

**FOUR NATIONAL REPORT  
of the implementation of CBD in Republic of Macedonia  
(2006-2008)**

**Structure**

The structure of the fourth national report is composed of four main chapters:

**Chapter I - Overview of Biodiversity Status, Trends and Threats**

**Chapter II - Current Status of National Biodiversity Strategies and Action Plans**

**Chapter III - Sectoral and cross-sectoral integration or mainstreaming of biodiversity**

**Considerations**

**Chapter IV - Conclusions: Progress Towards the 2010 Target and Implementation of the Strategic Plan**

National Working Group has submitted three appendices as part of their national report:

Appendix I - Information concerning reporting Party and preparation of national report

Appendix II - Further sources of information

Appendix III - Progress towards Targets of the Global Strategy for Plant Conservation and Programme of Work on Protected Areas

## Forward

The event with the greatest influence on biodiversity policy since the preparation of the Third National Report to the SBD COP 9, held in Bonn, Germany in may 2008.

Against this background, the Fourth National Report to the CBD describes development of the basic components of the biodiversity in Republic of Macedonia, efforts of our country in this process, achievement and suggestions of the futures activities. Situation in many cases is not easy fully implemented in view of competing goals with regards to natural resources.

Our Working group has used some indicators in the fourth national report. We think that Biodiversity indicators are important tools for monitoring the status and trends of biodiversity at various levels because they serve as communication tools to summarize data on complex biodiversity issues. Also it is a signal key issue for addressed through policy or management interventions. The basis of these us is Decision VII/5 of the Conference of the Parties and obligation of each Contracting Party to develop a set of biodiversity indicators as part of their national biodiversity strategies and action plans. Second basis is set of indicators of CBD to assess progress at the global level towards the 2010 target, and to effectively communicate trends in biodiversity related especially for three objectives of the CBD (decisions VII/30 and VIII/15). For our work very important is suggest of the Scientific Institutions for using relevant bio-indicators in our national report.

Referring of Guidance for preparation of the fourth national report we have involve several stakeholders in this process: government administration, local administration, scientific institutions, management authority, NGOs, business-sector, and the media. In addition, the Department of nature, responsible for preparing national report has establishes a Working Group with 8 canceller's counterparts responsible for implementation of other related conventions. By coordinating report preparation, the focal points for the various conventions have prepared data and analysis. Such coordination could furthermore enhance opportunities for synergy in the national implementation of related conventions (RCW, WHC, CMS, Bern Convention, CITES).

The preparation of this national report is an important opportunity for communicating achievements made in meeting the Convention objectives to the general public and involving them in national implementation. In this process, after having submitted our national report, we have involve relevant scientist and communicate to the general public the positive outcomes for biodiversity identified in the report, and the obstacles and challenges that remain. Various means of communication has been used, including: publicly launching national reports on International Biodiversity Day; making national reports accessible to a wider audience through national clearing-house mechanisms or other media; developing and disseminating byproducts of national report.

# Chapter I

## Overview of Biodiversity Status, Trends and Threats

### 1. Overview

Republic of Macedonia is located in the central part of the Balkan Peninsula. Of the total land area 40% is forested and 51% is under agricultural production. Macedonia has significant biological diversity: 1,580 algae species, 340 lichens, 1,250 fungi, 3,700 plant species, 9,339 animal species (8,833 invertebrates and 506 vertebrates). Very important data are 854 endemic species (135 algae, 117 plants, 579 invertebrates and 23 vertebrates). In last two decades increasing exploitation of wildlife species for commercial aims has negative impact of the basic components of biological diversity, especially diatoms, medical plants, invertebrates and vertebrates. Macedonian Government has adopted Decision for classification of endangered flora, fungi and fauna species included in international trade (TARIC, CITES and D4).

#### 1.1 Main changes in the status and trends of BD components

##### *Status, trends and trends of key ecosystems and species*

The great floristic and faunal diversity at national level can be explained due to central position of the Macedonia and the various influences to which its territory has been exposed. With reference to the structure of ecosystems and their species, in territory of Macedonia has existed different bio-geographical regions:

- The sub-Mediterranean area, of the southern part of the Vardar Valley and the area near Doyran Lake which dominated Mediterranean and sub-Mediterranean species,
- The Middle-European bio-geographical region, which includes a major part of Macedonia and dominated various climate-zonal broadleaf forests,
- The Steppolic area in the central part of Macedonia which steppe-like vegetation,
- The Boreal bio-geographical region includes the biome of the European primarily coniferous forests of the boreal type.
- The Middle-south European mountainous bio-geographical region includes the alpine and partly sub-alpine zone on the highest mountains and biome of the arctic-alpine rocky terrains, pastures, snow banks and screens,
- The Oreo-tundral area which ordeal floristic elements, invertebrates (butterflies) and mammals, and
- The aquatic area (lakes, wetlands, flowing waters) which dominates Mediterranean and Pontus-Caspian species.

