Project U80

“ Legislative Harmonisation: Meeting the Requirements of the CBD and other multilateral environmental agreements”

Case-study: **CUBA**

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APRIL /2001

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1. - Introduction and general background of the case study in the context of the project (as set out in the Terms of Reference for the case study)

The Republic of Cuba is composed of the Island of Cuba, the Isle of Youth and more than 4 195 small islands and keys. It is the largest island in the Greater Antilles, located in the west Caribbean Sea. The national territory occupies an extension of 110 994 square kilometres, with an insular shelf of approximately 67 823 square kilometres, and with a marine shelf (inner and territorial waters) 1.3 times larger than the emerged surface. The coastal area is characterised by numerous bays and inlets, with an extension of the coastline of more than 6 000 Km in length (3 209 Km corresponding to the north coast and 2 537 Km to the south coast).

The economic basis of the country resides in the exploitation of natural resources, being an eminently agricultural country. Although sun and beach tourism has become its main economic driving force in the last decade.

The agricultural surface of the country is estimated in 6,7 million hectares, of which sugar cane agriculture occupies an approximate area of 1,5 million hectares every year; and the total agricultural surface for agricultural production other than sugar cane reaches 4, 7 million hectares.

The total forest area of the country is 2 832.0 thousand hectares, representing 21.03% of the national territory (contrasting with the situation in 1959, when the forest cover only reached 14%). Approximately 62% of the total forest area corresponds to productive forests, and 37.4% is devoted to the protection of hydrographic basins, maintenance of biological diversity and of mangrove swamps. The potential forest area is approximately 28% of the national territory, which would cover all the soils with forest aptitude.

The exploitation of fishery resources constitutes another of the economic activities in the country. At present, the catch carried out in Cuba’s exclusive economic zone has reached 72 000 annual tons, 30% of which corresponds to invertebrates and 38% to fish, and the rest is classified as “bycatch” used for animal feeding.

The richness in biological diversity is another of the main characteristics. Cuba possesses the highest degree of biological diversity in the Antilles, standing out that of its marine species. Endemism in the archipelago reaches 51% in vascular plants, being significant the presence of more than 100 species of palms 90% of which are endemic. More than 90% in the main groups of terrestrial invertebrates are also endemic, among which molluscs play a prominent role. There exist around 1 300 species of marine vegetation and a great diversity of uncounted plankton species.

Autochthonous fauna is characterised by little representation of the groups of vertebrates. Bats, some rodents and one insectivorous species, apart from those species introduced by man, are the only representatives of mammals. Birds

constitute a well-represented group with more than 350 species, 92 of them aquatic and a great number of migratory species. Three out of the four living orders in the planet are represented in the archipelago, where there exist 121 species of reptiles, grouped in 17 families and 29 genera, being Cuba one of the countries in insular Caribbean that possesses a higher number of species. Ichthyofauna is represented by more than 600 species, 150 of them are of commercial interest and 60 species inhabit the coastal lagoons[1].

Cuba possesses a high complexity and heterogeneity of landscapes that are conditioned, among other factors, by the location of the archipelago in the tropical area; its narrow, lengthened and sub-latitudinal configuration; constant marine influence; climate seasonality; wide prevalence of carbonated rocks; marked influence of neo-tectonic processes in relief differentiation, and preponderance of plains[2].

Rain forests, coral reefs, wetlands, semi-desert areas, beaches, seagrass beds, mountain ranges, karstic complexes and mangrove swamps, are the most significant among all the ecosystems of the planet existing in Cuba.

Nevertheless, this biological diversity in Cuba, as in most of the developing countries, has been affected by the global problems that the planet faces due to the overexploitation of these resources and by other problems of national character that have brought about its perceptible decrease.

The main causes for this decrease in the case of Cuba have been[3]:

- inadequate management of fragile ecosystems;
- destruction of species natural habitats, including decrease in the mangrove swamp area, drainage of coastal lagoons and pollution of seagrass beds and coral reefs;
- application of intensive agricultural methods with the excessive use of resources and inappropriate crop rotation;
- a weak integration between conservation strategies and sustainable use of biodiversity, and the activities for economic development;
- lack of comprehensive programs to assess, conserve and use biological diversity in a sustainable manner;
- excessive delay in the legal and functional establishment of the National System of Protected Areas;
- imperfect control on illegal dealing in highly-valuable species, poaching and fishing of species of high economic value;
- absence of strict control over the observance of the existing legislation;

[1] "Cuba: Medio Ambiente y Desarrollo" ("Cuba: Environment and Development"). In occasion of the IX Meeting of Ministers of Environment in Latin America and the Caribbean, September 21-26, 1995, Havana.
[2] National Study on Biological Diversity in the Republic of Cuba, page 172.
[3] CITMA. National Environmental Strategy, page 16. GEO Editions, 1997.

- inadequate management of economic and scientific projects, which has led to the country's loss of important genetic resources;
- lack of an environmental awareness and education in the population.

These reasons justify per se the interest of the Cuban State in the negotiations of the main international juridical instruments related to the conservation of biological diversity and the sustainable use of its components, and the degree of implementation they have reached at national and local level.

In the international realm, the Cuban State is signatory to more than 95 binding and non-binding juridical instruments regarding environment, 32 of which correspond to aspects related to marine pollution and fisheries, and 6 international treaties whose juridical object is the protection of wildlife.

In the set of measures of the National Program of Environment and Development, approved in 1993, which constitutes the Cuban adjustment to Agenda 21[4], the international co-operation and the implementation of international juridical instruments was identified as one of the main ways to reach the objectives proposed in this Program, and it establishes that the following actions[5] should be carried out:

- Assess other international conventions and treaties to which Cuba should adhere, in function of strengthening the biodiversity conservation.

- Strengthen the National Group to carry out the tasks derived from the Convention on Biological Diversity.

- Elaborate the necessary legislation for the protection of biological diversity and the specific regulations and technical norms referred to the development and control of Biodiversity, with special emphasis on Biosafety regulations.

- Promote the co-ordination among state agencies to avoid duplication of efforts and to achieve the quickest introduction of the obtained results in the assessment and protection of the biological diversity.

- Promote the international and regional collaboration through the execution of projects that imply financial support for the country, keeping in mind the high cost of the activities for the conservation of biological diversity.

1.1.– Political Framework.

With the purpose of offering some necessary elements to understand the structures that have been developed and the work connections existing among the

[4] Adopted at the 19th Plenary Session by Resolution No. 1 of the United Nations Conference on Environment and Development, Rio de Janeiro, Brazil, June 14, 1992.
[5] National Program of Environment and Development. CITMA, first edition, 1995, page 67.

different actors that participate in the implementation of those measures, as well as the juridical instruments that we will develop in this study, it is necessary to carry out a brief characterisation of the country's political and institutional framework.

It corresponds to the Cuban State the exercise of the sovereign rights on the environment and natural resources of the country, in accordance with article 10 of the Cuban Constitution[6].

This premise has allowed for the promotion and application of an active and systematic process for the protection of these resources, directed at propitiating that their use in socio-economic activities is carried out so as to satisfy the material, educational, cultural and aesthetic needs of society, maintaining the principle of sustainability and the need to involve the whole society in environmental issues.

We find several moments where the State's political willingness to achieve the conservation of biological diversity and the sustainable use of its components is manifested.

Box No. 1. Relevant moments in Cuban Environmental Policy.

- Modification of Article 27 of the Constitution of the Republic of Cuba in 1992, and incorporation to the text of the principle of sustainable development.
- Approval of the National Program of Environment and Development, Cuban adjustment to Agenda 21, in 1993.
- Creation of the Ministry of Science, Technology and Environment, in 1994.
- Creation of the National Centre for Biological Diversity, as a research and development unit under the Institute of Ecology and Systematics, of the Ministry of Science, Technology and Environment, in 1995.
- Creation of the Centre for Biosafety of the Ministry of Science, Technology and Environment, in 1996.
- Approval of the National Strategy for Biological Diversity in 1998.
- Approval of the National Action Plan for Biological Diversity in 1998.

A moment of special significance was the approval of the National Strategy for Biological Diversity and its Action Plan in 1998, on which a multidisciplinary group had been working since 1994. It establishes the principles for the improvement and conservation of biological diversity and the sustainable use of the country's biological resources, and the just and equitable distribution of the benefits that are derived from the use of genetic resources.

This Strategy, together with the National Study on Biological Diversity of the Republic of Cuba, have strengthened the study on the diverse components of biological diversity and the identification of the processes that are negatively affecting their conservation and development. Both documents promote the widest

[6] Constitution of the Republic of Cuba, dated on February 24, 1976, modified on July 11, 1992.

international and regional collaboration in this field, in order to reinforce the scientific and economic knowledge on the importance of biodiversity and its functions within the ecosystems.

The Action Plan of the National Strategy for Biological Diversity is directed by the National Centre for Biological Diversity, belonging to the Institute of Ecology and Systematics of the Environmental Agency. This Plan establishes a set of actions that are grouped according to the lines identified in the National Strategy.

Box No. 2. Main Items established in the Action Plan of the National Strategy for Biological Diversity.

Conservation and sustainable use
Socio-economic development and territorial ordering
Integration and co-ordination of the Strategy
Economic instruments and social incentives
Scientific Research and Technological Innovation
Monitoring and assessment of the Biological Diversity
Institutional Strengthening
Internacional Co-operation

1.2. - Institutional Framework

The Ministry of Science, Technology and Environment, in its character of Body of the Central State Administration, is the rector of the environmental policy in the country, responsible for developing the environmental strategy on biological diversity.

Box No. 3. Functions and Attributions of the Ministry of Science, Technology and Environment approved by Agreement No. 2823 of the Executive Committee of the Council of Ministers of November 28, 1994.

- Direct and control the implementation of the policy guided to guarantee the environmental protection and rational use of natural resources integrated to the sustainable development of the country.
- Propose and establish the necessary national strategies for the protection of specific natural resources and of biodiversity.
- Elaborate and control the execution of the programs that allow a better environmental control, the appropriate management of agricultural and industrial wastes, and the introduction of clean production practices.
- Supervise and require compliance with the provisions established for the protection, conservation and rational use of natural resources from the corresponding agencies.
- Reconcile discrepancies among agencies and bodies and other entities in relation to environmental protection and rational use of natural resources, adopting the relevant decisions or referring the proposed measures that correspond in each case to the government.

- Approve the environmental impact assessments.
- Direct, evaluate and control meteorological and climatic surveillance, chemical composition and the general pollution of the atmosphere, radiological environmental surveillance, the seismological system as well as studies of seismic, meteorological and radiological hazards, and other natural or anthropic phenomena.
- Direct and control activities related to protected areas, especially in fragile ecosystems.
- Direct and control the strategies and programs for environmental education and the activities of the recreational and educational institutions in this field.

These functions and attributions of the Ministry of Science, Technology and Environment were expressed in article 12 of the Law 81, Law of the Environment, of July 11, 1997, and are carried out through the Environmental Policy Directorate, the Environmental Agency, the National Centre for Biosafety and the Environmental Units of the Territorial Delegations.

The Territorial Delegations of the Ministry of Science, Technology and Environment involve an Environmental Unit and one environment specialist for each of the municipalities (the smallest political-administrative division in the territory). These specialists are responsible for the elaboration and control of the municipal environmental strategies, which integrate the adjustments of the National Environmental Strategy and the National Strategy for Biological Diversity at this level.

At the same time, the Law No. 81, Law of the Environment in its article 84, and for the sake of what is instituted in Article 27 of the Constitution of the Republic, establishes the obligation of all the state agencies and bodies to adopt, in the spheres of their respective responsibilities, the actions and measures necessary to insure the conservation of the nation's biological diversity and the sustainable use of its components.

In this sense, and taking into consideration their direct or indirect impact on biological diversity, the following state agencies and bodies stand out:

- Ministry of Fishery Industry: grants, renovates, modifies and cancels the fishing authorisations, which comprise fishing concessions, licenses or permits; presides over the Advisory Commission on Fisheries - that is the maximum advisory body as regards ordering and administration of aquatic resources in marine and terrestrial waters-; declares the preserve zones in those areas that constitute the most pristine and rich refuge for the country's marine biodiversity, where highly-valuable aquatic species inhabit and spawn; and regulates the sustainable use and management of fishery resources.

- Ministry of Agriculture: directs and controls the application of the provisions related to management, conservation and improvement of agricultural and forest soils, and controls their implementation; organises, directs and provides the

service of soil and agrochemicals; evaluates the constraint or impairment originated from economic, social or constructive activities; guides and implements the measures for the rehabilitation of eroded soils; classifies forests attending to their functions; directs and controls compliance with the provisions regarding Forest Patrimony and adopts the necessary measures directed at the protection and rational use of forest resources, and rational use and sustainable development of wildlife; exercises the state control and use of wildlife, and carries out its inventories.

- Ministry of Transport: directs the policy regarding terrestrial and maritime transport, the National Group for Bays and establishes the limits of gas emissions from engine combustion, and the policy for sailing in marine waters and manages the country's ports, harbours and bays.

