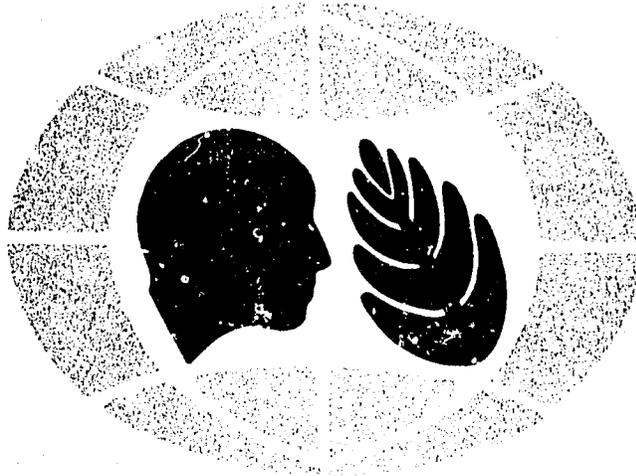


LEGAL REGULATORY AND INSTITUTIONAL ASPECTS OF
ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT
IN DEVELOPING COUNTRIES

A COUNTRY STUDY OF VENEZUELA



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LEGAL, REGULATORY AND INSTITUTIONAL ASPECTS OF
ENVIRONMENTAL AND NATURAL RESOURCES MANAGEMENT
IN VENEZUELA

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INTRODUCTION

This document was prepared by the authors between mid-November 1980 and late January 1981. It is based on the reading of an extensive list of official documents and research articles, of which a selection is included in the bibliography, on the analysis of legislation in force, of which a selection of the key laws and regulations is included in Appendix 1, and in interviews to selected informers.

Interviews took place in Caracas between November 24 and December 5, 1980. We tried, as much as possible, to check official information and personal reports with the opinion of researchers and private professionals working outside the official public structure. That was not possible to the extent we would have liked, given the scarce time available and the time consumed in moving between different offices located far apart in a fast-growing metropolitan area. We didn't have time to organize visits to the field. The possibility of interviewing a greater number of officials would have undoubtedly broadened our impression of the true impact of some of the environmental policies already being implemented.

Buenos Aires, January 30, 1981

Chapter 1

VENEZUELA: OVERALL DESCRIPTION OF ITS PHYSICAL-NATURAL, DEMOGRAPHIC, AND ECONOMIC ASPECTS

1. Physical-Natural Aspects

Geography

The Republic of Venezuela covers an area of 912,050 Km², including 1,170 Km² corresponding to the Caribbean Sea islands. Almost 3,000 Km of its coasts are on this sea and about 1,000 Km of them on the Atlantic Ocean.

The topography is distinctly outlined by plains and mountains. The Andes Cordillera and the Coastal Cordillera are the main mountain ranges. The plains are those of the Lake Maracaibo depression, the plains themselves and the Orinoco Delta.

The climate is widely varied. Most of the country's area -- where the main economic activities take place -- corresponds to the tropical zone with average annual temperatures between 22 and 28 degrees centigrade. Rainfall is the main determinant of climate variation, being very heavy and unevenly distributed over the territory in two seasons characterized by droughts and floods.

Vegetation also shows a wide variety. Various kinds of forests and savannas cover extensive areas of the national territory.

Natural Resources

Soils

On account of the great variability of factors determining soil formation, such as climate, topography, and plant life, among others, Venezuela has a great variety of soils with an uneven distribution over the territory.

Over half of the territory is covered with forests, mainly concentrated in the Guayana and South region, and nearly one third of the land is devoted to extensive cattle raising. The remainder 10% is shared by other uses, agriculture taking up only 4.0% and urban uses a scarce 0.3%. Agricultural activity is concentrated in the West Central region, while urban areas are mainly located in the North Central region.

Water

Venezuela has numerous river basins and courses, as well as large hydrogeological regions with underground waters. Water resources in Venezuela are, therefore, plentiful. They are, however,

so distributed that they give rise to marked imbalances between the location of the available water resources and of potential demand. Thus, 80% of the water resources are located south of the Orinoco River (the country's main river basin), this being the region with the lowest population and demand; instead, in the north of the country, where water is more scarce, the main demand arises.

Forests

Venezuela's forest reserves are very extensive. The area covered by natural forests represents between 40% and 45% of the national territory -- that is, about 40 million hectares. Thirty-two million hectares of wooded areas are subjected to special legislation and conservation norms.

There is marked underutilization of the country's forest resources, its potential being greatly unknown.

Energy Resources

Venezuela is a very rich country in energy resources, oil making up the highest percentage of the reserves.

In addition to known areas with conventional resources that are being exploited, there are other areas that have not been yet fully explored as regards hydrocarbons (the Orinoco Oil Belt among them), coal, and non-conventional power sources, such as solar, nuclear, geothermal energy, etc.

Venezuela exports 75.7% of its total production of energy. Almost half of the production is destined to internal consumption and assigned to the energy sector itself; the other half is distributed among other economic sectors, transportation and industry taking up the highest percentage.¹

As pointed out in some studies, there are enough reserves to support the country's future development for over two decades. However, taking into account the fact that most hydrocarbons are exported, it will be necessary to explore new areas and diversify the sources for internal consumption if that future horizon is to be maintained.

2. Demographic Aspects

Venezuela had a population of 10,721,522 in 1971, and it is

¹ MARNR, Documento Preliminar para la Elaboración del Plan Nacional de Defensa, Conservación y Mejoramiento del Ambiente, Vol. I, Caracas, 1978.

estimated that by the year 2000 that figure might amount to 23.6 millions.¹ According to another estimate, that figure might be as high as 25.6 millions.²

In the past decades, the country has undergone a fast demographic growth, with growth rate ranging between 3% and 4% per year, as shown in Table 1, below.

Table 1

Venezuela: Population and Growth Rates for the Period 1881-1971, According to National Censuses.

Year	Population	Tasa anual
1881	2.005.139	1,90
1891	2.221.572	1,03
1920	2.479.525	0,38
1926	2.814.131	2,12
1936	3.364.347	1,76
1941	3.850.771	2,75
1950	5.034.838	3,02
1961	7.523.998	3,99
1971	10.721.522	3,37
1980	14.914.000	3,29 (1975-80)*

Source: Ministry of Economic Development (Ministerio de Fomento), General Division of Statistics and Censuses (Dirección General de Estadísticas y Censos)

*United Nations Fund for Population Activities, Population Facts at Hand, 1980.

Venezuela is one of the countries with higher urban expansion in Latin America. Urban transformation started in the middle 20's, triggered by strong rural-urban internal migrations which reflected uneven development conditions in the various regions.

One of the demographic indicators illustrating urban growth during the past decades is the changes in the proportion of urban and rural population, as shown in Table 2, below.

¹For this projection, intermediate values for the evolution of fecundity and mortality have been considered. Source: Ministerio de Fomento, D.G.E Unofficial preliminary estimates.

²United Nations Fund for Population Activities, Population Facts at Hand, New York, 1980.

Table 2

Venezuela: Urban and Rural Population According to National Censuses, 1936-71.

Year	Total population	Urban population*	%	Rural population	%
1936	3.364.347	1.168.039	34,7	2.196.308	65,3
1941	3.850.771	1.516.444	39,4	2.334.327	60,6
1950	5.034.838	2.709.344	53,8	2.325.494	46,2
1961	7.523.999	5.078.624	67,5	2.445.375	32,5
1971**	10.721.522	8.276.660	77,2	2.444.862	22,8
1980	14.914.000	12.423.300	83,3	2.490.700	16,7

* Centers with over 1.000 inhabitants.

** United Nations Fund for Population Activities, Population Facts at Hand, 1980.

Source: Ministry of Economic Development (Ministerio de Fomento), Statistical Annex, quoted from M.M., Suárez and R. Torrealba, "Las migraciones internas en Venezuela, 1926-1971"; 1980.

The population location pattern over the territory, as determined by the historical process, has resulted in the concentration of the largest portion of the population and of activities in the North Central Coastal region, next to the Caribbean Sea. This region, comprising an area of 2.36% of the national territory, concentrated over one third of the total population in 1975. The Guayana and South Region, on the other hand, with an area of half the national territory, had scarcely 4.3% of the total population in 1975. The process of population concentration in the North Central Coastal region has been increasing, to the disadvantage of the other regions.

3. Economic Aspects

The development of its oil deposits has become the country's main economic basis. Oil has played a strategic role in the expansion of the country's economy in past years, so much so that in 1975, the transfer of the returned value from oil exports that the State made to public firms amounted to 77% of the public expenses and to 31% of the national income.¹

However, due to the enclave nature of oil exploitation, and to

¹ Negrón, Marco, "El desarrollo y las políticas regionales en Venezuela," CENDES, Caracas, 1978.

the low dynamism of the industrial sector, it is the tertiary sector which makes the largest contribution to the Gross Territorial Product.

Table 3

Venezuela: Sector Distribution of the Gross Territorial Product for 1972.

Sector	Percentage
<u>Primary Sector</u> (Agriculture, Oil, Mining)	25.8%
<u>Secondary Sector</u> (Manufacturing, Construction, Water, and Electricity)	23.9%
<u>Tertiary Sector</u> (Transportation and Communications, Commerce and Services)	50.3%

Industrial production has reduced progressively its growth rate since 1975, not being able to meet a demand for manufactures that increased between 1970 and 1977 and then remained constant until 1979. This behavior of the demand was due, mainly, to the higher relative growth of global investments and of the intermediate consumption linked to it.

Besides, the rigidity in production growth was basically determined by the exhaustion of the installed capacities and by the scarcity of new investments, despite the high availability of financial means. Thus, the unsatisfied demand is settled by a high volume of imports: in 1978, manufactures made up 87% of all imports.¹

Agricultural production increased between 1968 and 1978. Despite this fact, it was necessary to increase the volume of imports in order to meet the demand for agricultural products. The percen-

¹ República de Venezuela, CORDIPLAN, VI Plan de Desarrollo de la Nación 1981-1985, Preliminary version, Vol. II, 1. El Desarrollo Industrial.

tages of imports for some selected agricultural products in 1978 were as follows: wheat (100%); corn (32%); sorghum (64%); legumes (62%); vegetable oils (78%); beef (24%); and, milk and dairy products (34%).

This lack of correspondence between demand and production is attributed to the persistence of structural deficiencies in the sector, affecting production systems as well as marketing procedures, research, technical assistance, credit and prevailing ways of living.¹

The forecasts made by different institutions for meeting these demands are quite contradictory. Thus, for example, some hold that the limiting elements are not very serious since the productive areas do not take up yet all available land.² Others hold that even though the supply of agricultural land is higher than the amount of land presently used for those purposes (2% to 3% of the national territory), the scarcity of good quality soils is a serious limitation. It is estimated, furthermore, that with the present technology and eating habits, the demand for agricultural land in the year 2000 will be of about 75 million hectares, which is more than 50% higher than the natural supply.³

The share of the animal subsector in the total value of agricultural production is of little significance.

The forest subsector was also of little significance between 1968 and 1978. In this case, there was a noticeable change in the trends of internal supply. Up to 1975, the national production met 95% of the mechanic wood industry needs and 5% of those of pulp and paper; since then, production decreased to such an extent that now 50% of the former and 95% of the latter are imported.

To sum up, the agricultural sector presents technical and natural limitations that check its development and its capacity to react in the short and middle term.

¹The above restrictions hold for almost the whole agricultural sector, including that portion affected by the Agrarian Reform. During the last decade, very little success was achieved with programs needed to regularize land tenure, acquire land, and consolidate peasant settlements and economic organization.

²We refer to CORDIPLAN in the diagnosis made in the above mentioned Document.

³MARNR, Documento Preliminar . . . ,Op.Cit.,Vol. II, p. 173.

Over half of the jobs in 1978 were generated by the service and commercial activities. The expansion of service activities appears as a response to a growing urban population that demands employment and finds few openings in industry.

The type of industrial development introduced in Venezuela since 1950, which includes complex unadapted technologies, requires a highly qualified labor force. While there is, on the one hand, a critical scarcity of this kind of labor, there is, on the other hand, an excessive supply of unqualified labor, consisting mainly of rural migrants and illegal foreign population.¹

In spite of having reduced its participation in the employment structure between 1975 and 1978, the agricultural sector still shows a high degree of employment concentration. This concentration, as pointed out above, does not go along with an equivalent volume of foodstuffs and raw materials and appears as a symptom of the problems affecting the sector.