##### *Wetlands ecosystems*

Hydrologic status of tree big natural lakes: Ohrid Lake, Prespa Lake and Doyran Lake, glacial mountain lakes, rivers and other wetlands tips are very important for existing aquatic flora and fauna species.

The Ohrid Lake has specific ecosystem which macrophyte floating vegetation (in a fragmentary state). From a faunal aspect, the representatives of the fish species are the most threatened. Also

very important role have rivers Sateska and Crni Drim, and the Sent Naum spring for endemic species of trout (their populations are most reduced).

The Prespa Lake have critical ecological situation which continuous reduction of the water level. Many of localities which floating vegetation and faunal communities in the littoral zone has affected. Among the six endemic species of fish is the most caught, nevertheless its population is remaining stable. Due to uncontrolled fishing, the Prespa-carp is the most endangered species.

The establishment of the ornithological reserve Ezerani, strictly protected area and creation of the Prespa Park, as a trans-boundary park, and protection of river Golema Reka will surely contribute to the improvement of the state of this lake ecosystem. Most important type of ecosystem is Island Golem Grad in the Prespa Lake which specific flora and fauna species.

The status of ecosystem Doyran Lake since 1988 to 2002 has been most critical. The accelerated eutrophication has led to intensive sedimentation and a dramatic reduction in the epibenthonic communities. The current status of the benthonic communities likely still has enough genetic potential to completely restore itself. The status of the benthos can be inferred from the amount of the annual fish catch (autochthonic fish species). Since 2006 situation has been change because the level of water has been rapidly increase from irrigating system-canal which underground water in locality Djavato. In order to restore the disturbed ecological balance which additional quantities of water to the lake, and to improve the state of the biological communities within the lake ecosystem.

The status of the riverine ecosystems is also rapidly changed. Almost all big rivers Vardar, Treska, Lepenec, Pchinja, Crna, Bregalnica, Strumica under great direct and indirect anthropogenic pressures. Reservoirs have been built on some rivers, and these represent a sink for persistent substances.

Benthic communities in the riverine ecosystems are showing reduced abundance, which will ultimately lead to a decline in fish population, especially six endemic fish species with status of globally threatened species.

Wetland vegetation, which used to develop over large areas of swamps and marshes within all the valley of Macedonia, experienced great changes under past drainage regime which converted most of these ecosystems into arable land. The relict wetland communities present existed in a fragmentary state and their flora and fauna species are the most endangered. The most important wetland communities are located near natural lakes and rivers: Studenchishte, Belchishta, Ezerani, Stenje, Katlanovo, Monospitovo March. Some of the wetlands which are still preserved are important in serving to explain the genesis of wetland vegetation in Macedonia.

Impacts to most of the swamps and marshes have caused a reduction in the population of Invertebrates, Amphibians, Reptiles and Pisces. Only Belchista Marsh still exist in its natural state where vegetation communities and animal communities, especially vertebrates (fish, birds, mammals), a globally threatened species, is the stable status.

### *Agricultural ecosystems*

Land use in Agricultural ecosystems has been categorized on the basis of productive purposes. The structure of agricultural land is: ploughed land and fields 512.000 hectares (20%), orchards 17.000 ha (0,7%), vineyards 28.000 ha (1,1%) and meadows 55.000 ha (2,1%), total 612.000 ha.

Agricultural land included pastures which 630.000 ha (24,5%), temporary pools and drained wetlands 2000 ha (0,1%), still containing reeds and arable land 612.000 ha (23,8%). High quality of pastures which surface of 192.000 ha are located in almost all high mountain areas, especially in western part of Macedonia: Shar Planina, Bistra, Stogovo, Korab, Dshat.

Arable land included ploughed land and gardens, meadows, and a small amount of vineyards and orchards. Cereals dominate in agricultural areas (62%). Of particular note has been the expansion of towns and plain settlements within valleys: Plog, Kichevsko Pole, Skopko Pole, Kumanovsko Pole, Tikvesh, Slavisho Pole, Strumichko Pole Plain, Ohrid and Struga Valley. The current unfavorable situation is especially influenced by uncontrolled urbanization, degradation of areas, and industrialization which disturb the environmental balance and contribute to the loss of agrobiological diversity; non-sustainable development of agriculture and depopulation of rural areas.