- Ministry of Public Health: is responsible for the implementation of Law No. 41, Law of Public Health, of 1983 and the Decree-Law 54, Basic Sanitary Dispositions of 1982. It is in charge of establishing the regulations and policy concerning public health, with the purpose of contributing to guarantee the promotion of health, prevention of illnesses, reestablishment of health, social rehabilitation of patients and social assistance. It dictates measures related to the sanitary control of the atmosphere referred to the prevention and control of the atmosphere, soils and waters, to the disposition of solid and liquid wastes; to aqueducts and the water they supply; to the urbanisation, projected and on-going works; to the holding, transportation and introduction of poultry and domestic animals and other; to the cemeteries, to the disposition of corpses and human remains. It controls the utilisation of pesticides of authorised use in the country and the national register of pesticides.

- National institute of Hydraulic Resources: the Decree-Law 114, of 1989, created the National Institute of Hydraulic Resources as the entity responsible for directing, executing and controlling the application of the policy of the State and Government as for the activity of planning and control of the country's hydraulic resources. It fulfils the functions of administration and control it is conferred by Decree-Law No. 138, Of the Terrestrial Waters, of 1993, and Decree 199, Contraventions of the regulations for the Protection and Rational Use of Hydraulic Resources, of April 10, 1994, concerning the activities aimed at the management of terrestrial waters. It evaluates and rules on the rational exploitation of the sources, and avoids the depletion or degradation of these waters. It establishes the sources exploitation regime, temporarily limits or conditions the use of the terrestrial waters due to quality problems. It constitutes the administrative authority to apply the corresponding sanctions for contraventions in this matter, being at the same time the only entity to know and settle in cases of appeals.

- Ministry of the Basic Industry: as part of its functions, it directs the energy policy of the country, developing, executing and controlling the plans and programs

related to the use of energy coming from fossil fuel (the most used in the country), and the search for renewable sources of energy.

2.- Scope of the case study:

When defining the scope of the case study it is necessary to reflect on the property regime to which biological diversity resources are subjected in the Republic of Cuba.

According to the Constitution, the State exercises its sovereignty[7] on the environment and natural resources of the country, as well as on the living and non-living natural resources in the waters, seabed and subsoil of the maritime exclusive economic zone of the Republic in the extension established by law, according to international practice (200 miles extending outward from the coastline starting from which the territorial waters[8] are measured).

In article 15 of the Constitution of the Republic of Cuba it is established the property regime to which some of the biological diversity resources are subjected by asserting that:

"They are the socialist state property of all the people:

a) the lands that don't belong to small farmers or co-operatives integrated by small farmers, the subsoil, mines, living and non-living natural resources inside the maritime exclusive economic zone of the Republic, the forests, waters and means of communication.

..... These assets can not be transmitted in property to any natural or legal person, aside from the exceptional cases in which partial or total transmission of some economic objective is devoted to the purposes of the country's development without affecting the political, social and economic foundation of the State, subject to the approval of the Council of Ministers or its Executive Committee."

The Constitution is not precise with respect to the property regime regarding the biological diversity resources and the genetic resources contained in them. This is not resolved by the Law of the Environment, which asserts that the environment is the heritage and fundamental interest of the nation, but does not make more precise references to tenure.

Taking it into consideration, that situation could potentially cause difficulties in the implementation of the legal, political and institutional framework. Thus, with the purpose of co-ordinating the sovereign rights of the Cuban State with the property regime to which biological diversity resources are subjected, a formula is being proposed in the draft Decree-Law on access to genetic resources and distribution

[7] Article 10 of the Constitution of the Republic of Cuba.
[8] Decree-Law No.2 of February 24, 1977.

of benefits. In principle this formula declares the inalienable, imprescriptible and non-distrainable character of these resources, independently of the recognition that there exist biological resources subjected to the socialist state property regime, among which there are “ex situ” collections, germ-plasma banks and the zoological and botanical gardens, as well as others under co-operative or private property regime.

2.1.- General biodiversity-related conventions: CBD, CITES, CMS, RAMSAR, WHC, Climate Change and Desertification.

Since the 1960’s the country adopted an advanced position when defining within its political and economic platform an integral conception of environmental protection. The fundamental work lines have been directed at systematically increasing the quality of life of Cuban population in conjunction with a rational exploitation of natural resources, using planning as a tool to this end.

Cuba has actively participated in the negotiation process of the Convention on Biological Diversity and Cartagena Protocol on Biotechnology Safety. Regarding the Cuban position before other international agreements related to this topic, there has been a gradual process of adoption, although gaps still persist.

Table No.4. Cuba: Participation in International Conventions related to Biological Diversity.

Instruments	Date of the Instrument	Date on which Cuba became a Party
Convention for the Protection of Wildlife and Natural Scenic Values in America.	Washington October 12, 1940.	It was signed in 1940, but it was not ratified.
Convention on Wetlands of International Importance especially as Waterfowl Habitat.	Ramsar, February 2, 1971	Cuba presented the instrument of adhesion in February 2001.
Convention on International Trade in Endangered Species of Wild Fauna and Flora.	Washington March 3, 1973	April 20, 1990
Convention on Migratory Species of Wild Animals.	Bonn, June 23, 1979	It is not a Party
United Nations Convention on Climate Change.	Rio de Janeiro, June 14, 1992	April 5, 1994
United Nations to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa.	Paris, June 16, 1994	October 15, 1994.
Convention on Biological Diversity	Rio de Janeiro, June 5, 1992	March 9, 1994.

Notwithstanding the identified information with respect to International Conventions relating to biological diversity, this Study will focus on the national measures and actions that, as it will be observed, go beyond the framework of the international

commitments of the country. In fact, the adhesion to CBD implies a general obligation regarding the protection and sustainable use of the biological diversity, independently of the fact that Cuba's incorporation to some of the related Conventions may still be missing.

2.2.- Relevant regional agreements.

For the geographical position of the Republic of Cuba, located between North America and South America, it is necessary to determine for our study the regional framework to which we will refer, in order to avoid possible misinterpretations, since there exist more than 30 international juridical instruments for the American Region (Agreements, Conventions and Protocols), being Cuba a party to only 8[9] of them. This mainly obeys to the fact that the regulated matter at regional level is very specific and has a geographically limited character, therefore its objectives are not related to Cuban activities or conditions.

Given the social and economic value that the marine environment represents for Cuba as an archipelago, and due to the need of integrating the efforts of the countries that share the Caribbean Sea basin, Cuba became a party to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean (The Cartagena Convention), of March 24, 1983, which it ratified in October 15, 1986, being this the most important regional juridical instrument for the country.

On the other hand, for more than 7 years it was evaluated the feasibility and convenience of ratifying and becoming a Party to the Protocol concerning Specially Protected Areas and Wildlife (SPAW)[10] of the Convention for the Protection and Development of the Marine Environment in the Wider Caribbean, which is a Protocol of the aforementioned Cartagena Convention. The complexity of the analysis was based on the following aspects:

- The convenience that an international juridical instrument became effective to regulate the topic of the conservation and that, to the effect of the Convention on Biological Diversity, it provided a more specific regional framework for the protection and sustainable use of biodiversity and propitiated the regional co-operation to protect, restore and improve interconnected ecosystems.

[9] Convention on Future Multilateral Co-operation in Northwest Atlantic Fisheries, Ottawa, 1778; Convention on Future Multilateral Cooperation in Northeast Atlantic Fisheries, London, 1890; Convention on the Preservation of Southeast Atlantic Living Resources, Rome, 1969; International Convention for Northwest Atlantic Fisheries, Washington, 1949 (Cuba 1975); Antarctic Treaty, Washington, 1959 (Cuba 1984); Convention for the Protection and Development of the Marine Environment in the Wider Caribbean, Cartagena, 1983; Protocol to Counteract Hydrocarbon Spills in the Wider Caribbean, Cartagena, 1983, Protocol concerning the Specially Protected Areas and Wildlife of the Convention for the Protection and Development of the Marine Environment in the Wider Caribbean,1990.

[10] It was open to be signed on January 18, 1990, Cuba ratified it on January 18, 1998. It became effective in June, 2000, with the ratification of the Government of Santa Lucia that completed the ninth state necessary as a requisite in article 27 of the Protocol relating to article 28.2 of the Convention for the Protection and Development of the Marine Environment in the Wider Caribbean.

- The perception that at the same time there was an imperious need to revise and modernise the text of the Protocol, which, being previous to the very negotiation of the Convention on Biological Diversity, is more focused on ideas of strict conservation, without enhancing the ideas of sustainability in the use of the resources.

It was definitively considered that the adaptation of this instrument of unquestionable regional importance would only be possible starting from the mandates, agreements or resolutions of the Conferences of the Parties of the very instrument, thus these ends could only be reached after it became effective. This led to Cuba's ratification and offer as host for the First Conference of the Parties, scheduled to be held in Havana in late September of the present year.

Nevertheless, attending to the short time elapsed since this regional instrument became effective, we have understood that it would not be reasonable to analyse its implementation in this case study. However, topics will be referred relating to the protection of areas and species that are compatible with the Protocol demands, being consequent to what has been previously expressed regarding those Conventions to which Cuba is not a party, but has taken actions in the matters that concerns them that are coherent with the spirit of the said Conventions.

3. - Implementation of those conventions at national level

The multiple international commitments assumed by the Cuban State concerning protection, conservation and use of the biological diversity resources, and mainly those that it has assumed since the ratification of the Convention on Biological Diversity, are implemented through specific programs.

In most cases these programs have required that the administrative infrastructures and particular legislation for their execution and control are created.

In correspondence with these programs' action plan, in some cases it has been necessary to create centres with their own legal personality. Such is the case of the National Centre for Biological Diversity, the National Centre of Protected Areas, the National Centre for Biosafety, the National Centre for Climate Studies, the Eastern Centre of Ecosystems and Biodiversity, and the National Commission of Patrimony, among other.

In other instances the implementation is achieved through management and control activities distributed among state entities, like the Centre for Environmental Information, Management and Education, and the Centre for Environmental Inspection and Control.
The Ministry of Fishery Industry, the Forest National Service, the Ministry of Agriculture, and the Ministry of Culture also have management and control faculties over the biological diversity resources.

As we pointed out above, in most cases not only institutional infrastructures have been created, but also the legislation has needed to give a response to create the legal frameworks through which the mandates of the international instruments are adjusted to the national reality.

Nevertheless, the rhythm of the implementation processes has not had in all the cases the necessary celerity. In the case of the legislation this reality, that in a given moment could become a gap and cause conflicts, is saved to a certain extent by what is established in Article 20 of the Civil Code[11] that covers any legal gap that may arise in this respect, since it commands that:

"If an international convention or treaty to which Cuba is a party establishes rules different from those expressed in the preceding articles or not contained in them, the rules of this convention or treaty would be applied." Therefore, the text of the international conventions or treaties is supplementary regarding the national legislation in the case of Cuba.

3.1. - Special circumstances affecting implementation in the country, if appropriate.

National implementation is hindered by the economic circumstances amidst which the country is developing, characterised by a strong economic blockade and the special circumstances imposed on the economy by the need to reorganise it starting from the changes that occurred in the European socialist area.

Thus, it can be considered as an achievement that in spite of these severe conditions –and resulting from a determined political willingness- the work has been continued and the mechanisms are being improved, gradually allowing the integration and fulfilment of the Cuban environmental agenda.

However, due to these special circumstances the monitoring and control activities, and in a lesser degree the assessment activities, are still weak and insufficient.

One of the main problems lies in the lack of the necessary equipment to receive information and take samples in the fieldwork. Another of the problems that cause a direct impact in this sense is the lack of certification of the laboratories for the control analyses through international standards. Added to this, there is still limited systematic training of the staff in charge of the control activities, mainly at territory level, especially of the staff related to the activities of customs control, commercialisation and investments.

The effectiveness of the implementation of the measures and the development of activities depends not only on the state institutions and activities, but also on the participation of the whole society, which has a limited perception of the

[11] Law 59, Civil Code, of July 16, 1987.

environmental problems, and thus, it is not always identified with the role that citizens should play in the solution of environmental problems.

Naturally, not all these problems originate in the particular circumstances that we identified at the beginning, but rather they are linked to a great extent to Cuba's condition as a developing country. Nevertheless, their methodological division surpasses the objectives of this Study for its complexity. Therefore it seems more reasonable to expose it in an integrated manner, as it is done here.

3.2. - Legislative and policy measures adopted to implement the various treaty obligations.

There are many existing provisions at national level that serve as instruments to implement the norms and principles encompassed in the international instruments to which Cuba is a Party.

In some measure, much of this legislation does not have its origin properly in the adjustment of the Convention on Biological Diversity at national level. Some of them fulfil the objectives of this Convention in spite of having been promulgated long before it became effective.

In other occasions we find norms in force that respond to principles or activities of Conventions to which Cuba is not a Party. It happens likewise with the Cuban legislation related to the Convention for the Protection of Wildlife and Natural Scenic Values in America and the Convention on Migratory Species of Wild Animals.

Cuba's institutional and economic reorganisation was carried out simultaneously to the ratification of the Convention on Biological Diversity. Among other measures, this reorganisation determined the creation of the Ministry of Science, Technology and Environment, moment that marked the beginning of the work in the updating and completing of the Cuban legislation. That is why most of the environmental legislation has been promulgated after 1994.

The wide concept of biological diversity[12], imposes a new wider content to the protection, conservation and sustainable use of the components of the biological diversity, which, far from being materialised in an unilateral or directional way, is carried out in a multisector and multidirectional manner. This originates that most of the national legal dispositions that are promulgated to reach the objectives of a Convention are applicable to others whose ends are similar or have a direct link, as it happens with those that we are analysing in this study.