¹Rofman, Alejandro, Revisión crítica de la política de desconcentración especial de la economía, CENDES, Preliminary Draft, Caracas, 1978.

Chapter II

OVERVIEW OF GOVERNMENT STRUCTURE

Venezuela is a Federal Republic. According to the present Constitution (1961), and with the purpose of its political organization, the territory is divided into 21 states, a federal district, two federal territories, and federal dependencies.

The first Constitution dates from 1811 and it was openly federalist. Between that year and 1857, four successive constitutions were sanctioned (1819, 1821, 1830, and 1857), some of them being of a unitarian nature, and the last ones reflecting a clear compromise between both tendencies. The long civil war of the middle of the XIXth century ended with the victory of the federalist tendency, as reflected by the 1864 Constitution. As from that date, which marks the highest point of federalism, the states have been losing their autonomy continuously, increasing at the same time the centralist nature of the Government.

The Executive Power is in the hands of a President elected every five years. There is no Vice-President. In his office, the President is aided by a cabinet made up by 17 members, as determined by the Organic Law of the Central Administration (Ley Orgánica de la Administración Central - Ley O.A.C.) passed on December 22, 1976. This law also empowers the President of the Republic to appoint Ministers of State as advisors (art. 3), commissioners to coordinate action in various public entities, and authorities for the development of areas or regional programs (art. 4). The Ministers make up the Council of Ministers, presided over by the President of the Republic. The President can also determine the creation of Sectoral Cabinets, made up by the Ministers concerned with a particular sector, which will act as his advisors, putting forward agreements, policies or decisions (art. 10).¹

The Legislative Power is made up by the Senate and the House of Representatives. Both senators and representatives are elected proportionally to the number of inhabitants.

¹Four Sectoral Cabinets are now at work: Economy, Social, Environment, and Security and Defense.

The States

Venezuela is divided into twenty-one states and two federal territories. The state Governors are appointed by the President of the Republic, who also appoints a Governor for the Federal District.¹

The state Legislature consists of a single house and its members are elected by the state population. The Federal District has no Legislature. It has a Town Council with 25 elected members.

Municipalities

The Organic Law of Municipal Government (Ley Orgánica de Régimen Municipal - Ley O.R.M.), passed on August 18, 1978, established municipal autonomy which implies the election of its authorities; the creation, collection, and investment of its income; and freedom in the management of its affairs (art. 4).² The Municipalities have, among others, the following functions: (a) preparing "local urban development plans according to the rules and technical procedures set up by the National Government," which will be in force, as determined by art. 136 of the Constitution, when they are approved by the qualified national authority; (b) the construction of aqueducts, sewers and drainages; and, (c) urban and home sanitation (art. 7). The Municipalities are also empowered to contribute and cooperate with environmental sanitation, and to repair, build and maintain parks, gardens, squares, etc. (art. 8), and to carry out public works and offer local services (art. 5). The municipal territory is determined by the State Legislature (art. 14). In order to become a municipality, it must have a population of over 12,000 inhabitants and a population center of at least 2,500 as site of the local authorities and the possibility to generate enough income to meet Government and service expenses (art. 15).

Two or more municipalities, whose capitals have expanded to become one urban unit and whose population is higher than 100,000 inhabitants, can request, directly or through the Legislature, the constitution of a Metropolitan District (art. 21).

¹The Federal District includes the old sectors of the city of Caracas, the city of La Guayra and neighboring sections of the seacoast. The rest of the Caracas metropolitan area is part of the Sucre district of the State of Miranda.

²The Organic Law of Municipal Government is also in force in the Federal District and in the National Territories.

The Municipal Government is in the hands of a Municipal Council, with deliberative, normative and administrative functions. The number of councilmen varies with the number of inhabitants in the Municipality, with a maximum of 17 in the municipalities with over a million inhabitants and a minimum of seven in those having up to 50.000 inhabitants (art. 31). The Municipal Council elects its President and Vice-President, appoints the Directors of the various departments, appoints the members of the communal committees, approves the municipal budget, the plans for urban development and administrative or municipal contracts, and sanctions laws and agreements and resolutions ruling the functioning of the Municipal Government and Administration (art. 36).¹

There is a relative autonomy for the Municipalities, in the sense that they cannot compete with the Federal power, as its actions are limited to the local sphere.

1

The President of the Council is its legal representative.

Chapter III

THE ORGANIZATION OF SPACE AND ENVIRONMENTAL PROBLEMS

The socio-economic processes the country has undergone have determined the present spatial configuration of Venezuela. Their analysis throws light on most of the structural characteristics of this configuration and accounts, in turn, for the main environmental problems mentioned below.

1. The Historical Legacy and Land Settlement

Venezuela was, in Colonial times and for the first decades of this century, an agrarian country. Its single-export economy was tied to the ebbs and flows of external demand. The land settlement process started on the Caribbean coast, on account of the location of natural ports, and was later strengthened with the incorporation of the Venezuelan economy into the international division of labor. The main exports were produced in regions close to the sea ports. The urban centers, located along the coast, became the site of the administrative, financial, and marketing offices required by this exchange.

In 1920, with the discovery and exploitation of oil deposits, the development pattern was changed, agricultural products being definitively forgotten and foreign capitals being massively incorporated.

During the agro-exporting period, the internal commercial sector contributed with the largest portion of the public sector income. When oil began to be extracted, the State, as collector of oil revenues, became dependent upon the external sector. There was a huge increase in public income, which strengthened the role of the State as it was possible to increase public expenses considerably and carry out a number of important policies and projects, mainly in the cities in the North Central Coast region. Furthermore, a national policy was established for the development of communication networks linking the main cities, Caracas being the center of the road system.¹ Thus, even though the location of the new extracting activities did

¹ Suarez, Maria M., and Torrealba, Ricardo (1980), op.cit.

not coincide geographically with the historical settlement scheme along the coast, the fact that most of the income derived from oil was invested in that region, strengthened the previous settlement pattern.¹

Oil extraction grew rapidly between 1936 and 1950. Since the 1950's, the development of the construction industry gave a new impulse to the Venezuelan economy, its effects being felt through the demand for building materials and labor force. The financial sector also played an important role in this period.²

Two important economic changes took place since 1959: on the one hand, the State enacted a policy of import substitution, and then foreign capital investments were reoriented from oil to other productive sectors.

The process of industrialization through import substitution operates in Venezuela on the basis of foreign licenses, inputs and capitals, thus beginning the penetration of multinational firms and increasing dependence on the external sector. At the same time, part of the capital investment in oil extraction was reoriented to industry, commerce and services.

Despite all these changes, oil is still the most dynamic element in the economy and the one making the greatest contribution to public income and foreign trade. Along with these processes there was an acceleration of the internal migrations towards the larger cities.

As a result, the present settlement pattern shows the following main features: (1) a high concentration of population, productive activities and equipment in a small portion of the national territory, the Caribbean littoral; (2) an absence of population in most frontier areas; (3) a discrepancy between the location of the production processes, on the one hand, and the availability of natural resources in the same areas on the other, resulting in high economic and social costs; and, (4) poor integration between urban centers, and between these and their market areas.

This organization of the national space has given rise to environmental problems of various kinds, as will be seen next.

2. Environmental Problems

Before identifying the environmental problems or conflicts

¹Rofman, Alejandro, 1978, op. cit.

²Silva Michelena, José Agustín, quoted in: Negrón, Marco, 1978, op. cit.

within a certain context, a clear definition of what is meant by "environment" must be agreed on. To this respect, the official meaning of the concept involves, in a broad sense, "the sum of living and non-living, natural or artificial components, whose dynamic in a certain space is of interest so as to improve life conditions for the human population living in it, both present and future."¹

Without questioning the validity of this definition, it might be pointed out, however, that it poses some problems owing to its being so broad. Indeed, it might be assumed that every natural process or human action referred to the space is to have an impact on the environment and that, therefore, the problems derived from such processes or actions should be regarded as environmental. Thus, such problems would range from river basin floods to urban marginality, for instance.

To this respect, the official position does not seem to have made enough progress so far. At least, in the public documents referred to, there are no clear positions assigning the many and different elements of the above definition to different levels of analysis. As a result, most diagnoses lack a systematic structure of problems and priorities.

It was possible, however, to extract from the reports referred to, a first distinction among large groups of problems, which we present arranged in three related levels:

(a) Those regarded as the most immediate generators of environmental problems;

(b) Problems more directly related to the physical aspects of the environment, that is, to the various natural resources; and,

(c) Problems more directly related to the social aspects of the environment, that is, to the effects of socio-economic development on human settlements.

On the first level, the main problems analyzed are:

(a.1) The unbalance and the disarticulation of the regional and urban system.

It implies the irrational location of many activities, the anarchic supply of urban services in relation to the hierarchical arrangement of centers, pollution and the pressure on resources.

¹M.A.R.N.R., Política ambiental, 1978.

(a.2) The irrational exploitation of natural resources.

It reflects an overutilization, as in the case of resources used at an exhausting rate, and prevents their renewal, or else, an underutilization as, for example, in the case of forest resources which, in spite of being plentiful, cannot meet the national demand.

The irrationality in the utilization of resources implies, furthermore, that no innovating processes are set up in order to adapt the available resources to the country's needs, usually resorting to foreign solutions.

(a.3) The utilization of environment-degrading technologies.

It refers to the practice of importing technologies without adapting them to the Venezuelan environment and without taking into account the need of preserving the environment.

(a.4) The scarce participation of the population in the solution of environmental problems.

The absence of a clear social awareness of the need to preserve the environment does not only make this task more difficult but it also turns the population into another degrading factor.

On a second level are included the problems regarding natural resources such as soil, water, plant life, and animal life.

(b.1) The land.

There are a large number of problems as to the land, but one of the most serious is the anarchic way land has been used in Venezuela. The fast growth of urban population and of industry has given rise to conflicts with land uses for agricultural purposes and for forest reserves which have, as a rule, been displaced. Urban expansion has incorporated agricultural lands, taking up also the water required for irrigation purposes. The demand for new agricultural land has, in turn, led to deforestation, given rise to the irreparable erosion of vast regions, another serious problem for the country.

(b.2) Water.

As regards water, the most outstanding problem, as has already been pointed out, lies in the discrepancy between the unavailabilities and the demand in each region. Floods represent another periodic source of conflict, since land settlement is still taking place in the flood plains.

(b.3) Plant life.

Besides the enormous underutilization of the country's forest

resources, there are the following conflicts regarding these resources: ignorance of the available potential and the absence of demarcation of the reserve areas, which leads to inadequate uses, invasions, and destruction of vast wooded areas. Fires in these areas are another current problem all over the country.

(b.4) Animal life.

The main problems regarding wild and aquatic animal life are related to the lack of defense and preservation mechanisms in their respective habitats, permanently threatened by the expansion of urban and agricultural frontiers.

On the third level, the following problems are worth mentioning:

(c.1) Congestion in the cities and marginality.

The cities have experienced an accelerated growth process. There was no room for the immigrant population within the private urban productive system, and a large mass of marginal population living in areas lacking practically all basic services was formed. It is estimated that over 50% of the population of Caracas and over 50% of the population of Maracaibo is made up by marginal sectors.

(c.2) Water pollution.

This problem appears mainly in the areas with high urban-industrial concentration. These are areas where water resources are more scarce, which hinders the dilution of pollutants from the cities.

(c.3) Air pollution.

This problem is not, in general terms, yet serious in Venezuela, except in urban areas close to dense traffic avenues or to certain industrial districts.

Chapter IV

ENVIRONMENTAL POLICIES IN VENEZUELA

1. The Principles of Environmental Policy

Since the 1970's, the Venezuelan Government has shown its concern with the country's environmental problems and with the need of making the process of socio-economic development compatible with the preservation of natural resources. The political decision of incorporating environmental issues to the Government's programs was reflected in the sanction of a number of legal and institutional measures: the passing of the Organic Law of the Environment (Ley Organica del ambiente)(Ley O.A.)(6-17-76); of the Organic Law of the Central Administration (Ley Organica de la Administracion Central (Ley O.A.C.) (22-12-76); and, the creation by the latter of the Ministry of the Environment and Renewable Natural Resources (Ministerio del Ambiente y de los Recursos Naturales Renovables (MARNR), in charge of the formulation and implementation of the environmental policy at the national level. MARNR began its activities in April 1979.

