

THE ENVIRONMENTAL

RESEARCH IN ALBANIA

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1. Summary of the consultation process

This report is developed in May 2009 in the content of EC funded project WBC-INCO.NET under the WP2 – Priority setting to structure participation in FP.

The first step to identify the state of T&T, problems and challenges on environmental area has been the organization of a questionnaire with the experts, researchers, administrators and environmentalists.

At the same time are used different reports, studies and strategically documents delivered by the Ministry of Education and Sciences (MES), Ministry of Environment, Forests and Water Administration (MEFWA) etc.

Based on the questionnaires, prepared by different experts in Albania, and different documents used is compiled this report, which attempt to highlight the research policies on Albanian Environmental area on.

This report summarizes the national strategies and working plans related with environmental research development in Albania. Initiated from different stages passed by Albania these last twenty years, the main topics, issues and development on above mentioned area are displayed. Strategies applied by the Ministry of Education and Sciences and The Ministry of Environment, Forests and Water Administration have been taken in consideration in this report.

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2. Albanian Reform on RTD and Education

The higher education reform has the main objectives to foster research orientation of University, prevent a brain-drain process and enable a full participation in ongoing mobility schemes

Albanian reform on RTD and Education has been a profound reform extended on:

a. Legislative framework

Focused on the implementation of new laws of the research and education, strategies and master-plans for the education and research development. Including the laws on environment protection there are approved:

- The Law No. 7662 dated 19. 01. 1993: Concerning the plant protection service,
- The Law No. 7665 dated 21. 01. 1993: Concerning the development of tourism priority areas,
- The Law No. 7722 dated 15. 06. 1993: On conservation of the stock of medicinal ether-oleaginous and naturally tanniferous plants,
- The Law No. 7664 dated January 1993: On “Environmental protection”
- The Law No. 7875 dated 23.11.1994: On protection of wild fauna and hunting,
- The Law No. 7917 dated April 1995“On Pastures and Meadows”
- The Law No. 8302 dated March 1998: “On Forest Revenues”;
- The Law No. 3318, April 1998: “On Leasing the Agricultural land, Forests, Meadows and Pastures that are Property of State”
- Decision no. 236 dated 6.06.1994: On levies for animal grazing in the pasture stock of forests and pastures under administration of directorates of forest and pasture services and the commune authorities,
- Law No.8906, dated 6.6.2002: For protected areas,
- Decision No. 266 dated 24. 04. 2003: Concerning the administration of protected zones,
- Decision No. 267 dated 24. 04. 2003: Concerning procedures regulating proposal and declaration of protected and buffer zones,
- Law No.8990, dated 23.1.2003: On environmental impact assessment,
- Decision No. 103 dated 31. 03. 2002: Concerning environmental monitoring in the republic of Albania.
- Regulation No. 103 dated January 1996: “On the transferring of the Forests and Pastures Use to Communes
- Law no 7908 / 1995 On Fishery And Aquaculture
- Law no 8093 / 1996 on Water Sources

Law no 8870 / 2002 on Amendments to law 7908 / 1995 for Fishery and Aquaculture

b. Institutional framework

As the most important activities undertaken in this concern are:

- Reformation of Academy of Sciences of Albania and research institutions.
- High education reform, implementing the principles of Bologna Convention and new programs and curricula. Important attention is spend on the implementation of different levels of education (different levels of education);
- Commission of High Education and Sciences is created as a consultative body on the policy and decision making processes.

c. Economic framework

A lot of improvements are carried out in this concern, related to the improvement of structures and procedures, which manage the research budget.

The budget for the research is planed to achieve up to 0,9 of GDP in 1013.

According to the Law, Albania has established a body National Council for Scientific-Research Activities and prepared Strategy with the aim to define annual budgetary increase, as a % of GDP allocated to RTD.

d. Introduction of Albania to the international and European organization

According to the Article 122 of the Constitution of the Republic of Albania, international conventions ratified by law from the Assembly are integral parts of the national legislation and prevail over the national laws that are contrary to them.

Republic of Albania is a party of:

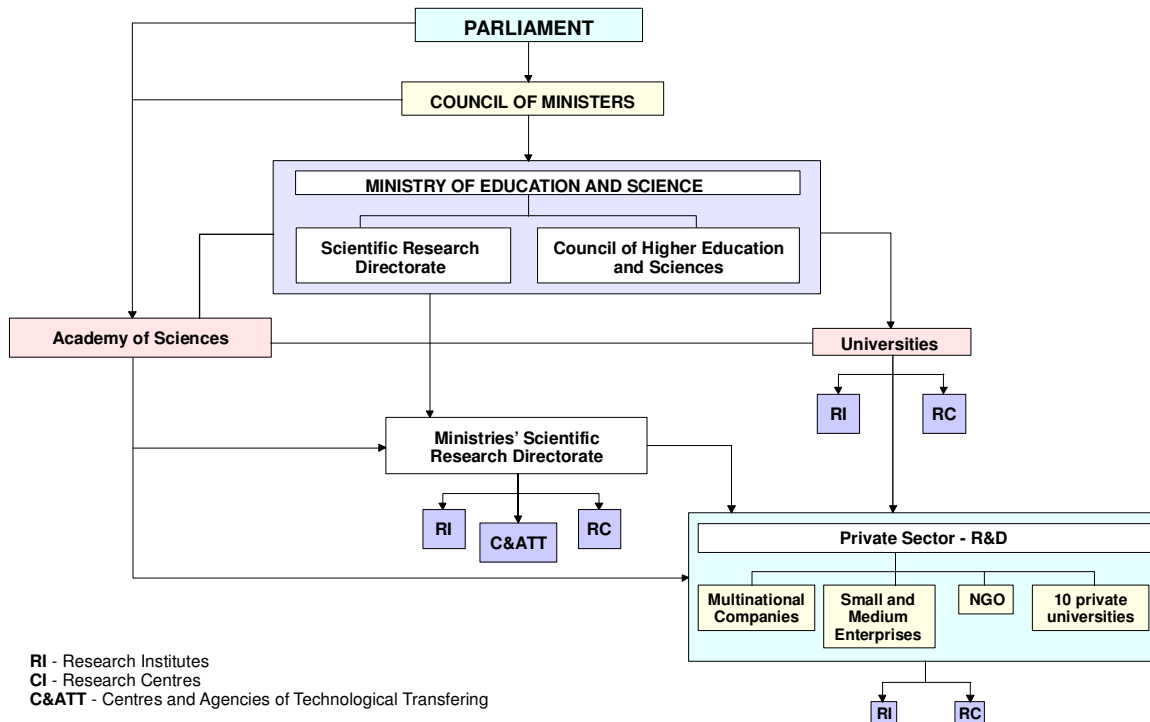
- Convention on Access to information, Public participation in environmental decision-making and Access to justice in environmental matters (The Aarhus Convention) ratified by Law No. 8672, dated 26.10.2000.
- Convention on Environmental Impact Assessment in the Trans-border Context (Espoo, Finland) ratified on 04.10.1991
- Convention on control of trans-border transportation of hazardous waste and their disposal (The Basel Convention) ratified by Law No. 8216, dated 13.05.1997.

- Convention on protection of marine environment and coastal area of Mediterranean Sea (The Barcelona Convention) ratified by Law No. 8690, dated 26.10.2000
- Convention on protection and use of water streams and international lakes (Helsinki 1992) ratified on 05.01.1994
- Convention on Biological Diversity (Rio de Janeiro 1992) ratified on 10.11.1996
- Convention on protection of ozone layer ratified by Law No. 8463
- Convention on Climate Changes (UNFCCC) ratified in 1994
- Convention of preservation of wild animals' migrant species ratified by Law No. 8692, dated 16.11.2000.
- Convention on preservation of wildlife and natural European habitats ratified by Law No. 8294, dated 02.03.1998
- Convention of Wetlands of international importance, in particular as habitats of water poultrys (The Ramsar Convention) ratified on 29.03.1996
- Convention of trans-border impact of industrial accidents ratified by Law 8216, dated 13.05.1997
- Convention on fight against desertification in those countries that suffer severely from dryness and desertification, in particular in Africa ratified by Law No.8556, dated 22.12.1999.
- Protocol of Kyoto for carbon sequestration, ratified by Law No. dated

3. The S&T system in Albania

The national scheme of the S&T system on the scheme below is presented:

SCIENTIFIC SYSTEM IN ALBANIA



The current Environmental conditions and the state of S&T system in Albania in the field of _ can be assessed based on:

1. The state of the environment and environmental research in relation to national, European (European Quality Standards EQS) and International quality standards evidential by the monitoring results indicate non-compliance according to international standards in a number of environmental components, including air and water.
2. The degree of environmental impacts from various activities and unit activity - with the exception of electricity generation, is generally high.
3. The level of expenditure and their efficiency on environmental protection and prevention of environmental degradation - both by the public and the private sector is extremely low, and efficiency poor.
4. The concordance degree of the Albanian and European legislations on the environment is satisfied - there is a moderate level of agreement between two sets of legislations.
5. Besides this the legislation - laws pertaining environmental protection - are not well enforced or implemented.

The most important institutions dealing with the research in environmental issues are:

Ministry of Education and Sciences: Responsible for overall scientific policy in Albania.

Ministry of Environment, Forests and Water Administration: Mission of the Ministry of MoEFWA is to draft and propose policies, strategies and action plans for the protection and administration of the environment, in order to achieve sustainable development, to improve the quality of life and enable the country to join the European Union. Main tasks include: implementing relevant national policies, defining priority environmental and forestry investments, development of national research programs in the environmental field, and, coordinating environmental protection-related activities of the other ministries and local authorities. The mission of the Ministry of Environment, Forests and Water Administration (MoEFWA) is to draft and propose policies, strategies and action plans for the protection and administration of the environment, forests, waters and fisheries in order to achieve sustainable development, and to improve the quality of life and enable the country to join the European Union. The accomplishment of this mission is carried out through participation, initiation and coordination of the activities that lead to long term developments and well being, by protecting the nature and raising the awareness of the public opinion.