[12] Concept in Article 2 of the Convention on Biological Diversity: "the variability of living organisms from any source, including among other, the terrestrial and marine ecosystems and other aquatic ecosystems, and the ecological complexes of which they are a part; it involves the diversity within each species, among species and of ecosystems".

To evaluate the harmonisation of the national legislation regarding the Conventions it is necessary that we describe briefly the content and the interrelation of the legislation listed in the Annex No. 1[13].

The Law 81 establishes, in Article 84, the obligation of all the state agencies and bodies, and other natural and legal persons, to adopt in the fields of their respective competence the necessary actions and measures to insure the conservation of the national biological diversity and the sustainable use of its components. This mandate is concretely expressed in the Decree-Law Of the National System of Protected Areas (Article 46) that obliges the entities that carry out activities inside the protected area to harmonise them in correspondence with the management category of the area in question.

On the other hand, the Decree-Law of Coastal Zone Management, in its Article 2, compels the entities with activity in this zone to develop these activities in compliance with the integrated coastal zone management plan that has been approved; and Resolution 330-99, Regulation of the Law of the Forest, establishes the mandatory character of the provisions of the Forest Management Plan to be abided by all the natural or legal persons.

With respect to the protection of endemic, threatened or endangered species, or those that have some special connotation and the representative specimens of the different types of ecosystems and their genetic resources, the State establishes mechanisms –that the law demands to be rigorous- for their regulation, control, management and protection, to guarantee its conservation and rational use. For that purpose, a group of legal regulations has been created that go from the Decree-Law of the National System of Protected Areas, in which these conditions determine the declaration of the area as natural reserve, national park or ecological reserve that are the more strict categories regarding the limitation of human activity in the area (Chapter II, Article 7 and subsequent), to resolutions that establish limited quotas of catch (Resolution 33 of the Ministry of Science, Technology and Environment, establishing limitations on the extraction of Black Coral), and permanent ban (Resolution No. 83 /97 of the Ministry of Fishery Industry, declares the permanent ban on sea turtles).

The Ministry of Science, Technology and Environment is forced by Article 86 of the Law of the Environment to declare the threatened or endangered species and to promote the plans and programs for their recovery, attending to the result of the National Study on Biological Diversity. This obligation is shared with the Ministry of Agriculture (Article 7, paragraph f), and the Ministry of Fishery Industry (Article 45 in connection with Article 51 of the Decree-Law No. 164, Fishing Regulation).

Numerous are the provisions that regulate the import, introduction and export of species that are new or subject to special regulations. The Law of the Environment, as Framework Law, establishes the principles to carry out these activities, which are

[13] Source: Official Gazette of the Republic. Selection of the most significant legislation.

regulated particularly in the Decree-Law 190, Of the Biosafety; Resolution 77/99, Regulation for the Environmental Impact Assessment; Resolutions 60/96 and 87/96 that respectively define the Regulation and Authority that implement the CITES Convention at national level.

Box No. 5. Principles to assess the import and introduction in the environment of species that are new or subject to special regulations:

a) Possible reactions of the species in the environment where they will be introduced.
b) Possible reactions of the receiving environment and of the autochthonous species regarding those that it is sought to introduce.
c) Risk that potentially dangerous genotypes can generate.
d) Possible introduction of exotic and epizootic illnesses that affect plants and animals.
e) Risk for human health.
f) Other aspects of special interest for the protection of environment.

The State's participation of the benefits obtained from the access to the biological diversity resources are regulated in the Law of the Environment and Resolution 111/96, where the Ministry of Science, Technology and Environment is defined as the National Authority that grants the access permits and signs the contracts for access and distribution of benefits. This Ministry establishes or proposes the strategies and norms necessary to guarantee a just and equitable participation in the benefits derived from the use of the genetic resources (Law of the Environment, Article 88, paragraph n).

It stands out the expressed prohibition of exporting species regarding which it is required to insure a just and equitable participation of the Cuban State in the benefits derived from the use of their genetic resources, that appears in Article 87 paragraph c) of the Law of the Environment. This implies that to carry out the export it is obligatory to have subscribed the contract for the access and distribution of benefits.

The use of the economic regulation as an instrument of the environmental policy and management concerning the biological diversity is regulated in different instruments in the national legislation. The Law No. 73 of the Tributary System was the first to include the topic, when establishing the payment of taxes on the use of natural resources, (being in force the taxes on the use of forest resources established by Resolution No. 50/96 and on the use of bays, Resolution 36/99, both of the Ministry of Finances and Prices).

On the other hand the Law of the Environment in its Chapter IX, Articles 61 to 64, reaffirms the use of economic mechanisms, and in accordance with it, Resolution No. 13.99 of the Ministry of Finances and Prices was promulgated. This Resolution establishes the reduction or exemption from duties on the import of technologies and equipment for the control and treatment of polluting effluents (as it regularly happens, pollution is one of the main causes for the loss of biological diversity).

The creation of the National Fund for Environment and its operation are comprised in Article 67 of the Law of the Environment and in the Joint Resolution No. 1/99 of the Ministries of Finances and Prices and of Science, Technology and Environment. The essential purpose of this Fund is the total or partial financing of projects or activities directed at environmental protection and the rational use of biological diversity resources.

To promote the economic assessment of biological diversity to use it as a tool in decision making is another of the functions assigned to the Ministry of Science, Technology and Environment and that appears as a medium-term action in the Action Plan of the National Strategy for Biological Diversity.

Landscape resources are the object of preventive and corrective measures for their protection, under the legal guidance of Article 135 of the Law of the Environment. At the same time, these resources are part of the cultural patrimony according to Article 1 of the Law No. 2, Law of the National and Local Monuments, including the sites where nature presents aspects that justify its conservation and protection.

The Law also instructs that the Cultural Patrimony, as it is defined, declared and regulated in the corresponding legislation (Law No. 1, Law of Protection of the National Patrimony; Law No. 2, Law of the National and Local Monuments, and Decree No. 55, Regulation for the Implementation of the Law of the National and Local Monuments), in its association with the natural environment, will be object of preventive and corrective measures, in order to save or protect the cultural assets that are in danger because of works or activities that can deteriorate or destroy them.

Cuban environmental legislation has answered to the objectives of the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, establishing the authorities and the competence of the different institutions (Articles 15 and 109 of the Law of the Environment, Article 4 of Decree 179, and Article 35 of the Law of the Forest).

The activities, plans or policies for urban or industrial development; for forest management; dealing with hydraulic resources; for the development of tourism, mining and fishing, and for soils management, undergo environmental impact assessments, although they do not require the granting of an environmental license according to Article 31 of the Law of the Environment.

For the purpose of preventing and controlling soils pollution, Article 108 of the Law of the Environment obliges the state agencies and bodies to employ correct practices in the generation, management and treatment of domestic, industrial and agricultural waste, and in the use of any type of chemical and hormonal substances that can contaminate the soils or cultivations.

In the Law No. 76, Law of Mines, the Ministry of Basic Industry is bound to demand a rehabilitation plan for the soils and forest cover for the exploitation and closing stages of outdoor mining activities, monitored by the Environmental Authority.

Regarding the Convention on Climate Change, it cannot be identify a specific national legislation on this topic, but rather it is implemented through the regulations regarding use of forest resources, transfer of technologies and control of atmospheric pollution.

Nevertheless, a legislative gap stands out with respect to the control of emissions into the atmosphere, even when the Law of the Environment, Article 118, regulates the actions of the state agencies and bodies in charge of the protection of the atmosphere that will have to insure that atmospheric pollution does not surpasses the levels of strange substances allowed by the established technical norms. They will also have to establish the action plan to reduce and control the emissions of pollutants into the atmosphere that occur during the operation of artificial or natural sources, fixed or mobile, for the safeguard of environment, and especially of human health, and the fulfilment of the international commitments assumed by the country.

Cuban legal ordering recognises the technical norms as provisions of obligatory implementation for all the natural or legal persons, national or foreign. Up to the present, more than 103 technical norms have been passed for the environmental realm, most of which are related to Soils, Hydraulic Resources and Atmosphere, implementing the legislation linked to the conventions that are object of this study, and mainly to those regarding climate change and combating desertification.

3.2.1.- Policy measures adopted to implement the various treaty obligations.

The principles and actions that are established, stipulated and fulfilled according to the main documents ruling Cuban environmental policy (National Environmental Strategy, 1997 and National Program of Environment and Development, 1994), constitute an answer integrated to the goals that have been established by each one of these Conventions per se and in each case.

The implementation of the Convention on Biological Diversity has been a systematic and participative process that has involved all the sectors of Cuban society. It started from the very process of consultations that was developed to assess the feasibility of its ratification in 1994.

Four important moments stand out in the implementation of the Convention on Biological Diversity and its harmonisation with the other conventions:

I.- The creation of the National Working Group for Biological Diversity[14], in 1996, that continued the work that had been developing the technical group created to negotiate the Convention on Biosafety. This National Group is presided over by the

[14] Resolution No. 111 of the Ministry of Science, Technology and Environment, of October 14, 1996.

Ministry of Science, Technology and Environment, being its basic functions to advise and issue the pertinent recommendations and considerations related to:

a) national plans and strategy related to biological diversity;
b) b) implementation of the conventions and other international agreements in this field, to which Cuba is a party or whose convenience is being analysed;
c) other measures, programs or actions with relevance for biological diversity.

Box No. 6. **Composition of the National Working Group for Biological Diversity.**

- Ministry of Agriculture
- Ministry of Sugar Industry
- Ministry of Fishery Industry
- Ministry for Foreign Investment and Economic Collaboration
- Ministry of Foreign Affairs
- Ministry of Public Health
- Ministry of Economy and Planning
- Ministry of the Revolutionary Armed Forces
- Ministry of Basic Industry
- Ministry of Tourism
- Ministry of Education
- Ministry of Higher Education
- Ministry of Culture
- Ministry of Foreign Trade
- Ministry of the Interior
- Ministry of Justice
- General Customs of the Republic
- Institutions of the Council of State linked to the biotechnological activity.

II- The elaboration of the "National Study on Biological Diversity in the Republic of Cuba" that culminated in January 1998. This work was directed by the National Centre for Biological Diversity, as part of a group of National Studies, and more than 180 professionals at diverse entities participated.

Box No. 7. Entities that participated in the National Study on Biological Diversity in the Republic of Cuba.

Ministry of Economy and Planning:
National Office of Statistics and Planning
Institute of Physical Planning
Ministry of Higher Education
University of Havana
Centre for Demographic Studies
Centre for Marine Researches
Faculty of Biology
Faculty of Geography
National Botanical Garden
University of Oriente
Law School
Ministry of Agriculture:
National Project Company
Institute of Forest Researches
Science and Technique Directorate
Institute of Researches in Plant Health
Institute of Fundamental Researches in Tropical Agriculture
Ministry of Public Health
Institute of Tropical Medicine "Pedro Kourí"
Ministry of Fisheries:
National Office for Fishery Regulations.
Science and Fishery Management Directorate
National Company of Aquaculture.
Centre of Fishery Researches
Ministry of Science, Technology and Environment:
Environmental Policy Directorate
Environmental Agency
Institute of Tropical Geography
Institute of Ecology and Systematics
National Centre for Biological Diversity
Centre for Environmental Information, Divulgence and Education
Centre of Anthropology and Ethnography
Institute of Oceanology
National Centre of Protected Areas.
Eastern Centre of Biodiversity and Ecosystems
"Sierra del Rosario" Biosphere Reserve National
Museum of Natural History.
National Zoological Park.
Agency of Science and Technology.

This Study constitutes the scientific basis that offered the necessary support for the design, elaboration and implementation the ruling documents regarding biological diversity: the National Strategy for Biological Diversity and the National Action Plan, since it examines the state of biological diversity in Cuba, reports the current threats for “in situ” conservation, considers the benefits of the conservation management and identifies the needs for this activity.

III. - The approval and implementation of the National Strategy for Biological Diversity, 1999, through a participative process (104 entities) involving the Bodies of the Central State Administration, the research centres of the whole country, civil associations and non-governmental environmental organisations.

Box No. Goals and Objectives of the Strategy for Biological Diversity.	
Conservation and sustainable use	Establish action priorities and specific areas of co-operation. Develop management programs for taxa and populations, including ecosystems and landscapes. Complement the National System of Protected Areas. Set into operation the National Biodiversity Information Network. Restore and/or rehabilitate degraded ecosystems. Rescue and promote knowledge and traditional practices. Develop action plans for “in situ” and “ex situ” conservation. Evaluate the effects and interactions regarding local climate.
Develop economic, social and territorial ordering	Develop action plans for the protection of food safety through the use of sustainable practices. Implement the territorial planning instruments compatible with the objectives of the Convention on Biological Diversity. Consolidate the environmental management and control mechanisms in harmony with the development of the different economic and social factors.
Integration and co-ordination of the Strategy	Conciliate and adequate the sector and territorial strategies with the National Strategy for Biological Diversity. Promote and propitiate that non-governmental organisations incorporate in their activities the principles of the National Strategy for Biological Diversity. Incorporate the elements of the Strategy to the work of the basic organisations and local communities.
Economic instruments and social incentives	Define the indicators and develop the methodology and instruments for the assessment and valuation of the biological diversity resources.