The reason for these decisions was the acknowledgement that, as countries develop, the processes of environmental degradation becomes more serious and complex. Thus, the State's participation is required to reconcile economic growth and the quality of life.¹

The ruling principles guiding environmental policies are framed within the concept of ecodevelopment; that is, "a type of development destined to meet the basic needs of the present and future population through the rational use of the natural resources."²

Having set up this goal, which it intends to achieve in the long term, MARNR has put forward the following principles as guidelines for the national policy.³

¹ Concepts put forward by Arnaldo José Gabaldón, former Minister of the Environment, in the Primer Congreso Venezolano de Conservación, Final Report, Caracas, December 13-16, 1978.

² Definition adopted by MARNR after the Seminar on "Ambiente y Desarrollo"(Environment and Development), held by that institution in September 1978 with the participation of PNUMA.

³ MARNR, Politica Ambiental. Misión y Gestión, Venezuela, 1978.

i. The complexity of the environment requires an integral treatment.

Environmental problems should be faced with an interdisciplinary approach, taking into account their many components: the management of natural resources; the protection of the environment; the control of pollution; and, reconciling the environment with development. These principles include, furthermore, the creation of an administrative office with diversified functions and endowed with the capacity of handling the management of the environment as it is understood.

This broad and comprehensive view has taken shape in the Organic Law of the Environment which, in its article 5, specifies all the functions referred to the conservation, defense, and improvement of the environment.

Besides, the Organic Law of the Central Administration, when creating the MARNR, concentrates in it and arranges hierarchically all tasks concerned with the environment, tasks which were previously dispersed in a number of public agencies.

ii. The environment and development must be made compatible.

This principle states that one of the basic goals of mankind is development, that is the desirable "degree of evolution of a society and of its structures, providing all its members, and with their participation, with the opportunities and necessary elements to meet their material and spiritual requirements, but without squandering."¹ Having thus defined development, it adds that the development process requires the rational utilization of natural resources and the existence of a non-degraded environment.

iii. Every development stage gives rise to particular environmental problems and requires particular solutions.

MARNR subscribes to the statement of the Stockholm Conference which reads: "In the developing countries, most environmental problems arise as a consequence of underdevelopment."

It recognizes that "soil misuse, due to inadequate agricultural techniques, forest destruction by fire and indiscriminate felling as well as the disorderly settlement of the physical space constitute aggressions against the environment, as serious as the air and water pollution produced around urban and industrial centers."²

¹Ibid.,p. 13.

²Ibid.,p. 15.

In such a case, it is suggested that specific solutions should be looked for, on the basis of research and of a thorough knowledge of the particular environmental problems.

iv. All men have the right to live in adequate environmental conditions.

Every citizen's aspiration to live in an environment that meets his basic needs, appears as a basic principle of the environmental policy.

To this effect, a democratic policy is drawn up, which makes it necessary "to identify the environmental conditions in which different sectors of the population live, in order to assign higher priority to the actions destined to improve life conditions for those groups living in the most deteriorated environments. Greater attention should be thus paid to the supply of potable water and sewerage, of garbage collection, especially in the cities' marginal districts, and to the problems of land sanitation, erosion control and fires in rural areas.¹

v. Development needs require permissible limits of environmental damage.

The idea underlying this principle is that an extreme conservationist policy is not feasible in underdeveloped countries, but that, at the same time, when man uses nature for his own benefit, he must do so within certain limits so as to prevent deterioration. Both positions must be reconciled on the basis of the "permissible damage" principle, which consists in "the possibility of tolerating those activities likely to degrade the environment temporarily inasmuch as they produce evident social or economic benefit, provided the necessary steps are taken for limiting or correcting such damage."²

vi. The self-sustained utilization of renewable natural resources.

Environmental policy attempts not only to prevent environmental degradation but also to increase the knowledge and utilization of a number of natural resources so as to meet more effectively the socio-economic goals set up.

vii. Environmental quality is the result of the behavior of all citizens.

¹ Ibid., p. 16.

² Ibid., p. 15.

The environmental policy will succeed in achieving its goals only if it is supported by the behavior of the population as a whole.

Environmental education must, therefore, become one of the main bases of the environmental policy.

viii. Encouragement should be given to international cooperation, to the strengthening of international environmental law, and to environmental problems in countries with a lower level of development.

This principle fosters the attainment of an international order based on a fair utilization of resources so that every nation in the world might reach adequate levels of welfare and that the differences between rich and poor countries should be gradually reduced. The attempt should be made to prevent industrialized countries from making abusive use of natural resources, which makes them unavailable to Third World countries in their search for the desired development.

2. The Strategies

MARNR has set up the following main strategies for the implementation of the environmental policy detailed above:

- i. the incorporation of the environmental dimension to the country's development policy;
- ii. environmental planning;
- iii. organization of space;
- iv. environmental education and citizen participation;
- v. the development of an environmental law; and,
- vi. research.

The Organic Law of the Environment institutionalizes environmental planning as part of the National Planning System, while the Organic Law of the Central Administration assigns the responsibilities to the concerned agencies.

Previous to this proposal, the V National Development Plan (V Plan de la Nación) included the environmental dimension of development among its main sectoral chapters. It is assumed that the VI National Development Plan for the period 1981-1986 will promote environmental issues even further.

The Organic Law of the Environment determines that the Plan to be prepared to this effect (Plan of the Environment) must be integrated to the National Development Plan. Environmental Policy will thus become one of the main strategies of the country's overall development policy.

The organization of the space strategy attempts, in its broadest sense, to set up the distribution patterns of population and activities in accordance with norms for the utilization of the natural resources. This entails the definition of the uses of the national space with respect to urban areas, industrial areas, agricultural and forest areas, areas of preservation of the environment and of landscape and recreational resources, and location of infrastructure works. (The implementation of this strategy is, as will be seen below, one of the most difficult tasks.)

Environmental education is twofold: it involves the education of the population as well as professionals and technicians in charge of directing and implementing programs for the conservation, defense, and improvement of the environment. In this respect, the Organic Law of the Environment establishes the creation of Committees (juntas) for the Conservation, Defense, and Improvement of the Environment. These Committees were established in every Municipality since April 1977.

The development of a legal basis to protect the environment appears as an important step to allow the State to regulate its activities as well as those of the private sector. There are at present two programmatic laws with a comprehensive approach to environmental conservation: the Organic Law of the Environment and the Organic Law of the Central Administration. Besides, many previous regulations on sectoral aspects still in force were formulated with a different concept of the environment than the one presently adopted. Thus, there arises a need to review and update the legislation in force, so as to achieve a higher internal compatibility.

Finally, an important role is assigned to the encouragement of research, since the knowledge of environmental planning is still limited, even at world level. The Organic Law of the Environment acknowledges and expresses this need. For this reason, the Ministry of Environment includes a general Division of Research and Information (Dirección General de Investigación y Información), which concentrates most of its research activities on the environment and on the management of natural resources.

3. Priorities for Action

In 1977, fifteen Basic Work Programs, complemented by One Hundred Priorities for Action, were established outlining the most urgent needs (two years), in an environmental strategy. MARNR, as

as the successor of the Public Works Ministry (Ministerio de Obras Públicas), is directly responsible for some of these actions; others, instead, require joint action with other Ministries and even with the community in general.

We have selected some of these actions to illustrate the priorities chosen by MARNR when it was created.

i. Actions related to Basic Information and Research.

Includes those actions needed for the preparation of the national inventory of renewable natural resources. This inventory should provide a greater knowledge of the soils, the hydrology and meteorology, the geology and animal and plant life, as well as of problems related to environment degradation.

Some of the actions selected were: publication of maps and of the national inventory of land, underground water and forest resources and of the ecosystems of the savannas; the updating of information on the threat of floods in the main cities; integral studies of pollution problems, and so on.

ii. Actions related to the planning and use of renewable natural resources.

Includes the actions that MARNR intends to implement for the formulation of plans for the use of water, land and plant life. These plans should contribute to establish the bases for the organization of space.

It includes actions such as: the design of the information system for the organization of space; the formulation of regional plans for the exploitation of natural resources in certain regions; the definition of preliminary criteria for the location of economic activities in large areas of the country; the formulation of the first draft of the National Plan for the Organization of Space; the definition of technical criteria for the elaboration of a draft for the Proposed Law on Organization of Space (Proyecto de Ley de Ordenamiento Territorial); the formulation of the National Plan for the Conservation, Defense and Improvement of the Environment; and so on.

iii. Actions for the construction of the infrastructure for the conservation, defense and improvement of the environment.

Includes actions for the conservation of infrastructure and equipment works needed for the development and exploitation of natural resources, such as: projects for the recovery of lands designated to agricultural or urban uses; dams for flood control, ir-

rigation and water supply in urban areas; collection and disposal of sewage and drainage water in urban centers of different size; plants for the treatment of sewage effluents in main cities; urban parks in cities of different sizes; special works, such as the construction of new towns to relocate the population displaced by dams and the construction of various buildings.

iv. Actions for the administration, vigilance, and control of renewable natural resources.

These are actions ruling the implementation of the environmental policy, which implies, among other things, keeping track of the decisions taken at different levels of the administration and carrying out a process of vigilance and control of the use of resources, by means of permits, franchises and authorizations.

The above actions imply the implementation of the various national programs, such as the prevention and control of plant and forest fires; the vigilance and control of the final disposal of solid wastes; the vigilance and control of forests and savannas; noise control; the administration of water resources; etc.

v. Actions related to the education, diffusion, training and international cooperation for the conservation, defense and improvement of the environment.

These actions are addressed to the community, so that it should play an active role in the solution of environmental problems. Includes actions such as: the opening of educational centers in certain regions; the preparation of information and orientation programs; the creation of committees for the conservation and defense of the environment; etc.

vi. Legal, institutional and administrative actions.

Includes actions that MARNR must implement for setting an appropriate legal and institutional framework and includes the elaboration of laws, regulations, ministerial resolutions and executive orders, as well as the definition of technical norms for granting franchises, authorizations and permits for the exploitation of natural resources.

Three years after the priorities for action were established by MARNR, many have been implemented to varying degrees. Thus, for example, while the construction of infrastructure and equipment works has proceeded at the same rhythm as before 1977, other priorities, such as those referring to environmental planning, are still in their

preliminary stages.

This could be related to the various requirements and to the limitations imposed by the country's socio-economic development strategy; the provision of infrastructure, for instance, cannot be stopped awaiting a national physical development plan; on the contrary, planning actions do not only require longer time to lay their foundations but, when implemented, they are also hindered by many technical and political obstacles. Actually, the fulfillment of the far-reaching goals of the environment policy require a permanent political-institutional confrontation if they are to go beyond their mere formulation.

Chapter V

LEGAL-INSTITUTIONAL FRAMEWORK OF THE ENVIRONMENTAL POLICY

1. The Assignment of Environmental Responsibilities

The National Constitution (1961) establishes the National State as the main manager of the defense and conservation of natural resources, being at the same time responsible that their exploitation should be primarily destined to the common benefit of the population (art. 106).

The Constitution does not assign the States or Municipalities responsibility with reference to environmental protection.¹

2. Legal sources of the distribution of environmental responsibilities.

The Organic Law of the Environment and the Organic Law of the Central Administration are the most important juridical texts, other than the Constitution, for the distribution of environmental responsibilities.

The Organic Law of the Environment, promulgated on June 7, 1976, consists in 37 articles grouped in 8 chapters. Their aim is "to set up, within the Nation's overall development policy, the principles for the conservation and improvement of the environment to the benefit of the quality of life."

This Law establishes that the highest responsibility for the national environmental policy falls in the hands of the President of the Republic and the Council of Ministers (art. 4).

The same law created two basic bodies in charge of environmental matters: the National Council of the Environment (art. 8), a consulting committee for the Presidency of the Republic, basically in charge of everything referred to the legal-institutional framework as regards the environment and of elaborating the National Plan of Conservation, Defense and Improvement of the Environment (art. 14); and the National Bureau of the Environment (Oficina Nacional de Ambiente), attached to the Presidency of the Republic, which practically concentrated all actions referred to the environment.

Seven months later, however, the Organic Law of the Central Administration limited the role of the National Council of the Environment and revoked the creation of the National Bureau of the Environment, centralizing the main responsibilities with regard to the en-

¹ López Bello, Nelson Gengel, La participación de los Consejos Municipales en la Ordenación del Territorio, MARNR, Caracas, March 1978.

vironment in the Ministry of the Environment and Renewable Natural Resources (MARNR).

