

# **BIODIVERSITY IN ALBANIA**

## **REPORT ON NATIONAL SITUATION OF BIODIVERSITY IN ALBANIA**

### **I. INTRODUCTION**

Albania is a Mediterranean country on the Balkan Peninsula in the south of Europe. Albania sits at the interface between the mountainous Balkans, a continental European climate and the Mediterranean region. The Albanian coastline is 476 km long, and the Adriatic and Ionian Seas have a great impact on the climate, flora, and fauna in the country. Part of the Balkan region, Albania is a relatively small country. Most of the country is mountainous, rising to 2700 m, and 41 % of the 3.3 million population lives on the extensive coastal plain. The population has doubled over the last thirty years and there is substantial migration towards the cities of the coastal zone. Although Albania is a small country, it is very rich in biological and landscape diversity. This is due to its geographical position, geological factors, hydrology, climate, and soil conditions.

Albania is part of the Mediterranean Alps in the line Dinarido-Albanido-Helenid, and is characterised by a diversity of rock formations since Palaeozoic time. There are more sedimentary and volcanic formations, while metamorphic ones are less common. Other formations such as alluvial, proluvial, koluvial, and deluvial glaciers, marshes, and lakes, are younger and from the Quaternary area. Within Albania there are tectonic zones which during their geological development changed to tectonic and neo-tectonic configurations.

The Albanian relief is mostly hilly and mountainous. There is a diversity of morphological formations and slopes. It has a young age since the Albanian relief originated during the Miocene Age. At the beginning of the Quaternary Age, the Adriatic lowland and other inland lowlands were attached to the continental part of Albania, but the existing relief shape was formulated during the Pliocene Period. The evolution of the Albanian relief continues to this day. The highest point is 2751m above sea level (Korabi Mountain) and the lowest one is 8 meters below sea level (the former Terbufi Marsh). The medium altitude of the country is 708m above the sea level. The altitude declines moving from the east to the west of the country, and this determines the conditions of the climate, land, and vegetation. The climate of Albania is diverse. It has four major climatic zones and 13 sub-zones, which contribute to the country's rich biological diversity.

Albania is well known for its rich and complex hydrographic network composed of rivers, lakes, wetlands, groundwater, and seas. The main rivers are the Drini, Buna, Mati, Shkumbini, Semani, Vjosa, Erzeni, Ishmi, Bistrice, and Pavlo, and their courses have an important effect on the country's coastal biodiversity. About 247 natural lakes of different types and dimensions, and a considerable number of artificial lakes, are located inside the country. Based on their origin, they are divided into tectonic lakes (4), glacier lakes (134), carstic lakes (94), and fluvial lakes (15). Among the more important ones are the transboundary lakes of Shkodra, Ohrid, and Prespa, the most important and largest ones in the Balkans with European and international significance. In the coastal area of Albania there are wetlands such as Karavasta, Narta, Patoku, Viluni, Kune-Vaini, Orikumi, and others, with a total area of 150km<sup>2</sup>.

Although a small country, Albania is distinguished for its rich biological and landscape diversity. This diversity is attributable to the country's geographic position as well as geological, hydrological, climatic, and soil and relief factors. The mountainous terrain combined with steep cliffs creates ideal conditions for maintaining and protecting a large number of ancient species, which are both endemic and subendemic.

The high diversity of ecosystems and habitats (marine and coastal ecosystems, wetlands, river deltas, sand dunes, lakes, rivers, Mediterranean shrubs, broadleaf, conifers and mixed forests, alpine and subalpine pastures and meadows, and high mountain ecosystems) offers a rich species variety of plants and animals. In Albania, there are around 3,200 species of vascular plants and 756 vertebrate species. Approximately 30% of all European floras occur in Albania. There are 27 endemic and 160 subendemic species of vascular plants, which have a special protection importance for the country. The high Albanian forests maintain the communities of large mammals such as wolf, bear, lynx, and wild goat, and also the characteristic bird communities, which are associated with virgin forests.

Coastal lagoons and large lakes inside the country, are important areas, especially for wintering migratory birds. There are annually met around 70 waterfowl and waterbird species with a total population of 180,000 individuals in Albania during the winter. Albania is also an important crossroad for the migration of birds, bats, and insects.

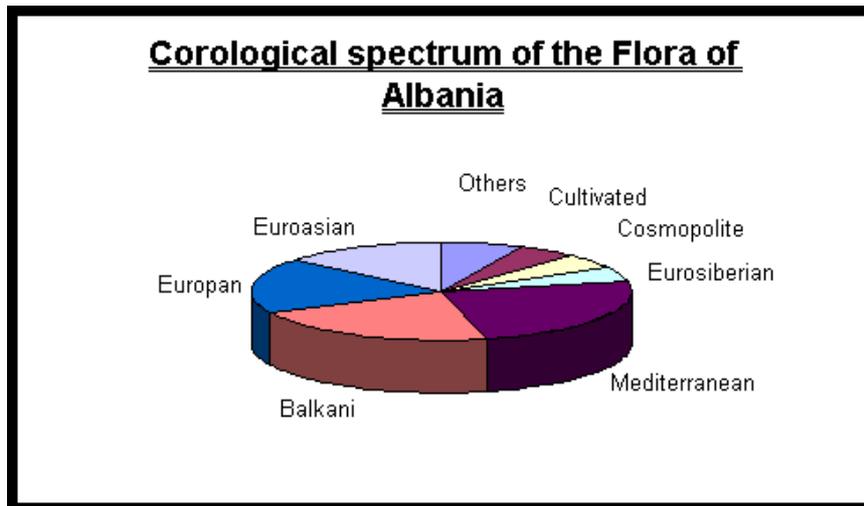
There are some 91 globally threatened species found in Albania. These include the Dalmatian Pelican (*Pelecanus crispus*), Pygmy Cormorant (*Phalacrocorax pygmeus*), and the Sturgeon (*Acipenser sturio*) for which Albania is a country of particularly critical importance.

The landscape diversity inside the country derives from natural characteristics and Albania's ancient origins and the associated human activity. Traditional agriculture and stock farming have been developed according to the natural characteristics of the country, and are the major factors, which determine the landscape physiognomy in those areas, which are characterised by autochthonous species. A number of local autochthonous livestock and plant species have existed in Albania over the years. They represent very important heritage values for protecting and improving the quality and productivity of agricultural and livestock products.

## **II. THE STATE OF BIODIVERSITY**

Albania is an important migration route for flora and fauna. The main elements of the Albanian flora are Mediterranean (24%), Balkan (22%), European (18%), and Eurasian (14%). The Eurasian, Holartic, Mediterranean, and Balkan elements dominate the faunistic spectrum of the country.

**GRAPH 1**



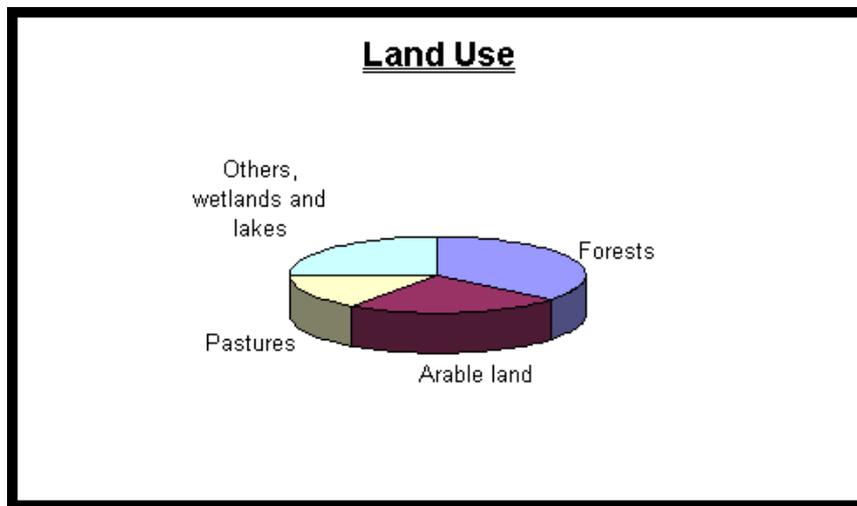
## **II. THE STATE OF BIODIVERSITY**

### **II.1 HABITAT AND ECOSYSTEM DIVERSITY**

Albania is well known for its high diversity of ecosystems and habitats. Within its territory there are maritime ecosystems, coastal zones, lakes, rivers, evergreen and broadleaf bushes, broadleaf forests, pine forests, alpine and sub-alpine pastures and meadows, and high mountain ecosystems.

Albania is rich in forest and pasture resources. The forests cover 1,030,000 ha or 36% of the country's territory, and the pastures about 400,000 ha or 15%. Approximately 60% (244,000 ha) of the pastures are alpine and sub-alpine pastures and meadows. The forests and the pastures have a diversity of types, formations, and plant and animal communities.

## GRAPH 2



Along the coastline of the country there are many ecosystems of significance in the Mediterranean region such as lagoons, wetlands, sand dunes, river deltas, hydrophil and hygrophil forests. Littoral and infralittoral communities of Mediterranean origin along the rocky coast are quite diverse and well preserved. The lakes and rivers are also important for the biological and landscape diversity of the country. The hydrographic basin of Albania is divided into six river basins as follows:

1. The Drini basin, which includes that part of Drini Zi catchment which is inside the Albanian territory, the catchment of main Drini (downstream of the confluence of Drini Zi and Drini Bardhe ), the Albanian part of Buna catchment and the minor part of the Danube catchment which is in Albania.
2. The Mati basin, covering the Mati catchment.
3. The Ishmi and Erzeni basin, covering the Ishmi and Erzeni catchment.
4. The Shkumbini basin, covering the Shkumbini catchment.
5. The Semani basin, which covers the Semani catchment (including both main tributaries Devolli and Osumi) and the small area that drains into the lakes Ohrid, Large Prespa and Small Prespa.
6. The Vjosa basin, which includes that part of Vjosa catchment that is inside the Albanian territory, the catchment of Kalasa, Bistrice and Pavlla rivers and the southern coastal zone

There is a diversity of landscapes in Albania due to its natural characteristics and long history of population and human activities. Traditional agriculture and stockbreeding developed in the countryside, in accordance with natural conditions, have been the major factors determining the Albanian landscape, where indigenous elements are not missing.