Scientific Research and Technological Innovation	Fill the gaps of knowledge identified in the National Study on Biological Diversity. Promote the activities for the prospecting, study and management of species. Identify the research lines that may give origin to the creation of a Program of Science and Technology on Biological Diversity. Correlate the researches comprised in the National System of Science and Technological Innovation with the objectives of the National Strategy for Biological Diversity.
Monitoring and assessment of Biological Diversity.	Define the methodological and functional bases to establish the national monitoring system. Prioritise the monitoring of critical areas (hot spots) identified in the National Study on Biological Diversity. Support the on-going monitoring activities. Achieve that measures are taken for the establishment of a notice or warning system on the occurrence of negative or unfavourable impacts.
Institutional Strengthening.	Strengthen the institutional and managerial capacities, including material, human and financial resources, of the institutions related to the study, conservation and sustainable use. Develop the institutional y technical capacity for the operation of the National Information Network. Develop inter-sectorial and multidisciplinary relations, so that actions are harmonised and integrated with the principles of this Strategy. Promote the search for financial resources.
International Co-operation	Increase the exchange of information at regional and international level through networks and the existing information systems. Promote the development of joint programs and strategies regarding monitoring, research and management of biological diversity resources. Increase the co-operation and technical assistance at regional and international level. Strengthen the active participation at international level for the implementation of the Convention on Biological Diversity.

IV. - The elaboration of an Action Plan for the implementation of the National Strategy for Biological Diversity that contains 136 actions. The temporary distribution of these actions is at short, medium and long term. Each action will be carried out on the principle of collaboration and integration of the different actors that intervene, identifying these actors and the entity responsible for the accomplishment of the measure.

Another significant aspect in the process of harmonisation of the Convention on Biological Diversity and the other conventions in their implementation at national level, it is that of the Process of Environmental Impact Assessment, which is applied to all the projects or activities referred in article 28 of the Law of the Environment. This process determines the issuing or denial of the corresponding Environmental License, which constitutes the acceptance of the Environmental Authority so that the project or activity is carried out, and has a mandatory character.

Box No. 10. Projects of works or activities subject to the Process of Environmental Impact Assessment.

- Dams or reservoirs, irrigation canals, aqueducts and drainage systems, dredging or other activities that result in the draining or significant alteration of water flow.
- Integrated metallurgic plants.
- Integrated chemical or petrochemical installations.
- Facilities for the management, transportation, storage, treatment and final disposal of hazardous waste.
- Mining activities.
- Electric generating stations, electrical transmission lines or their substations.
- nuclear energy generating stations and other nuclear reactors, including the facilities for researching the production and transformation of fissionable materials and the zones and facilities for the final disposal of the waste associated with these activities.
- Construction of railroad lines, unpaved roads, causeways, routes, highways, and oil and gas pipelines.
- Airports and harbours.
- Refineries and storage facilities for hydrocarbons and their derivatives.
- Facilities for the liquefaction and gasification of hydrocarbon residuals.
- Tourist facilities, in particular those proposed in coastal ecosystems.
- Large human settlements.
- Industrial parks and duty free zones.
- Agricultural, forestry and aquaculture and mariculture installations, in particular those which involve the introduction of exotic species, the use of natural species with low regeneration rates, or the risk of species extinction.
- Changes in the use of the soil that may cause significant degradation to the soil or the degradation of other natural resources or that affect the ecological balance.
- Collectors and discharges of urban sanitation effluents.
- Drilling wells to extract hydrocarbons.
- Hospitals and other health care facilities.
- projects related to biotechnology, and biotechnological products and processes.
- Sanitary landfills.
- Cemeteries and crematories.
- Projects or activities in protected areas that were not contemplated in the protected area's management plan.
- The sugar and sugar by-product industry.
- Foundries, paper and cellulose industries, beverage, dairy, and meat industries, and cement and automobile industries.
- Any other activities that take place in fragile ecosystems, that significantly alter ecosystems, their composition or balance, or affect public access to natural resources and to the environment in general.

As it is evident, practically all the activities listed in the Box above have or may potentially have an impact on biodiversity. Since the mechanism of EIA supposes a forced consultation of the environmental authority with all the actors involved, not only from other state agencies but also from the citizenry (public consultation), the potential impacts on biodiversity are assessed in an integral manner, and so are, among other, the constraints and recommendations incorporated to the License, in the event of being granted.

The granting of the Environmental License for the introduction of exotic species, biological agents, organisms and fragments of organisms with genetic information, constitutes an example of integration, since it is granted by the National Centre for Biosafety, taking into consideration the opinion of the Centre for Environmental Inspection and Control to that respect.

In the case of the manipulation of biological agents, organisms and fragments of organisms with genetic information, the procedure is reversed and it is the Centre for Environmental Inspection and Control who grants the Environmental License, following the binding criteria issued by the National Centre for Biosafety.

Both Centres are engaged in a process of integration into a central Regulatory Office that will lead to even higher level of co-ordination.

3.3. - Authorities/agencies responsible for the implementation of these conventions.

The Ministry of Science, Technology and Environment is the main authority responsible for the implementation of international conventions on environmental issues, and of the agreements derived from these Conventions, given the governing faculty it is conferred by the Decree-Law 147, of the Reorganisation of the Central State Administration.

On the other hand, at the moment of the approval by Government Agreement of Cuba's adhesion to a Convention, it is noticed in many cases which will be the contact agency, Competent Authority, Focal Point or any other denomination that the Conventions may possibly demand.

Nevertheless, given the cross-sectoral character typical of environmental issues, many state agencies have important competence in topics tangential to the environment or even of marked environmental competence. That is the case of the Ministry of Transport and the Conventions related to the sea, including United Nations Convention on the Law of the Sea.

At present, the authorities or agencies that are responsible for the implementation of the Conventions regarding biological diversity that have been signed or ratified after 1994 are located in administrative departments of the Ministry of Science, Technology and Environment.

Simultaneously, in other state agencies of the Central State Administration there are authorities and entities that implement different Agreements or Conventions more or less indirectly related to biological diversity (to which Cuba became a Party before 1994 and are not included in this case study). A good example is the International Convention to prevent marine pollution by vessels (London 1973) and its Protocols, or the Convention to prevent marine pollution by discharges of wastes and other matters (London, Mexico and Washington, 1972), that up to now have been implemented by the Ministry of Transport; or the Convention on the conservation of Southeast Atlantic living resources, that is implemented by the Ministry of Fishery Industry.

Brief review of the entities of the Ministry of Science, Technology and Environment that play the role of National Authority, Focal Point, or that direct the programs for the implementation of the said conventions.

- **Convention on Biological Diversity.**

  Being a general convention, the authorities and institutions that rule its matter will be found in different state agencies of the Central State Administration, although its co-ordinator is the Ministry of Science, Technology and Environment, to which are subordinated the centres that have the following attributions regarding the convention:

  National Centre for Biological Diversity: ascribed to the Institute of Ecology and Systematics that co-ordinates and controls the actions developed under the Action Plan of the National Strategy for Biological Diversity and the National Information System on biodiversity through the node.

  National Centre of Protected Areas: leading the National System of Protected Areas, evaluates and proposes the areas that should be incorporated to the system; approves methodologically and technically the management plans for the areas and directs the environmental management activities inside the areas.

  Centre for Environmental Inspection and Control: grants the Environmental Licenses, issues the access permits to natural areas of special significance and to biological diversity resources.

  National Centre for Biosafety: regulates the use, research, assays, production, import and export of biological agents and their products, organisms and fragments of organisms with genetic information; controls the release into the environment of biological agents, organisms and fragments of organisms with genetic information. It is the focal point of the Protocol on Biotechnology Safety of the Convention on Biological Diversity.

Agency of Science and Technology: grants the corresponding permits for technology transfer, and directs the research programs.

Other state agencies with competence in this field:

Ministry of Higher Education: directs the Network of Botanical Gardens.
Ministry of Fishery Industry: directs the Advisory Commission of Fisheries.
Ministry of Agriculture: directs the Forest State Service, the Phytosanitary and Veterinary Medicine Service, the Institute of Soil Researches and the National Company of Flora and Fauna.

- **Convention on Wetlands of International Importance especially as Waterfowl Habitat.**

  The Ministry of Science, Technology and Environment, through the National Centre of Protected Areas; and the Ministry of Agriculture through the National Company for the Protection of Flora and Fauna and the Forest State Service.

- **Convention on International Trade in Endangered Species of Wild Fauna and Flora.**

  The Centre for Environmental Inspection and Control carries out the functions of Administrative Authority. It issues the permits to import or export specimens, parts or by-products of species under this Convention. The Scientific Authorities are the Institute of Ecology and Systematics for the terrestrial component and the Institute of Oceanology for the marine, both from the Environmental Agency of the Ministry of Science, Technology and Environment.

- **Convention on Migratory Species of Wild Animals.**

  Although we have already pointed out that Cuba is not a party to this Convention, this fact has not been an obstacle for the implementation of actions at national level for the study and conservation of migratory species that temporarily inhabit the national territory. These actions are directed and implemented by the Ministry of Science, Technology and Environment, the Ministry of Fishery Industry and the Ministry of Agriculture.

- **United Nations Framework Convention on Climate Change.**

  The focal point of this Convention is the Ministry of Science, Technology and Environment that also directs the National Program on Climate Change through the National Centre of Climate.

- **United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa.**

The Environmental Agency of the Ministry of Science, Technology and Environment is the Focal Point of this Convention. For its implementation, a National Program has been created to Combat Desertification and Drought. It is directed by the Ministry of Science, Technology and Environment and involves the participation of the Ministries of Higher Education, Education, Agriculture, Economy and Planning, Public Health, Sugar Industry, the Institute of Hydraulic Resources, the Association of Small Farmers, and non governmental organisations.

- **Convention for the Protection of Flora and Fauna and Natural Scenic Values in America.**

  Although Cuba is not a party to this Convention, the compliance with the obligations under other conventions and the environmental policy of the country have propitiated that actions and measures are implemented aimed at the protection of flora and fauna, as highlighted above. Regarding the protection of natural scenic values, the Ministry of Culture has been the National Authority to implement the corresponding actions, based on the provisions of Law No. 2, Law of National and Local Monuments of 1977, and Law No. 81, Law of the Environment. The natural sites that should be protected for their values are included under the category of national or local monument, granted by the National or the Provincial Commission of Monuments as it corresponds.

3.4. - Legislative/policy measures to co-ordinate this implementation at national level.

The co-ordinated work among the different state agencies and bodies involved in the process of implementation of these Conventions has undergone a continuous process of improvement, due to the need to optimise the necessary resources and obtain greater results.

To be able to integrate efficiently the environmental work, a process of consultations is carried out starting from the moment of designing the management and legislative instruments. In the implementation phase these co-ordinated actions are expressed through the work of groups, commissions or projects created to that effect.

In Cuba the ecosystem is the basic unit toward which the environmental management work is directed, while specific programs are developed for the management of flora and fauna species. The work on the ecosystem frequently resorts to the use of Commissions, as a means of integration and co-ordination of actions, being remarkable the cases of the National Commission of Hydrographic Basins and the National Group of Attention to Bays.

This work style demands a great political willingness on the part of the state agencies that intervene in the implementation of the actions, since in certain way they sacrifice their leading role in the topic they lead to become collaborators

working for a common purpose. In this sense the Ministry of Science, Technology and Environment, as environmental state agency not administering natural resources - in general - plays an important role of balance.

On the other hand, the implementation of these Conventions through the action plans elaborated for the management of each ecosystem, permits to find solution to the main problems identified in the National Study on Biological Diversity in the Republic of Cuba.

For the geographical characteristics of Cuba, being a long and narrow island, 100% of the national territory is associated to hydrographic basins and coastal areas. Therefore, the greatest proof of the harmonisation of the obligations derived from the different conventions that we are analysing are the actions incorporated to the integrated management plans for hydrographic basins and the coastal zone.

Box No. 10. Groups that integrate the environmental policy and legislation into the co-ordinated work regarding the principles of the Convention on Biological Diversity and other Conventions.

- The National Council of Hydrographic Basins attends to the seven hydrographic basins of national interest (Cauto, Toa, Hanabanilla, Zaza, Almendares-Vento, Ariguanabo and Cuyaguateje). It was created through Agreement No. 3139 of the Executive Committee of the Council of Ministers and has small units at territorial level that look after the basins of territorial interest. All the state agencies and bodies that have an influence on the basin are part of the Council of Basins. The functions of this Council are aimed at the control and implementation of environmental management measures established for the sustainable management of these basins. Of special importance are the measures directed at the decrease of the polluting load, those related to the reforestation and the conservation and rehabilitation of degraded soils, and those that have a direct influence on the conservation of biological diversity resources.

- The Bodies of Attention to the integrated development of mountain regions are in charge of the realisation and control of the measures of the Turquino-Manatí Plan for the reforestation of mountains and the development of economic activities in correspondence with the environmental principles. This Plan is also aimed at fostering the human settlements that are imbricated in the development, conservation and productive activities that are carried out in the mountain. It was created by Resolution 143, of the Ministry of Science, Technology and Environment of June 15, 1995.

- The Advisory Commission of Fisheries, created by article 4 of Decree-Law 164 of May 28, 1996, is the maximum advisory body of the Ministry of Fishery Industry as regards classification and management of aquatic resources in marine and terrestrial waters. Its permanent members are the Ministries of Tourism; of Science, Technology and Environment; of Agriculture and of the

Interior; the Staffs of the Revolutionary Navy and of the Civil Defence; and the National Institutes of Hydraulic Resources; of Sports, Physical Education and Recreation; and of Veterinary Medicine.