Actually, the Organic Law of the Central Administration assigns powers to MARNR that would have given rise to competition with the above mentioned bodies, the most comprehensive one being "the planning and organization of the conservation, defense and improvement of the environment and renewable natural resources for the rational exploitation of the latter" (art. 36). Thus, MARNR was created and became the main agency for the implementation of the country's environmental policy.

The legal support of the distribution of environmental responsibilities in Venezuela is certainly significant. It is not frequent in Latin America, and it might even be unique, to have two basic legal texts on the environment, which resulted in the creation and functioning of a Ministry specifically devoted to "the development of the quality of life, of the environment and of the renewable natural resources" (art. 36).

However, the development of the environmental law is not entirely consistent. There are frequent discrepancies, confrontations, and overlappings among the various legal texts. The laws themselves do not specify the modification to the situation previous to their enactment. Thus, various interpretations arise when an attempt is made to reconcile or integrate the content of the laws, increasing the number of possible discrepancies.

The two laws mentioned above illustrate what we pointed out. In order to understand both texts, it is necessary to resort to two basic principles of legal hermeneutics,¹ according to which the Organic Law of the Central Administration contains the main legal norm on environmental responsibilities. Its objectives are to determine

¹"The first principle states that, in cases of discrepancy or collision, every subsequent law prevails over the preceding one of the same rank. The second one states that, in matters of its concern, a special law prevails over a general one. For both reasons, for coming in the second place and for being special, as regards the distribution of responsibilities and because both have the same rank of organic, in case of conflict or doubt as to which agency is endowed with a certain power, the Organic Law of the Central Administration decides." MARNR, Documento Preliminar . . . Op.Cit., Vol. III. p. 561.

the number and organization of the Ministries and their respective responsibilities and the organizations and functioning of the Council of Ministers and other agencies of the central administration.

3. Responsibilities and organization of the Ministry of the Environment and Renewable Natural Resources (MARNR).

MARNR is created by the administrative reform carried out in 1977 by the National Executive Power. Its origins go back to the old Public Works Ministry, which was in charge of all public works in the national territory related with the use of water resources, urban infrastructure, road infrastructure and railroads. Its highly qualified technical teams, especially those in the Department of Water Resources (Dirección General de Recursos Hidráulicos) started for the first time in Venezuela the development of an ecological and conservationist conscience.¹ Its main output was the National Plan of Water Resources (Plan Nacional de Recursos Hidráulicos) (Plan COPLANHAR), widely diffused and discussed, and regarded as the most relevant background for the legal texts and for the subsequent plans related to the protection of the environment and natural resources.² The COPLANHAR was widely accepted in professional and political circles and it helped in the creation of MARNR, which from its beginnings was led by the staff of the former Department of Water Resources.

The creation of MARNR thus represented a first step in the fulfillment of a very difficult task: the reconciling of the spatial manifestations of national economic development with the rational use of renewable natural resources. So, the main objective of MARNR is:

"the incorporation of strategies for the transformation of the environment to the process of decisions securing the rational utilization of the resources as a source of welfare; in conditions acceptable for the whole of society. Thereby, the main principle guiding its action is: environment and development."³

MARNR is in charge of the "formulation of the policy for the conservation, defense and improvement of the environment and renew-

¹The Public Works Ministers had all been members of that Department, as was the first minister of MARNR.

²As the Public Works Ministry disappeared, the road system group became part of the Ministry of Transportation and Communications, previously only of Communications, and the Urban Development Group became part of the new Ministry of Urban Development.

³MARNR, Memoria y Cuenta, 1978, Vol. I, Exposición General, p. 15.

able natural resources."¹ This policy is expressed through the National Plan for the Conservation, Defense and Improvement of the Environment and through specific plans for the utilization of renewable natural resources. As such, it is of a preventive nature.

MARNR is a management entity; its responsibilities include the rational administration of resources and the implementation of "the programs of conservation, defense and improvement, regulation, utilization and use of water, forests, land and soils; the cadastre, the conservation, defense, improvement and regulation of wild plant and animal life; national parks; etc."²

As responsible for the equipment of the territory for the conservation, defense and improvement of the environment and renewable natural resources, MARNR executes works, either directly or through the National Institute of Sanitary Works (Instituto Nacional de Obras Sanitarias).

Among other functions, MARNR is in charge of the prohibition and regulation of activities degrading the environment, modifying the climate and deteriorating the landscape, and of any other activity likely to alter the natural ecosystems.

Likewise, it is MARNR's responsibility "to adequate and coordinate the activities of the public administration, insofar as they are related to the environment and the renewable natural resources and especially those activities related to urban planning, industrialization, economic deconcentration, agricultural development and the organization of space, jointly with the Ministries responsible in these areas."

MARNR must also "cooperate in the planning and spatial organization of the national territory . . . , the formulation, control and vigilance of land use policies" and "the administration, conservation, regulation and control of forests, savannas and forest resources."

Finally, MARNR inherited the responsibilities assigned to the national public administration in the Forestal Law of Soils, Forests, and Water (Ley Forestal de Suelon, Bosques y Agua).

The vastness of the functions assigned to MARNR implies a com-

¹Organic Law of the Central Administration, art. 36, ord. 1.

²Organic Law of the Central Administration, art. 36.

prehensive plan in which both society and nature must be constantly reconciled. In order to attain that sense of comprehensiveness required, three types of strategies are put forward:

1. The organization of space.
2. The rational use of renewable natural resources.
3. The correction of activities likely to degrade the environment.

Two complementary spheres of administrative action were simultaneously adopted:

1. Environmental education and citizen participation.
2. The infrastructure required to improve the environment and develop renewable natural resources.

In order to carry out the environmental policy, the Ministry has been organized according to the following functions:

1. Research and the collection and systematization of basic information on natural resources;
2. The planning and organization necessary for the use of the resources;
3. The construction of the infrastructure required to improve the environment and utilize natural resources; and,
4. The management of resources and of the environmental policy.

These four stages are represented within MARNR's internal structure by four Sectoral General Departments (Direcciones Generales Sectoriales) as shown in Graph 1. The General Departments, along with the dependences of the Office of the Minister (Despacho del Ministro), the General Division of the Ministry (Dirección General del Ministerio) and the General Division of Administration and Services (Dirección General de Administración y Servicios) make up the organization of the Ministry at its central level.

At the regional level, there is the same basic scheme in the fourteen administrative areas in which MARNR has divided the country: Caracas, Maracay, Barquisimeto, Coro, Maracaibo, San Cristóbal, Trujillo, Guanare, Puerto Ayacucho, Ciudad Bolívar, Maturín, Calabozo, Barcelona and Porlamar. The areal agencies are mainly management ones: they execute the Ministry's basic programs. They are also autonomous, that is, they can carry out the programs set up at the central level through their own technical administrative services.

There are, finally, three autonomous institutes attached to the Ministry, with functions closely related to the improvement of the

quality of life and to resource conservation. They are: the National Institute of Sanitary Works (Instituto Nacional de Obras Sanitarias), the National Institute of Parks (Instituto Nacional de Parques), and the Institute of Urban Neatness for the Caracas Metropolitan Area (Instituto de Aseo Urbano para el Area Metropolitana de Caracas).

The organization of the Ministry did not allow the possibility of a sectoral structure, that is, the distribution of responsibilities among the various sectors according to the natural resources. A global treatment was given to environmental issues, thus implying an interdependence among resources.

Even though this functional organization reflects a very adequate approach to the environment, there are some obstacles to its implementation. If MARNR is to comply effectively with its goals, then the greatest coordination among the different units is required, since they interact demanding and providing information.

In order to attain the desired interconnection, weekly meetings are held by the Minister, the General Directors and the Coordinators of the various programs under way to make the most important decisions.

The action of the Ministry of the environmental and other ministries is coordinated by two agencies: the Sectoral Cabinet of the Organization of Space (Gabinete Sectorial de Organización del Territorio) made up by the Ministers of Transportation and Communications (its president), of Agriculture and Cattle-Raising, of Economic Development (Fomento), of Urban Development, of Defense, of the Environment and the Renewable Natural Resources, and by the Central Office of Coordination and Planning (its secretary) and by the Commission of the Organization of Space, made up by the General Directors and acting as a sort of Technical Intersectoral Secretary.¹

Summing up, with MARNR, Venezuela incorporates the environmental dimension to the country's overall development strategy. It is clear that this strategy requires more than the maximization of the economic and social efficiency, and must also be concerned with the rational exploitation of resources and the conservation of the environment. If these aspects are neglected, then the development scheme itself will probably be less effective.

The legal framework of the environmental management is solid,

¹ Both the Cabinet and the Commission have been created by the present Government.

and the administrative structure adopted is conceptually unobjectionable. There are, however, some problems to be solved. Within the Ministry itself, two of them seem worth noting. The first refers to the serious obstacles in the coordination among the departments of the Ministry itself, between the central and regional levels; and, finally, between the Ministry and other entities of equal rank. Without this coordination, MARNR's action is greatly hampered.

The second problem is that of the little attention paid to the social aspects of environmental management. Even though problems such as marginality, unemployment and urban poverty are studied at MARNR, no proposals of solution or of relative improvement have yet been found.

There are two other conflictive aspects, as pointed out by Arnoldo José Gabaldón, former Minister of the Environment, in the "Primer Congreso Venezolano de Conservación" (First Venezuelan Congress on Conservation):

"The environment degrading economic interests are the natural obstacles of MARNR. The attitude towards development of many of those contributing to the country's progress makes them underrate collective interests in favor of their own, regarding every norm they must comply with as an obstacle, in their misconception of natural development."

"Another exogenous factor hindering our activities are the extreme conservationist interests. These, contradicting the principle of Environment and Development, become aggressively critical when MARNR attempts to reconcile the physical manifestations of economic growth with adequate conditions of environmental conservation."¹

There is another conflictive aspect: ". . . the excessive zeal of these public agencies which take MARNR's intervention as interfering in their own activities."²

¹ Speech by Arnoldo José Cabaldón, former Minister of the Environment and Renewable Natural Resources, Primer Congreso Venezolano de Conservación. Informe Final. (First Venezuelan Congress on Conservation. Final Report.), Caracas, December 13-16, 1978.

² MARNR, Memoria y Cuenta 1978, Vol. 1, Exposición General, p. 93, Caracas, March 1979.

4. The Responsibilities of Other Ministries in Relation with the Environment.

The Organic Law of the Central Administration also assigns responsibilities for environmental protection to other ministries. The most significant ones are pointed out below.

Ministry of the Interior (Ministerio de Relaciones Interiores). Responsible for: "The formulation and coordination of policies and development plans for frontier areas " (art. 24).

Ministry of Defense. Responsible for: "The cooperation with the maintenance of public security and order, displaying the necessary activities to secure support in the frontier areas and in the control of forests . . . hunting and fishing" (art. 27).

Ministry of Economic Development (Ministerio de Fomento). Responsible for: "The coordination of economic and industrial development and commercial activities with agriculture, cattle-raising and mining" and "the planning, regulation, direction, control, vigilance, protection and development of industry. . ." (art. 28).

Ministry of Health and Social Welfare (Ministerio de Sanidad y Asistencia Social). Responsible for: ". . . planning and implementing . . . the programs of sanitation and environmental pollution control concerned with public health;" for "establishing basic sanitary norms and controlling their fulfillment as they relate to potable water supply;" for "setting up sanitary norms on building and equipment for man's use and, in general, on public and social sanitation;" for "environmental sanitation and construction of works directly linked to those activities related with health protection that are not assigned to other government agencies;" for "establishing sanitary norms in the general area of working environment and in the development of surveillance methods as they relate to those activities;" for "establishing, along with MARNR, sanitary norms destined to avoid or reduce the risks to health involved in the processes of industrialization, agricultural development, urban planning, etc." (art. 30).

Ministry of Agriculture and Cattle Raising (Ministerio de Agricultura y Cría). Responsible for "the encouragement, development and protection of agriculture, cattle-raising and fishing;" "the planning, central coordination and implementation of the Agrarian Reform;" "the administration and management of vacant land for agricultural uses, according to the land use policy established in the physical-spatial organization of the soils;" "the Rural Cadastre in the terms

established in the Law of Agrarian Reform, along with MARNR;" "the conservation and rational use of the land for agricultural purposes;" etc. (art. 31).

Ministry of Labor (Ministerio de Trabajo). Responsible for: "the programs of labor security and of industrial sanitation and security" (art. 32).

Ministry of Transportation and Communications. Responsible for: "planning studies, projects, construction and maintenance of roads and land transportation routes as well as of green spaces" (art. 33).