The MoEFWA's main tasks include: implementing relevant national policies, defining priority environmental and forestry investments, development of national research programs in the environmental field, and, coordinating environmental protection-related activities of the other ministries and local authorities. The MoEFWA may propose measures for the protection and preservation of the environment, forestry and water resources and is responsible for the implementation of water policy and forestry policy.

The Academy of Science of Albania constituted on 1972. The function is based on Law No. 9182, date 02. 05. 2004 "About the Academy of Science of Albania". The mission is to enable integration process of the activity of different scientific bodies in the science world. The main Activities aim to: (i) conduct the research work as well as the theoretical-practical studies in the Alban logy, social, natural and technical fields; (ii) offer advice and expertise to resolve important issues related to high state institutions; (iii) elaborate recommendations to enable effective use of technical-scientific achievements in the economic and social development of the country; (iv) take care of its members and scientific employees` rights, to create proper living and material conditions(v) take care about the qualification of its employees programming as well as planning their activity in sustaining a scientific degree or title; (vi) support and stimulate the active participation of scientific associations, foundations and external collaborators in scientific activity; (vii) finance specials programs of scientific research initiated by one or some scientists; establish permanent or temporary

commissions and working groups to organize interdisciplinary studies within and out of the academy; (viii) organize congresses and conferences in national and international level; publish the results its scientific work, periodic organs and other works with scientific value for the cultural inheritance of the country: (ix) Organize competitions and afford scientific prizes.

The Polytechnic University of Tirana is founded in 1957 On 1991 the Polytechnic University of Tirana splitted up from the University of Tirana, based on recent legislation. It is an independent chartered institution. Environmental research is very dispersed among the different faculties of the University. The better cooperation between faculties will bring a qualitative and coordinated research.

The faculties that perform environmental research and educational activities are:

University of Tirana. It was the first University in Albania when it was founded in October 1957 as **State University of Tirana** by joining together five existing institutes of higher education. Initially it comprised ten faculties, but in 1991 it was broken up into the Polytechnic University of Tirana, which was formed of the engineering faculties, and the main University of Tirana which comprised the seven remaining faculties covering humanities, economics, natural science and medicine as below.

There are also some public institutions performing the environmental research, monitoring and prevention, among them.

INEUM - Institute of Energy, Water and Environment which is responsible for monitoring of rainfalls, temperatures, solar energy, air and surface waters.

AGS - Albanian Geological Survey which is responsible for monitoring of the radon, monitoring of the surface, underground and marine water's quality, risk assessment and soil pollution.

Institute of Public Health which is responsible for monitoring of emission measurement, toxicological investigation of biological material, food and feed control, radio ecological investigation, noise and vibration monitoring.

Agency for Environmental Protection which is responsible for the surface water quality particularly at river mouths and populated zones.

A numerous new public and private Universities are created 5 last years

3.1. State of the Environment

The state of the Albanian environment can be evaluated referring the quality of different environmental components as:

- Air - compliance with air quality standards
- Water
- Achievement of drinking water standards
- Achievement of bathing water standards
- Compliance with surface water quality objectives including biological quality elements
- Compliance with groundwater standards and trends in pollutant concentrations
- Compliance of marine waters with ecological objectives
- Water resources - percentage of available resources which are currently utilized.
- Biodiversity protection - endangerment species (IUCN classification), species under the protection, percentage of protected areas Forestry and pasture – sustainable management, preservation of forest and pastures habitats, natural or transformed by man.
- Soil - soil reduction, degradation erosion and contamination
- Noise - compliance with accepted limits for ambient noise
- Landscape and cultural heritage - preservation of landscape and cultural heritage values related with nature and biodiversity conservation.
- Air Quality

3.2. Albanian environmental policy framework

During the '90-s and onwards, the new Albanian democratic society, along with many duties to solve, confronted since the very beginning the wide and complex problems of environment. The democratic state, political forces, professorate, environmentalists, the most emancipated parts of the society more and more committed their involvement into the environment. Owing to these involvements and motivations, facing difficulties and shortages, started to shape and grow a new attitude towards the environment, very different from the previous one. Although Albania was radically changing, the process of contemporaneous evaluation and involvement in environment had started already.