- The Advisory Council for Sustainable Forest Development, is a combined body whose functions are to advise the forest sector and to offer support in the elaboration, assessment and proposal of the policies and programs for sustainable forest development. It involves the participation of the Forest Agro-Industrial Group; the Directorate of Turquino-Manatí Plan; the Institute of Forest Researches; the Legal Directorate of the Ministry of Agriculture; the National Company for the Protection of Flora and Fauna; the National Company of Agricultural Projects; the Environmental Policy Directorate of the Ministry of Science, Technology and Environment; the Body of Foresters of the Ministry of the Interior; the College of Agronomy and Forest in Pinar del Río; the National Institute of Hydraulic Resources; the Institute of Physical Planning; the Association of Small Farmers and "Man and Nature" Foundation. It was created in Chapter XI "Of the Forest Advisory Council", of Resolution 330-99, Regulation of the Law of the Forest. This Council has a novel conformation, since it groups entities of the state sector, private sector and civil society.

- The National Group of Attention to Bays. Presided over by the Ministry of Transport, it comprises the participation of the state agencies and bodies that act or carry out actions on the sustainable exploitation of bays. The decrease of the polluting load that reach the bays coming from punctual sources, the use of marine resources and the measures to avoid pollution by maritime transportation are among its work objectives.

Regarding the works for the identification and monitoring of the components of biological diversity, a close co-ordination exists among more than 200 scientific institutions, of which some 70 develop research lines directly related to biological diversity in its different levels. This permitted the realisation of numerous studies on the flora, fauna and ecosystems of the Cuban Archipelago whose results were integrated in the National Study on Biodiversity of the Republic of Cuba.

Box No. 11. GEF's assessment of a project where integration has been achieved.[15]

The Protecting Biodiversity and Sustainable Development of the Sabana-Camagüey project in Cuba actively promoted stronger links among the science

[15] Project Performance Report, 1998, GEF

community, government agencies, and development interests. As a result, construction practices have been altered so that causeways no longer cut off circulation within lagoons, construction site disturbance is kept to a minimum, and style of tourism facilities and infrastructure is more environmentally sensitive.

Representatives of the tourism industry believe the scientific community has become more attuned to their needs and has a much greater understanding of the information and ideas that are useful to guide the development process. Similarly, scientists participating in the project noted a radical change in the attitudes of developers, architects, and the Ministry of Construction as they learned how to minimise environmental impacts and safeguard the biodiversity and environmental qualities of the region. Construction guidelines detailed in the draft coastal management strategy developed through the project –which reduce environmental impacts and construction cost- are being applied elsewhere in the Sabana-Camagüey region, and the new consultative approaches to planning pioneered by the project are having an impact well beyond the project area.

In the National System of Protected Areas established by Decree-Law No. 201, we find a significant level of harmonisation among obligations under the different conventions related to biological diversity, since the declaration of the area is the result of a co-ordination process at territorial level. On the other hand, the activities conducted in the area have to be harmonised with and incorporated to its management plan.

Box No. 12. Process of co-ordination of the Decree-Law of the National System of Protected Areas.

Article 8: The Ministry of Science, Technology and Environment, prior to carry out the proposal referred in the previous article, will complete a process of co-ordination with the state agencies, bodies, or other entities that execute or have foreseen to execute activities in the area, or that retain state or government responsibilities in this respect, particularly those related to the territorial defence and ordering; with the holders of rights in the territory, the entity proposed to manage the area, and the Council of Administration of the territory where the area is located.

At the same time, different levels of co-ordination are appreciated among bodies and entities. In some cases there has been an advance and unquestionable achievements have been reached. Such is the case of the research, identification and monitoring works; the implementation of the control of management measures applied in the hydrographic basins; the access[16] to mountainous regions, Zapata Swamp and other areas, attending to their fragility as ecosystems.

[16] Resolution No. 34/96 of the Ministry of Science, Technology and Environment, of April 2, 1996.

Nevertheless there are topics, like the access to genetic resources and distribution of the benefits derived from their use and commercialisation, where the necessary co-ordination for the implementation at national level is still not adequately determined. In fact, it is not only a problem of co-ordination and integration, but rather it starts from a previous point, since the political, legal and institutional determinations are still insufficient.

3.5. - Regional institutions/mechanisms to co-ordinate application of regional agreement and/or regional application of global agreements.

The Latin America and Caribbean Region contains 15% of the world terrestrial surface (20 million square kilometres). It possesses the greatest reserves of arable land world-wide; 47% of its surface is covered with natural forests and it harbours 40% of the plant and animal species of the planet, including tropical, subtropical and temperate habitats[17].

These characteristics correspond to a mega-region where a diversity of ethnic groups and cultures coexist, with a non harmonic socio-economic evolution, with the result that:

a) It is characteristic of the Conventions as regards environment at regional scale that, on the one hand, they have a limited environment for their application, and on the other, that they are directed at regulating particularities of the geographical sub-regions (like the Convention of Co-operation for the Development of the Amazon Basin), or at the conservation and protection of certain species (Convention for the conservation and management of the Vicuna). Thus it is stated that there are no regional instruments that serve as general framework for an international environmental law in Latin America and the Caribbean[18].

b) Political alliances have been configured among the States starting from the elements of common geographical configuration (for example, Central American, Caribbean, South American, those in the Plata Basin, and other). Therefore we will frame our region in the sub-region of the Caribbean Sea for this case of study.

The implementation of the agreements on the environment in the Caribbean region has been done through Associations since 1960's. In this period the Intergovernmental Oceanographic Commission of UNESCO (IOC), created the program for Co-operative Investigation of the Caribbean and Adjacent Regions, which became IOCARIBE Sub-commission starting from 1984.

[17] Perspectives of the Global Environment, 2000. UNEP.
[18] Current Situation of Environmental International Law in Latin America and the Caribbean. Series No. 2 of Documents on Environmental Law, UNEP.

In 1976, soon after Stockholm Summit Conference, United Nations Environment Program created the Caribbean Environment Program (CEP) with a Regional Co-ordination Unit (RCU/PAC) that has a Committee for Intergovernmental Supervision, through which the Convention for the Protection and Development of the Marine Environment in the Wider Caribbean is implemented. This Program consists of the Sub-Programs: SPAW (Specially Protected Areas and Wildlife); AMEP (Assessment and Management of Environmental Pollution); ETA (Environmental Education, Training and Awareness) that is suspended at the moment for lack of funding; and CEPNET (Information Systems for the Ordering of Coastal and Marine Resources).

An appraisal on the Caribbean Environment Program allows to say that, in general, it is an important management and implementation instrument that should be adopted by the Association of Caribbean States as the executive tool for the actions this Association identifies and prioritise regarding environment, with a view to avoid the duplication of efforts and to take advantage of the existence of an intergovernmental mechanism with work experience in the Region.

The Association of Caribbean States (ACS) is another of the institutions responsible for the implementation of international agreements in the area. It constitutes a political-diplomatic forum where answers are sought for to the technical problems linked to the Member States and the Associate Members.

This Association has been playing a growing role in all issues related to environmental affairs in the Caribbean Region, being the results of its actions the creation of the Special Committee on Disasters, the declaration of the Caribbean Sea as Area for Sustainable Tourism, and more recently, the presentation and approval by the United Nations of Resolution 54/225 on the promotion of an integrated management of the Caribbean Sea, in the context of Sustainable Development.

As way of increasing the effectiveness of integration in the sub-region, the Environmental Strategy of the ACS is being elaborated, with its respective Program of Activities, which has not been concluded yet and initially arose as Cuba's proposal at the meeting in Jamaica, in 1997.

The Forum of Ministers of Environment of Latin America and the Caribbean constitutes the main high-level negotiating scenario for the countries of the region in environmental affairs. Besides the discussion and prioritising of environmental policies, it is an important mechanism for the co-ordination with United Nations bodies and international financial institutions to obtain resources to support projects of regional scope.

It is a forum of wide participation and with a high profile of the representatives from the Island and particularly English-speaking Caribbean, represented at the level of Ministers in many cases.

The Alliance of Small Island States (AOSIS) and the Action Plan for the Sustainable Development of Small Island Developing States (SIDS) were approved in May 1994, in compliance with Section G in Chapter 17 of Agenda 21. As a follow-up in the Caribbean Sub-region, several evaluations have been carried out on the implementation of the Plan, which requires a greater support from the governments and a higher degree of integration of the countries concerning the establishment of policies and strategies; although a significant achievement is recognised as regards institutionalisation, legislation and capacity-building. In this Action Plan it is specifically recognised that the regional and sub-regional co-operation played a fundamental role in achieving the objectives of the Action Plan.

This Plan also has a wide participation of the institutions of United Nations system, other governmental, including OAS, and non-governmental organisations. The Plan's 15 main paragraphs are related to: Climate Change and Sea Level Rising; Natural and Environmental Disasters; Waste Management; Marine and Coastal Resources; Water Resource; Land Resource; Energy; Tourism; Biodiversity; Institutional and Technical Capacity; Transports and Communications; Science and Technology; Development of Human Resources and Implementation of the Plan.

Box No. 13. Other regional organisations that participate in the implementation of the conventions related to biological diversity.

- United Nations Development Program (UNDP)
- United Nations Environment Program (UNEP)
- Economic Commission for Latin America and the Caribbean (ECLA)
- Caribbean Community (CARICOM)
- Inter-American Development Bank (IADB)
- Association for Caribbean Conservation (ACC)
- Inter-American Institute for Global Change Research (IAI)
- Pan-American Health Organisation (PAHO)
- Latin American Energy Organization (LAEO)
- Food and Agriculture Organisation of the United Nations (FAO)
- International Maritime Organisation (IMO)
- Global Environmental Facility (GEF)

The functioning of these institutions and the implementation of the action plans have not implied for Cuba the creation of new institutions, but rather the new functions and obligations that arise in the development of these interrelations have been incorporated to the existing administrative structures.

One of the great challenges for the implementation of regional agreements and the work of these international co-operation entities is the lack of funding. Although access to international sources of financing has been gradually achieved, standing out the Global Environmental Facility.

Box No. 14. Projects developed in Cuba with support from international agencies.

- Protecting biodiversity and establishing sustainable development in the Sabana-Camagüey region.
- Planning and management of highly polluted bays in the Caribbean.
- Programs for the eradication of the use of CFC's.
- Electric power production from sugar cane biomass to decrease the consumption of fossil fuels.

4. - Lessons learnt from country experience

The conservation of biological diversity as such represents a means to achieve the great objective of sustainable development. On the one hand, it allows the evolution and maintenance of the indispensable systems so that the human species continues on the planet; and on the other, it guarantees the satisfaction of the needs that development imposes on this species.

Thus, a first and essential lesson is that the conservation of biological diversity is not a goal per se, but a guarantee for development and for life itself. Not to preserve is not an option.

. It is necessary to have an appropriate strategic framework.

The existence of a National Environmental Strategy permitted the identification of the main environmental problems of the country and their impacts on environment, isolated or integrated. All the registered problems, without exception, have a more or less direct impact on biological diversity. In that way, this policy instrument became a forced starting point for the Elaboration of the National Strategy for Biological Diversity and its Action Plan.

As stated above, the territorial and sectoral strategies followed the National Environmental Strategy. The territorial strategies contributed a more concrete view adjusted to the respective local problems. The sectoral strategies, particularly those corresponding to agriculture, sugar industry, fisheries and tourism, deepened in the respective actions for these key sectors that have a great impact on biological diversity.

Starting from these Sectoral Strategies, the involved sectors have been putting aside the old conceptions that place them as isolated elements focused on a specific economic and social process, and they are beginning to assess in an integrated manner their actions, taking into consideration the impact they cause on the ecosystems and incorporating these forecasts in their development designs, plans and programs.

Lastly, the National Strategy for Biological Diversity and its Action Plan has completed this strategic framework and establish the most direct bases for the conservation of the biological diversity resources, the sustainable use of these resources and of their components, and the just and equitable distribution of the costs and benefits derived from their use, as foundation for a sustainable economic and social development.

All these strategies constitute interactive, dynamic and flexible frameworks, in perpetual revision and adjustment.

Box No. 15. Examples of Cuba's achievements regarding the fulfilment of the commitments under the Convention on Biological Diversity and the other above-listed conventions.

- **Recovery of endangered species:**
  Crocodylus rhombifer (Cuban crocodile), endemic to Cuba. A permanent ban was established since 1959 and a breeding farm was set up for complete cycle breeding in captivity. Attending to the population densities that have been reached and the area of distribution, it was concluded that this species is no longer in danger of extinction and CITES authorised the commercialisation of fourth generation specimens bred in captivity.
  Trichechus manatus (Manatee of the Antilles), species listed as endangered and with very reduced populations in some estuaries, lagoons or coastal waters of our archipelago. Its permanent ban was declared in 1908, although it has only been fulfilled with certain rigour since 1959. Certain recovery in the populations has been observed in the last decade, with a discreet increase in the number of specimens in determined zones of the shelf (Pilón, Ensenada de Mora and Portillo).
- **Increase of forest cover:**
  From a 14% in 1959, it has increased to a 21,8%, standing out to that effect the role of the National Plan for Forest Ordering and the Turquino-Manati Plan.
- **Recovery of ecosystems:**
  Havana Bay: Through the National Group of Bays and the Territorial Delegation of the Ministry of Science, Technology and Environment, an action plan has been conducted starting from the results of the Planning and Management of Bays and Strongly Polluted Areas in the Wider Caribbean Regional Project, whose achievements have started to manifest through a recovery of the biological and environmental indicators and the water quality in the bay, with the subsequent improvement in the marine fauna and the presence of birds.
  Recovery of Cauto River Basin: Through the National Program of Basins, measures have been implemented that have led to the decrease in the polluting load, decrease in the saline intrusion, development of a reforestation plan and creation of forest farms, which have increased the forest covering in the area and have stopped the severe erosive process of the soils in the area and the saline intrusion.

an eminently preventive character and, in that sense, an economy like the Cuban that involves planning as a basic tool, offers an advantageous framework.