Ministry of Energy and Mining. Responsible for: "along with MARNR, preventing environmental pollution derived from energy, mining and hydrocarbons" (art. 35).

Ministry of Urban Development (Ministerio de Desarrollo Urbano). Responsible for: "the formulation and implementation of the urban development policy for the welfare of the community and the improvement of the quality of life;" for "the definition of urban land uses, planning the development of human settlements, taking into account the guidelines of the qualified agency" (art. 37).

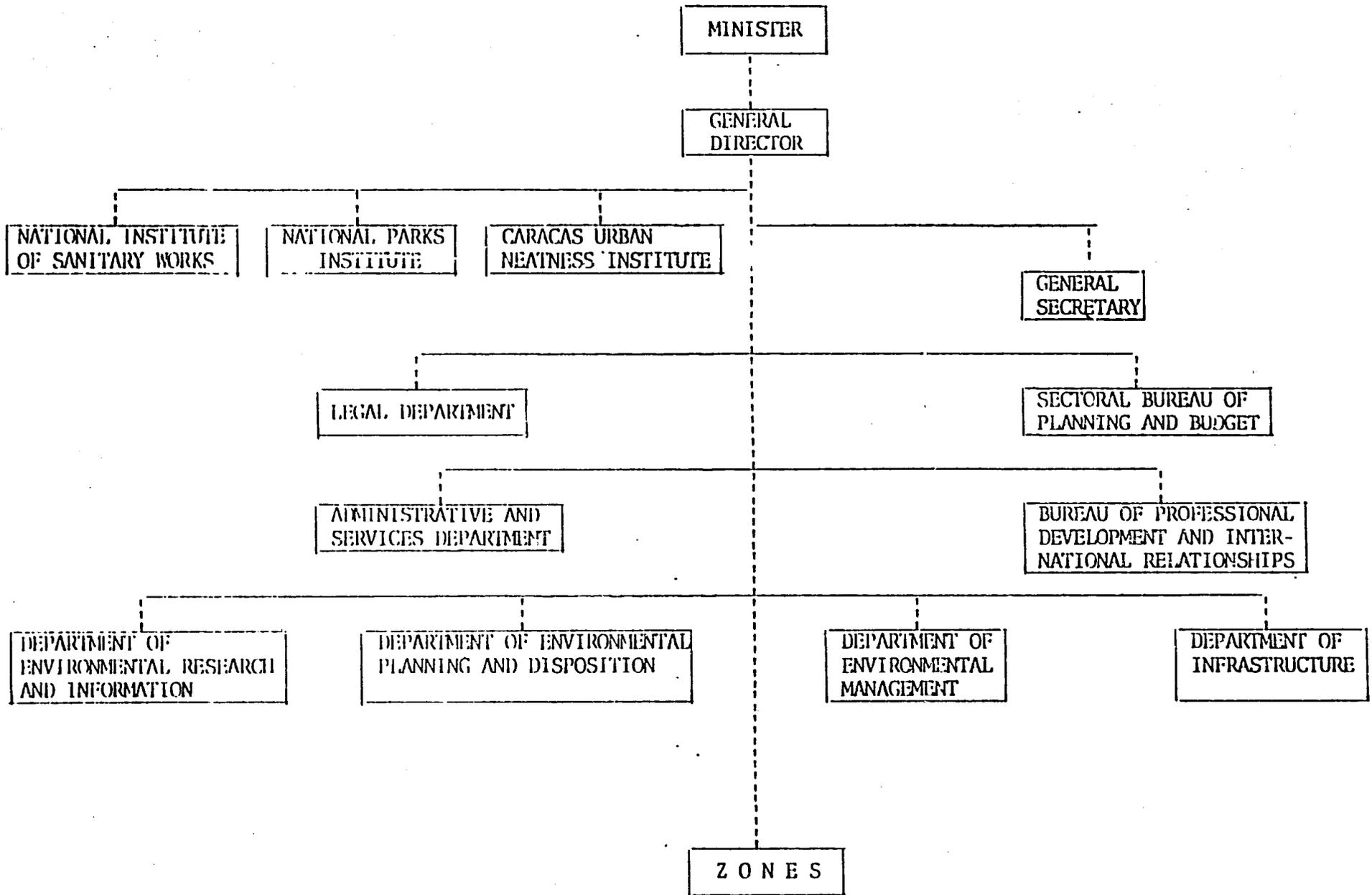
Central Coordination and Planning Office (CORDIPLAN) (Oficina Central de Coordinación y Planificación). Responsible for: "presenting the general guidelines of the national physical and spatial planning, and coordinating, in accordance with those guidelines, regional and urban planning" (art. 47).

ZONAS ADMINISTRATIVAS



- 1 CARACAS
- 2 MARACAY
- 3 BARQUISIMETO
- 4 CORO
- 5 MARACAIBO
- 6 SAN CRISTOBAL
- 7 TRUJILLO
- 8 GUANARE
- 9 CALABOZO
- 10 PTO. AYACUCHO
- 11 CIUDAD BOLIVAR
- 12 MATURIN
- 13 BARCELONA
- 14 PORLAMAR

Graph N° 1



Chapter VI

ENVIRONMENTAL PLANNING

1. Environmental Planning as Part of the National Planning System.

The national environmental policy is defined in the National Planning System (Sistema Nacional de Planificación) in four vertical levels and four levels of territorial disaggregation. The first vertical level includes "a long-term strategy of economic and social development, and a general outline of physical and spatial planning." This is the task of the Central Office of Coordination and Planning (Oficina Central de Coordinación y Planificación)(CORDIPLAN), with the assistance of MARNR.

The second level consists in the formulation of the National Development Plan (Plan de la Nación) by CORDIPLAN. The President of the Republic and the Council of Ministers approve and sanction this middle term Plan, which develops and specifies the initial outline through more limited, but still general, strategies.

The National Development Plan also establishes the Public Administration activities. Decree 1454 of 1976 made of the National Development Plan an "instrument containing the essential outline of the economic development of the Republic." It specified that "the strategies, policies, programs and goals set up in the V National Development Plan are to be carried out compulsorily by the Public Administration, the autonomous institutes and other structures of the decentralized administration, as well as by the firms in which the State or other public entities have decisory power or a share of not less than 50% of the capital stock."¹

The National Plan for the Conservation, Defense and Improvement of the Environment, in turn, must be included in the National Development Plan, as established by the Organic Law of the Environment (art. 7). This means that the activities of the Public Administration must also be subordinated to the Plan of the Environment. It is the Organic Law of the Environment which specifies this subordination, involving the national, state and municipal administration, and public entities as well as private ones in which the State's share is of at least 50% of the capital stock. The National Plan of the Environment is expressed spatially through the Organization of Space. The cor-

¹Decree 1454, 1976.

responding Plan for the Organization of Space must fulfill, on a more specific level, "a function of spatial container of the various sectors and resources."¹

The above two levels are comprehensive; that is, they comprise all the activities and resources, both at the sectoral and spatial levels.

The third level, on the contrary, corresponds to specific five-year plans. Those plans relative to the various renewable resources are the responsibility of the MARNR; the others correspond to the various economic and social sectors in which development planning is divided. Finally, the fourth level is made up by the Annual Investment Programs, which include the basis of the corresponding budgets.

There are four levels of spatial disaggregation: National, Regional, Subregional, and Local. There is also interdependence among these levels, as each of them establishes more or less specific guidelines for the next one.

This is, in short, the national planning system, which clearly reflects the interdependence and feedback among the different stages of planning. Little is specified, however, about the mechanisms securing, in practice, an effective compliance with these principles. The National Plan of the Environment has not been formulated yet, while the VI National Development Plan must come into force in 1981. The Preliminary Document (Documento Preliminar) for the elaboration of the Plan of the Environment may have been taken into account for incorporating the environmental dimension to the strategies of the VI National Development Plan. It is not known, however, if there are any subsequent mechanisms for reconciling the different instruments once they have been completed.

The responsibilities for the organization of space are divided, or rather superposed, between MARNR and CORDIPLAN, thus giving rise to serious conflicts. Even though the Organic Law of the Environment integrates the organization of space to the National Plan of the Environment, such organization should include sectoral aspects which are beyond MARNR's responsibility.

2. National Plan for the Conservation, Defense and Improvement of

¹ MARNR, Documento Preliminar, 1978, Op.Cit.

the Environment.

The main element of the national environmental policy will be the National Plan of the Environment, which must cover, as established by the Organic Law of the Environment (art. 7), the following aspects:

- a. The organization of the national space for a better land use according to its capacities, specific conditions and ecological limitations;
- b. The demarcation of areas under special legislation and conservation norms, such as protection, conservation or improvement;
- c. The definition of criteria guiding the processes of urban planning, industrialization, economic deconcentration and population;
- d. The establishment of norms for the rational use of natural resources;
- e. Research programs on ecological questions; and,
- f. The establishment of the objectives and means for the conservation, defense and improvement of the environment.

The Plan of the Environment may not immediately be implemented. Once it has been completed, the Plan must be "explicitly recognized by the higher authorities as the instrument regulating their activities."¹ This recognition involves MARNR and other agencies, for the Plan will contain guidelines orienting actions that depend not only on MARNR. A stage must then come, of discussion and coordination with all levels in the National Public Administration.

As stated above, the National Plan of the Environment has not been drawn up yet. What has been drawn up already is a Preliminary Document to define the future Plan. This is a first attempt to systematize the many aspects covered by the Plan. In the Introduction to this document, mention is made of some of the basic difficulties met during its elaboration. There is, in the first place, lack of clarity in the conceptual framework on which the Plan must rest; in the second place, lack of accuracy in the legal powers with reference to the Plan; and, in the third place, a limited number of similar experiences, in Venezuela or elsewhere, which could be used as approximation or reference models.

¹MARNR, Documento Preliminar . . . , 1978, Op.Cit., Vol. I, p.151.

These obstacles were, to a large extent, overcome during the elaboration of the document. On its completion, the document included: "a warning to the country with respect to its environmental problems and an initial orientation for their solution and prevention."¹ and a suggestion of mechanisms for the implementation, evaluation and revision of the National Plan of the Environment.

Now, the Preliminary Document seems to have been temporarily put aside and a "Project of Environmental Macro-systems" (Proyecto de Macro-sistemas Ambientales) has come into force, to set up new technical bases for the National Plan of the Environment.²

According to the professionals in charge of the project, it is the first one in Latin America to approach the environment in an organic way, that is, incorporating all the variables that have a bearing on the environment. The Project attempts to define Environmental Systems made up by a series of physical-natural and socio-economic subsystems. Each macro-system will represent "the total configuration of the most relevant interactions within the process of socio-economic-natural functioning."³ This will show how the effects of some human activities or planning actions are felt, and will provide support for future bases of environmental management.

It is further stated that the methodology adopted "will make it possible to understand the processes of environmental deterioration, of irrational resource exploitation, of inadequate densification, of water pollution, etc., getting to know why the human being, throughout history and at present, uses techniques, social organizations and settlement criteria that are not compatible with an adequate conservation of the environment."⁴

¹ Documento Preliminar . . ., 1978, Op.Cit., Vol. I, p. 35.

² This project is implemented by the MARNR with the participation of the Oficina de Ejecución de Proyectos del Programa de las Naciones Unidas para el Desarrollo (OPE-PNUD), jointly with PNUMA, CEPAL, & UNESCO. Other institutions also participating are the Fundación Bariloche (Argentina) and OFISEL (Colombia).

³ Gallopín, Gilberto (Fundación Bariloche), Project Advisor in the methodological aspects for the determination of the Homogeneous Natural Areas, Opinions published in the Journal Ambiente, IV.2, Caracas, 1980, p. 17.

⁴ Rofman, Alejandro, Economic Advisor of MARNR, in the Journal Ambiente, Op.Cit., p. 26.

3. The Organization of Space.

Several agencies of the Central Administration are responsible for the definition of the policy of the organization of space and for its implementation.¹ The most important ones are CORDIPLAN and MARNR, as defined in the Organic Law of the Central Administration.

CORDIPLAN, as an agency assisting the President of the Republic, must "put forward the general guidelines of physical and spatial planning at the regional level, and to coordinate, according to those guidelines, the planning at the regional and city levels" (art. 47) and "coordinate the activities of regional development with the aim of securing the compliance of the agencies of the National Public Administration, Regional Development Agencies (Corporaciones Regionales de Desarrollo), State enterprises and other entities of the Decentralized Administration, with the policies, plans and projects of the organization of space, regional development and economic de-concentration" (art. 4).