**TABLE 1****Habitat Types in Albania**

Habitat Type	Habitat Subtype	Number of communities
<i>Coastal communities</i>	Marine communities	19
	Marine wetlands	19
	Coastal sandy	13
<i>Non-maritime water</i>	Dunes and seaside's	4
	Rocky coast	36
	Coastal wetlands	7
<i>Bushes</i>	Sweet waters	53
	Running waters	23
	Rivers and springs	16
	Temperate heath grove	1
	Bushes	2
	Garriga	?
	Pseudomakja	2
	Terrain	17
	Gorse terrain	2 associations
	Friganat	5
	Grass Terrain's	6
	Termofile forest	6
	Sites with Mediterranean grass	48
	Mediterranean-Mountain grass terrain's	141
	Dry grass terrain's	31
	Alpine and sub-alpine grass terrain's	30
Broadleaf forest	6	
<i>Forests</i>		25

	Conifer forest	15
	Forest and bushes	12
<i>Pond water vegetation</i>	Evergreen and Temperate board leave forest	
	Rush formation	
<i>Rocky formations</i>	Rocky slope	
	Rocky gaps	
	Caves	
<i>Other habitat types:</i> Crop lands; Fruit-tree plantations; Vineyards; Low forests; Urban parks; Towns, villages or industrial sites; Mines.		

## 2 SPECIES DIVERSITY

Information on biodiversity in Albania is generally lacking. There are still flora and fauna taxonomic groups, which are unknown or have not been studied. The information on well-known taxonomic groups is lacking in terms of species. The number of species shown in **Table 2** is larger, and in some groups several times larger, from that known to date.

**TABLE 2**  
**THE NUMBER OF SPECIES IN ALBANIA**

Group	Species in Albania	Species in Europe	World Species
Bacteri	-	-	>4,000
Viruses	Unknown	Unknown	>5,000
Protozoa	Unknown	Unknown	>40,000
Algae	Unknown	Unknown	>40,000
Fungi	600	16,000	>70,000
Ferns	800	145	>12,000
Bryophytes	45	10,000	>14,000
Lichens	500	1200	>17,000
Flowring plants	400	11415	250.000
Mollusca	3200	Unknown	80,000
Insects	520(700)	40,000	1,000,000
Crustaceans (Decapoda)	4,000(14,000)	150( Adriatic sea )	8,000
Echinodermata	115	94	5,600
Fish	46	(Mediterranean)	32,000-40,000
Marine Fish	313(350)	618	23,000-30,000
Freshwater Fish	249	(Mediterranean)	8,500
Amphibians	64	Unknown	4,000
Reptiles	15(16)	Unknown	6,500

Birds	36(38)	32	9,881
Mammals	323(335)	123	4,327
	70(84)	450	
		200	

Note: The number in parentheses indicates the number of the expected species to occur in Albania.

Taking into account the existing information, Albania has a rich diversity of flora and fauna with about 3,200 flora species and 756 fauna species, respectively. Approximately 30% of European flora occur in Albania, and the high forests of Albania are the habitat for large game such as the brown bear, wild boar, and others, and also of fowl species, which flourish in virgin forests. The rich marine flora and fauna communities are an indicator of the high level of preservation and quality of these communities in Albania.

### **3 GENETIC DIVERSITY**

A number of autochthonous breeds of cattle and crops exist in the country. About 30 species of crops are native to Albania. There are nine autochthonous breeds of goats and five for sheep. This is an important heritage for the protection and improvement of the production and the quality of the agricultural and animal husbandry.

**TABLE 3**

#### **BREDS OF GOAT IN ALBANIA**

<b>Goat breeds</b>	<b>Female</b>	<b>Male</b>	<b>Tendency</b>
Dragobija	6500	350	I
Velipoja	Unknown		I
Hasi	15000	377	I
Mati	9500	240	I
Capore	22176	479	S
Shyta	Unknown		I
Dukati	20310	690	I
Muzhakë	42096	1480	I
Liqenas	10000	500	I

Note: I=increasing; S=stable

**TABLE 4**

**BREADS OF SHEEP IN ALBANIA**

Sheep breeds			
Bardhoke	19740	880	I
Shkodrane	13450	560	I
Ruda	29400	950	I
Recka	194096	8100	I
Syska (Lara e Polisit)	110	5	I
Note:	I=increasing;	S=stable	

**3.1 Species of Economic Value**

The medical, industrial, and feed value of plants and animals is well known. There are 300 types of medical and aromatic plants, which represent about 10% of the Albanian flora. In the future the number of plants with medical or aromatic value will likely increase.

About 40 plant species have forage values, and 35 plant species are taniferous. The number of well-known plants for honey producing by bees is about 50, and the number of plants used for feeding is 70.

Different types of fish in marine and inland waters, and a considerable number of sea animals, are an important food source for humans, and frogs are also becoming a source of food. Molluscs are an important source for the preparation of pharmaceutical products and other cosmetic products. Their shells serve to produce artistic objects, stamps, parts of musical instruments, and other objects. Insects are important for pollen, and some also have food and industrial values such as the bee and silkworm.

Furs of some animals like martens, fox, squirrel, and others also have economic value.

**3.2 Biodiversity and tourism**

The recreational values of biological and landscape diversity are an asset, which can be used to promote tourism development. It is our duty and responsibility to protect and develop these values for present and future generations. If we are not able and responsible to protect biological and landscape diversity, there is a risk of losing their recreations values to help foster tourism as a means to promote development and prosperity in Albania.

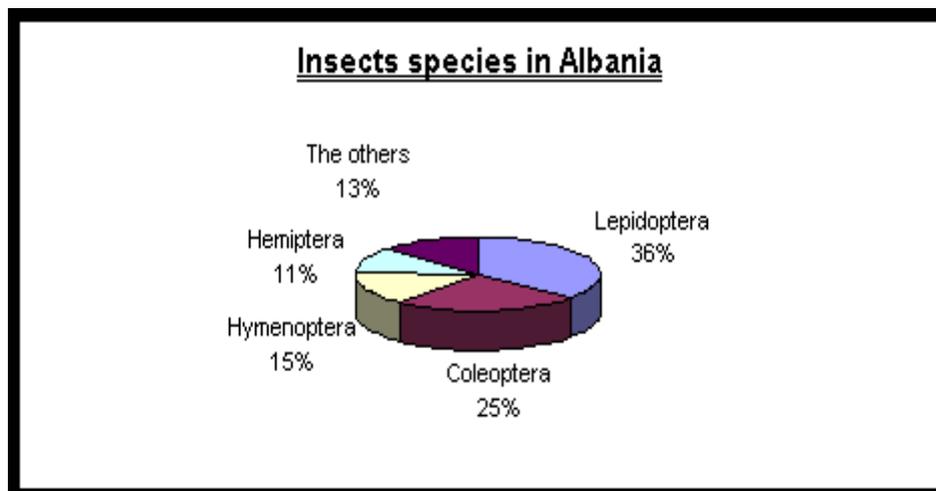
Sport hunting, fishing, climbing, and other activities, which would be attractive for tourism, require that Albania take the necessary measures to protect the environment and its biodiversity.

### 3.3 Special Features of the Biodiversity: Endemic/Subendemic taxa

The relief of Albania has created the conditions for the existence and protection of a number of endemic and subendemic species. There are 27 plant species with 150 subspecies, which are endemic in Albania, and another 160 plant species, which are subendemic in Albania, Yugoslavia, and Greece. Among paleoendemics there are types with very old origin like *Wulfenia baldaccii*, *Forsythia europea*, *Gymnospermium shqipetarum*, and from the neo-endemics *Lunaria telekiana*, *Crepis bertisceae*, *Petasites doerfleri*, *Leucojum valentinum* subspecies *Vlorense*, *Aster albanicus* subspecies *Paparistoi*, and others.

In comparison with the flora, the Albanian fauna is less known and studied. It has a considerable number of endemic and ancient species. Lake Ohrid is the most well known ecosystem in the country in terms of fauna endemism: over 40 species of molluscs and two fish species are endemic. Insects are represented by 16 species (11 species of Hemiptera and five species of butterflies). Further studies of the country's fauna, in particular biospeleological studies, which just have only just begun in Albania, will help in finding new endemism in the country.

### GRAPH 3



### II.3.4 Links Between Albania's and Neighbouring Country Ecosystems

The Albanian inland and marine ecosystems are a part of the Mediterranean and Balkan natural ecosystems. Transboundary lakes like Shkodra, Ohrid, and Prespa are points of floristic and fauna exchange with other Balkan countries.

Species migrate through the rivers and the highest parts of Albanian mountains from their natural habitats outside Albania in Greece, Macedonia, and Yugoslavia.

The large number of subendemic species linked with Greece and Yugoslavia, and the marine species endemic to the Adriatic Sea highlight the importance of Albania for the protection of biodiversity in the Balkan and Mediterranean regions.

## **4 THE IMPORTANCE OF ALBANIA FOR MIGRATORY SPECIES**

The coastal wetlands and lakes inside the country are particularly important sites for the wintering of migratory species since about 70 waterfowl species with a population of 180,000 are wintering in these areas. At least four from them (Karavasta, Narta, Shkodra and Ohrid) can be considered as sites of international importance for waterfowls known as IBAs (Important Bird Areas), or Ramsar sites, with more than 20,000 waterfowl species at each site. At this time, only Karavasta has Ramsar status.

### **II.4.1 The Importance of Albania for Globally Threatened Species**

In Albania, there are a number of globally threatened species since at least 72 vertebrate and 18 invertebrate species with global importance have at least part of their habitats and population in Albania. For some of them (*Pelecanus crispus*, *Phalacrocorax pygmeus*, *Salmo letnica* and *Acipenser sturio*), Albania has a critical importance.