Impacts on biological diversity are minimised or avoided, as it is feasible, in the different stages of the economic activities that cause them; the conservation,

mitigation and restoration measures are kept in mind and incorporated to all the economic and social development designs, plans and programs of the country.

In the case of Cuba this is expressed, among other instruments, in the Territorial Ordering, the Forest Plan, the Mining Concessions, the Fish Catch Plan, the Agricultural Development Plans, the Agricultural Extension Plans, the Plan for the Management of Dams and Reservoirs and in the own orderly development of Foreign Investments.

Planning is also fundamental when assessing in advance the commitments that will be assumed after signing, ratifying or presenting the adhesion to an international instrument as regards biological diversity, to be able to design beforehand the implementation mechanisms starting from the existing institutional and technical capacities or those that it is required to create.

- ***Policy actions need to have the appropriate scientific support.***

The creation and development of the scientific capacity in the country constitutes indispensable requirements to reach the objectives of the Convention on Biological Diversity and the other conventions.

The scientific development achieved by Cuba allowed for carrying out the National Study on Biological Diversity that constitutes one of the essential scientific bases on which the National Strategy for Biological Diversity is developed and implemented, and that contributes to widen the knowledge on the state of natural resources and the ways to prevent or stop the environmental deterioration.

The unity of the scientific institutions related to the biological diversity resources, including those devoted to social sciences, to develop the National Study on Biological Diversity, resulted in a working tool of unquestionable value for political decision-making, particularly of environmental and administrative policy.

- ***A wide social participation constitutes an indispensable requirement.***

The participation of the local communities and civil society in general, in the elaboration, implementation and execution stages of the National Strategy for Biological Diversity and its Action Plan, is also recognised as an indispensable requirement.

- ***It is required an effective education and public awareness to achieve a real advance.***

During the whole process of political, legal and institutional development with respect to biological diversity, it has become evident that the limited perception on the problems of biological diversity in the decision-makers and the population in general is a hindrance to reach the necessary effectiveness in the conservation and use of biological diversity.

This way, the on-going actions will not progress properly if they are not accompanied by an appropriate presence of environmental education and public awareness. In fact, if the above-mentioned strategic frameworks are revised, it is evident that the education and awareness are present, although this is a process that must be continuous.

- ***An effective system requires monitoring and information.***

Once a strategic framework is consolidated, it becomes evident the need of a National System for the Monitoring and Control of biological diversity components, as well as of an Information System to define the pertinent indicators.

Being these two of the less developed elements in the Cuban system[19], the lessons learnt refer to the indispensable character of their existence, more than to their assessment, to advance efficiently in a strategy on biodiversity.

- ***There should be an appropriate focal point with formal and real authority.***

The creation and appointment of a Body of the Central State Administration, the Ministry of Science, Technology and Environment, which does not administer any natural resources and whose mandate is to lead the activities related to the research, inventory, assessment and sustainable management of biological diversity, allows for an effective control on the strategies and legislation concerning the biological diversity.

Concurrently, for this authority or focal point to work appropriately, the functions and attributions assigned to each of the actors to avoid overlapping in the authority and responsibility have to be sufficiently defined. Establishing these functions and attributions with this requirement contributes to facilitate the co-operation and integration of the actors in the fulfilment of the assumed commitments.

It is feasible to integrate the functions and attributions of the National Authorities that are established for the different conventions related to biological diversity in a single Authority. This permits to act consequently and with a more integrating view, what increases the effectiveness and effectiveness of the actions that it attacks.

[19] The lack of a National Network of Monitoring Stations in the ecosystems and landscapes that are representative of the biological diversity, makes it impossible to conduct a precise assessment of the result achieved with the implementation of the Action Plan.

The Information System of the National Information Network for Biodiversity is partially installed and the information recovered is mainly used for research and teaching works, which hinders the adequate access to the information to which any person is entitled, according to what is legally established.

Greater transparency is achieved in the negotiations regarding the access to the biological diversity resources and the just and equitable distribution of the benefits obtained from them, if the established National Authority ascribes to a body of the Central State Administration that has a global character and does not administer any natural resources directly. In this primary way, the collective interests are closer to the objectives of the Convention on Biological Diversity and the other conventions than the individual interests of an agency whose social object is the exploitation of a natural resource.

- ***It is necessary to have a set of management instruments.***

The Environmental Impact Assessment and Environmental Licenses are indispensable to attain the goals of the conservation and sustainable use of the biological diversity resources.

The integrated assessment of the accomplishment of the implementation of the Action Plan of the National Strategy for Biological Diversity requires that the State System for Environmental Inspection and Control is extended throughout the whole national territory, and also guarantees the participation of the rest of the state inspection systems existing in the country that have an incidence on the biological diversity.

- ***The creation of participative group structures.***

The work in commissions or working groups allows the greatest effectiveness in the cross-sectoral implementation of the obligations assumed by the country. The National Group on Biological Diversity constitutes an example, and so are the existing groups and commissions for the attention to bays, mountains or basins.

These groups supplement and enrich the performance of the institutional authority and should have a wide representation of actors to function effectively.

- ***The conservation of biological diversity, even at national level, requires a regional framework.***

Given the interconnection of ecosystems and the own characteristics of the species, an exclusively national framework for conservation is only partially effective. That is why Cuba has committed to the development of SPAW Protocol as a regional instrument - at the level of the Caribbean basin - on biological diversity.

At the same time, it is indispensable to strengthen the international co-operation for the sake of obtaining better results in the research, conservation, rehabilitation and management of biological diversity resources and for their control.

- ***Definite tenure is needed regarding the biological diversity resources.***

It has already been pointed out that this issue is not satisfactorily resolved in the Cuban legal ordering, which has been a constant difficulty in the process of defining the political and institutional framework for the conservation of biological diversity. This way, the indispensable character of such definition in these topics constitutes a learnt lesson.

- ***Law can be utilised as an effective tool.***

In principle it could seem obvious that law is a tool; however its effectiveness is not intrinsic, but an added value. In the case of Cuba this effectiveness has been increased insofar as:

- There has been a framework to repress severely the behaviours that attempt against the biological diversity.
- Access mechanisms to environmental justice have been developed.
- It has been increased the training of decision-makers and the whole population in the use of the legal procedures to settle environmental conflicts in civil and criminal matters.
- Technical norms that define the permitted standards of emissions or spills and that guarantee the decrease of pollution and the recovery of the impacted ecosystems have been established.

It is not indispensable, however, a Law on Biological Diversity. In fact, the legal phenomenon of the biological diversity is approached through a diversity of normative instruments, among which stand out the Law of the Forest, the Decree-Law on biosafety and the Decree-Law on the National System of Protected Areas, in the Cuban case.

- ***Without an appropriate economic assessment of the biological diversity, the risks of impact will continue being high.***

Indeed, some of the most compromising decisions for biological diversity in the process of Cuban economic and social development have been associated to an insufficient assessment of biodiversity that has made it “lose” the struggle against more tangible economic results.

In spite of the fact that the value of biodiversity “per se” is recognised, the effect on biodiversity in the processes of decision-making will be better pondered if there is an instrument for its adequate economic assessment.

- ***The proposed objectives regarding biological diversity can only be achieved in a partial and unsatisfactory manner, if there is no international source of financing and no access to the appropriate technologies***

The reasoning of this already known lesson is explained by itself.

4.1. - Problems identified in co-ordinating national implementation of biodiversity - related agreements.

The problems related to the necessary co-ordination at national level for the implementation of biodiversity - related agreements have gone through different moments and stages. At the beginning the difficulties were identified fundamentally as due to the ignorance of the main problems that affect the biological diversity and its interrelations with the development of certain activities. On the other hand, before the promulgation of Law No. 81, Law of the Environment, there was certain overlapping in the competence that two or more state bodies had on the same topic (such is the case of the air control quality, the leading of the topics related to wild flora and fauna, among other).

Nevertheless, in spite of the experience accumulated in these last seven years of work regarding the implementation of the biodiversity - related agreements co-ordinated at national level, we still find a group of difficulties. The most important problems are related to:

Planning and Ordering.

- It has not been possible to put into practice the use of the strategic environmental assessment applicable to plans, programs and projects of economic and social development, fundamentally when it embraces more than one territory. The solution to this problem is of the highest priority attending to the rapid development that is occurring in tourism, which exploits natural resources that are located in the most fragile areas.

- The territorial ordering has not incorporated the principles of conservation and sustainable use of the biological diversity resources in their whole dimension and with the speed required to appropriately implement the National Strategy for Biological Diversity and its Action Plan.

Education, awareness and participation.

- It is still insufficient the knowledge on the part of decision-makers of the main problems that affect biological diversity in the territory, since the environmental territorial strategy is not being used appropriately as a management instrument.

- There is little practice in the use of the ways that guarantee the public participation in the design of the strategies and the implementation of their action plans, causing a prevalence of the institutional view in these topics.

Institutional responsibilities.

- Problems persist regarding the competence of the Ministry of Agriculture, the Ministry of Basic Industry and the Ministry of Science, Technology and Environment with respect to land use change, mainly when in a territory coincide the mining and agricultural interests in a protected area.

- These problems that impact on the integration of the national application of the biodiversity - related agreements also occur as regards the Ministry of Agriculture, with respect to the decisions concerning flora and fauna, and regarding the Ministry of Fishery Industry as for the use of fishery and marine resources.

4.2. - Best practices drawn from national experience in trying to meet the country's obligations under multiple biodiversity conventions.

If we keep in mind that the National Strategy for Biological Diversity and its Action Plan were approved in 1998, we could conclude that it is uncertain to identify which have been the most successful mechanisms implemented at national level with regard to the fulfilment of the State obligations under the multiple international agreements on the topic of biological diversity, considering that only two years have elapsed since the approval.

However, Cuba[20] has been working on these topics since 1994, when it ratified the Convention on Biological Diversity and revised the implementation that had been done in 1990 of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), with a view to evaluate the feasibility of using the structures that had been created to meet the common obligations under both instruments.

This practice has characterised the whole process of implementation of the actions appertaining to each of these Conventions, which has allowed to optimise the use of the scarce financial resources of the country and a specialisation in the work of the institutional structures existing in the whole national territory.

The most successful existing mechanisms that have allowed the advance that has been achieved are identified in:

The creation of the Ministry of Science, Technology and Environment, as a Body of the Central State Administration with general leading responsibility on the topic of biological diversity

The role that the Ministry of Science, Technology and Environment is playing, not only within its institutions but also outside of them, among which stand out the co-operation and co-ordination relationships this Ministry has established with the state agencies, bodies and entities that intervene in a certain extent in the topic.

[20] See Introduction, page

Starting from its convocation capacity, this Ministry has been establishing the Agreements of Conciliation and Co-ordination of Actions for environmental management and the Voluntary Agreements for the best environmental protection, two work tools for environmental management established in the National Environmental Strategy that have allowed to identify the actions and exchange ways to use so that each actor plays its corresponding role.

Examples of them are found in the relationships established with:

- the General Customs of the Republic in the execution of the provisions on the import and export of species included in CITES or on species on which there has been an access to their genetic components.
- the Revolutionary Armed Forces regarding the access to areas of interest or fragile ecosystems and the frontier surveillance regarding the illicit trade of biological diversity resources.
- the Ministry of Agriculture that administer the highest number of protected areas to fulfil the commitments regarding “in situ” conservation, including the wetland of international importance declared by Cuba when adhering to the Convention on Wetlands of International Importance Especially as Waterfowl Habitat, and the territories where most refuges of migratory birds have been established.
- the Ministry of Culture regarding the conservation of landscapes and the natural environment, as well as the traditional knowledge of the local communities and the folklore.

Within the Ministry, three fundamental aspects are highlighted:

- The creation of specialised centres for specific matters, like the **National Centre for Biological Diversity, the National Centre of Protected Areas, and the National Centre of Biosafety.**
- The integration in one centre of the general functions related to the environmental administration, the **Centre for Environmental Information, Management and Education** that directs the work of the **National Council of Hydrographic Basins**, the **System of Environmental Survey** and the **National Environmental Fund,** and participates in the work with the groups involved in the management of biological diversity, like the **National Group for Bays** and the **Commission of Turquino-Manatí Plan**, related to work in the mountain.
- The assignment to the **Centre of Environmental Control and Inspection** of the state function of control and supervision, through which the implementation and execution of the measures in the action plans of the strategies are evaluated, and those behaviours that infringe the environmental legislation are detected and sanctioned.

The National Scientific-Technical Programs, that involve the participation of all the sectors of Cuban society, have determined in a great extent the fulfilment of some of the mandates of the Convention on Biological Diversity and the other conventions.

Box No. 16. Scientific Technical Projects related to the conservation and sustainable use of biological diversity developed in Cuba in the year 2000.