### *Grassland ecosystems*

Grassland ecosystems occupy a large part of the Republic of Macedonia. They occur in the lowland and highland belt, and often in secondary habitats primarily because of permanent degradation of forest phytocenoses and re-colonization of abandoned farmland by grassland species.

The soils on which they develop are geologically diverse over the entire territory and the ecosystems themselves are present at altitude of from 60 meters to 1.200 meters msl.

The communities of the highland pastures which develop on silicate soils are: Armerio-Potentillion mad Trifolion cherleri, Steppe-like vegetation with Artemisionmaritimae and Satureyo-Thymion and Halophytes with Cypero-Spergularion, Puccinellion convolutae and Thero-Salicornion. Specific communities have been developed on limestone with Saturejo-Thymion.

Representative fauna diversity include:

- reptilians (Podarcis taurica, Eryx jaculus),
- birds (Perdix perdix, Tetrax tetrax), and mammals
- bats (Myotis emarginatus, Myotis mystacinus)
- mammals (Apodemus agrarius, A. flavicollis, Spalax leucodon, Spermophilus citellus).

Restricted distribution of vegetation types is characteristic for the halophytic communities on salty soils which develop on a small area in Ovche Pole Plain and in the steppe-like area in Crivolac-Pepelishte, Stip and Veles. They are under intensive anthropogenic influences due to cultivation. The most threatened is ass. Camphorosmetum monspeliacae, Crispidetum aculeatae balcanicum and ass. Pholiureto-Plantaginetum balcanicum.

### ***Forest ecosystems***

Forest ecosystems cover a large position of the territory of Macedonia and are included in several region at elevation of 150 m to 2.200 m msl.

The oak region covers 73% of the total forested area which plant species: *Castanea sativa*, *Fraxinus excelsior*, *Acer* sp., *Salix* sp. Fauna species: *Testudo graeca*, *T. hermanni*, *Ablepharus kitaibelli*, *Lacerta trilineata*, *Podarcis erhardii*, *Telescopus fallax*, *Vipera ammodytes*, *Picus viridis*, *Myotis oxignatus*, *M. capacinii*, *Hypsugo savii*, *Rhinolophus blasii*, *Rh. Euriale euriale*, *Rh. Ferrumequinum*, *Crocidura suaveolens*, *Mustela nivalis*, *M. putorius*, *Felis silvestris*.

The beech region cover 22% of the Macedonian total forest area. Dominated communities are *Festuco heterophyllae*-*Fagetum* and ass. *Calaminthograndiflorae*-*Fagetum*.

The sub-alpine region make the highest forest belt located between 1.700 m to 2.100 m msl. In this sub-alpine belt forests include *Picea abies*, *Pinus mugo* and *Pinus peuce macedonicus*, *bruckenthalia spiculifolia* and *Vaccinium myrtillus*.

Typical faunal species in last two forest regions are: *Podarcis muralis*, *Anguis flagilis*, *Coronella austriaca*, *Zamenis longissima*, *Caprimulgus europaeus*, *talpa caeca*, *Sorex araneus*, *S. mitunes*, *Myotis nattereri*, *Apodemus silvaticus*, *Microtus felteni*, *Glis glis*, *Dryonis nitedula*, *Sciurus vulgaris*, *Carpeolus carpeolus*, *Lynx lynx martinoi*, *Martes foina*, *M. martes*, *Meles meles*, *Ursus arctos*, *Canis lupus*.

Threats of forest ecosystems are quite varied and include desiccation, die-back processes, forest fires and various diseases. Very rare and consequently threatened forest communities include several associations:

- *Aceri heldreichii*-*fagetum* in Jacupica and Shar Planina,
- *Alnetum viridis* in Belasica,
- *Carici elongatae*-*Alnetum glutinosae* in Polog and Debarca,
- *Daphno-Cytisanthetum radiatae calcicosum* in Galicica and Yablanica,
- *Ephedro-Prunetum tenellae* in Ljubash,
- *Juglando-Aesculetum hippocastani* in Suv Dol and Yablanica,
- *Periploco-Alnetum glutinosae* in Monospitovo Marsh,
- *Perriploco-Fraxinetum angustifoliae-pallisae* in Negorci Spa, and
- *Tilio cordatae*-*Fagetum* in Drevenica mountain.

