are deforestation—we have a high rate, the highest in Latin America—and the loss of topsoil as a result of this deforestation. Close to 90 percent of national territory has a significant level of erosion damage. The problem of water pollution is also a grave one: 29 out of 37 water-supply regions are highly contaminated.

Mexico has a long tradition of forestry, water conservation and use of

fishing resources. However, until now, our country's renewable and non-renewable natural resources have been used in a sectoral manner, without organized common strategies. Environmental protection has a more recent history, but in less than twenty-five years valuable knowledge has been gathered about restoration and the prevention of ecological deterioration.

On December 29, 1994, the Secretariat of Environment, Natural Resources and Fishing (SEMARNAP) was created to promote the transition toward sustainable development and coordinate the programs, efforts and strategies of different government departments designed to promote the

permanent use of renewable natural resources and efficient preservation and improvement of the environment. The move toward sustainable development will bring about a better quality of life for all, contribute to overcoming poverty and strengthen economic productivity based on processes and technology that do not damage resources or the quality of the environment. This involves putting forward more efficient criteria for the use of resources, attempting to balance economic, social and environmental objectives. This is a mission that should be translated into actions with practical effects, whether the desired results are achieved in the short or long term.

Environmental protection and restoration

The new ecological policy stresses a more complete use of natural resources within the perspective of environmental protection and restoration. Among the most relevant and urgent matters requiring attention are the following:

It is necessary to improve existing ecological guidelines, in order to avoid, for example, situations where rules are applied to the same problem in different ways. The technical guidelines should look toward setting short, medium and long-term goals.

In the field of social and environmental policy toward sustainable development, changes in regional modernization programs and institutions have brought about a series of successful experiences which demonstrate the benefits of programs which integrate productive, social and environmental aspects.

Some of the projects that have been carried out were based on noteworthy prior efforts aimed at the promotion of better living conditions for the population, attention to socially and economically backward areas, fostering all-sided development for rural zones and combating extreme poverty. All of this demonstrates that the success of these actions depends on, among other factors, the elimination of centralized plans, participation by local governments, coordination of sectoral programs, creation of self-sustaining income sources through productive channels and the strengthening of the population's organizational capacity.

Still, it is clear that we face a serious challenge and that in order to advance toward the solution of Mexico's environmental problems, it

is important to design organizational plans which will guarantee viable answers to the problem. It is crucial to work out policies on this subject, taking into account the country's ecological heterogeneity as well as the productive sector's particularities and the conditions of social groups.

It is also necessary to consider that Mexico's indigenous population, while possessing a large share of ecosystems and natural resources, is generally submerged in poverty. Thus, they stress their interest in maintaining their own economic and social forms of organization, involving collective and normative access to natural resources. The solution to these problems is necessary to an integral strategy for sustainable development not only to overcome poverty but also to protect bio-diversity.

Thus, sustainable development requires sketching an orientation and guidelines that will permit solid and permanent growth, in which positive links to the environment will be favored and consolidated, creating jobs and a better distribution of income. Sustainable development also alerts us to the need to encourage decisions fostering improved relations between technology and resource usage. This leads to the question of which kind of technology is appropriate for responding to the modernization demands of productive sectors, improve the quality of their products and make them more compatible with the environment. Thus the door has been opened wide to the participation of universities and research institutions, which, without being distracted from their main purpose, will provide scientific and technological advances through research and educational programs, furthering sustainable

development in different regions and diverse productive sectors.

The environmental policies put forward by the current government recognize the need to avoid negative effects on businesses, particularly with the current, highly restrictive situation involving closures of existing enterprises and obstacles to opening new ones—a situation that has brought the loss of many jobs. Nevertheless, this does not cancel out environmental regulation derived from the juridical framework, above all in extreme cases which present unacceptable risks to human or environmental health and safety.

A new industrial policy

In terms of investments and new opportunities for industry, there is an important opportunity for accelerated participation in several domestic and external market sectors. This opportunity is the result of the North American Free Trade Agreement (NAFTA) and Mexico's entry into the Organization for Economic Cooperation and Development (OECD), as well as the increasing preference of some domestic and, above all, foreign consumers for environment-friendly products produced by clean technology and production processes. This clearly demands that industry undertake the transition towards sustainable development.

Thus it is crucial to develop an environmental strategy in the context of a new industrial policy allowing businessmen to broaden their competitive space, not only in terms of the quality and price of their products but also, and most importantly, regarding efficiency and natural-resource utilization focused on

sustainability and adequate environmental performance.