It is undeniable that during the last nineteen years, the environment and its protection underwent a thorough and comprehensive process of evaluation. As aimed at, this process is making reality the adoption of contemporaneous attitudes towards the environment and its protection, valuing this as a real step in efforts to integrate in Europe. To date have been concretized the main streamlines of this process that constitute its main achievements. Among which we can mention the following phenomena that happened for the first time in the Albanian reality:

- ✚ Formulation of strategies, action plans and programs for environment and its components;
- ✚ Enacting of a new Albanian environmental legislation;
- ✚ Establishment and functioning of separate state structures for protection and management of environment;
- ✚ Involvement of the civil society in environmental problems, mainly through establishment and activity of environmental NPOs;
- ✚ Determination of roles and responsibilities of main actors in the field of environment such as the state and its separate organs, civil society with interested public and NPOs, the business and various investors, etc;
- ✚ Establishment and functioning of wide co-ordination with international environmentalist factor such as international and inter-governmental, regional and global organizations, with various states, in particular with neighbor countries and those of the region, etc.;
- ✚ Integration in global and regional initiatives, plans and strategies, becoming signatory party in international environmental conventions, protocols and agreements;
- ✚ Formulation and implementation into the Albanian environment of many important environmental projects supported by powerful foreign donors.

Each of these achievements separately and altogether constitutes the main streamlines of the work of environmental institutions and actually experiences the phase of attempts to consolidate and mature, to shape their personality and prestige.

Formulation of policies, strategies and action plans, creation of legal framework and institutional network for their application, identification of roles and responsibilities of all involved, provision of financial supportive resources, already constitute a single harmonious challenge; represent mentalities, instruments and practices, through which is aimed to be executed the contemporaneous protection of Albanian environment.

3.3. The overall policy framework

The 2007s Environment Sector and Cross-Cutting Strategy is the basic document that outlines the state policy in the field of environment protection. The final purpose of drafting, approving and implementing the strategy is to fulfill a constitutional obligation towards the citizens, who are entitled to a healthy and ecological environment a sustainable use of its natural resources, a good protection from pollution and degradation, as well as by promoting its environmental values in order to turn them into important assets for the country further economic growth.

Many of the policies and measures of this strategy are supported by programs and actions defined in the cross-sectoral strategy, like tourism, energy, agriculture, etc.

The cross-cutting framework provides a modern and integrated approach to the environmental and other sectors which have a strong impact on transport, agriculture, territory planning, etc. The concept of "cross cutting" environment is a modern and integrated approach, which firmly acknowledges the shared responsibility, and which many government institutions have for the achievement of sustainable development and the protection of the environment.

The ESCCS is supported by further detailed action plans that address specific issues such as the Biodiversity Strategy and Action Plan, the Forestry and Pasture Development Strategy, the Fishery Strategy and the Waste Management National Plan. The Cross-Cutting Environment Strategy brings together the most important components of these documents into a single and contemporary entity.

The Strategy includes the drafting of sectoral policies on integrated environment, the strengthening of the national system for the administration of these natural elements, integrated management for protected areas, undertaking of policies for increasing the green areas, contemporary fishing policies, and the increasing of renewable resources using on the favor of non-renewable ones.

The strategy foresees the steps to be taken for approximating the regulatory legal framework with the European framework and its implementation, an increase of the gradual process of transferring the natural resources administration to the community.

One of the issues addressed by this strategy is the environment impact assessment for various activities, and the strategic environmental assessment for plans, programs and policies, the obligations deriving from the membership in international agreements, and the strengthening of the role of the public and the civil society, which represent some of the main aspects of this strategy for reaching the above-mentioned fundamental objective.

The Cross Cutting Environment Strategy includes an integrated Action Plan in all the fields it addresses. A more detailed Action Plan was prepared by the Ministry of Environment, Forestry and Water Administration. It represents today a very important document, which is soon to become part of the strategic documents of this Ministry.

3.4. Overview research activity

3.4.1. Research Projects

The most important programs, which affect positively on the environment is the **NATIONAL PROGRAMME FOR RESEARCH AND DEVELOPMENT 2007 - 2009**

SISTEMET E TEKNOLOGJITE E INFORMACIONIT (ITS)

MATERIALET (Materials)

UJI DHE ENERGJIA (Water and Energy)

BIODIVERSITETI DHE MJEDISI (Biodiversity and Environment)

BUJQESIA, USHQIMI, BIOTEKNOLOGJIA (Agriculture, Food and Bio-technology)

SHENDETI (Health)

Area: Biodiversity and Environment, 2007-2009

No	Institutions
1.	Public Health Institute
2	Public Health Institute
3	University of Tirana, Medicine Faculty
4	University of Tirana, Medicine Faculty
5.	Public Health Institute
6.	University of Tirana, Medicine Faculty

Six Bilateral projects with Italy 2008-2010

No	Institutions
1.	Ministry of Public Transport
2	Public Health Institute
3	University of Tirana
4	Albanian Geological Survey
5	Archaeological Institute

Six Bilateral projects with Slovenia 2008-2009

No.	Institutions
1	Public Health Institute
2	Agricultural University of Tirana
3	Nuclear Physic Institute
4	Agricultural University of Tirana Agri-environment and Ecology Department
5	Albanian Geological Survey
6	University of Tirana

Six Bilateral projects with Macedonia (2006-2008)

No	Institutions
1.	Nuclear Physic Institute
2.	University of Tirana, Natural Science Faculty
3.	Technological University, "Ismail Qemali", Vlore
4.	Albanian Geological Survey
5.	Hydrometeorological Institute
6.	Albanian Science Academy

3. 4.2. Key competencies in research fields

Referring to the priorities on environmental chapter of the FP7 in Albania are defined the most important areas. These topics are strongly related with the programme and strategies developed by the MoSE and MEFWA. Due to the main topics are determined the sub topics, where our researcher have had the possibilities to express their capacities every time and in accordance with the budget.