Many of anthropogenic factors also affected the status of forest communities and species, especially faunal groups. The reduction of the populations of vertebrates *Canis aureus*, *Cervus elaphus* and *Dama dama*. The vultures *Aegipus monachus*, *Gypaetus barbatus*, and *martens* exhibit the most reduced populations.

### ***Mountain ecosystems***

Mountain ecosystems are present a large portion with elevation above 2.000 m msl. Mountain vegetation which develops above the upper forest boundary is very rich and diverse. They are present two communities: *Caricetea curvulae* and *Elyno-Seslerietea* with 15 associations.

Mountain ecosystems are less threatened since anthropogenic influences are reduced. Negative affects are the uncontrolled collection of plant species and illegal hunting of large carnivores and the Balkan Chamois (*Rupicapra rupicapra balcanica*).

## **Chapter II**

# **Current Status of National Biodiversity Strategies and Action Plans Republic of Macedonia**

### **2.1 Structure of the Strategic Action Plan**

The main features of the Macedonian NBSAP concern ten strategic fields:

1. *In situ* conservation of biodiversity
2. *Ex situ* conservation of biodiversity
3. Institutional capacity building
4. Research and monitoring
5. Public awareness and education
6. Environment impact assessment
7. Supporting measures
8. Legislation
9. Financial resources for the NBSAP process
10. Coordination of NBSAP implementation process.

The implementation of the First Macedonian NBSAP is facilitated by means of 35 strategic objectives and 248 strategic targets. 232 of these strategic targets have been implemented in the period from 2004-2008. Examples are: prohibition of hunting of threatened animal; total prohibition of fishing of salmons in Lake Ohrid; reintroduction of endemic fish species in rivers, lakes and wetlands; reproduction and reintroduction of Red deer in Nature Park Mavrovo, farming production of terrestrial turtles and gastropods.

The first evaluation of the Macedonian NBSAP included *inter alia* periodical, annual and thematic reviews, monitoring data, identified main gaps, a draft framework for the 2<sup>nd</sup> NBSAP (2009-2013) to be commented by 50 relevant institution involved in this process. Among the identified obstacles were insufficient capacity building, education, limited financial resources, decreasing public awareness, etc. Progress was made concerning national reporting efforts and cooperation among the relevant national committees for master and regional planning. Biological diversity was evaluated in ten protected areas. Endangered plant species, birds (raptors, vultures), and mammals (lynx, bear, European otter and bats) were evaluated as well. Further success stories are the prohibition of hunting threatened animal species, the total prohibition of fishing Ohrid salmons, as well as the reintroduction of endemic fish species into rivers, lakes and wetlands.

The specific measures are defined in the following fields of actions: created ecological network at national level, species conservation and genetic resources, protection of natural and other tips of habitats, water protection and flood prevention, protect agricultural and silvicultural components of biodiversity, sustainable development and us of fauna species with monitoring of hunting and fishing, mining of raw

materials and energy generation, human settlement and transport, control of aciditation and eutroviceation, prevention of negative impacts of climate changes in biodiversity, stimulation of local communities for sustainable rural and regional development, eco-tourism and recreation, education and change of relevant information, research and technology transfer, development cooperation and combating poverty, and reporting annually and in triennial period.

Proposed set of indicators:

Sustainability indicator for species diversity
Endangered species
Conservation status of habitats types and species
Size of protected areas
Emerald network/ NATURA 2000
Water quality in rivers, lakes and dams (accumulations)
Populations of selected commercial species (gastropods, turtles, fish, amphibians, birds, mammals)

Adopted set of national indicators for biodiversity:

Endangered and protected species	MK-NI 007
Protected areas	MK-NI 008
Endangered and protected bird species	MK-NI 009

\* This national indicators has been adopted by Macedonian Government in 2008.