Both the problems and the opportunities facing exports and employment vary by sector and region, which means that the objectives of environmental quality, job growth and business competitiveness cannot be universally achieved at the same time and with the same intensity. This situation requires the establishment of an environmental strategy which is *differentiated* by economic sector, region and business size. Such a strategy would result from new evaluation and decision-making plans fostering a gradual, selective differentiation in state support and, above all, a linkage with industrialists' economic obligations, strategies and prospects.

The priorities for environmental management in the industrial field lie in those sectors and activities which have experienced the most impact from resource usage and which generate more waste in regions with high environmental damage or are vulnerable to such damage.

We cannot lose sight of the urgent need to promote production on a natural basis, in order to create jobs and income and to overcome poverty. Thus, the new policy creation framework keeps sight of the social and economic interests of the population, seeking to protect those interests while preventing further destruction of nature, and seeking the restoration of that which has already been damaged.

The secretariat will also promote compliance with international strategy

objectives in light of global change, in particular regarding climatic changes and effects on the ozone layer. The idea is to promote a national environmental information system, so society will be better informed and public policy will be based on precise information for the design and evaluation of environmental protection actions and resource utilization.

Additionally, the new environmental policy involves coordination with other offices, state governments, municipalities, social and private sectors, in order to carry out water and soil conservation projects, protect resources, and see that productive processes, infrastructure construction and other economic activities are carried out with the least possible environmental impact. This will make it easier for our

The Border Ecological Cooperation Commission

On the basis of the signing of the Free Trade Agreement, a specific parallel accord was signed for the common border between the United States and Mexico, considered to be a 62-mile strip within each of the two countries starting at their respective borders. The objective is to resolve the region's environmental problems, principally those derived from the lack of an infrastructure for providing potable water, drainage, residual water treatment and the management of municipal wastes.

This Commission (BECC) was born together with its sister institution, the North American Development Bank (NADB). BECC's role is to examine border infrastructure projects presented to it by the communities, their priority and environmental viability, while the NADB has the responsibility of receiving the projects certified by BECC and, after examining their financial viability, to decide whether or not to provide them with resources.

The distinctive characteristic of this mechanism is that projects must be examined and proposed by the beneficiaries of the infrastructure works which are required, and that the financing granted to the projects can be recovered by the Bank, which implies that the beneficiaries must know that they will have to finance part or all of the cost of the project by means of the payments they will have to make as users of the systems which are constructed.

At this point both Mexico and the United States have appointed their representatives to the executive board and advisory council of BECC and the NADB. The hope is that by the time BECC holds its next public meeting, projects will be ready to be certified by the Commission and, in the event of a positive decision, to receive NADB funds for their construction.

country to adequately meet its international responsibilities in matters of environmental protection and sustainable use of resources.

Mexico's highly diverse natural resources are a national treasure which has not yet been fully used, and which could generate key competitive and comparative advantages. There will be a heavier emphasis on stimulating fishing and forestry, aimed at increasing jobs and income, at the same time as the resources on which future viability depends are protected against excessive exploitation. Flora and fauna would be used more rationally, and projects to benefit producers in this area would be encouraged. It is important that resource utilization be regionally coherent, which requires participation and coordination among various levels of government.

Grass-roots participation

There is agreement that these objectives will be reached by creating and consolidating real areas for social participation on a series of levels. There are presently a number of important means by which the population participates in the adoption and oversight of environmental policy—in policy formulation, reporting violations and through the work of consultative groups.

In the first half of this year many different consultations were held on issues related to the environment, water, fishing and soil conservation. The results of these consultations—a grass-roots component in the process of designing the 1995-2000 National Plan of Development—have helped locate and evaluate the problems we face in terms of environmental and natural-resource issues.

This first step was not a one-time-only grass-roots consultation. On the contrary, the very recognition of sustainability as a strategic factor in our development model demands the cooperation of public, private and social forces, so we may arrive at national, regional and local strategies.

To open the road to such cooperation, four Regional Consultative Councils were formed, with representatives from grass-roots and academic organizations, private agencies, non-government organizations and state governments. The National Consultative Council was formed through a process of democratic selection among the representatives of the Regional Councils. These Councils will be an important arena for policy discussion and evaluation, and for providing direction to proposals that may eventually become guidelines or programs.