## **III. THE STATUS OF BIODIVERSITY PROTECTION IN ALBANIA**

### **III.1 LEGISLATION**

Although the basic law on environment has existed since 1967, the development of a modern legal system for environmental protection based on democratic principles began only in 1991. This legal system needs to be further developed and refined in the future. There are also a number of laws, which have been approved since 1991, and represent an important advancement in the legislative area.

Laws on the Land and its Distribution (no. 7491 and no. 7501, 1991)

Law on the Forests and the Forest Service Police (no. 7623, 1992)

Law on Environmental Protection (no. 7664, 1993)

Law on City Planning (no. 7693, 1993)

Law on Plant Protection Service (no.7662, 1993)

Law on Protection of Medicinal and Taniferous Plants (no. 7722, 1993)

Law on Development of Areas with Tourism Priority (no. 7665, 1993)

Law on Hunting and Wildlife Protection (no. 7875, 1994)

Law on Fishing and Aquaculture (no.7908, 1995)

Law on Pastures and Meadows (no.7917, 1995)

Law on Protection of Fruit Trees (no. 7929, 1995)

Law on Water Resources (no. 8093, 1996)

Law on Construction, Administration, Maintenance, and Operation of Water and Drainage Systems. (no. 7846, 1994)

Law on Water Supply and Sanitation Sector Regulation(no. 8102, 1996)

Law on Waste's Public Removal (no. 8094, 1996)

Mining Law of Albania (no.7796, 1994)

With all the efforts made towards the improvement of the environmental legal system, there are still gaps, especially in the aspects of nature protection, and biological and landscape diversity. In addition, the existing legal system is also unclear in some cases due to

overlapping responsibilities and sometimes-contradictory language. Some of the reasons for this are: the short time available for preparing the laws, inefficient approval procedures, and the relative lack of attention afforded to environmental problems in Albania. This situation has created confusion with respect to establishing the proper competencies and responsibilities, and, as a consequence, implementation of the law has been weak.

The Constitution of the Republic of Albania approved in 1998 provides for further improvement and completion of the legal and institutional framework in the sphere of nature and biodiversity protection. Although progress has been made, the reality is that the impacts on environment have been exacerbated by poor implementation and ignorance of the law, more so than because of gaps in the laws.

The National Environmental Agency (NEA) is defined as the *responsible authority* for implementation of the law in Albania. In 1998, a governmental decision transformed the CEP (Committee of Environmental Protection) into the NEA by positioning it directly under the authority of the Council of Ministers instead of the Ministry of Health and Environmental Protection. This act was an important and progressive step for strengthening and enhancing the position of the NEA, and preparing it for possibly becoming a future Ministry of Environment. This step will enhance the legislative and policy-making initiative of the NEA.

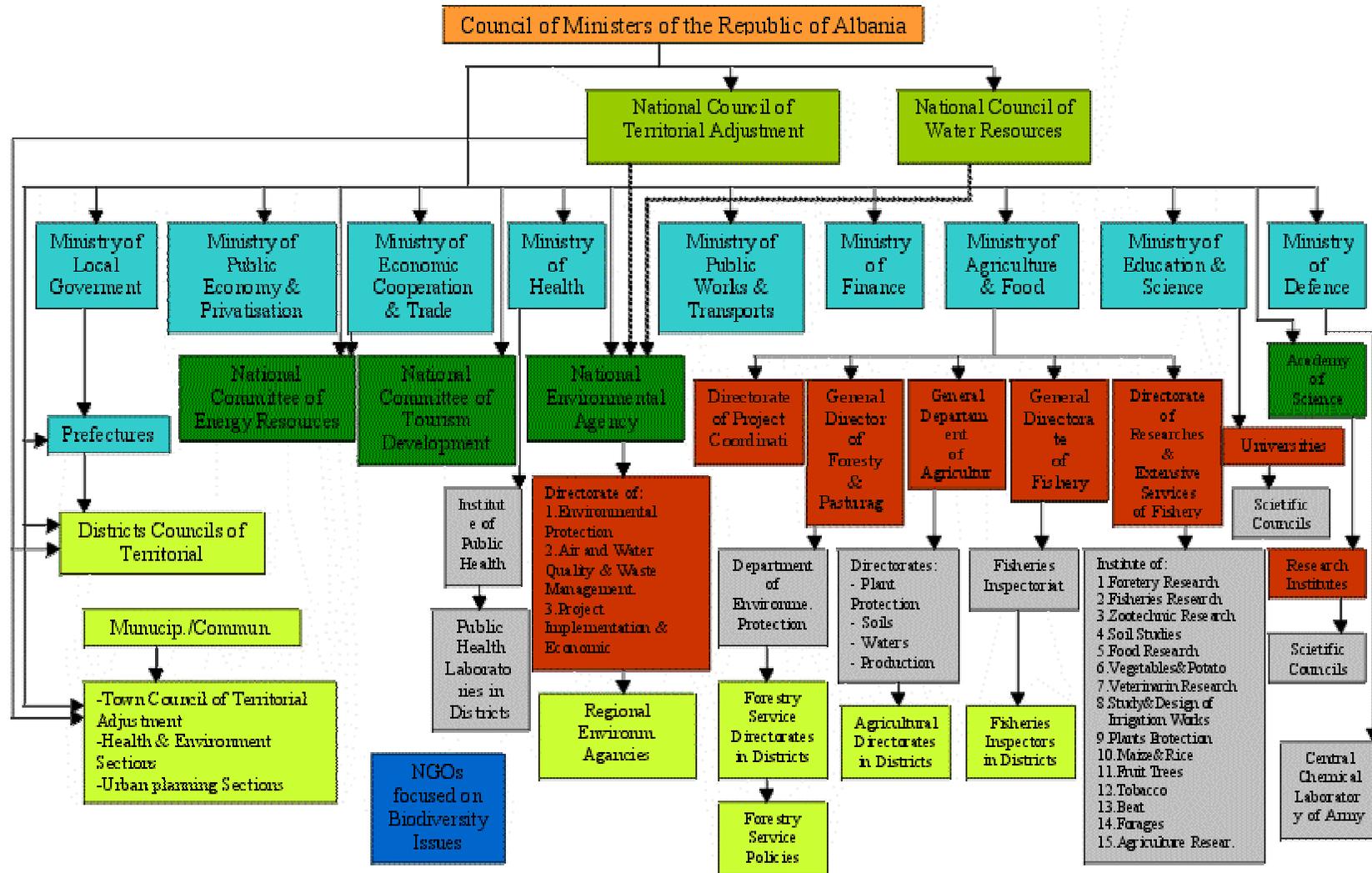
### III.2 THE INSTITUTIONAL FRAMEWORK

The Parliament is the main authority of the legislative system, and the *Permanent Commission on Health and Environment* is the main body within the Parliament responsible for the environment. The **Council of Ministers (CM)** is the main organ of the administrative system. The **National Environmental Agency (NEA)** is the main public institution responsible for environmental protection, and it reports directly to the Prime Minister. At the inter-ministerial and ministerial levels, there are other institutions of public administration and scientific research institutions, which are responsible for administration, studying, and monitoring of the country's natural and biological resources.

The Ministry of Agriculture and Food is one of the national institutions with important environmental responsibilities in Albania including the administration, protection, studying, and inventorying of biodiversity. The **General Directorate of Forest and Pastures (GDFFP)** within this ministry is responsible for the management and administration of Protected Areas and National Parks, and of wildlife and game hunting in Albania. The *General Directorate of Fisheries* administers the resources of marine aquatic fauna, and of the freshwaters in areas where there is fishing and aquaculture.

The judicial system guarantees equality in front of the law and, when relevant, rules on civil and criminal cases which are affected by environmental legislation. **Table 5** presents a general scheme of the institutional framework of Albania and depicts the relations and functions of the existing institutions. However, the role of the central and local institutions is still inadequate with respect to the problems of inventorying, studying, managing, and monitoring biodiversity

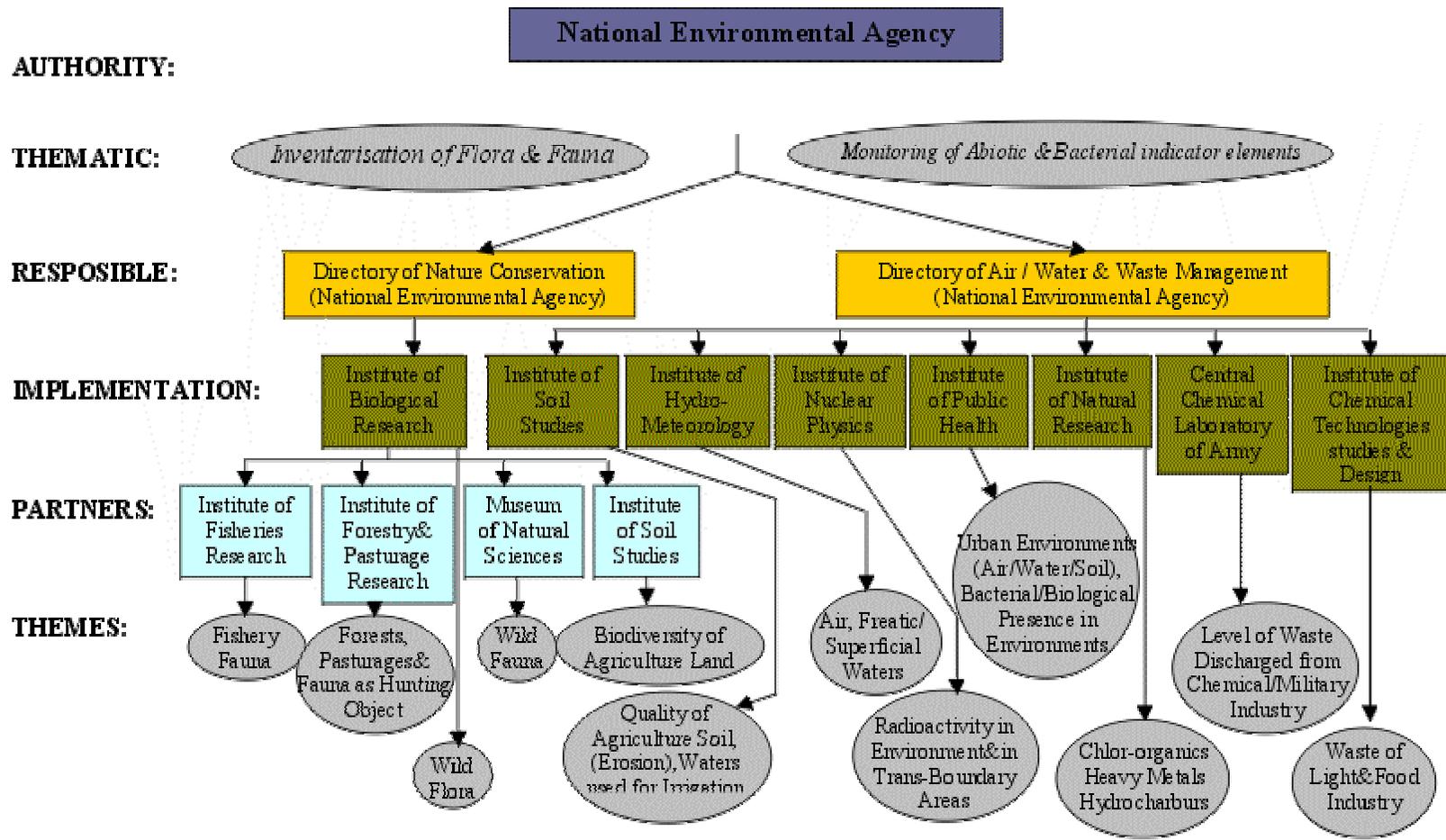
**ORGANOGRAM ON THE INTERRELATIONS AND LINKS BETWEEN INSTITUTIONS/STRUCTURES IN CIRRELATION WITH THE BIODIVERSITY ISSUES IN THE REPUBLIC OF ALBANIA**