National Projects:

- Global changes and assessment of the Cuban environment: 16 Research-Development projects with 44 results.
- Sustainable development of the mountain: 3 projects with 17 results for Biological Diversity (monographs, maps, databases)
- System for drought surveillance (meteorological and environmental impacts, Atmospheric acid deposition and Regionalisation of the tropospheric ozone **)**

Branch Projects:

- Protection of the Environment and Cuban Sustainable Development: 27 on-going projects
- Systematic and Biological Collections, their conservation, maintenance and exhibition: 19 on-going projects
- National inventory of greenhouse gas emissions and removal (baseline year 1990 and updating 1994)
- Design and development of a geographic information system for the National System of Protected Areas and for environmental analysis.
- Scientific Work: Foundations for the study and management of the atmospheric environment.
- Digital Maps (Isle of Youth).
- Collection of the flora of Camagüey province with 84 families and 1492 species.
- Automated catalogue of marine macroalgae and invertebrates of the Institute of Oceanología.
- Manual of the cure procedure of natural history collections.

The creation of the National Council of Hydrographic Basins is another of the most successful experiences for the implementation of the Convention on Biological Diversity and the other conventions. The hydrographic basins comprise 40% of the population and 60% of the economic activity of the country; therefore the actions carried out in them have a transcendence in all the areas of the national territory. The Ministry of Science, Technology and Environment and all the actors that influence on the basins through their activities participate in the expression, both national and territorial, of this National Council.

The work in this physical-geographical unit allows to keep in mind the biological, physical and socio-economic aspects in a very effective way to elaborate the policies and undertake the actions guided to solve the environmental problems, which are always related to the main problems that impact on the biological diversity.

Up to the present, the main actions have been:

- The application of the Reforestation Plan approved by Ministry of Agriculture and the development of forest farms.
- The integrated work for the solution of problems of soil degradation, being the Council responsible for carrying out concrete actions for the development and implementation of the National Program to Combat Drought and Desertification.
- The development of a strong control and monitoring work of the spills that occur in the basins, therefore this Council keeps a National Inventory of the Fixed Polluting Sources, being able to reduce in 7% the polluting load in the last three years.

The creation of the Bodies of Attention to the Integrated Development of the Mountain for the actions in correspondence with the Turquino-Manatí Plan[21], subordinate to the Executive Committee of the Council of Ministers, and presided over by the Minister of Agriculture, having as Vice-president the Minister of Science, Technology and Environment.

The work developed by these bodies has allowed for the establishment of policies for each mountainous region and its development designs, the supervision of works that guarantee the sustainable development and the protection of ecosystems as well as the reforestation activities in these regions, and the stimulation of local productions as economic alternative, fundamentally focused on the development of coffee, cocoa, forest and fruit-bearing plantations, as well as the production and services associated to the economy of the mountainous regions and the rescue or preservation of patriotic-military and cultural traditions among the residents of these regions.

The Bodies of Attention to the Integrated Development of the mountains guarantee that the measures to avoid or minimise the negative impacts on the biological diversity are executed with the participation of the local communities.

The Law No. 85, Law of the Forest, is par excellence an environmental law, according to its content, even when in its object it commands the exploitation of a natural resource. Its greatest value is that it establishes the regulations for conditioning this exploitation to environmental parameters that guarantee the conservation and sustainable use. It constitutes a juridical example of legal instruments that appropriately integrate the provisions that the Law of the Environment has been imposing on this topic.

Although it corresponds to the Ministry of Agriculture to exercise the state control so that all the natural and legal persons abide by the regulations of Forest Patrimony and other measures adopted for the conservation, management and sustainable use of the forest resources, it carries out this function in co-ordination with the Ministry of Science, Technology and Environment, which is also part of the Advisory Commission of Forest Resources.

[21] Created by Decree No. 197 of January 16, 1995. Its structure and functions were approved by Resolution No. 143, of the Ministry of Science, Technology and Environment, of June 15, 1995.

Among the conservation dispositions it establishes, it should be highlighted :

- the regulations regarding the forest strips of the protection areas of reservoirs and natural waterways, those that surround the springs and are located along gullies and ravines, where only selective logging is allowed and the execution of the reforestation plan is established.

- the management of forests is carried out according to the classification granted to each of them. To the effects of the accomplishment of the obligations of the Convention and the other agreements, it is of special importance the total prohibition of exploitation logging in forests classified for “conservation”, among which there are: the forests for special management, those for the Protection and Conservation of Fauna, the recreational, educational and scientific forests, independently of their location inside or outside of a protected area.

- the obligation of establishing in the forests the forest genetic funds in accordance with what the Ministry of Science, Technology and Environment commands regarding the reproduction, management and conservation of species, origins or individuals, or genes comprised in the genetic resources of the country.

The Advisory Commission of Fisheries constitutes a significant achievement in the design of the mechanisms for the successful implementation of the commitments emanated from the Convention on Biological Diversity and the other agreements.

It was created by disposition of Decree-Law No. 164, Regulation of Fisheries, being its functions to analyse the state of exploitation of aquatic resources in areas under the national jurisdiction and to propose the necessary regulations and ordering and protection measures to achieve a sustainable economic exploitation that can include fishing quotas, bans, minimum size or weight, requirements for fishing tackle, and other regulations.

The Advisory Commission of Fisheries is the maximum advisory body of the Ministry of Fishery Industry with respect to ordering and management of the aquatic resources of the marine and terrestrial waters and its agreements are expressed through ministerial resolutions. The Ministry of Science, Technology and Environment, the Staff of the Civil Defence, the Ministry of Agriculture, among other, participate in this Commission, facilitating a high degree of conciliation of the decisions and thus a guarantee of their implementation.

The measures taken within the framework of this Commission, which have a greater repercussion as for the conservation and sustainable use of the biological diversity, are expressed in the regulations, including legal dispositions regarding the methodology for the application of the policy for granting Fishing Authorisations, establishing minimum sizes for the catch of commercial species,

and the establishment of 12 areas under special regime of use and protection, where any type of fishing activity is prohibited to guarantee the reproduction of species.

4.3. - Focus on institutional, legal and practical arrangements (both to implement the conventions and to co-ordinate that implementation across to series of conventions)

As we have pointed out above, the implementation of the agreements and actions that satisfy the obligations that emanate from the Convention on Biological Diversity and the other conventions must obligatorily start from the analysis that the country carries out regarding the state of its biological diversity, the causes that degrade it and the political and institutional capacity on which it relies to face the necessary tasks or the actions.

On the other hand, it is required to have a scientific-technical capacity that allows to:

- evaluate the objectives and scope of each of the norms established by the international instruments;
- evaluate the principles of environmental law that are applied, with particular attention to the “think global, act local” and “solidarity” principles.
- develop an appropriate design for the mechanisms and actions for their implementation, including the design of the interrelations among all the actors that intervene in the execution of the objectives of the Convention in question.

When the integration of the different mandates derived from different conventions is assessed, an imperative to achieve the appropriate integration among the institutionalisation, the legal and practical issues is that these have common points and homogenise their objectives, which allows to design their implementation taking advantage of the installed capacities that are expressed later in less costs and less time needed for the implementation process. It also avoids conflicts like the one being analysed at present regarding the scope of CBD and CITES, and at regional scale among CBD, CITES and SPAW.

In fact, these instruments present differences in degree among each other, as for the way to combine the sustainability or the sustainable use and the conservation understood in a stricter sense. In our opinion such a situation is given by the particular conditions that accompanied each negotiating process, which at the same time have taken place in different times and moments of the development of the environmentalist thought. Although a certain degree of convergence has been achieved through the structures that each Convention has approved to conduct its evolution, and in particular through the Conferences of the Parties.

Cuba’s socio-economic conditions offer certain advantage when implementing these Conventions, particularly if compared to other developing countries. This is so, first of all, because:

- The exploitation of the natural resources essentially responds to the National Economy Plan, where the medium-term economic and social development plans start being the object of the corresponding strategic environmental impact assessment.

- From the space point of view, there is a Territorial Ordering Plan that embraces the whole surface of the country, whose approval and further revision and adaptation involved the active participation of the environmental authorities.
- The particular economic difficulties faced at the beginning of the 1990's that have not been fully reverted yet, paradoxically favoured a view of sustainability, causing, among other effects, an abrupt reduction in the use of chemical products in agriculture and their substitution by biological products and controllers, and the subsequent development of methods of organic agriculture.
- At the same time, Cuba's relative isolation from the big trends of investment and of capital, allowed it in the last decades to conserve vast ecosystems in an almost natural state, especially their coasts and beaches. The opening to foreign investment in the use of these resources, although it is not exempt from risks, has been happening in a controlled and evaluated manner, also taking into account the experiences, mostly negative, in the exploitation of coastal resources in other regions of the world.

Among the international legal instruments, the Convention on Biological Diversity has constituted the basis on which the political, legal and practical implementation mechanisms have been created. The origin of this situation is obvious if we analyse the dates in which Cuba became a Party to the rest of the Conventions; except for CITES, Cuba adhered to or ratified the other conventions after it ratified CBD.

In the case of CITES, two Administrative Authorities existed initially, one the Ministry of Fishery Industry, with powers on the marine species, and the other, the Ministry of Agriculture, on the terrestrial species. In 1994, with the creation of the Ministry of Science, Technology and Environment and the signature and later ratification of the CBD, it was evaluated the feasibility to unify both authorities in only one and that it was in the Ministry in charge of environment. Thus these administrative decisions were separated from the bodies that in turn responded for the economic exploitation of these resources.

The mechanisms that have been instituted at national level to establish the relationship among institutions, legislation and practice, have always been based on a clear and precise definition of the functions and attributions of the institutions of the Ministry of Science, Technology and Environment concerned with this matter, in correspondence with the activity they carry out, whether those related to the state function, the environmental policy for biological diversity and the control and supervision of the execution of the measures and the legislation, or those related to management.

Starting from these functions the structures have been perfected and endowed with the legal instruments as work tools in the execution precisely of these functions, so that each of the international norms has had an adjustment in the national legislation and an institution in charge of executing it.

The institutional structure starts with the Ministry of Science, Technology and Environment and functions as a downward pyramidal scheme, where the ministries whose activity impacts directly and indirectly on the biological diversity appear in a second level, and other institutions in a third level, while society in general constitutes its base. It has facilitated the implementation of the environmental legislation that also has this pyramidal characteristic, having in its peak the Framework Law that is the Law of the Environment, in a second level the special legislation on biological diversity including the Decree-Laws of Waters, Soils, Fisheries, Coastal Zone Management, National System of Protected Areas, Biosafety and the Contravention System in Environmental Affairs, a subsequent level where the regulations (Decrees and Resolutions) are established, with the procedures and in many cases the systems of administrative responsibility of natural persons, and lastly the technical norms that are approved by resolutions.

As for the practical work arrangements and agreements among institutions and the society, they constitute part of the instruments that are used to implement the actions derived from the Strategies. The Strategies, in turn, are structured in correspondence with the pattern of institutional and legal organisation. This way, the National Strategy for Biological Diversity and the Territorial and Sectoral Environmental Strategies are derived from the National Environmental Strategy, which facilitates the execution and control of the activities foreseen in these instruments, according to the mandate of the legislation and to the role of co-ordinator and manager that is conferred to the institutions of the Ministry of Science, Technology and Environment.

4.4. - Analysis of the effectiveness of the arrangements described in 4.3.

Along the Case Study we have referred the different means of institutional and practical agreement and organisation for the implementation and integration of the Conventions related to Biological Diversity.

If it is ultimately considered that the impact of these forms of agreements and organisation are expressed in the best identification, knowledge, conservation and use of biological diversity, then we must regard as a positive sample of that effectiveness from the continuous increment of the forest cover to the realisation of the Country Study on Cuban Biological Diversity.

However, the matter is much more complex from the methodological point of view, and in the practice it is almost impossible to distinguish the extent in which such results are due to the Conventions and the mechanisms adopted nationally for their implementation, and up to what extent such results would have taken place without such international and national instruments.

In spite of that, it can be distinguished and recognised that the structures originated in the post-CBD period and that they have been inspired in CBD's text and spirit. They have imprinted a new quality and dynamics to environmental work in Cuba.

The same way the concept of biological diversity has a generalising and comprehensive character, its transfer to the national sphere and the subsequent instrumentation through the structures created to that end has allowed to gather around a table to the authorities in charge of forests, terrestrial species, marine species, waters, atmosphere and soils, among other, and that they take decisions validated by all, which are therefore politically, legally and institutionally implementable. The National Council of Hydrographic Basins stands out for its effectiveness in this sense, which has been referred opportunely.

Summarising, we can state that the pattern and mechanisms established by Cuba have achieved the appropriate effectiveness, within the constraints dictated by the degree of economic development of the country, involving all the sectors and actors of the country, comprising and applying the measures harmoniously to fulfil the international commitments, saving effort and time in the implementation of this commitments, and producing concrete results that go from effective legislation to the recovery of species and ecosystems.

5. - Conclusions and recommendations aimed at strengthening national capacity to prepares and implement NBSAPs or equivalent plans, programmes and policies in compliance with Article 6 of the CBD.

We have approached in each of the aspects of this case, the historical and practical evolution of the implementation of the CDB, and the actions for its harmonisation with the rest of the conventions related to the topic of biological diversity that have been put into practice.

Based on this analysis we can conclude that regarding the elaboration and adoption of strategies, plans or programs for the conservation of biological diversity and the sustainable use of its component Cuba, as a Party to the CBD has carried out the following actions:

- It devised and adopted the measures that propitiated the process of elaboration of the environmental strategies, especially the National Strategy for Biological Diversity, by means of a complex, multifaceted and participative process, where wide sectors of Cuban economy and society were involved.