1. Air

- 1.1 Quality air monitoring in urban areas
- 1.2 Consume of thinner ozone substances
- 1.3 Noises

2. Biodiversity

- 2.1 Threatened and protected Species
- 2.2 Habitats with rare, threatened and endemic plants of Albania and their protection "ex situ" In Botanic Garden.
- 2.3 Fauna
- 2.4 Protected zones
- 2.5 Forests
- 2.6 health's in forests

3. Soil

- 3.1 Evaluation of protection elements with engineering and agricultural character
- 3.2 Erosion and soil landslide
- 3.3 Monitoring of soil erosion in riversides, Sea and solid depositions during the floods
- 3.4 Monitoring of solid depositions during the floods by streams
- 3.5 Monitoring of quality and quantity of solid pensile discharges in drainage network and in the waters of rivers

4. Wastes

- 4.1 Generation of urban and inert wastes
- 4.2 Solid industrial wastes
- 4.3 Industrial sites pollutions from wastes discharges

5. Water

- 5.1 Oxides user substances in rivers
- 5.2 Nursing materials in the rivers
- 5.3 Washing water quality
- 5.4 Water's lake quality
- 5.5 Underground water quality monitoring
- 5.6 The pollution of surface waters from urban discharges and industrial discharges

6. Fishing

- 6.1 Fishing shipping capacity
- 6.2 Analyze of Sea odds
- 6. 3 Aquaculture

The main studies and projects on environmental field are those related to biodiversity rehabilitation and protection, sustainable forestry, surface and underground waters cleaning, climate change, carbon sequestration, ICT-RTD, natural and artificial resources etc.

3.4.3 Research infrastructure

According to the new trends and obligations some of the research institutions in Albania within the environmental frame, recently have start to develop some aspects of environmental research.

The infrastructural level varies from institution to institution e.g. better research performing and human capacities go along with the higher education and research while the everyday monitoring is basically performed in the public institutions and institutes dominantly market-oriented.

Universities of Albania possess scientific-research capacities in environmental field dealing with the variety of research activities like assessment of environmental impact, implementation of forest management plans, building up of models, data bases and software, projects and programs in flora and fauna protection, marine and coastal protection, biodiversity conservation and climate change mitigation, cleaner production, energy efficiency.

The number of employees in scientific-research institutions and institutes in period of 2005-2007 is presented on Table 1.

Table 1: The overall number of employeers in scientific-research organization, the number of researchers with the academic position and titles and number of research assistants

YEAR	The overall number of employees	Researchers with academic position	Research assistants
2005	3865	633	3231
2006	3995	633	3362
2007	4185	671	3514

Majority of the researchers are employed at the State Universities of Albania.

Table 2: The breakdown of the researchers' position through the period of time 2005-2007

YEAR	The overall number of researchers	Researchers at the University	%	Researchers at the institutes	%	Researchers in public institutions	%
2005	633	521	82,3	86	13,6	26	4,1
2006	602	486	80,7	89	14,8	27	4,5
2007	671	556	82,9	82	12,2	33	4,9

**Table 3 Ministry of environment, Forest and Water Administration
Budget 2008**

In 000/leke

Approved by Law with No. 9836 date 26/11/2007 "for State Budget for year 2008 "

1 euro=120 leke

Gr	Tit	Name title	Chap.	Chapter name	600	601	602	603	604	605	606	231	Total
					Salaries	Insurances	Services	Subve- ntions	Others Inner transfers	Foreign current transfers	Trans.budg famil. and Individes	Capital expenses	Total
26	`1110	Planning, Management and Administration	1	Budget	46,000	8,000	15,000		0	5,000	0	5,000	79,000
26	`1110		2	Foreign financing	0	0	0	0	0	0	0	0	0
26	`1110		3	Local cost	0	0	0	0	0	0	0	0	0
26	`1110		4	Custom taxes	0	0	0	0	0	0	0	0	0
26	`1110		5	Its budget	0	0	0	0	0	0	0	0	0
26	`05320	Programe for Environmental protection	1	Budget	47,000	8,900	11,000	0	21,000	0	0	0	87,900
26	`05320		2	Foreign financing	0	0	0	0	0	0	0	218,000	218,000
26	`05320		3	Local cost	0	0	0	0	0	0	0	20,000	20,000
26	`05320		4	Custom taxes	0	0	0	0	0	0	0	10,000	10,000
26	`05320		5	Its budget	0	0	0	0	0	0	0	0	0
26	`04230	Supports for fishing	1	Budget	31,700	6,400	25,000	0	0	0	40,000	30,000	133,100
26	`04230		2	Foreign financing	0	0	0	0	0	0	0	182,000	182,000
26	`04230		3	Local cost	0	0	0	0	0	0	0	55,000	55,000
26	`04230		4	Custom taxes	0	0	0	0	0	0	0	24,000	24,000
26	`04230		5	Its budget	0	0	0	0	0	0	0	0	0
26	`05640	Water administration	1	Budget	15,000	3,000	3,000	0	0	0	0	0	21,000
26	`05640		2	Foreign financing	0	0	0	0	0	0	0	0	0
26	`05640		3	Local cost	0	0	0	0	0	0	0	0	0
26	`05640		4	Custom taxes	0	0	0	0	0	0	0	0	0
26	`05640		5	Its budget	0	0	0	0	0	0	0	0	0
26	`04260	Forest administration	1	Budget	520,000	103,000	140,000	0	15,000	0	0	99,977	877,977
26	`04260		2	Foreign financing	0	0	0	0	0	0	0	194,000	194,000
26	`04260		3	Local cost	0	0	0	0	0	0	0	10,000	10,000
26	`04260		4	Custom taxes	0	0	0	0	0	0	0	10,000	10,000
26	`04260		5	Its budget	0	0	30,000	0	0	0	0	50,000	80,000