Albania inherited a very limited experience and institutional structure in the area of environment. In addition, there is a lack of aims, objectives, and national strategies and action plans for nature and biodiversity protection. This is compounded by the existing gaps in the legal framework and in law enforcement, and this explains why the responsible institutions do not effectively co-ordinate their functions and responsibilities. This situation has led to overexploitation of some of the natural resources without taking into consideration the real cost of the damage done, the consequences on resource depletion, and the related effects on other biological resources.

The NEA has played the role of catalyst and co-ordinator for the protection of nature and biodiversity. CEP previously, and NEA today, nominally has control of, but effectively limited participation in, the management of the natural and biological resources of the country. This is because of the lack of governmental support and the incomplete legal framework. The recent changes that positioned the NEA under the direct authority of Council of Ministers, and the establishment in the future of the Ministry of Environment will strengthen its role, especially in the process of decision-making

## ORGANOGRAM OF STRUCTURES RELATED WITH THE BIODIVERSITY STUDY & MONITORING



The role of Non Governmental Organisations (NGOs) and the citizens for the protection of environment and biodiversity should also be mentioned. In Albania, there are 15 environmental NGOs – all of which were established after 1991. Their role is promoting public awareness and participation and the protection of nature and biodiversity. During these years they have enhanced their activities with support for their projects from foreign and national donors. Gradually, their activity has expanded throughout the country. Also they are setting up a forum of environmental NGOs to further their work. However, the environmental movement of NGOs is still weak and its impact on society and the general public is limited.

### III.3 THE CONVENTIONS AND INTERNATIONAL PROGRAMS

The long isolation of Albania had notable impacts on the environment. Until 1990, the participation of Albania in international organisations and agreements was only formal and very limited.

On February 4, 1975 Albania ratified the Agreement **"For Non-proliferation of Nuclear Weapons."**

On March 26 1975, Albania ratified the Convention **"On the Prohibition of the Development Production and Stockpiling of Bacteriological (Biological) and Toxic Weapons and on their Destruction."**

On March 20, 1979 Albania ratified the Convention concerning **"The Protection of the World Cultural and Natural Heritage"**. As part of UNESCO, the World Heritage Committee, which administers the List of World Heritage, was established.

After 1990, Albania started to participate in the international environmental organisations and to benefit from the rights of this participation by trying to fulfil its legal duties as a member and participant. Gradually, Albania is taking part in this initiative by signing different conventions, and by trying to implement them as best as possible under current conditions.

The environmental conventions of which Albania is a party are as follows:

On May 30, 1990, Albania participated by accession to the **Barcelona Convention "For the Protection of the Mediterranean Sea against Pollution"** (Barcelona, February 16, 1976). This convention has some protocols as well, such as the Protocol Concerning Mediterranean Specially Protected Areas (1982), and the Protocol for the Protection of Biodiversity in the Mediterranean Sea (1996).

On October 4 1991, Albania ratified the **ESPOO Convention (Finland) "On Environmental Impact Assessment in a Transboundary Context."**

On March 18, 1992 Albania signed the convention **"On the Protection and Use of Transboundary Watercourses and International Lakes"** (Helsinki March 17, 1992). The ratification of the convention was done on January 5, 1994.

The convention **"On Transboundary Effects of Industrial Accidents"** was approved in principle on March 18, 1992, and was ratified on January 5, 1994.

On November 29, 1995 Albania participated by accession to the **Ramsar Convention** (Ramsar, 1971). The official name of it is **"Convention on Wetlands of International Importance especially as Waterfowl Habitat."** Decision no. 581 on June 29, 1993 of the Council of Ministers approved the accession of Albania to this convention. Albania became a party to this convention through ratification on March 29, 1996.

On October 31, 1995 Albania signed the Bern Convention (September 19, 1979) **"For the Protection of Flora and Wildlife Fauna of the Natural Environment in Europe,"** which was ratified by the Parliament on March 2, 1998.

Around 500 documents were approved, the most important of which were:

1. **Agenda 21** – a complex program for the development of ecological actions.
2. **Rio Declaration on Environment** which proclaims 27 principles following the ones included in the Stockholm Declaration of 1972.
3. Convention on **Climate Change**. [On October 3, 1994 Albania signed the basic text of this convention (New York, May 9, 1992). The Council of Ministers approved the accession of Albania to this convention by the decree no. 580 on June 29, 1993].
4. Convention "**On Biological Diversity**" which represents an agreement among different countries for the conservation of biological diversity, the sustainable uses of genetic resources, and the transfer of relevant technologies by appropriate funding. [Albania signed the convention on January 5, 1994 and it entered into force on April 5, 1994].
5. **The Convention on Desertification** and dryness aiming to combat these phenomena in countries suffering from them (December 4, 1996). Annex no.4 recognises the desertification problem in Mediterranean countries. The Council of Ministers and the parliament approved the participation of Albania in 1999.

The **Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters** (Aarhus-Denmark, June 25, 1998), is an important instrument for strengthening and harmonising the environmental rights of citizens by giving them more possibilities for being informed for public participation and for justice in Europe. Albania was among the 35 countries, which signed this convention.

Albania's participation in other conventions is still under preparation:

1. **The Convention on Protection of Migratory Species of Wildlife** known also as the **Bonn Convention** (Bonn, on June 23, 1979. Entry into force on 1983). Albania has signed two protocols of this convention (for the Mediterranean mammals and for the *Numenius tenuirostris*). The documents for the participation of Albania in this convention have been prepared.
2. **The Convention on International Trade in Endangered Species of Flora and Fauna (CITES)** signed in Washington DC March 3, 1973 with amendments done in Bonn June 22, 1979.
3. **Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Destruction**. The convention was adopted in 1989, and entered into force in May 1992. The Council of Ministers and the parliament approved the participation of Albania in this Convention.

### III.4 IN-SITU AND EX-SITU CONSERVATION

In Albania, *in-situ conservation* started to be applied only in the second half of this century. A number of Protected Areas have been established, and a number of laws and by-laws for the protection of endangered species of plants and animals have been passed. The Protected Areas are within the forest areas, and to enhance their protection and management the Department of Nature Protection was established within the National Environmental Agency. In some of the districts with Protected Areas or National Parks there are locally functioning units responsible for their management and protection.

Until the beginning of the 1990s, the total amount of Protected Areas was not more than 2% of the country's territory. At that time there were only three categories of Protected Areas: Forest National Parks, Hunting Resources of Categories "A" and "B," and Nature Monuments. In 1994, as part of the Ecological Monitoring of the High Forests in Albania, and based on the Protected Areas categorisation system of IUCN, there were identified and proposed a number of new Protected Areas which would have effectively doubled the existing number. After the recent designation of the Prespa National Park, and the lake Ohrid as Landscape Protected Area, the total country's area under protection has reached at 5.8% of the total territory.

**TABLE 7**

**The Protected Area until 1998\***

Nr.	Category of Protected Area	Number of PA	Surf. in ha	%
1	Strict Protected Zone	4	14.500	13.30
2	National Park	11	25.860	24.02
3	Nature Monument	300	4.360	4.27
4	Management Zone	26	42.960	39.38
5	Protected Landscape	3	2.550	2.34
6	Resource Protected Zone	4	18.245	16.69
7	TOTAL	384	107.455	100.00

\* Until 1998 the total protected area cover 3.79% of the Albanian territory, or 10.43% of the forest

Although progress has been achieved, there are still problems and issues, which need to be, addressed such as:

- The lack of a national strategy on nature protection;
- The lack of an adequate legal and institutional framework;
- The existing network of Protected Areas is very limited, not always representative of the - highest nature and biodiversity values, and poorly managed (less than 6% of the territory of the country is protected);

- The lack of existing Protected Areas Management Plans (Management Plans have been prepared for only 2-3 of the existing Protected Areas);
- Lack of financial resources for effective administration of the protected areas;
- Shortage of personnel and lack of training; and
- Lack of protection for endangered species of plants and animals outside the Protected Areas.