According to the same law, MARNR must formulate the environmental policy. However, as it was already pointed out, the Organic Law of the Environment determines that the National Plan of the Environment must contain, among other aspects, "the organization of the national space according to the best uses of the land depending on their capacities, special conditions and ecological limitations" (art. 7).

According to the above statements, CORDIPLAN would be responsible for putting forward physical planning guidelines and to reconcile them with social and economic development, and MARNR for defining the organization of space and for elaborating those plans and programs required to implement it. Besides, as it was also pointed out above, there are other Ministries concerned with the Organization of Space, in its sectoral aspects.

The various aspects of the organization of space related to different areas of the public administration are coordinated through the Sectoral Cabinet of the Organization of Space (Gabinete Sectorial de

¹ CORDIPLAN, Commission for the Organization of Space COT (Comisión de Ordenamiento Territorial), Marco Jurídico-Institucional de la ordenación del territorio, mimeo, no date.

Organización del Territorio)¹. This Cabinet is made up by several ministers² and presided over by the Minister of Transportation, although the Organic Law of the Central Administration assigns this responsibility to MARNR. Such situation, of political rather than technical connotations, seems to obstruct and delay the adoption of a Plan for the Organization of Space by MARNR. In fact, for some of MARNR's officials, the activities of the Sectoral Cabinet of the Organization of Space have not been regulated yet, thus becoming an obstacle to its action and to the adequate management of large land uses.

In practice, MARNR has drawn up physical schemes (with no legal force) that can only be implemented partially through permits on land use granted by the areal offices. CORDIPLAN, instead, has traditionally drawn up sectoral plans and will only try to reconcile the sectoral aspects of regional plans in the VI National Development Plan.

At the national level, two proposals are being analyzed which will, supposedly, serve as basis for the National Plan for the Organization of Space. They are CORDIPLAN's guidelines for the National Policy for the Organization of Space, and a Tentative Plan of an Organic Law for the Organization of Space, an initiative of the House of Representatives.

3.1 The Proposal of the Central Office of Coordination and Planning (CORDIPLAN).

The Commission of the Organization of Space (Comisión de Ordenamiento Territorial)(COT) -- a technical Commission of the Cabinet of the Organization of Space -- has elaborated a document called "Política Nacional de Ordenamiento Territorial" (National Policy for the Organization of Space), which introduces the points of view of the Ministries that make it up and which has been approved by the Cabinet.

¹ This is one of the four permanent cabinets of the Council of Ministers. The other cabinets are: the Economic, the Social, the Security, and the Defense ones. The Secretariat of the Sectoral Cabinet is performed by CORDIPLAN. Before reaching the Council of Ministers, all policies are elaborated by the Sectoral Cabinets, the proposals being previously prepared by technicians in each Ministry.

² They are the Ministers of Urban Development, Agriculture and Cattle Raising, Transportation and Communications, Defense, the Environment and Renewable Natural Resources.

According to this document, the National Policy for the Organization of Space refers to a "set of actions coherent with an objective picture of the use and functioning of the space in the long term." The long term objective of the organization of space is: "To constitute regional development subsystems and to move on in the settlement of empty areas in the center and south of the country, which implies radical changes both in the use and in the functioning of the space." The most important changes are: the oil exploitation of forests in Amazonas and of the hydroelectric potential of the Orinoco, Caroní and other rivers; the settlement of the frontiers and the incorporation of agricultural lands at the south Andean piedmont and in the Apure basin. An attempt is also planned to develop four regional subsystems: the Lake Maracaibo Basin and the high valleys and the piedmont of the west Andes; the North-West region; the North Central region (taking up spaces of the present Capital and Central regions); and, the South-West region.

The policy will be to set up efficient inter-regional relationships linking the four regions to each other and the agricultural and cattle-raising areas of the west and the new urban industrial zones of Guayana and oil zones to the north of the Orinoco.

The attempt will be made, in the short and middle term, to stop and organize the growth of the Caracas Metropolitan Area and of the Lake of Valencia basin, and to propose five large urban centers and their hinterlands, called Priority Development Areas (Areas Prioritarias de Desarrollo), through a dynamic industrial development and the transference of regional decision-making activities to Maracaibo, Ciudad Guayana, Ciudad Bolívar, Barquisimeto, Barcelona-Puerto la Cruz and San Cristóbal.

Thirty-three prioritarian areas of rural development were defined so as to attain higher agricultural productivity, in relation with the existence of irrigation systems and works and of underutilized high quality land.

In its different stages, the policy emphasizes the importance of protecting areas with an agricultural potential; the obligation of the industries to use anti-polluting methods, whose costs might be financed by the State in the case of old industries; the regularization and updating of service fares, and the elaboration of regional development plans and of schemes of organization for the Caracas Metro-

politan Area and priority development and rural development areas.

3.2 Tentative Plan of an Organic Law for the Organization of Space.

The tentative plan for the law states that "the policy of the organization of space is obligatory for the agencies of the National Public Administration, States and Municipalities, public or private institutions, and individuals;" it must be included in the national system of economic and social environmental planning . . . and integrated to policies and plans at the national, regional and urban levels."

This tentative plan of law assigns broad powers to a National Council of the Organization of Space (Consejo Nacional de Ordenación del Territorio) made up by the ministers of the MARNR, which will act as coordinator, Urban Development, Transportation and Communications, Agriculture and Cattle Raising, Finance, Interior, and State, as well as by CORDIPLAN and by the Governor of the Federal District.

The Council, a consulting agency for the President of the Republic, will set up the coordination mechanisms and rules to be carried out by the public institutions to implement the National Plan for the Organization of Space, and to make this plan compatible with the environmental, sectoral and regional development policies. The Council will formulate the proposal of the National Policy of the Organization of Space and will submit it to the President for his approval in the Council of Ministers.

The Law further states that the National Development Plan for the Conservation, Defense and Improvement of the Environment must express the national policy of the organization of space, which will be implemented through the National Plan for the Organization of Space, and will then be disaggregated in regional plans, in plans for special areas and of urban development.

The tentative plan of Law defines, for the national, regional and urban levels, the broad outline of their respective plans, which will include the uses of the national space according to its specific economic potentialities and ecological limitations.

In each region, there will be a National Council of the Organization of Space (Consejo Nacional de Ordenación del Territorio), as a parallel to the National Council. The plans of urban development will be drawn by the Ministry of Urban Development or by the Muni-

pal Councils, but they will be sanctioned by the latter, after they have been approved by the corresponding Ministry.

This tentative plan of law had to be ready by January 1981, to be then discussed by the political parties. By March 1981, a first draft Law will be submitted to the National Legislature.

Chapter VII

SECTORAL POLICIES AND PLANS

Forests

The Forestal Law of Soils and Water Resources (Dec. 30, 1965) stated the public interest in the protection of river basins, currents and waterfalls that might generate energy, in national parks, natural monuments, protected areas, and virgin regions and in forest reserves (art. 2).¹ The 1965 Law assigned numerous responsibilities to the Ministry of Agriculture and Cattle-raising, which had to authorize every felling of trees in public or private land, organize all reforestation efforts, set up norms for the establishment and functioning of National Parks, control deforestation, prevent and control forest fires, regulate or prohibit the use of grasslands, determine the exploitation of forest resources in public and private land and the administration of forests in general (Titles II & III, arts. 26 to 81).

In April 1977, the President of the Republic issued the Regulations of the Forestal Law of Soils and Water Resources (Reglamento de la Ley Forestal de Suelos y Aguas). The main changes introduced in relation to the 1965 Law were the following:

a. Since 1977, MARNR is to act in all aspects covered by the law: the renewable natural resources, water, soils, wild animal and plant life; spontaneous and artificially created vegetation, and forest production (art. 2). That is, MARNR replaced the Ministry of Agriculture and Cattle-raising in the management of the above resources.

b. MARNR's fourteen zonal directors are in charge of implementing the programs, evaluating the results, inspecting the works and enforcing the compliance with the law (art. 4).

The Regulations specify criteria for the creation and administration of national parks; they determine the meaning and scope of protected areas and river basins; regulate the use and development of forest resources in public and private land, and the use of agricultural land, the protection of water courses and navigable rivers, the criteria for authorizing urban land uses in forested areas.

¹This Law revoked a previous Forestal Law of Soils and Water Resources passed on August 27, 1955.

The Regulations specify sanctions in case of transgression of the conservationist principles.

MARNR has always assigned the highest priority to the protection and conservation of renewable natural resources, especially to the prevention and control of forest fires, which are mainly the result of man's action, and to the conservation of water basins, damaged by the erosion caused by man, rainfall and wind.

There are natural forests in 40-45% of the country (40 million hectares). Natural forests are disappearing fast. According to some informants, a million hectares of forests have disappeared in the past ten years mainly as a consequence of the system of annual permits for the felling of trees and forest exploitation. This approach complicates the planning and control of the reserves and favors deforestation and the subsequent abandonment of vast areas. Eighty-eight percent of forest reserves and the river basins with the greatest hydroelectric potential are south of the Orinoco river.

Fires are one of the greatest dangers for forests and for the environment in general. Although they are less frequent now, there is no adequate organization for their prevention, detection and control.

Thirty-two million hectares (80% of the natural forest area) are subjected to special legislation and conservation norms. Some 11.6 million hectares are State forest reserves, and they should be carefully planned and strictly controlled. As this is not the case they are often invaded and illegally settled by peasants and entrepreneurs, and the forests are deteriorated or transformed into agricultural uses. Another 11.1 million hectares are untouched protected areas of stable ecosystems. Another 7.3 million hectares are National Parks,¹ 1.8 million hectares are water reserves, 1.1 million hectares are forested land, and 0.2 million hectares are protected areas of plant and animal life, natural monuments, etc.

MARNR is responsible for the rational use and management of forests which supply the national wood industry and for the protection of natural resources.² But there is no consistent policy yet for the forest sector. MARNR is aware of the physical limits of each

¹In 1978, seven national parks and four natural monuments were created, covering 4.7 million hectares.

²Most present (618.000 hectares) and future (650.000 hectares) forest plantations with industrial purposes are in the south of the Guarico, Anzoátegui, and Monagas states.

wooded area, but not with their potentiality. Its aim is to combine the expansion of the agricultural frontier with the maintenance of the production value of forests and the protection of other natural resources and the environment in general. It thus tries to define the quality of soils, because even though not all the agricultural land (about 3-4% of the national space) has been used up, a knowledge of its potentiality will contribute to its more efficient management and to a reduction in foreign imports of pulp, and paper and of wood for construction, furniture, and other uses. It will also contribute to a protection of the high basins and to a rational use of forests.¹

According to a recent evaluation, only 1% of the reserve areas is being developed, the plans of invasions and fire prevention have failed, a greater State participation is required in the management of forest reserves and in the organization of the forestal production market. It was also pointed out that it is necessary to help individuals to develop forest areas, to encourage plantations with protective purposes and to reach in a few years the objective of 80.000 yearly hectares of plantations and to promote research and technology in forest management.²

Water

MARNR is responsible for the use of water (Ley O.A.;art. 3) and for the planning, management, regulation and control of water resources (Ley O.A., art. 36). It has a Basic Program of Comprehensive Administration of Water Resources (Programa Básico de Administración Integral de los Recursos Hidráulicos) that defines three basic activities: planning, management and technical criteria and procedures for the formulation of legal norms on water resources. MARNR is responsible for the construction of hydraulic works and works for the supply of water for human consumption and for industrial and municipal uses, for irrigation, recreation, navigation and other uses. It is, then, an executive agency. It constructs dams and hydraulic works, except for hydroelectric dams which are the responsibility of auto-

¹ Between 1960 and 1975, Venezuelan production met 95% of the needs of its mechanical industry and 5% of pulp and paper. It now imports 50% of the former and 95% of the latter. Their cost in 1978 was of about 1.000 million bolivars (\$232 million). In order to meet the demand in the year 2000, Venezuela should manage, with sustained outcome, 10 million hectares of natural forests and 1.3 million hectares of artificial plantations.

² MARNR, Diagnostico, estrategias y politicas del subsector forestal, op. cit., pp. 17-18. Venezuela pretends to meet its own needs of wood, pulp, and other forestal products.

nomous entities, as the Venezuelan Corporation of Guayana (Corporacion Venezolano de Guayana) and small rural projects, that are the responsibility of the Ministry of Agriculture and Cattle-raising.