**Table: Review of Implementation of selected goals, targets and actions from Action Plan**

Goals	Objectives/Targets	Key Activities	Key outcomes	Indicators for assessment
Promote the conservation of biodiversity of ecosystems, habitats and biomes	At least 10% of each of the world's ecological regions effectively conserved.  Areas of particular importance to biodiversity protected	Promotion of the conservation of the biodiversity at national level has been increase of 1,7% since 2004 to 2008 ( 7,8% of the country is covered by protected areas), in 2009 is 8,7%, and to almost 10% in 2010.  The Environment Action Plan (NEAP2) and Emerald Network has established important ecosystems and areas for		MK-NI 008 (PA)



		<p>conservation in 83 protected areas. MP is being implemented for NP Pelister, and two MP are prepared for NP Mavrovo and NP Galichica. Project implemented in 6 ornithological localities to protect 4 vultures. Project to protect bat species in natural habitats (8 caves). Project to protect 6 endemic fishes in Ohrid Lake, Prespa Lake, Doyran lake and their rivers network.</p>		
<p>Promote the conservation of species diversity</p>	<p>Restore, maintain, or reduce the decline of populations of species of selected taxonomic groups</p>	<p>Populations of selected endemic fish (<i>Salmo macedonica</i>) in rivers Treska, Babuna Topolka, Boshava and Doshnica, has been increased which artificial production of young fish in Institute of fishing- Shum Struga and reintroduction in natural aquatic habitats (rivers). Annual reintroduction of young fish is 100000 individuals: 40.000 in river Treska, 30.000 in rivers Babuna and Topolka, 20.000 in river Boshava and 10000 individuals in river Doshnica.</p>		<p>MK-NI 007 (EPS)</p>
	<p>Status of threatened species improved</p>	<p>Implemented programme activities from SAP since 2006 for increase native population of Hermanos</p>		

		<p>turtle which measures of nursery and breeding in two farms of turtles. In 2006 has been produced 700 young Hermanous turtles, 800 in 2007, 900 in 2009 and 2150 in 2009, or summary 4550 individuals in farm of Belo Pole, Dolneni, and 11135 individuals in farm of Ratavica, Probishtip (2504 young individuals in 2006, 1930 in 2007, 2600 in 2008 1990 individuals 2009)</p> <p>The native populations of second threatened species Graecas turtles, in farm of village Ratavica also has been increased from 466 individuals in 2006 to 4380 individuals 2009).</p>		
Promote the conservation of genetic diversity	Genetic diversity of crops, livestock, and of harvested species of trees, fish and wildlife and other valuable species conserved, and associated indigenous and local knowledge maintained	<p>The National Hromozom Atlas of flora species at national level has 550 species of Angiosperms plant from 170 orders and 30 families. More of 450 plant specimens contained in Botanical Garden at the Faculty of Natural Sciences in Skopje, and more of 750 plant species in City Park in Skopje.</p> <p>In Macedonian Register of flora species are 130 domestic and 2205 imported flora species. Very important genetic resources are 20 endemic species of fish and more of 60 imported fish species, 15 species of amphibians, 32 species of reptiles, 328 species of</p>		International indicators (CBD)

		birds and 82 species of mammals. Increasing population of black sheep in several localities which scientific methods of the Faculty of Food and Agriculture-Skopje by initial group of 100 females and 15 males black sheep.		
Promote sustainable use and consumption	Biodiversity-based products derived from sources that are sustainable managed, and production areas managed consistent with the conservation of biodiversity  Unsustainable consumption of biological resources, or that impacts upon biodiversity reduced  No species of flora or fauna endangered by international trade	Tea plantations managed by private companies in way to protect natural population of the Shar Planinian tea of Jacupica and Shar Planina mountain.  Inspection control of cutting of forest and control of collection or harvesting of wild plants.  Moratorium of fishing of endemic throat (Salmo letnica) since 2005 to 2010 in Ohrid Lake.		International indicators (CBD)
Pressures from habitat loss, land use change, degradation and unsustainable water use reduced	Rate of loss and degradation of natural habitats decreased	A Programmes of prevention of degradation of natural habitats, especially wetlands near lakes and rivers has reduced the rate of decline of several forest types in the country.		International indicators (CBD)
Control threats from invasive alien species	Pathways for major potential invasive species controlled	Since 2006 actions has been taken to prevent the escape of 10 farms-fish ponds. The Inspection of Veterinary and Fishing		International indicators (CBD)

	<p>Management plans in place for major alien species that threaten ecosystems, habitats or species</p>	<p>make special controls entry points to prevent the introduction of invasive alien species.</p> <p>Not special management plans for major alien species. In protected areas monitoring in place and both control of implemented measures have been organized by Management authority, State Environment Inspectorate, State Forestry Inspectorate and State Inspectorate of Fishing.</p>		
<p>Address challenges to biodiversity from climate change and pollution</p>	<p>Maintain and enhance resilience of the components of biodiversity to adapt to climate change</p> <p>Reduce pollution and its impacts on biodiversity</p>	<p>In 2006, the Macedonian Government has adopted Action Plan for prevention sensitive ecosystems and adaptation of biodiversity to climate changes. Special actions has been contributed by State Budget to minimize negative impacts of water reserves and to helping farmers to produced furages agrocultures and reduce nutrients, chemicals and sediments in land.</p> <p>As a result of banning the use of phosphorous in detergent, the extension of water treatment, new treatment technologies and new agricultural measures the nitrate, heavy metal and phosphorous loads found in water systems has decreased and water quality has improved.</p>		<p>International indicators (CBD)</p>