Up to now, practices for *ex-situ conservation* of endangered species of plants and animals do not exist in Albania. The Botanical Garden close to Tirana University is a possibility, which should be considered in the future. There is also no existing genetic bank for endangered species of plants and animals. A seed bank for agricultural crops was established recently near the National Seed Institute (NSI). This institution has around 260 species, subspecies, and varieties, of which 230 are herbaceous, and the other 30 are trees and shrubs. From all of the 260 taxa, 180 are cultivated and 80 are spontaneous plants. However, this bank should be used for the collection of the genetic material of endangered endemic species belonging to the natural flora of the country.

**TABLE 8**

**National Environmental Agency Projects for Nature Conservation Financed by International Organisations**

<b>Project</b>	<b>Program</b>	<b>Phase</b>	<b>Grant</b>	<b>Project's Objective</b>
1. Dajti National Park Conservation Plan	Phare Program AL9306	Finished	50,000 ECU	The preparation of a management plan for the conservation of the Dajti National Park
2. Management of Karavasta Lagoon Phase I	Phare Program AL9306	Finished	346,224 ECU	The preparation of a management plan and a regulatory framework for the Karavasta Lagoon and of the eco-guides for this lagoon
3. Biodiversity Strategy and Action Plan	GEF/ World Bank	Finished the first phase, (1 year)	96,000 USD	The preparation of Biodiversity Strategy and Action Plan, and the National Report on Biodiversity
4. Lake Ohrid Conversation Project	GEF/ World Bank	Start-up in December 1998 (4 years)	\$ 1,78 million for Albania from GEF	To establish the base for sustainable management and joint protection of Lake Ohrid with Macedonia-legal framework and institutional strengthening, lake monitoring, watershed management and public awareness
5. Management of Karavasta Lagoon Phase II	Phare Program SOP 97	Preparation phase (2 years)	400,000 ECU	Support for the management of the lagoon, pilot study for setting up an artificial lagoon for sewage water treatment, building guard facilities, local works for immediate improvement of the fence, entering roads, etc...
6. Conservation and Management of Mediterranean lagoons (the extension to EU)	LIFE / MEDWET 2	Finished (1 year)	MedWet 3 (1,815,000 USD) financed by	Study of the environmental and economic/social status of the lagoons of the area of Kune-Vaini as part of the report on wetland status of participating

countries)			the GEF through UNDP	countries (Albania, Algeria, Morocco and Tunisia), and the development of a model methodology for wetland studies. The fulfilment of this project was followed by another regional project started recently, including Narta Lagoon, Llogara-Kanali-Orikumi-Karaburuni peninsula-Sazani Island.
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## **IV RISK OF IMPACTS ON BIODIVERSITY**

Economic development over the past 50 years was based upon agricultural, industrial and tourism development, increasing use of transportation and urbanisation, and exploitation of forest, fishing, and other natural resources. All this development has had its impacts upon biological and landscape diversity in Albania. Before political changes in 1990, internal migrations were strictly controlled by the state, maintaining an equilibrium between the cities and the countryside. After 1990, the social and economical liberalisation in Albania is causing and will continue to cause the migration of the population, free movement of population from the continental parts of the country towards the coastal regions and urban centres has increased the number of population living in these areas causing a lot of environmental implications. Some locations are severely impacted by human activities which are negatively affecting both human health and degrading the environment

**TABLE 9**

### **The Structure of the Land**

Type of Land	1950	%	1990	%	1995	%	1997	%
Total Land	2.875	100 %	2.875	100 %	2.875	100 %	2.875	100 %
Agriculture Land	391	14 %	704	24 %	702	24 %	700	24 %
Forest	1.282	45 %	1.045	36 %	1.052	36 %	1.026	36 %
Pastures and grassland	816	28 %	417	15 %	428	16 %	445	15 %
Other Type of Land	386	13 %	709	25 %	693	24 %	704	25 %

A number of environmental issues and conflicts have been identified and are briefly presented below:

Habitat loss and fragmentation;

Damage and degradation of habitats and ecosystems;

Disturbance and maltreatment of wildlife;

Loss of species or the threat of their extinction;

Damage and erosion of genetic resources.

Negative impacts on archeological and historical sites;

Overexploitation of natural resources such as sand and gravel mining of beaches and river beds for construction, deforestation of coastal and nearby mountain forests for fuel and timber;

Loss of biodiversity due to new developments such as urban settlements etc;

Untreated sewage and waste waters caused by urbanization.

Although a low number of species has become extinct during this past century, the rate of loss of Albania's biodiversity before 1990 is believed to be not so high. But, during this period exist an insufficient knowledge and studies on a wide range of flora and fauna limit an accurate historical evaluation of the biodiversity status of Albania. Furthermore the data shows that two species of plants and four species of mammals have become extinct; and

meanwhile 17 bird species no longer nest in the country's territory. During the last 25 years, approximately 122 species of vertebrates (27 mammals, 89 birds, and 6 fish) and four species of plants are expected to have lost more than 50% of their population. The number of rare and endangered species of plants and animals is high and expected to increase

The principal economic activities under the previous regime were mineral extraction, agriculture and basic industry. Sewage collection and treatment plants are currently being planned by the Albanian authorities but little provision currently exists for treating industrial and domestic effluent. Since the liberalisation of the economy, a range of government policies have been implemented to return collectivised land to its original owners and to promote the emergence of private initiatives. Although a large part of the industrial sector is not functioning at the moment, it is expected that this will not be the case as economic development and growth increase in the future. The effects of industrialisation will adversely impact the biodiversity of the country, particularly in the coastal areas, which will have a higher number of urban centres.

In Albania, the major types of endangered ecosystems and habitats are not only coastal (sand dunes, river deltas, alluvial forests, lagoons, and coastal lakes) and marine (medium and infralittoral level), but also inland ones, including alpine pastures and meadows, continental and glacier lakes, and broadleaf and coniferous forests.

The high rate of population growth (the population has almost tripled during the last 50 years) has been followed by the progressive increase of human impacts and disturbances on the country's nature and biodiversity. These pressures are expected to increase in the future due to the relatively free and uncontrolled movement of the population from rural to urban areas. Increasing urbanisation will most adversely affect the coastal and littoral ecosystems, which are more ecologically fragile.

The intensive agricultural practices of the past, combined with the present activities of a free market economy, have damaged and are damaging to the native species. These practices have also reduced people's interest in protecting and improving the autochthonous variety of plants and animals. It is observed that agriculture is returning back to the traditional extensive practices due to the lack of investments after the privatisation of land. This phenomenon has reduced the impact on biodiversity, but it is believed that the agriculture sector will use more intensive practices in the future, which will have increasingly adverse impacts on biodiversity, especially in the western coastal plains.

Tourism and transportation are two other factors, which will soon have an adverse impact on biodiversity, once again particularly in the coastal areas. The return of the land to its original owners and the promoting of private initiatives, included the designation of sites for tourism development along the coast.

The exploitation of forests was common in the past due to the absence of alternative fuel resources for cooking and heating. These practices have had adverse effects upon forest biodiversity, which have been further exacerbated by existing forestry practices and the lack of a clear national strategy for the protection and sustainable development of forests. The populations of large mammals have particularly suffered in the forest areas of Albania. But the last 10 years the uncontrol use of the forest lead to a critical situation which had been informed from many organisation.

**TABLE 10**  
**STRUCTURE OF THE FOREST**

	SPECIES	Surface(Ha)	%	Volume (000/m <sup>3</sup> )	%
A.	A. CONIFEROUS- Total	176.070	16.8	18.690	22.6
	Blacf Pine	109.840	10.5	11.183	13.5
	Fire	16.730	1.5	3.936	4.8
	Mediterranean Pune.	34.980	3.3	1.023	1.2
	Others	15.020	1.5	2.548	3.1
B.	BROAD LEAVES – Total	600.680	57.5	56.894	68.7
	Beech	194.850	18.6	38.175	46.1
	Oak	330.760	31.7	14.455	17.5
	Popular	1.370	0.1	87	0.1
C.	BUSHes – Total	267.890	25.7	7.236	8.7
	Mare	59.440	5.7	2.180	2.6
	Oak-hornbeam	92.170	8.8	3.026	3.6
	Others	116.280	11.2	2.030	2.5
	TOTAL	1.044.640	100	82.820	100

There are no discernible effects on marine and wetlands biodiversity due to past fishing and aquaculture practices. However, the consequences are expected to increase in the future due to recent changes in fishing practices (e.g., increased fishing with dynamite) and the foreseen development of the fishery sector in the future.

The transition period that began in 1991 has been marked by political instability, especially during the last 2-3 years. Some of the factors influencing this destabilisation have been the lack of appropriate legislation, lack of implementation of existing laws and regulations, and the ineffectiveness of the existing institutional structures. Meanwhile, individuals and the private sector are focusing on maximising earnings and short-term profits, so the combined effects have negative impacts on biodiversity. There have been efforts to improve the

legislation and administrative structure, but illegal wood cutting, and illegal and uncontrolled fishing and hunting persist.

## **V. THE THREATS TO BIODIVERSITY IN ALBANIA**

### **V.1 THE SOURCE OF THREATS**

Economic development during the past 50 years has been based upon unstable development practices in agriculture, industry, forestry, fishing, and urbanisation, although there was less impact from transportation and tourism. Without doubt, agriculture has been the major sector of the country's economy with the strongest impacts on biological and landscape diversity. From the 1960's until the end of the 1980's there was extensive agricultural development, followed by the intensive use of agricultural land in the 1990's. Together this has had enormous impacts on biological and landscape diversity.

Drainage and reclamation of swamps (250,000 ha), deforestation for opening up new lands (290,000 ha), terracing and the creation of fruit tree plantations, and damage to subalpine and alpine pastures for the purpose of setting up cultivated ground or "improved" pastures have all had adverse consequences on the environment and biodiversity. These actions were perhaps justified on behalf of the country's economic development, but they also destroyed hundreds of thousands of hectares of forests, pastures, and wetlands with high ecological, social, and economic values. Human interference without consideration of the consequences on environment, brought the following results:

excessive erosion;

coastal floods;

an increase in the quantity of unproductive areas of land (from 235,500 ha in 1950 compared to 703,516 ha today);

abandoned or deserted lands (about 160,000 ha);

degraded and impoverished biological and landscape diversity (some habitats and species have been lost while there has been a decrease in the population of many others); and considerable potential loss of tourism and the associated economic development.