Through the National Institute for Sanitary Works (INOS: Instituto Nacional de Obras Sanitarias), with a budget of about 70% of MARNR's total budget, works for potable water supply are built and managed. Some of INOS's responsibilities include: water supply for home, industrial and other uses; the construction of works related to the drilling, conditioning, treatment and distribution of water.¹

INOS drew up a National Plan of Urban Water Supply and Uses (Plan Nacional de Abastecimiento y Uso Urbano de las Aguas) based on the grouping of regional aqueducts in 25 subprograms. Some of them are clearly destined to meet the growing demands of Caracas and its metropolitan area, or other urban areas such as Valencia, Barcelona-Puerto la Cruz and San Cristóbal, but others are destined to tourist areas or to new areas with demographic and industrial growth, such as Ciudad Guayana, or to areas still predominantly rural.

INOS's achievements in the construction of aqueducts and sewerage systems represent a significant progress in the services to the "official" population of the main cities and metropolitan areas.² But these improvements do not reach the marginal population in each urban center. Its growth rate is, especially in the largest centers, considerably faster than that of the urban population.

The first regulations directly related to the quality of water were issued a year after MARNR's creation.³ They classified water into seven types according to its use: human consumption, irrigation, mollusk raising, recreation, industrial, navigation, and transportation. The aim is to assign a use to each basin or part of a basin, adjusting in each case to certain minimal norms (art. 20). However, this first and basic tool progresses slowly due to the scarcity of trained personnel and of updated information to determine the classification. The formulation of a number of national

¹ MARNR, Simposio sobre Acueductos Regionales, October 8/10, 1977, mimeo (Symposium on Regional Aqueducts).

² INOS, Metas físicas alcanzadas en acueductos y cloacas, Caracas fourth quarter, 1979. The 30% of the population of Metropolitan Caracas lack at least water supply in their homes and make use of public sinks and tank trucks.

³ "Reglamento No. 4 de la Ley Orgánica del Ambiente sobre clasificación de las aguas" (Regulation No. 4 of the Organic Law of the Environment on the Classification of Water Resources) Aug. 29, 1978.

norms is about to be completed which, if approved, would become another set of regulations of the Ley O.A. The intention is to act in critical areas such as the Maracaibo and Valencia lakes, the Tuy, Yaracui and Neveri rivers, in the central littoral, in the Paraguaná peninsula and the Coro River.

Water Supply for the North-Central Region and Caracas

Broadly speaking, Venezuela faces various water supply problems. In industrialized urban areas, water consumption is high and rapidly expanding. In rural areas, home water consumption is of the same amount as agricultural consumption. In intermediate urban areas, with little industrial concentration, home and municipal consumption are the most important. The regions with greater supply problems are the north-central one, which concentrates population and industries and is made up by the Federal District (Caracas) and the state of Miranda, and the central region, made up by the states of Aragua and Carabobo, with the cities of Valencia, Maracay and smaller ones like Puerto Cabello.

It is anticipated that in the year 2000 between 9.6 and 10.2 million people will be living in the north-central region. Out of them, 5.4 million would be in the Federal District and the State of Miranda (Caracas Metropolitan Area), between 3.6 and 3.9 millions in the Valencia lake sector and between 0.350 and 0.9 millions in the Tuy sector.¹

Caracas Metropolitan Area

As a consequence of the constant population growth of the metropolitan area, it was necessary to supplement the first aqueduct (constructed in 1874 and enlarged and improved several times) and the Agua Fría-La Mariposa dam with water from outside the valley. The Tuy river is used, thus creating Tuy I system in 1957 (already inadequate by 1961), Tuy II system in 1968 and Tuy III or Camatuy system. The present systems meet about 60% of the industrial and home needs of the Metropolitan area, with a higher deficit in home uses. The nearby supply sources are becoming exhausted. Future resources must originate in the Orinoco and Apure rivers, over 500 km away, at a present cost of 18.000 million Bs. or \$4.4 million.

¹ MARNR, El abastecimiento del agua a la región central, Formulación . . ., Caracas, November 9, 1979.

CENDES (Centre of Development Studies of the Central University of Venezuela), has completed a study for CORDIPLAN on development alternatives for Caracas. Four of them were analyzed: (a) a projection of past trends, implying that everything will remain as it is; (b) accepting the position of the Sixth Development Plan that suggests promoting urban growth in the frontiers of the country and densifying settled areas; (c) building a new capital city in one of three locations -- in a vacant area, in Ciudad Guayana, or within the Caracas Metropolitan region; and, (d) promoting a regionalization that concentrates strong stimuli in five centers -- Ciudad Guayana-Ciudad Bolívar; Barcelona-Comahua; Maracaibo; San Cristóbal; and, Barquisimeto-Acarigua. CENDES also suggests decentralizing the public administration to the lowest possible level, strengthening the municipal system and encouraging industrial locations in the new regions.

A combination of alternatives (b) and (d) seems to be the most feasible. But, even if it is strongly encouraged, the population of the north-central region will possibly reach at least the lowest figures mentioned above.

Water supply in the north-central region has been the object of many studies. The alternatives analyzed are:¹

- a. To enlarge the water supply sources using those located in the south of the country;
- b. To incorporate small regional sources and maximize their use;
- c. To stabilize water provision and attain a greater efficiency in its use;
- d. To recycle water; and,
- e. To desalinize sea and brackish water.

Harmful Noises

On November 19, 1979, the President of the Republic issued Regulation No. 5 of the Organic Law of the Environment Relative to Annoying or Harmful Noises (Reglamento No. 5 de la Ley Orgánica del Ambiente Relativo a Ruidos Molestos o Nocivos), according to a previous decision included in art. 36 of the Law of the Environment and articles 3, 4, 19, 20, 26, and 35 of the Law of Public Adminis-

¹MARNR, El abastecimiento de agua en la región central. Formula de las opciones factibles, Documento Preliminar, 1979.

tration.¹

The above regulations "consider that an interior or external environment is polluted by noise when this produced annoyance, risks for the health or harm to goods, natural resources and the environment in general" (art. 1). The Regulation classifies pollution by noise in four levels, the highest being a continuous noise of over 90 db (A) for a period of at least eight hours (art. 2). Exceptions are emergency situations in the production of noise (ambulances, fire engines, etc.; art. 4): The maximum levels of external (art. 8-10) and interior (art. 19-21) noise are also determined. The Regulation prohibits noise from vehicles in street traffic over certain levels: motorcycles, 80 db (A); automobiles, 83 db (A); light trucks and buses, 85 db (A); trucks and bigger buses, 87 db (A). They also regulate the noise from airplanes. The Regulation authorizes the President of the Republic and the Council of Ministers to declare special areas for protection from noise and sound emission (art. 22). Finally, they determine that the national, state and municipal officials are responsible for controlling their compliance (art. 32).

As part of the Comprehensive Study on Air Pollution in the Caracas Valley, noise measurements were made, since July 1977, in street corners in downtown Caracas, in 19 avenues concentrating commercial activities and in 6 residential areas. This is the only study on this topic of a metropolitan area or important city in Venezuela.

The results allow "to consider Caracas as one of the noisiest cities in the world", since the average level of noise intensity is 78 db (A) in the downtown area and in the commercial sectors of the avenues.² Automobile traffic and private airplanes using La Carlota airport are the main source of harmful noise.³

Through different personal references, we conclude that the minimal norms are not complied with, and no periodical noise controls are made. Users seem to care little about the policies tested and

¹The activities producing annoying and harmful noise are regarded as environment degrading ones.

²Cáceres, Rafael, Estudio integral sobre la contaminación atmosférica en el Valle de Caracas, MARNR, p. 85, 1979.

³Nobody approves the location of La Carlota airport, almost exclusively used by private planes. MARNR's central offices are opposite the take off point of this airport. The noise there makes it impossible to hold a conversation with open windows.

they ignore the consequences of being exposed to harmful noises that reach, in some points, an intensity of 93 db (A), or they passively accept a situation that can only be controlled by sacrificing individual privileges.

Air Pollution

There is no law against it. There is a Tentative Plan of Regulations on Control of Air Pollution by Chemical Agents (Anteproyecto de Reglamento sobre Control de Contaminación Atmosférica por Agentes Químicos). There have been air pollution studies only for Caracas.

Automobiles are the main pollutants. In 1978, 600.000 vehicles were registered in the Caracas Metropolitan Area. Registration grows at an annual rate of 10%. The topography and extension of the Caracas Valley and the design of the road system make the flow of vehicles stop frequently, creating areas and hours of greater pollution. There are almost no garbage burners in Caracas. There is a steel plant towards the west of the Valley that is regarded as a pollutant.

MARNR has promoted studies on environmental risks in the petrochemical plants of El Tablazo and Morón so as to improve systems and technologies and control the emission of pollutants.

CONCLUSIONS

1. Environmental policies in Venezuela are managed by a large number of public agencies. Given the insufficient, disperse and sometimes conflicting legislation supporting the activities of the agencies, the solutions are, therefore, partial and unsatisfactory.

On its creation, MARNR was assigned a considerable power. However, the large number of functions it received to achieve its objectives made it the center of opposing tendencies. MARNR must not only face opposing private interests but it must also confront other sectors of Government.

According to some informants, MARNR's participation is gradually increasing in spite of the obstacles pointed out above. Others criticize the large number of Venezuelan laws, as well as their heterogeneity and lack of systematization. These were inherited from colonial times and from the long de facto governments, in which all legislation was made through presidential decrees so as to keep "the appearance of a state of law."¹ As regards environmental legislation, over 500 norms have been approved and four volumes, of 1,000 pages each, will be soon published containing already sanctioned norms to regulate the relationship between society and nature.² The most serious criticism is that "in Venezuela nobody believes in the law" and "precisely for this reason, we pass many laws."³ The same critic adds "that (in Venezuela) we believe that problems are solved issuing decrees, passing laws or creating new administrative agencies."⁴

¹ Sosa, Cecilia, El régimen de sanciones en materia de ordenación del territorio, MARNR, March 1980, p. 3.

² Meier, Henrique, "El derecho ambiental en el regimen social venezolano," Lecture given on June 13, 1979, at the VII National Convention of Forestry Engineers, mimeo, MARNR, 1977, p. 3.

³ Meier, *ibid*, p. 5.

⁴ Meier, *ibid*, p. 4.

We have noticed that the State itself often ignores the legislation in force, as it does not stop the exploitation of the environment.¹ The lower income social sectors are the most affected by this lack of protection to the environment as well as by the negative effects of development and of underdevelopment.²

2. Most federal Ministries do not seem to realize the importance of an environmental policy for the development of the country and the welfare of the population and do not value the role MARNR plays or might play. Even though the coordination between the Ministries directly concerned with population and environmental issues has improved, their action is not yet adequately integrated.

The feeling is that MARNR has lost the political support of the present administration. However, MARNR's activity in rural areas seem to have increased, mainly in the management of river basins, forests and soils and of animal life, due to the firm attitude of some of its officials. In the main cities, instead, where environmental degradation is evident (public services are inadequate; traffic congestion and noise are alarming; garbage collection and disposal are wholly inadequate; the level of housing for the lower classes is very low, etc.), there are almost no possibilities for action. A frequent explanation is that in urban areas the interest groups have greater political power than in rural areas, where the State's participation has been more important.

3. MARNR functional structure requires an adequate coordination because the responsibilities for the technical aspects are shared by its four Departments. MARNR officials interviewed hold that an efficient internal coordination system is required, represented, in theory, by the Minister's weekly meetings with the four Department heads. They do not prove satisfactory yet.

MARNR's zonal offices usually lack the technical means for mak-

¹ Such as the disposal of untreated industrial wastes in the Maracaibo and Valencia lakes; the pollution of beaches in Barlovento (main recreational area near Caracas) and of the Tuy river (main water supply for Caracas) and of other rivers in the central region; the use of scarce agricultural land for urban and industrial purposes; the wadding of mangrove swamps to promote new land subdivisions for tourists, forest felling, and soil erosion as a consequence of its over-exploitation, etc.

² An informant told us that in Venezuela there is an environmental legislation forbidding everything and a practice allowing everything.

ing the necessary controls. There has been, however, a gradual improvement in the coordination of MARNR and its zonal offices, and of these and CORDIPLAN's regional offices, due to greater personnel stability.

4. MARNR has made the population aware of environmental problems, offering a praiseworthy and comprehensive view of them. The propaganda has been successful in some respects and the Venezuelan educational system has incorporated conservationist criteria. There is a greater awareness in the population, but there is at the same time a futile sense of guilt.