26	Ministry of environment, forest and water Administration	659,700	129,300	224,000	0	36,000	5,000	40,000	907,977	2,001,977
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2.3 Key drivers of research

2.3.1 Main sector trendy in Albania

The last decade, in Albania has a trend toward of increasing the funds and susceptibility for the different projects, particularly on Environmental areas. Below are described the main priorities and the projects areas financed by Albanian State. The fund are given by our state and by different European Organizations as UNDP, WB, FAO, IAEA, etc.

Table 4	
No	Programme
1	Agriculture and Food
2	Energy
3	Geology, mineral extraction and elaboration
4	Biotechnology
5	Life Sciences
6	Informatics and Information Technologies
7	Transportation
8	Environmental Studies
9	Urbanism
10	Albanological Studies
11	Social Studies
12	Materials

Table 5:

NATIONAL RESEARCH PROGRAMMES	
PROGRAMME	RESPONSIBLE ORGANISATION
▶ <u>Albanology</u>	Academy of Sciences
▶ <u>Information Systems and Technology</u>	Ministry of Education and Science
▶ <u>Biotechnology and Bio-Diversity</u>	Ministry of Education and Science
▶ <u>Natural Resources</u>	Academy of Sciences
▶ <u>Geology, min. extr. and elaboration</u>	Min. of Public Econ. and Private.
▶ <u>Agriculture and Food</u>	Ministry of Agriculture and Food

2.3.2 Main socio-economic challenges in Albania

3. Integration of Albania in the European research Area in the field of Environment

There are a lot of financing on the Environmental issues in Albania. Before 90s`, in Albania, there were not known Environmental concept. The funds were unexistent but step by step the budget was considerably increased. On the framework of different projects, studies and research policies and strategies are created the respective institutions for the environmental research and its sustainable development. So, the main institutions which lead and financing the research activities in environmental research are Ministry of Education and Sciences and Ministry of Environment, Forests and Water Administration. Generally the dedicated funds are coming by the Albanian Government, but also from different international and national donors.

The main funds are dedicated for biodiversity, public health, agriculture, waters and forests protection. At the same time the environmental researches are allocated for the universities and public or non public institutions in order to increase the scientific level on Environmental area according the standards of European Community.

The infrastructural projects are mainly on the field of the establishment for the waste waters treatment in Tirana and recently in Pogradeci and Saranda town.

Programs of bilateral cooperation in the environmental field

- RTD on Environment through National and International programs was done:
- National programs:
- Biodiversity and Biotechnology
- National Program for Research and Development
- Agriculture and Food
- International programs and support
- INTERREG, FP6, FP7, NATO for Peace, IPA, CARDS, COST
- WB, EBRD, UNDP, REC, GEF, USAID, Pact for Stability, SIERANET, KfW
- Bilateral Agreements

As the result of bilateral cooperation in 2007 and 2008 *Ministry of Education and Science* and Ministry of Environmental Forest and Water Administration have signed contracts for 20 projects with 4 European countries.

The projects have covered several sub-themes as follows:

Environmental management, especially in the coastal zone of Adriatic Sea, and region of Shkodra Lake, Ohrid lake, Drini Basin and Dinaric area for karst system

Bilateral environmental cooperation under the umbrella of Ministry of Education and Science is concretized with some countries as Italy, Slovenia, Greece and Macedonia.

In the table is presented the number of projects under the contracts in 2007 and 2008.

Table 6. Number of bilateral projects of Ministry of Education and Science in period 2005-2007.

Year	2004/05	2005/06	2006/07	2007/2008
Number of projects	90	96	96	52

Just 1 out of 20 agreed bilateral projects, according to its content, could be defined as the environmental one.

The funds per project are extremely low, in the range of 10000-11000 €/3years.