In the past, intensive agricultural processes utilized fertilisers and pesticides, mechanical cultivation practices, and irrigation. These practices have also had impacts on the ecological status of waters and agricultural land, as well as on that part of wild flora and fauna, which are found on agricultural land and in the wetland ecosystems.

Uncontrolled exploitation of inland lake waters for irrigation has contributed to severe ecological stress and crises in these ecosystems, most notably the lakes of Prespa and Dumre and on many glacier lakes such as Lura. Exploitation of river networks for irrigation has also had the same effects since it was often carried out without regard for scientific criteria or "the biological minimum" of the water that needs to flow on the river's bed for ensuring the continuation of life in the water. Another contributing factor was the deviation of the rivers' course for reclamation reasons as was done with the Bistrica River on the plain of Vurgu in Saranda. The result has been ecological stress on the wetland ecosystems of the down stream rivers respectively on the lake of Butrinti and on the wetland ecosystems of Lezha).

The opening of Albania after the 1990's to the free market economy damaged, and is continuing to damage, biological and landscape diversity. Farmers and the population in general, now also have less interest in protecting and improving native breeds of flora and fauna. If left unchecked, this could lead to a large loss of genetic resources with significant economic and social consequences.

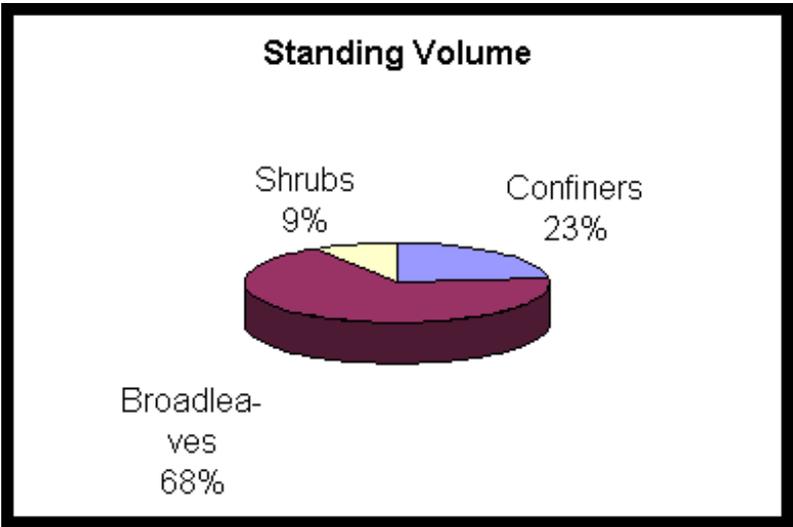
After agriculture, industry is the second most damaging sector with respect to the environment, and its biological and landscape diversity in particular. These consequences have been greatest along the coastal areas of Albania where there are larger concentrations of industrial activities. Industrial development has been vital for economic development, but it was not carried out in Albania with regard for the biological potential of the country, or with any intention to avoid or minimize the impact upon the environment.

The discharges of gases, liquids, and solids generated by old technologies which did not take into consideration the impacts on the environment have had enormous consequences, some of which continue even though the major part of industry has not been functioning since the beginning of the 1990's. Most notable are the metallurgical plant of Elbasan and its impacts on the Shkumbini River, and especially on the downstream coastal ecosystems, and the PVC Plant in Vlora and its impacts on the coast and the Bay of Vlora. Other examples include the paper factory in Lezha and its impacts on the wetlands of Kune-Vaini, the hydrocarbons and other chemicals from the Fieri fertiliser factory have downstream impacts on the Semani river, and the copper mines in Rubik, Burrel, Kukes, and Lac and their impacts on the landscape and nature surrounding them.

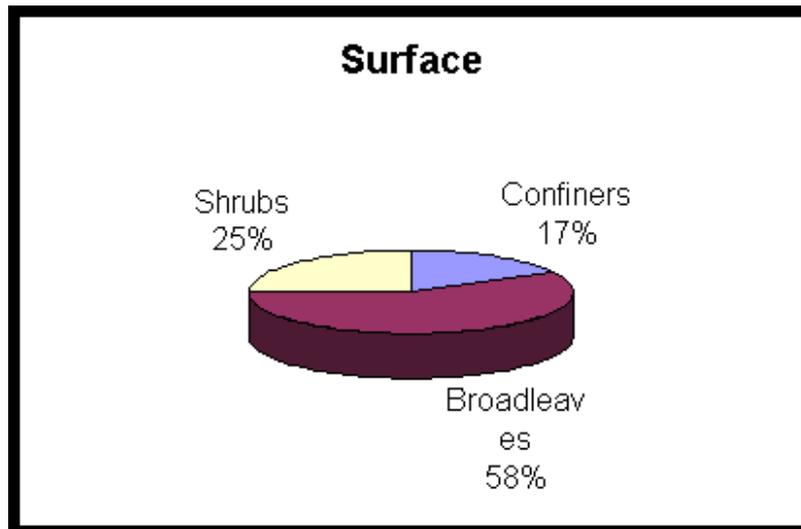
The major impacts of these activities have been on the marine ecosystems, especially in the coastal areas. There are cases of marine degradation as a result of settling of solid materials, minerals, and heavy metals in those zones. Although the major part of country's industry is out of functioning, the remaining ones continue to use old technologies, which cause harm to the environment.

Excessive forest exploitation due to the lack of alternative fuel resources for heating and cooking has adversely affected forest biodiversity.

**GRAPH 4**



**GRAPH 5**



Since 1953, the forest areas have decreased by around 300,000 ha or 22% – equivalent to 30% of existing forests. There have also been notable effects on forest productivity since many existing forests are heavily degraded and thin, and can not fulfil the ecological functions of the forest. This phenomenon is easily noticed by comparing the area and volume of the forest resources of Albania. Actually, more than 26% of country's forest area is occupied by forests with crown density less than 0.4.

The building of forest roads and the techniques used for extracting and transporting timber have had grave effects on the forest biodiversity of Albania, which have been compounded by the lack of funds for new technologies, and the geological and relief features of the areas covered by high trees.

The lack of national objectives for the protection and sustainable management of forests and forest and pastures biodiversity has adversely impacted biodiversity, large mammal populations in particular. These populations have decreased and been isolated from each other, leading to a higher danger of extinction because of the genetic degeneration which characterizes small and isolated populations. The lack of investments for silvicultural works, new forestation or reforestation, the maintenance of forest roads, fire protection, and other measures has contributed to the loss and degradation of forest habitats for many plant and animal species.

During the planning process and the implementation phase of forest and pasture management, there was a lack of concern for wildlife protection. Hence, there has been overexploitation of biological resources leading to degradation and impoverishment of habitats, as well as the risk of extinction for a large number of plant and animal species. Uncontrolled harvesting of medicinal plants, aromatic plants, and plants with industrial value have severely affected many of them.

Forests close to the rural dwelling areas are particularly degraded. These forests include oak and other tree plantations, which are characterised by high biological diversity in comparison to the other types of forests. Because of the existing difficult economic conditions and the traditional nature of Albanian society, the rural population is surviving by overexploiting the forest, severe tree cutting for cooking and heating and overgrazing, particularly by goats. The

harvesting of shrubs and coastal forests has created problems, especially for the birds, which use these habitats for nesting.

During the recent past, and particularly the last 2-3 years, illegal tree cutting has been rampant in many parts of Albania, especially in the poorer northern and north-eastern districts of the country. (This situation has aggravated recently after the Kosovo crisis got over and the demand for timber inside Kosovo is increasing). Uncontrolled cutting occurs even inside the Protected Areas. Most of this cutting was done to provide timber for industry and construction. Fir and pine forests have been most damaged by this activity because of their high quality and high selling price on the uncontrolled market.

In the past, there have not been considerable effects from fishing on marine and wetland biodiversity. However, new and uncontrolled fishing practices used during the last few years are adversely affecting biodiversity. During the last five years, there has been fishing along the whole marine stretch with a depth of 2-30 meters, which has led to the depletion of the breeding grounds of Sparidae, Soleidae, Mullidae, and other families. The breeding grounds of *Posidonia oceanica* have also severely deteriorated because of changes in the structure of the fishing fleet. More than 50% of fishing boats have small power motors and hence are able to apply deep fishing techniques in shallow areas since they are unable to fish in zones more than 50 meters deep.

Uncontrolled fishing also affect internal waters, even in the critical periods of fish growth. These waters have been affected as well by the usage of explosive and poisonous materials. The major lakes of Ohrid, Shkodra, and Prespa have all been affected, and these lakes have an international importance because of the high number of endemic species present in their aquatic fauna, and because some of these species are globally endangered.

Foreign vessels fishing offshore Albania also cause damages, especially to fish and crustaceans, which are in demand in western markets. Along the Ionian coast there has been severe damage to benthic forms. Foreign divers have extracted the mollusc *Lithofaga* in a way, which damages entire coastal rocks. Hence these rocks have been damaged in a very short period of time after being relatively undisturbed for thousands of years. Strong measures need to be undertaken to ensure that such practices do not cause desertification of marine life along the rocky areas of the coast.

Due to the lack of funds for maintenance, sea-lagoon communication channels have deteriorated with a notable reduction of water exchange between the wetlands and the sea. This phenomenon is accompanied by the transformation of the limnologic regime which itself affects the ichthyofauna. Most problematic is the situation of the Narta lagoon, where almost half of the area remains dry for the major part of the year.

Uncontrolled hunting is a major form of disturbance on biodiversity, especially during the winter when migratory winter birds are at risk. Birds are abandoning certain areas such as Kune-Vaini, Patok, Pisha Poro, and the Semani delta. There is a reduction in the population of some species due to illegal hunting methods, including poison which is sometimes used for the killing or capture of wildlife (mammals). The carnivore mammals and birds of prey are the most affected.