MARNR has projected an image: the environmental situation is serious, but it can be controlled, and environment protection is adequately taken care of. In practice, however, the population has no control of any of the important processes.

The population is participating more actively. There are frequent accusations in the newspapers, for example, but their authors seldom associate environmental degradation with production systems and the structure of Venezuelan society.

MARNR is frequently criticized in newspapers. Perhaps its creation gave rise to high expectations, or, as expressed by some MARNR officials, its action in some respects was not firm enough, or it was too demanding and not capable of reconciling a comprehensive view of the environment with the development strategies of other ministries and private sectors.

5. MARNR's experience is unique in Latin America, and Venezuela is a pioneer in environmental policy, not only for its conception but also for the advanced legislation. MARNR's organization, for example, ignored the classical division of responsibilities according to natural resources or sectoral aspects. The idea underlying MARNR's organization was to give a global and interrelated solution on environmental issues.

Besides, as pointed out throughout this report, there are significant efforts and achievements due to MARNR's active participation in the solution of many of the above problems. This, if the success of Venezuela's environmental policy depended only on accumulating practical experiences and gaining political support to implement strategies, then MARNR's task is positive, even in its preliminary stages. It is to be determined, however, whether this experience represents a triumph of democracy and of the Venezuelan politi-

cal process, or it is an isolated fact due solely to the effort of professionals with reform ideas.

APPENDIX I

BIBLIOGRAFIA (Bibliography)

- CENDES
1980 - Alternativas de la ciudad de Caracas para el año 2000, mimeo, 129 pages. (Alternatives for Caracas in the year 2000).
- CHAMBER OF DEPUTIES
(Venezuelan Congress) - Documento preliminar proyecto de Ley Orgánica para la Ordenación del Territorio (Preliminary document for a Territorial Organization Law), mimeo, 34 pages.
- C.I.C.K.E.D.

1974 - Comité Internacional de Coordinación e Investigaciones Internacionales en Demografía (Committee for International Coordination of National Research in Demography).

La población de Venezuela, 167 pages (The population of Venezuela).
- COPLANARH

1972 - Comisión del Plan Nacional de Aprovechamiento de Recursos Hidráulicos (Committee for the National Development of Hydraulic Resources).

Plan Nacional de Aprovechamiento de Recursos Hidráulicos, Tomo I y II, República de Venezuela, Ministerio de Obras Públicas, 188 y 375 págs., respectivamente. (National Development Plan of Hydraulic Resources, Tomes I and II, Rep. of Venezuela, pages 188 and 375, respectively).
- CORDIPLAN

1980 - Oficina Central de Coordinación y Planificación de la Presidencia de la República (National Bureau for Coordination and Planning).

1980 - VI Plan de Desarrollo de la Nación 1981/1985 (versión preliminar), vol. II, 1. El desarrollo industrial, 60 págs. (VI National Development Plan, vol. II, 1. Industrial Development).

1980 - VI Plan de Desarrollo de la Nación 1981/1985 (versión preliminar), vol. II, 2. El desarrollo agrícola, 43 págs. (VI National Development Plan, vol. II, 2. Agricultural Development).

1980 - "Política Nacional de Ordenamiento Territorial", Comisión de Ordenamiento Territorial, mimeo, Caracas, 38 págs. ("National Policy on Territorial Organization", Committee on Territorial Organization, mimeo, Caracas, 38 pages).

M.A.R.N.R.

- Ministerio del Ambiente y de los Recursos Renovables
(Ministry of the Environment and Renewable Natural Resources).

- 1977 100 Acciones Prioritarias, 1977-1978, República de Venezuela, (100 Priorities for Action, 1977-1978, Republic of Venezuela, 72 pages).
- 1977 Desarrollo de la normativa legal en materia ambiental, coordinador : G. Martinez, simposio Programas Básicos, N° 15, Caracas 8-10 setiembre (Development of Legal Norms on the Environment).
- 1978 Política Ambiental. Misión y gestión, Venezuela, 97 págs. (Environmental Policy. Purpose and action).
- 1978 Anuario de Derecho Ambiental 1977, consultoría jurídica, Caracas, 214 págs. (Environmental Legislation Yearbook).
- 1978 Organización y Funciones, Dirección General Sectorial de Planificación y Ordenación del Ambiente, 16 págs. (Organization and Function).
- 1978 Documento Preliminar para la elaboración del Plan Nacional de Conservación, Defensa y Mejoramiento del Ambiente, tomos I, II y III, Oficina Nacional del Plan del Ambiente, Caracas. (Preliminary Document for the elaboration of the National Plan for the Conservation, Defense and Improvement of the Environment).
- 1978 Plan Nacional de Conservación, Defensa y Mejoramiento del Ambiente, (primera versión), E8. Industria, Oficina Nacional del Plan del Ambiente, Caracas, 137 págs. (National Plan for the Conservation, Defense and improvement of the Environment). This volume deals with industry.
- 1978 Plan Nacional de Conservación, Defensa y Mejoramiento del Ambiente (primera versión), H. Los desequilibrios territoriales del Desarrollo, Oficina Nacional del Plan del Ambiente, Caracas, 136 págs. (National Plan for the Conservation, Defense and Improvement of the Environment). This volume deals with territorial unbalances).
- 1978 Memoria y Cuenta, 1978, tomos I y II, República de Venezuela, 84 y 323 págs., respectivamente. (Annual Report and Accounts, 1978).
- 1979 Memoria y Cuenta, 1979, tomos I y II, Rep. de Venezuela, 84 y 253 págs. respectivamente. (Annual Report and Accounts, 1979).

- 1979 - Diagnóstico, estrategias y políticas del sub-sector forestal, mimeo, 18 págs. (Diagnosis, strategies and policies of the forestry sector).
- 1979 - Estudio integral sobre la contaminación atmosférica en el valle de Caracas, estudio dirigido por Rafael Cáceres, 140 págs. (Study on atmospheric contamination in the Valley of Caracas, a study directed by Rafael Cáceres).
- 1979 - El derecho ambiental en el régimen social venezolano conferencia dictada por Henrique Meier en la VII Convención Nacional de Ingenieros Forestales, 15 págs. (mimeo). (Environmental legislation in the venezuelan social context; a lecture by Henrique Meier at the VII National Congress of Forest Engineers).
- 1979 - Areas bajo régimen especial, por Omar Carrero Niño, 19 págs. (Areas under special management, by Omar Carrero Niño).
- 1979 - Esquema de ordenamiento territorial de la Isla Margarita, 146 págs. (Territorial Organization Plan for Margarita island).
- 1980 - La legislación vigente en materia de ordenación del territorio, por Nelson Geigel Lope Bello, 29 págs. (In force-legislation on Territorial Organization, by Nelson Geigel Lope Bello).
- 1980 - Proyecto sobre normas nacionales para efluentes líquidos, por Luiz A. Honrado, 28 págs. (Project about national norms for liquid effluents, by Luiz A. Honrado).
- 1980 - Definición y alcance de la Ordenación del Territorio, por Pedro Pablo Azpurua y Arnoldo José Gabaldón, 27 págs. (Definition and scope of Territorial Organization, by Pedro Pablo Azpurua and Arnoldo José Gabaldón).
- M.A.F.N.R. - Revista Ambiente. Varios números, especialmente. (Journal Environment, several issues, especially).
- 1979 - Número especial dedicado al Programa de Saneamiento Integral de la Cuenca del Lago de Valencia, N° 1, año 4. (Special issue on a Sanitary Programme for the lake of Valencia basin, vol. IV, N° 1).
- 1980 - Número especial dedicado al Proyecto sobre Macro Sistemas ambientales, año 4, N° 2. (Special issue dedicated to the Project on Environmental Macro Systems, vol. IV, N° 2).

ARTICULOS (Articles)

- Castellano Bohorquez, Hercilio
1979 "La planificación del ambiente en Venezuela", Revista Interamericana de Planificación, Vol XIII, N° 52, págs. 95-117. (Environmental Planning in Venezuela).
- Esteves, Julio; Funck, Carlos, Gutman, Graciela; Kries, Rafael
y Van Kesteren, Alfredo
1977 "El desarrollo reciente de la agricultura venezolana", Revista Interamericana de Planificación, Vol. XI, N° 41, págs. 13-50. (Recent development of Venezuelan agriculture).
- Negrón, Marco
1978 "El desarrollo y las políticas regionales en Venezuela", CENDES, Caracas, 81 págs., mimeo. (Development and regional policies in Venezuela).
- Primer Congreso Venezolano de Conservación,
Comisión organizadora.
(First Venezuelan Congress on Conservation)
1978 Informe Final, Caracas, 143 págs. (Final Report).
- Rofman, Alejandro
1978 "Revisión crítica de la política de desconcentración especial de la economía", CENDES, Caracas, 36 págs. (Critical review on the spatial desconcentration of economic policies).
- Suarez, María M. y Torrealba, Ricardo
1980 "Las migraciones internas en Venezuela, 1926-1971", en Boletín de Estudios Latinoamericanos y del Caribe, N° 28, Amsterdam, págs. 31-37. (Internal migrations in Venezuela).

Appendix II

Legislation in force

- 1936 - Idle lands and common public lands (ejido) law (3/9/36).

- 1941 - Law for the defense of flora and fauna (29/7/41).

- 1943 - Law creating the National Institute of Sanitary Works (20/7/43).

- 1944 - Fishing law (6/10/44).

- 1960 - Agrarian Reform Law (5/3/60).
- 1962 - Internal Regulations of the National Institute of Sanitary Works (10/8/62).
- 1965 - Forestry, soils and water law (30/12/65).
- 1970 - Law for the protection of wild fauna (11/8/70).
- 1973 - National Parks Institute Law (5/11/73).
- 1974 - Regulation for the prevention of fires (16/4/74).
- 1974 - Council for the Conservation of Renewable Natural Resources (25/5/74).
- 1974 - Committee for the study of Renewable Natural Resources (27/5/74).
- 1974 - Committee for the study of green or non urbanized areas (5/6/74).
- 1975 - Regulation of the Fishing Law (3/4/75).
- 1976 - Environment Law (16/6/76).
- 1976 - Law setting the coordination, collection and treatment of waste material and garbage in Caracas Metropolitan Area (17/8/76).
- 1976 - Central Administration Law (28/12/76).

- 1977 - Decree deciding the beginning of operations at the Ministry of the Environment (4/1/77).
- 1977 - Decree establishing the internal regulations of the Ministry of the Environment (4/1/77).
- 1977 - Internal Regulations of the Ministry of the Environment (12/4/77).
- 1977 - Regulation of the Committees for Environmental Conservation (22/4/77).
- 1977 - Regulation to the 1965 Forestry, Soils and Water Law (28/4/77).
- 1977 - Foundation for Environmental Education (23/6/77).
- 1977 - Regulation N° 3 to the 1976 Environment Law on Norms for the Layout of the National Territory (17/11/77).
- 1977 - Decree on the necessary measures to prevent, control and extinguish forest fires (14/12/77).
- 1978 - Municipal Government Law (7/8/78).
- 1978 - Regulation N°4 to the 1976 Environment law on the classification of water resources.
- 1979 - Regulation N° 5 to the 1976 Environment law on troublesome and harmful noises (19/11/79).

Forest Reserves

Since 1968 several decrees were approved establishing forest reserves.

Fauna Refuges

Since 1972 several decrees were approved establishing fauna refuges.

Hydraulic Reserves

Since 1974 several decrees were approved establishing Hydraulic Reserves.

Protecting Zones

Since 1964 several decrees were approved establishing Protecting Zones. They include river basins, mountain areas, ravines, etc.

National Parks

Since 1952 several decrees establishing National Parks: 1 in 1952, 2 in 1958, 1 in 1960, 1 in 1962, 1 in 1964, 1 in 1969, 1 in 1972, 2 in 1973, 9 in 1974, 3 in 1975, 2 in 1976.

Recreational Parks

Since 1974 several decrees establishing Recreational Parks.

Natural Monuments

Since 1949 several decrees establishing Natural Monuments.

International agreements

- 1955 - Law approving the Convention of the International Union for the Protection of Nature (5/1/1955).
- 1961 - Law approving the Convention on Fishing and the Conservation of Living Resources of the High Seas (2/8/61).
- 1963 - Law approving the International Convention on the Prevention of Pollution of the Sea by Oil (21/10/63).