Complementing the development of improved mechanisms of participation and co-responsibility, a strategy will be put forward for the decentralization of environmental and natural-resource management, aimed at strengthening local management capacity, particularly at the municipal level. A central part of decentralization will be promoting regional forms of resource-usage planning oriented to local recognition of the specific characteristics of these resources and a local consensus on development alternatives.

The determining factor in the transition to sustainable development is the formation of a culture of prevention, sustainable usage of our resources and improvement in the quality of life, viewed as one of the main tasks shared by government and society, where priority is given to

education, training and communication aimed at consumption patterns which will be more favorable to sustainability.

Protected nature areas

The effort to preserve bio-diversity is one of the commitments we have made to the nation and the world. In this effort, protected nature areas play an important role as the foundation for new development opportunities. These reserves are not limitations on the use of resources, but rather different options which promote and strengthen the regions.

The creation of protected areas is an important means for promoting the preservation of ecosystems, regulating activities and strengthening research.

Mexico has 91 protected nature areas, making up 5.6 percent of the nation's territory. While this is a significant area (over 26 million acres), it continues to be insufficient given that Mexico has many ecosystems and endemic species (i.e., species found only in this country) which still require protection.

In order for the reserves to fulfill their function of preservation—and in light of the opportunities for new forms of natural-resource utilization to help overcome poverty and assist regional development—it is necessary for society to make a commitment to this preservation. Such a commitment cannot be limited to the groups of peasants, fishermen and communal land owners who live on the reserves.

If we as a society want to conserve, then as a society we must find, contribute to and pay for mechanisms to finance this conservation. It is necessary to direct the flow of public and private investment towards the protected areas. Preservation is not free; it costs

North American Environmental Cooperation Commission

Chapters 7 and 9 of the North American Free Trade Agreement contain environmental measures. Complementing these measures, the three member countries adopted a parallel Accord creating various mechanisms to assist the NAFTA nations in better fulfilling their respective environmental legislations.

The Accord created a Commission made up of a Council of Ministers, a Secretariat and a Joint Public Consultative Committee. The Council is made up of the three countries' environment ministers and is responsible for making decisions and, through the other two bodies, overseeing the fulfillment of the Accord. The Secretariat is an organ of the Commission, made up of an Executive Director and employees from the three nationalities; its main objective is to process all the documentation and information the Commission receives, as well as to keep the public informed. The Joint Public Consultative Committee is made up of members of civil society from the three countries who are active in the various fields involved in environmental matters.

The Accord's objective is to protect the environment and assist in the sustainable development of the entire North American region. Public participation is key to the Commission's ability to attain these objectives.

The Accord recognizes the importance of having the three countries reinforce their respective environmental legislations, and promotes cooperation for the conservation and protection of natural resources, as well as the effective application and fulfillment of each of the countries' internal environmental laws.

Through its Secretariat, the Commission has the obligation to produce an annual report on the environmental situation in the North American region; work out measures for preventing environmental emergencies; promote environmental education among the member countries' populations; carry out environmental impact evaluations; and promote the use of economic instruments for achieving the objectives of its environmental legislation and of the Accord itself, as well as preventing any member country from obtaining commercial advantages over the others by failing to comply with environmental norms.

The Accord foresees participation by society at large through a procedure for presenting grievances against the government of any member country which is not complying with applicable environmental norms. It also projects a mechanism for public hearings in which the three organs of the Commission would participate, together with organized civil society, in order to provide a channel for mutual concerns.

money and we must find sources of financing. A key element is the link between the protected areas and the academic sector, which is carrying out research and can really provide its support and contribute its knowledge of what exists, as well as how to use and preserve it.

Another possibility we are exploring is that of establishing trusts for the protected nature areas. This would be a contract, a multilateral pact among communities, local interests and society as a whole. These trusts

might make it possible to manage resources with more autonomy, transparency, efficiency, confidence and information; thus long-term projects will not come to a halt for lack of funding, which would lead to environmental damage and the reserves losing their reason for existence.

Such trusts would also involve participation by local communities, communal land owners and peasant communities, local businessmen, academic groups and different levels of government.

The strategies broadly sketched out in this presentation are concretized in the sectoral programs for the environment and natural resources, providing the opportunity for a deeper discussion, in which the heterogeneity of regional and population-group problems will be recognized in detail, and strategies, policies and mechanisms for participation and co-responsibility will come to fruition. Only in this way will we advance toward sustainable development. ❧