Disturbances to biodiversity caused by hunting have their greatest consequences during critical life cycle periods such as reproduction. Every disturbance or illegal form of hunting practised during this period brings the abandonment of lairs or nests, the abandonment of the

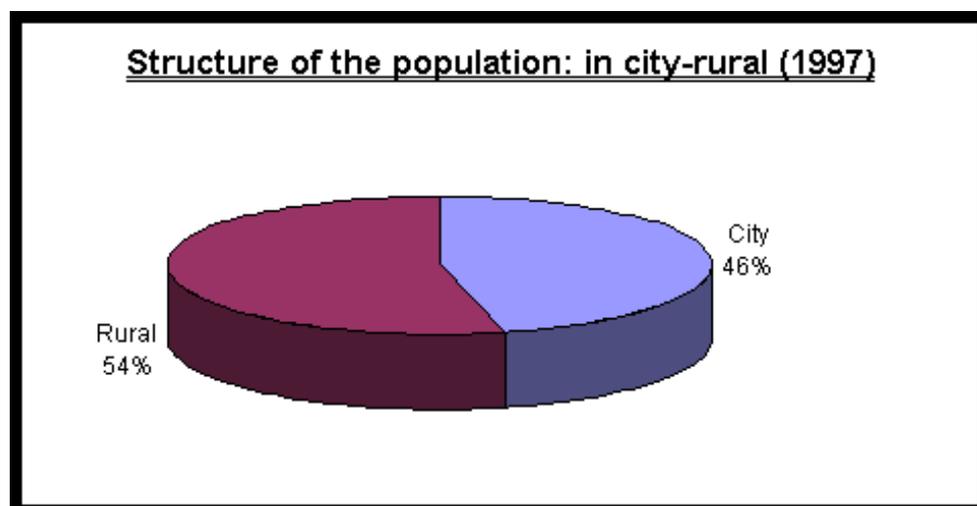
young, and even the interruption of reproduction. This can also influence the reproduction "memory" of the animals leading to a permanent abandonment of the reproduction place. The animals, which are most sensitive to these disturbances, are the ones, which reproduce in colonies. A disturbance in the colony would bring the interruption of reproduction for all the individuals of that colony. For example, the sea eagle, *Haliaeetus albicilla*, had previously been a permanent species with many nesting places in coastal areas such as Velipoja, Lezhe, and Karavasta. Presently, however, it is found only as a winter species in the area of Karavasta. The disappearance from the other Albanian wetlands came as result of the disturbances and the deterioration of parts of its nutrition habitats. A similar fate has met the *Phalacrocorax pygmeus*.

High rates of population growth during the past 50 years were accompanied by a progressive increase of anthropogenic impacts on nature and biodiversity. Many new towns and villages were constructed, and existing ones were enlarged with the enhancement of infrastructure and economic activities. In 1997, the population of Albania reached 3.7 million, or triple its level of 50 years ago. The fragmentation, reduction, and loss of natural habitats have been a direct result of demographic developments and the urbanisation process.

At the beginning of the 1990's the relatively free movement of people from the rural areas toward the urban ones began. This movement was uncontrolled and unguided, and has led to particular stress on the coastal and wetland ecosystems of the country which are more ecologically fragile. At the beginning of 1997, the population in the coastal areas was 2.4 times higher than in 1960. During the period from 1960-1990, the population of this area has increased by an average of 28,429 habitants per year, and for the period from 1990-1997 by an average of 54,661 habitants per year or twice as fast.

According to the data of the State Secretariat of Local Government, 54% of Albania's population lived in the coastal districts (including Tirana district) in 1997, while at the same time this land covers 35.7% of the country's area (10,279 km). Population density has increased from 82.4 inhabitants per km<sup>2</sup> in 1960, to 179.3 inhabitants per km<sup>2</sup> in 1997. The maximum density is in the central part of this area (Tirana, Durrresi, and Kavaja districts) with 388.4 inhabitants per km<sup>2</sup>.

### **GRAPH 6**



The environmental impacts of the increasing number of newcomers have been obvious. The coastal areas, particularly those close to the major urban centres (Tirana, Durrresi, Lezha, and Vlora) are facing today a number of emerging problems with severe impacts on biological and landscape diversity. In summary, they are:

The intensification of natural resources assimilating activity, mainly the fish and forest ones;

The enlargement of construction sites, sometimes up to the seashore;

The degradation, deterioration, and deformity of landscape;

The increase of urban wastewater discharges into the environment; and

The increase of urban and industrial solid waste; thousands of tons of urban and industrial wastes are being deposited every day in different sites, the majority of them in inappropriate places.

The transport sector has also expanded and led to damages to biological and landscape diversity. Due to lack of funds, inappropriate planning and poor estimation of the impacts on the environment, irreversible damages to the natural landscape have sometimes occurred. The construction of the north-south and east-west highways, and the increase of traffic are contributing to: (i) increase of natural habitats fragmentation; (ii) interruption of migration and large movement of animal species leading to the genetic degeneration of animal populations; and (iii) air and water pollution from gases emitted from vehicles which are highly polluting and would not be allowed to circulate in many countries. These effects will be more pronounced in the future. Thus, measures to avoid or minimize the consequences/impacts on the environment, as well as biological and landscape diversity, will need to be taken.

Because of the low levels of tourism during the time of communism, there were no impacts on biodiversity. However, after the 1990's, there is an increasing risk to biodiversity from the adverse impacts of tourism. The number of tourists who came to Albania in the 1990's was greater than that of the period from 1960-1990. Moreover, the number of tourists in 1996 was 75,000 or twice as much as in 1992. The majority of them passed the vacations in the coastal areas. Some of the tourists were also hunters who hunted without the required licenses and contributed to the further deterioration of coastal fauna (e.g., Kune-Vaini, Divjake, and Patok).

The presence of an increasing number of people in the coastal area is accompanied by an increase of pollution (water, air, and land pollution) which further the deterioration of biodiversity. Urban pollution has become a major concern in the 1990's because of the increasing consumption of everyday products (especially those packed with plastic materials) while at the same time there is an absence of waste treatment stations. This phenomenon is apparent not only in large urban centres and beaches, but also in rural areas. Thousands of tons of urban and industrial wastes are being deposited in the coastal area every day. At the same time, the sewage pipes are discharging wastewater into the sea from these resident areas. For these reasons, the existence of many species is endangered along the coastal strip.

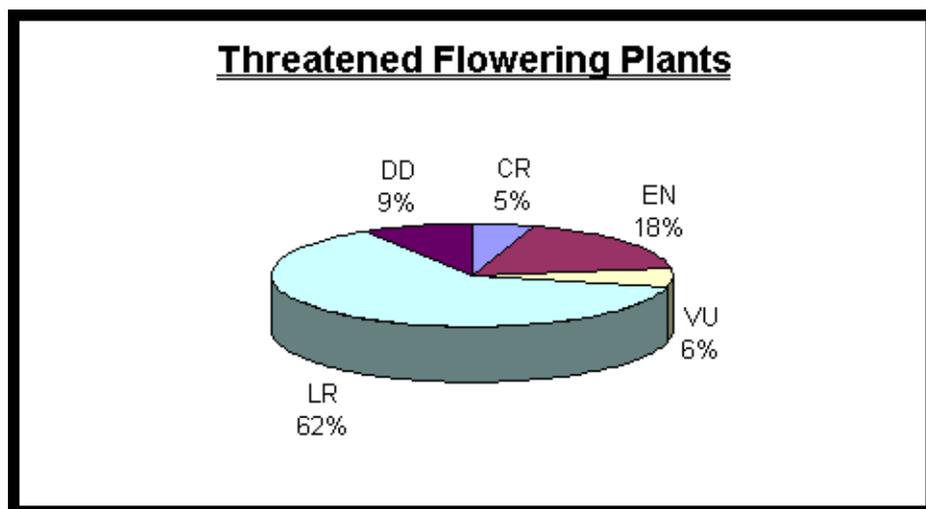
## V.2 THE IMPACTS ON BIODIVERSITY

The major impacts and damages caused by past and recent practices are as follows:

- loss and fragmentation of habitats;
- damage, impoverishment, and degradation of ecosystems and habitats;
- disturbance and harassment of wildlife in nature;
- species extinction or risk of extinction; and
- genetic deterioration and erosion.

In Albania, the main endangered types of ecosystems and habitats include marine ones (medium and infralittoral level), coastal ecosystems (sand dunes, delta rivers, alluvial and wet forests, lagoons and coastal lakes), and terrestrial ones such as alpine pastures and meadows, continental and glacial lakes, and oak and conifer forests.

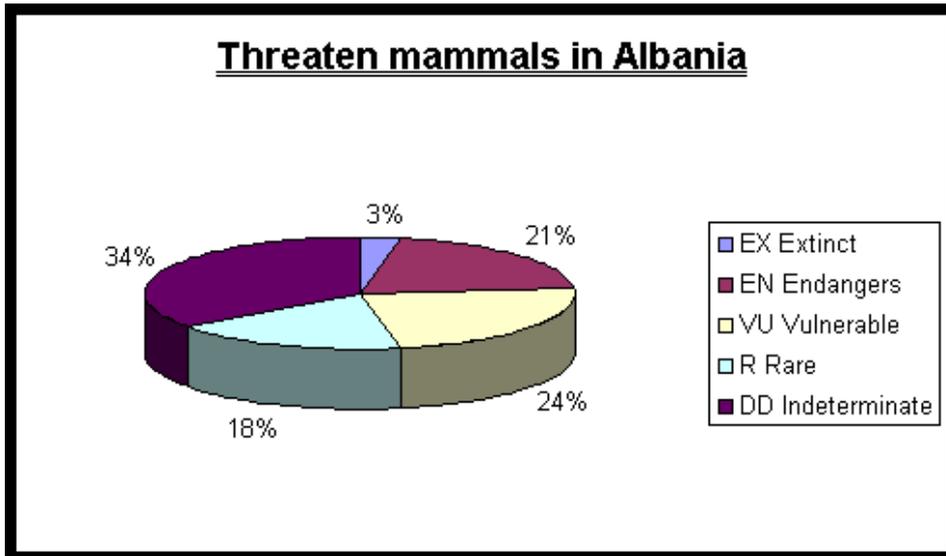
**GRAPH 7**



The known number of species, which have become extinct during this century, is not high, however the rates of biodiversity loss during the past 50 years are among the highest in Europe. The insufficient level of knowledge and studies concerning a large number of flora and fauna does not allow for an accurate estimation of biodiversity status in Albania. However, at least two species of plants and four species of mammals are totally extinct, while 17 species of birds do not nest anymore in Albania.