- It has established the mechanisms and actions to fulfil the commitments of the CBD, which are identified in the Action Program.

- The National Strategy for Biological Diversity is an effective tool to determine the priorities on which to focus the actions in the process of incorporation of these in all the plans of the national economy.

- The different sectors have been incorporating the measures of the Action Plan in their sectoral and territorial environmental strategies, which implies an application that starts at national level and reaches the local level, simultaneously including all the economic and social sectors.

- The aspects related to the conservation of biological diversity and the sustainable use of its components are taken into consideration in the decision-making processes, becoming an indispensable requirement for granting or not the Environmental Licenses, in the processes, plans and activities subject to the process of Environmental Impact Assessment.

- A group of Management Plans has been established for concrete activities, such as the Management or Operative Plans for the Protected Areas, the National Plan for Exploitation of Forest Resources, and the Reforestation Plan that constitute adaptations of the National Strategy for Biological Diversity for these activities.

- The environmental legislation, particularly the Law of the Environment, establishes that the strategies constitute one of instruments used in the environmental management, guaranteeing the legal framework for the implementation of this Law and its action plan.

- The adjustment of the Strategy and its Action Plan are obligatory for all the involved actors, the non-fulfilment of this precept constitutes a contravention regarding environment, and thus, object of an administrative sanction that can end up in a legal process.

- Legislations have been promulgated that establish the requirements for the access to natural areas of special significance and the biological diversity resources to guarantee the fulfilment of the commitments of the CBD.

- The conception of working through Commissions or Groups for the attention of determined physical-geographical units, like basins or bays, facilitates a closer and more responsible integration among the different actors, diminishing the costs and time of implementation of the actions.

These actions show that the process developed by Cuba has been satisfactory regarding the implementation of the commitments emanated from its condition as Party to the CBD in this stage, and that it has an appropriate design to continue advancing toward higher stages of implementation.

At the same time, in the presentation of the case we have pointed out that this process of elaboration and implementation of the strategy and its insertion in all the sphere of the socio-economic life of the country has not been exempt from problems and difficulties. That is why in many occasions the required rapidness in the decision-making or the culmination of certain process is not achieved. The limited availability of material and financial resources is a significant factor.

Recommendations

Future work should focus on continuing the implementation of the actions that allow the fulfilment of the international commitments at national level, and on creating the mechanisms that permit to solve at short term the remaining problems. For that purpose, it is necessary to:

- Complete and improve the mechanisms for the strategic environmental assessment of the development plans, programs and projects, so that they incorporate the aspects related to the conservation and sustainable use of biological diversity from their conception. The study of these plans could require a new co-ordinating structure that should also guarantee the consultation of the citizenry.

- Improve the work to train the decision-makers and citizenry in general regarding the topics of conservation of the biological diversity, trying to convey to them a growing knowledge on the main problems of biodiversity and the requirements to achieve a sustainable use of its component.

- Define those administrative competencies that still tend to create confusion regarding the institutional responsibilities.

As a condition so that these actions that should be undertaken achieve the necessary efficiency and effectiveness in the fulfilment of the objectives of the Convention on Biological Diversity, it is imperative that in the international field measures are taken, or at least, thought is given to the need to seek ways and means that propitiate a greater inward integration of the different Conventions.

The actions that should be undertaken in the international realm are mainly related to:

- Continue seeking the mechanisms or ways that guarantee the appropriate access to the sources of funding and the adequate technologies for countries with scarce or limited material and financial resources, so that they can execute the actions necessary for the fulfilment of their obligations.

- Evaluate the design of mechanisms or guides that integrate the actions that satisfy obligations common to the different Multilateral

Environmental Agreements, unifying these common commitments under the umbrella of the Convention on Biological Diversity, which would represent a sensible decrease in the implementation costs for the countries, mainly for those having limited material and financial resources.

- Work in order to achieve in a near future that the National Reports that the countries have to present before the different secretariats as Parties to the International Conventions are integrated into one sole National Report in which the issues corresponding to each Convention are part of the general information presented by the countries.

- Establish precise indicators that allow for the quantitative and qualitative evaluation of the implementation in the national sphere of the Strategies, including the achievements reached by the countries.

- Incorporate to the evaluation of the implementation of the Convention on Biological Diversity in the countries the analysis of the relationship of this Convention with other Multilateral Agreements that have an indirect incidence on the biodiversity issue.

Havana, April 2001.

Annex No. 1. List of the most significant National Legislation related to International Conventions.

Convention on Biological Diversity

- Law Not. 81, Law of the Environment of July 11, 1997.
- Law No. 85, Law of the Forest, of July 21, 1998. It regulates the general principles and rules for the protection, increment and sustainable development of the forest patrimony.
- Decree-Law 190. Of Biosafety, of January 28, 1999.
- Decree-Law 201. Of the National System of Protected Areas, of December 23, 1999.
- Decree-Law 200. Of Contraventions in Environmental Affairs, of December 22, 1999.
- Decree-Law 212. Of Coastal Zone Management., of August 8, 2000
- Resolution 130/95. Regulation for the State Environmental Inspection. of June 1st, 1995
- Resolution No.34 of CITMA, of April 2, 1996. It gives effect to the rules for the assessment of expeditions, investigations and visits of scientific-technical character and environmental interest.
- Resolution 77/99. Regulation for the Process of Environmental Impact Assessment., of October 14, 1996.
- Resolution No. 111 of CITMA. Regulation on Biological Diversity, of October 14, 1996. It establishes the provisions to achieve an appropriate management in the conservation and sustainable use of biological diversity in the country, and to guarantee the access to biological diversity resources and the just and equal distribution of benefits derived from this access.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

- Law No. 81, Law of the Environment of July 11, 1997, article 87 “The Ministry of Science, Technology and Environment, in co-ordination with the Ministry of Agriculture and other competent agencies and bodies, will establish regulations that condition, restrict, or prohibit the exportation of species of animals, plants, or micro-organisms in the case of species subject to special regulations within the framework of international agreements to which our country subscribes.
- Decree-Law No. 162, of Customs, of April 3, 1996.
- Resolution No. 60, of CITMA, of July 5, 1996. It designates the persons that will carry out the functions and attributions of the Administrative Authority before CITES Convention.
- Resolution No. 87 of CITMA, of September 2, 1996. Regulation for the fulfilment of the commitments acquired by the Republic of Cuba in the Convention on International Trade in Endangered Species of Wild Fauna and Flora, Its objective is the establishment of regulations that allow the appropriate fulfilment of the commitments acquired by the Republic of Cuba in the

aforementioned Convention, and the exercise of the attributions and functions of this Ministry in relation to CITES Convention.

- Resolution No. 33, of CITMA, April 2, 1996. It establishes specific protection measures regarding the access, extraction and commercialisation of Black Coral in order to guarantee its sustainable use.
- Resolution No. 83, of the Ministry of Fishery Industry, of February 18, 1997. It declares the permanent prohibition of catching the sea turtles denominated Green turtle (***Chelonia mydas***), Loggerhead turtle (***Caretta caretta***), Hawksbill turtle (***Eretmochelys imbricata***), and Leatherback turtle (***Dermochelys coriacea***), except in the communities of Cocodrilo and Tortuguero that share a catch quota of 500 specimens per year.

Convention on Wetlands of International Importance especially as Waterfowl Habitat

- Law No. 81, Law of the Environment of July 11, 1997, article 105 makes the Ministry of Agriculture responsible for the efficient management of mangrove swamps.
- Decree-Law 138, Of the Terrestrial Waters, of July 1, 1997. In its article 22 establishes that in all design, construction or exploitation of hydraulic works devoted to the control and use of terrestrial waters, the measures that are required to preserve aquatic life, fishery exploitation, and the ecological balance will be taken into consideration, in compliance with the norms established to that effect by the relevant agencies.
- Decree-Law 212, of Coastal Zone Management, of August 8, 2000. It establishes the permitted and prohibited uses of this zone.
- Decree No. 268, Contraventions of Forest Regulations, of September 8, 1999. It establishes the behaviours that constitute personal contraventions as regards forest regulations, including the clearing of mangrove swamps or in the coastal zone.
- Resolution No. 42 of INDAF, of December 9, 1978. It establishes the technical hunting permit, for the hunting or catch of species of our wild fauna for scientific purposes, for the investigations and observations of nests, young pigeons and breeding sites of protected species.
- Resolution No. 288/99 of MINAGRI, of August 4, 1999. It approves the Hunting Calendar for the season 1999-2000.
- Resolution No. 330/99 of MINAGRI, of September 7, 1999. Regulation of the Law of the Forest, structure of the Forest Service. It establishes the norms for the classification of forests, forest projects, among other.

Convention for the Protection of Wildlife and Natural Scenic Values in America.

- Law Not. 1, Law for the Protection of the National Heritage, of August 4, 1977. Its purpose is the determination of the assets that integrate the Cultural Heritage of the Nation, for their special relevance in relation to archaeology, prehistory, history, literature, education, arts, science and culture in general;

and the establishment of suitable means for their protection. It designates the Ministry of Culture to declare and appoint the assets that integrate the Cultural Heritage, and creates the National Register of Cultural Assets.

- Law Not. 2, Law of National and Local Monuments, of August 4, 1977. It defines the categories of national and local monument and site, as well as the elements to consider to include a place within one of these categories. It creates the National and Provincial Commissions of Monuments and establishes their functions and attributions. It regulates the archaeological activity.
- Law No. 81, Law of the Environment of July 11, 1997. Title Ten: Sustainable use of landscape resources, and Title Twelve: Preservation of cultural heritage associated to the natural environment.
- Decree No. 55, Regulation for the Implementation of the Law of the National and Local Monuments, of November 29, 1979. It creates the National and Provincial Commissions of Monuments, classifies the different types of monuments and regulates the procedures for their proposal and approval.
- Decree No. 118, Regulation for the Implementation of the Protection of the Cultural Heritage, of September 23, 1983. It establishes the regulations for the protection of the Nation's Cultural Heritage, which is integrated by those assets, movable and immovable, that are the expression or testimony of human creation or of the evolution of nature, and that have a special relevance in relation to archaeology, prehistory, history, literature, education, arts, science and culture in general.
- Decree No. 129 On the Development of Monument and Environmental Sculpture, of July 17, 1985. It establishes the limits that will be observed in the development of monument and environmental sculpture, conceived as a lasting part of the environment and an important element in the cultural formation of our people, as well as for the measures that the Ministry of Culture adopts to that effect in its character of ruling agency of the realm of plastic arts.
- Decree No. 213, On the Office of the Historian of Camagüey City, of January 24, 1997. It aims at preserving the national history, divulging and honouring it by all possible mass media, for its continuous action on these assets of the nation, in order to contribute in this way to the patriotic-military and internationalist education of the citizens. It proposes and implements the plans for the restoration of the Historical Centre, after hearing the criteria of the Provincial Commission of Monuments, and it looks after the conservation and restoration of historical values in the rest of the province.
- Decree-Law 201 of the National System of Protected Areas, of December 23, 1999 .
- All the aforementioned legislation related to the above-listed Conventions.

Convention on Migratory Species of Wild Animals

- Law 81, Law of the Environment, in its article 116 establishes that the Ministry of Science, Technology and Environment together with the relevant state agencies, will establish regulations for the management of the ecosystems and localities where the marine or terrestrial migratory species transit, take refuge or spawn, to

protect in a special manner the endangered species, in order to recover and stabilise their populations.

- Decree Law 201, Of the National System of Protected areas, of December 23, 1999.
- Decree Law 212, Coastal Zone Management, of August 8, 2000.

United Nations Convention on Climate Change.

- Law not. 41, Law of the Public Health, article 65 establishes the faculty of dictating measures related to the sanitary control of the atmosphere regarding the prevention and control of atmospheric pollution.
- Law 81, Law of the Environment, especially in Chapter VII article 118 poses that "The state agencies and bodies in charge of the protection of the atmosphere, or whose activity affects it, will base their actions on the reduction and control of the emissions into the atmosphere of pollutants produced by the operation of artificial and natural sources, fixed or mobile, in a manner that insures that the quality of air conforms with levels established by the governing rules to safeguard the environment, especially those related to human health, and fulfilment of international commitments assumed by the country.
- Law 85, Law of the Forest, of July 20, 1998.
- Resolution 11/99 of the Ministry of Transport that establishes the permitted levels for gas emissions from the combustion of automotive vehicles.
- Resolution 13/99, of March 2, 1998. It establishes the procedure for the assessment and approval of technology transfer.

United Nations Convention to Combat Desertification in Those countries Experiencing Serious Drought and/or Desertification, Particularly in Africa.

- Law 81, Law of the Environment, articles 15, 31, 106 to 109, 126 and 132.
- Law 76, Law of Mines, of December 21, 1994.
- Law 85, Law of the Forest, articles 35, 37, 38, 51, 60 and 65.
- Decree No. 179, Protection, Use and Conservation of Soils, and its contraventions, of February 2, 1993.
- Decree-Law 153, Regulations of Vegetal Sanitation, of August 31, 1994, article 10.
- Decree-Law 138, Of Terrestrial Waters, of July 1, 1993.
- Decree 199, Contraventions of the Regulations for the Protection and Rational Use of Hydraulic Resources, of June 13, 1996.