Cooperation with relevant international organizations:

Relevant institutions cooperating with alabnaian institutions are: GEF, UNEP, UNDP, UNECE, UNESCO, IAEA, CE, CARDS, IPA.

Environmental protection is one of the most important segments in the international frame on different levels. Applying the eligible mechanisms on the environment is a significant measure for the reform of national institutional and legislative frame.

Most important environmental activities are carrying out under the UN umbrella. Because of that the association and active participation in UN agencies activities and bodies is of the utmost importance for the fostering of national capacities and adopting of international standards.

Source: Ministry of Education and Science

Albania participates and benefits the funds and projects from the following organizations:

Global Environmental Fond (GEF)
United Nations Environmental program (UNEP)
United Nations Development Program (UNDP)
United Nations Commission for Sustainable Development

The contact point from the Albanian part for this kind of cooperation is Ministry of Environmental, Forest and Water Administration together the Science and Education Ministry.

Albania participates in limited number of regional and national projects approved by the International Agency for Atomic Energy. The implementation organizations from the Albanian side were Albanian Science Academy, Ministry of Public Health, Albanian Geological Survey, and Polytechnic University of Albania.

Program of technical cooperation with Albania was approved for the three-year period, covers five national projects out of which two environmental, Albanian institutions participate in 2 interregional and 5 regional projects of IAEA.

The most significant part of international cooperation is credit funds issued by KFW and REC and other organizations as WB, etc.

The available data can not offer the information about the ratio between the contracted and realized funds.

4. SWOT analysis of the environmental research in Albania

4.1. Strengths

The high requests of new generation for high school and Universities accompanied with post university specialization inside and outside of Albania.

Progressively growing demands for the harmonization with the EU directives

UN intervention in Albania between the different project toward the environment and science

Government commitment toward the establishing of the conditions for environmental research

Growing of financing of environmental projects

Environmental law enforcements

Existing of legislative and national bodies dealing with the RTD

The new politic decision for funds increasing on environmental research and development and in Science and Education

4.2 Weaknesses

Absence of traditional experience for environment protection
Absence of a central center for information exchange
The small funds accredited for environmental technologies
Low level of participation of young generation in R&D projects
Low level on laws respect
Absence of equipments and laboratories on environmental field
There are not good relations between the private and scientific sections

4.3 Opportunities

Participation on different projects inside and outside of Albania
Increasing of national and international funding
Low enforcement
Incorporation of young people on environmental projects or R&D projects
Improving the quality of curricula's on Universities
Funds augmentation between the policy maker's decisions

4.4 Threats

The low human and technical capacities
Slow steps for environment protection especially on forests and waters
Territory planning out of standards
Industrial and urban pollution.

5. ENVIRONMENTAL RESEARCH PRIORITIES FOR ALBANIA

Rapid and sustainable development is the fundamental objective of the Albanian Government. Albania should develop by protecting to the utmost its natural resources from contamination and degradation, consequently promoting environmental values and put them to the benefit of the country's economic prosperity.

Such a development will be guided by the Government vision and policies, which will ensure an integrated development of both rural and urban areas whilst supporting environmental protection. The Government goal will be attained through an effective synergy of specific sector policies into a unique and integrated approach.

Although seemingly an environmental-related concept, the sustainable development is an entirely economic concept that guarantees the security of economic growth. In function of such development, Albania needs an action plan that will work towards:

(i) Improvement of life quality;

(ii) Creation of conditions for a sustainable and integrated development; and

(Hi) integration of environmental strategy with other sector strategies

2.2. Priorities in the Government Programme

To achieve accession to the European Union the country will need to approach compliance with European

Community legislation in the field of environment over the coming decade. In some cases, particularly for investment heavy elements of Community legislation, complete compliance will not be achieved until some time after accession as is the case with most of the new Member States. Nevertheless considerable progress is needed even in these areas. Environment is one of the largest components of European Community legislation and is acknowledged to be one of the most difficult areas in which to achieve compliance.

The Government Programme for 2005 - 2009 sets priorities for environmental protection and the sustainable use of natural resources. In summary these are:

1. Enforcement of the laws on environment protection, in particular, the polluter pays principle will be strictly enforced. To this end, government will reform environmental agencies and institutions and will increase the punitive measures against polluters and damagers of environmental assets.

2. Government will discipline as a priority economic activities that cause air and water pollution, compromise tourism potential, damage forests and cause soil erosion.

3. In particular will be reduced in half the air pollution level in the large urban areas of the country.

Government will adopt and enforce European-approximated environmental standards on emissions and ambient concentrations, following an ambitious agenda. Within its four-year term, the

Government shall enable elimination of surface polluted waters in the coastal area.

4. Priority shall be given to all the environmental hot spots, caused by old and abandoned industries, aiming to fully neutralize and rehabilitate them. In specific cases families exposed to risks from these sites will be relocated.

5. Special importance is given to the prevention of soil erosion which is one of the main causes of flooding of the plain areas. Government will stop all the exploitive economic

activities in the areas which have a high risk of erosion. Specific rehabilitation of protective dams, forests and pastures will be supported.