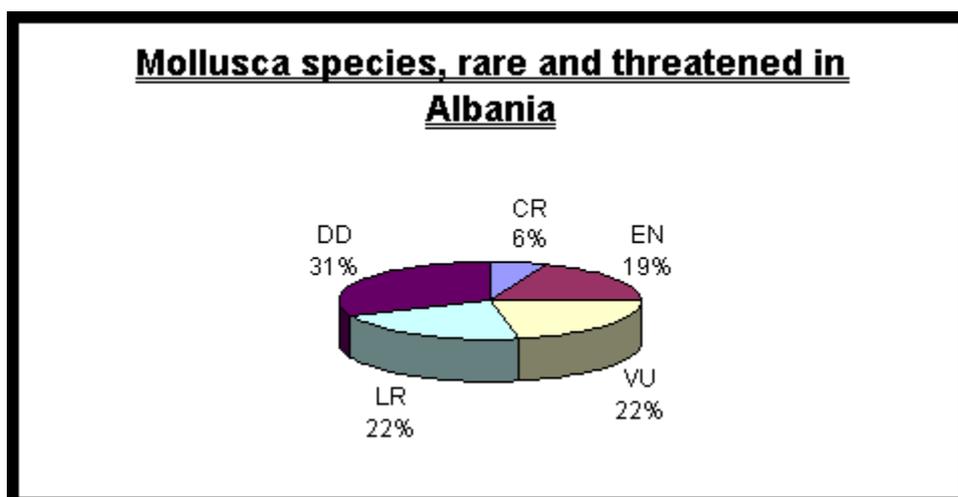
During the last 25 years, approximately 122 species of vertebrates (27 mammals, 89 birds, and 6 fish) and four species of plants have lost more than 50% of their population. The number of rare and threatened species of plants and animals is high and expected to increase. Today, the number of vertebrates included in the Albanian Red Book is around 273 species, or 36% of the vertebrates of the country.

**GRAPH 8**

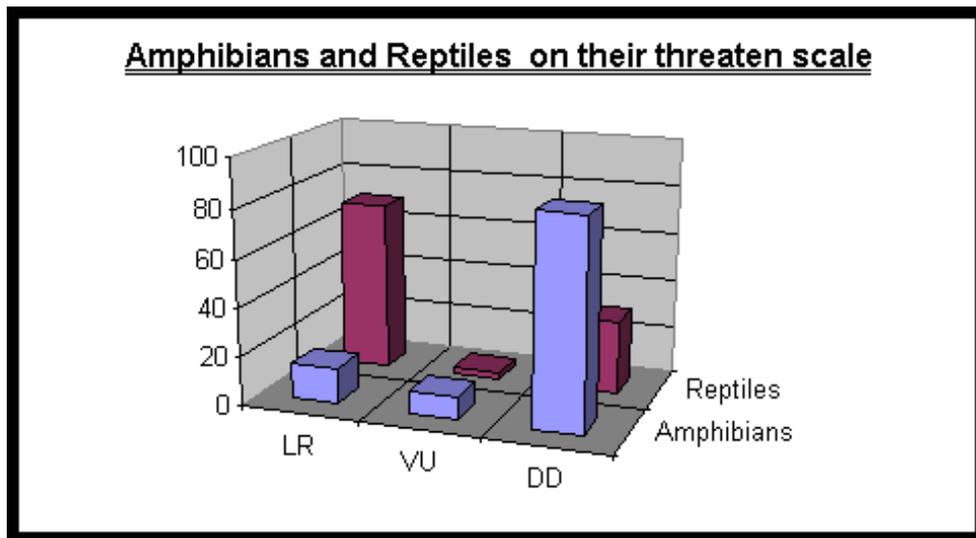


Several species with nutrient and economic values have become nearly extinct such as *Penaeus kerathurus* (marine shrimp), which had been in abundance during the 1960's and 1970's in the Drini and Mati deltas. Today this species is rare, and losing its previous economic value. The same is true for *Crangon crangon* (a crustacean species). The red coral (*Coralum rubrum*) and sponges of the genus *Spongia* are in high demand in western markets and are at risk of total extinction because of their extraction. Different species of fish crustaceans, molluscs, and other marine species are endangered because of the use of dynamite and poisonous materials for fishing, the consequences of which will be more evident in the future.

**GRAPH 9**



**GRAPH 10**



## **VI. THE RESPONSE**

The Convention on Biological Diversity (CBD), was signed by Albania in January 1994. Although faced with the difficulties of a country in transition, Albania has endeavoured to fulfil its obligations under the Convention. In 1998, the Albanian government charged the National Environmental Agency (the former Committee for Environmental Protection) to prepare the Biodiversity Strategy and Action Plan (BSAP) as a step towards implementing the Convention. Albania has been, and continues to be, a participant in European and regional initiatives related with the CBD, especially in the PAN-European Strategy on Biological and Landscape Diversity (PESBLD).

In Albania, the main objectives for implementing the CBD and PESBLD are:

- (i) protection and improvement of biological and landscape diversity;
- (ii) incorporation of the principles and policies required for sustainable biodiversity use and management; and
- (iii) promoting sustainable development for present and future generations.

The World Bank, through the Global Environment Facility (GEF), provided financial support to the NEA for preparing the BSAP. As part of this process, an Advisory Board was created and headed by the Chairman of the NEA. Supervision, consulting, and co-ordination were the duties of this Board. Technical specialists, university staff, and representatives of central and local governmental and non-governmental organisations participated in the preparation and drafting of the BSAP.

The success in the implementation of the CBD and the BSAP can be achieved only through the integration of strategic principles and objectives to protect biodiversity in other sectors of the economy. These include agriculture, forestry, fishing and hunting, energy and industry, transport, tourism, and water management.

Development of inter-sectional co-ordination is also a high priority where the NEA had already made some progress in the last year. The *Secretariat of the Convention on Biological Diversity (SCBD)* in the NEA, approved recently in the framework of the Nature Protection Directory, will be the most important co-ordination mechanism for the convention. The duty would be the co-ordination of work and programmes in the framework of the BSAP, and identification and securing of the financial resources for the implementation of the landscape and biological diversity action plan. Establishment of the National Council for Nature and Biodiversity is the first step towards the achievement of this objective.

**Legislation**, which is coherent and enforceable, will form the foundation for sound biodiversity management. Of particular importance will be the approval of the proposed draft-law on Nature Protection and Biodiversity and on the Protected Area, consulted also by foreign legal expert during the PHARE institutional strengthening project. These Laws, which create autonomous authorities that encourage wide participation, will form the cornerstone for future law enforcement. This process will be accompanied by cooperation between public and private institutions in the management of Protected Areas in accordance with management plans and the stated policies established by the central environmental authorities. These policies should consider the opinions of technical experts, and have public approval.

Power decentralization and a wider autonomy for the local authorities is necessary for the democratic development of the country. More regional autonomy as it is foreseen under the New Constitution will allow local and regional authorities to become increasingly active in the planning and management of the biological and natural resources they share. In this context, the implementation of the objectives of the CBD and the BSAP at the regional and local levels will be essential

In Albania there are several projects, dealing with biodiversity issue, that are running actually in different parts of the country. The most important are:

- The Lake Ohrid Conservation Project (LOCP)
- Management of the Karavasta Lagoon
- Conservation of Wetland and Coastal Ecosystem in Mediterranean Region (MedWet 3)

LOCP consists of four components outlined below. The grant from the Global Environmental Facility (GEF), executed by the World Bank, has been obtained to support the implementation of the LOCP, which will fund equipment, staff and consultants, studies and pilot projects, and public awareness and training programs required to implement the activities of the following components:

1. An institutional strengthening component that focuses on strengthening the capacity of public official at all levels in the lake Ohrid watershed for effective enforcement of each country's environmental laws, regulations, standards and policies;
2. A monitoring component that focuses on establishing a comprehensive bi-national monitoring program to inform the public and local officials, and to provide the environmental information necessary for effective and rational planning and decision making;
3. A participatory watershed management component that aims to promote the information of a broadly representative watershed management committee, to pilot and demonstrate practical, participatory and cost-effective actions to protect and conserve lake Ohrid and adopt and implement a watershed action plan;

4. A public awareness and participation component that aims to create public awareness and increase community participation to enable the effective and sustainable implementation of the LOCP

The project on Karavasta Lagoon (the only Ramsar Site in Albania) has the specific objective to use Albania's natural resources in a sustainable way and to protect the biodiversity by improving the protection of the environmental resources of this area. These objectives are:

1. Protection of the forest and its fauna and flora through improve fencing;
2. Preservation of the natural drainage to the sea through regular dredging of the existing two channels;
3. Creation of better access and scientific facilities:

- an information center
- a watching tower
- parking space
- rehabilitation of roads and bridges in the area.

The MedWet 3 Project have been just granted from GEF and will fulfil these objectives:

1. Promotion and capacity building for the development of central policies and tools to address the policy-related root causes of the loss of wetland and coastal biodiversity.
2. Protection and removal of root causes in key demonstration sites selected in view of their global significance and of the variety which they present in terms of threats and accompanying actions.
3. Contributing to "closing the Mediterranean circle" in terms of biodiversity protection and sustainable management of wetlands and coastal zones through cost-effective networking for transfer of lessons, interchange and training.

A number of **Albanian NGOs**, in collaboration with international ones, have developed sufficient expertise and experience to contribute to landscape and biological diversity inventory, planning, management, and monitoring. Creation of the legal mechanisms to promote a wider involvement of these NGOs in this process will better ensure the implementation of the CBD and BSAP in Albania.

**The Nature Protection Directory** have been responsible to write this report taking into account the information available in the country and specially on the "Biodiversity Strategy and Action Plan".

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