6. Environmentally friendly incentives for economic operators and individuals will 'be adopted in compliance with the principles of the free market. Fiscal incentives will be applied in order to promote reduction of pollution by' businesses and individuals, investments in clean technology, conservation of energy, efficient use of natural resources and investment in environment. Government will establish a special Environment Fund that will be financed by environmental taxes and fines, as well as by donations. The Environment Fund will serve to finance projects for environmental protection and technological innovations that improve the environment.

7. Improved definitions of property rights and their enforcement will be introduced including the transfer of the ownership and the right use of some environmental resources to the local communities, such as forests, pastures, waters, and land.

8. Specific measures will be adopted to prevent and stop the exploitative use of the wild fauna. Strengthening of the monitoring and protection capacities and increasing of the punitive measures will serve to this end.

9. Government will double the surface area under legal protection, ensuring not only the preservation of such areas but also their development through appropriate environmental and market instruments.

10. Public awareness of the environmental situation and risks is an important element of the government's environmental strategy. Civil society and independent organizations will be invited to offer their inputs in the drafting and implementation of environmental policies, and in particular for monitoring of environmental situation in the country. Environmental education of the public will be supported by specific programmes in cooperation with civil society. Government will review the environmental rights of the public and will improve the administrative and judicial appeal procedures, thus improving the access of environmental groups and citizens in general in bringing legal action against and punishing those that damage or pollute the environment.

11. The Government shall ensure a sustainable management of the natural resources, forestry and pastures, by preserving and ensuring biodiversity, productivity, renewable capacity, through guaranteeing the continuation of ecologic, economic and social functions on the local, national, global level.

12. Rehabilitation of the degraded forests, with the aim to return them in optimal condition, remains a priority for the sector of forestry and that of the environment in general.

13. In function of guaranteeing a sustainable use of the forestry and pasture resources, there will be acceleration of the pace of transferring forests and pastures under the local government units, a process which increases the role of local government in the sustainable planning and management of forestry and pasture resources;

14. The Government will aim at the increase and modernization, as well as diversification of the fishery fleet, for the latter to be capable of a sustainable use of the local and foreign fishery resources. The enlargement and improvement of the port fishery infrastructure and the infrastructure of repair, maintenance of ships in the country's four ports remains a priority of this sector. Included here is the building of markets in fishing harbors and of the fishery storing spots close to the main lakes.

15. The aquaculture should be considered an important and prospective sector for the domestic economy. In this context shall be encouraged the establishment of new trout-breeding centers mainly in North Albania, the increase of marine aquaculture the re-population with fish spawns of the big artificial lakes.

16. The Government will encourage at the same time the development of the fishery processing industry to supply both the local and foreign market.

Future priorities can also be defined on the frame of:

ICT-International cooperation

Farmer for better vulnerability assessment

Contribution of the biodiversity

Research on the marine and coastal protection, control and monitoring (New methodology on Multi-functional and integrated management, risk control analyses and prediction “stories”);

Trans - boundary lakes and terrestrial ecosystem protection and management. (sustainable approach);

Water quality and quality control, monitoring and modeling, based on WFD and other European relevant Directives like nitrogen, biodiversity, mineral residues, fishery, petrol control etc.;

Promotion of natural values conservation and halt biodiversity lost (due to human historical and current impacts);

Sustainable management of natural resources and biodiversity conservation. (Implementation of news methodologies and good practices); enforcing the CHM, other environmental information systems, following EEA Guidelines

Support for the transition and institutional fostering, building capacity on research management and project application;

Regional and cross-border cooperation fostering the capacities for the establishing of the protected areas network. Enforcing the information exchanging and coordinating efforts for common monitoring and management techniques and legal instruments.;

Waste waters and solid waste management; application of conventional and low cost natural remediation techniques like artificial lagoons and traditional facilities;

Promoting renewable energy sources balanced with natural controlled processes

Cross-border ecosystems management

Water management (lakes and rivers)

Management and protection of marine eco-systems

Climate change

Biodiversity

Persistent organic pollutants

Cleaner production

Sustainable management of chemicals

Conclusions

The awareness of the society and policy makers in environmental protection is increased, but still is more to do on the level of decision making and capacity building

The improvement of the organizations functioning and cooperation among different institutions, which are operating on the environmental activities.

The budget allocated on the sector is not sufficient and the efficiency still unsatisfied.

ICT-RTD is on the initiation phase and doesn't fulfill the demands of researchers and interested peoples.

The international networking, capacity on the project application process as well as information exchanging between the transboundary states are far to be desirable and to fulfill the needs of researchers.

Regardless of the efforts of Albanian Government these last years, technical and equipped level of the scientific laboratories are such modest and not able to perform innovation on the research.

The brain gain program is bringing good results on the approximation of the new scientist to the research and scientific institution, but the incentive programs to promote and support the young scientists are necessary to implement on the near future.

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