<p>Maintain capacity of ecosystems to deliver goods and services and support livelihoods</p>	<p>Capacity of eco-systems to deliver goods and services maintained</p> <p>Biological resources that support sustainable livelihoods, local food security and health care, especially of poor people maintained</p>	<p>The quality of forest communities in protected areas in NP Mavrovo, NP Pelister and NP Galichica is maintained. Since 2004 the forest green belt was established in trans-boundary ecosystems Shar Planina, Korab, Deshat, Jablanica (MK-AL), Galichica, Baba-Pelister, Nidze, Kozhuf (MK-GR), Belasica, Osogovo, Plachovica and Ograzden to protect important bio-coridors for birds and mammals, especially large carnivore species.</p> <p>In framework of trans-boundary Prespa Park established by tree litoral countries (AL, MK, GR) has been created bio-coridors between Micra and Macro Prespa Lake and their river network, important for migration of water-birds, raptors, vultures and endemic fish species. This ecosystems has provides environmental services for the fishery sector and by way of flooding reduction. Economic incentives of local stakeholders is good basis to encourage them to actively participate in forest management,</p>		<p>International indicators (CBD)</p>
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		water management and sustainable use of bio-resources and biodiversity conservation and to provide a multitude of other cultural and socio-economic benefits.		
Maintain socio-cultural diversity of indigenous and local communities	Protect traditional knowledge, innovations and practices	An inventory of traditional knowledge related to the sustainable use of grasslands in Shar Planina, Bistra, Korab, Jablanica, Galichica, Baba-Pelister, Jacupica, Kozuf and Osogovo Mountain (summer pastures) to protect autochthonic sheep in rural areas in Macedonia. Millennium traditional fishing by water-birds in Doyran Lake. Fishermen put in place nets that allow big fish to come in fishing areas.		International indicators (CBD)
Ensure the fair and equitable sharing of benefit arising out of the use of the genetic resources	All transfers of genetic resources are in line with the CBD the Inter-national Treaty on Plant Genetic Resources for Food and Agriculture and other agreements  Benefits arising from the commercial and other utilization of genetic resources shared with the countries providing such resources.	In 2007 Macedonia has introduced specific regulations on the access to genetic resources and benefit-sharing. The act sets out procedures for access to genetic resources for scientific research, commercial purposes and conservation or industrial applications, provides for the sharing of benefits derived from genetic resources, and promote the sustainable management and utilization of genetic resources, thereby contributing to conservation of biological resources.		International indicators (CBD)

## **Chapter III**

### **Sectoral and cross-sector integration or mainstreaming of biodiversity considerations**

**The main directions of national policies are expressed in development plans, action plans made to put them into practice, sectoral policies and other similar documents.**

Republic of Macedonia ratified the Convention on Biological Diversity (CBD) in 1997. Since 2000 Macedonian Government has started for implementation main goals of CBD: protection of biodiversity, sustainable use of bio-resources, fair and equitable sharing of the benefits arising out of the utilization of genetic resources. In June 1999 Macedonian Government has establish a National Committee for CBD. In July 2003 Ministry of Environment and Physical Planning (MEPP) has develop the Country Study for Biodiversity of the Republic of Macedonia and the National Strategy of Biodiversity and Action Plan (NSBDAP). In January 2004 Macedonian Government has adopted NSBD and firs Action Plan (2004-2008).

Chapter II covered in detail the Environmental Strategy until 2030, the Second National Environment Action Plan (NEAP 2) and the draft for Nature Conservation Development Plan (NDAP), environmental policy documents that have a strong cross-sectoral character. Also chapter II mentions the Forestry Development Plan (FDP), the National Strategy on Environmental Education (NSEE), the National Sustainable Development Strategy (NSDS 21), the National Forestry, Agricultural and Water Economy Development Strategy (NFAWEDS), the National Rural Development Plan (NRDP) 2008–2020, Tourism Development Plan (TDP), Transport Development Plan, the National Biodiversity Strategy and Action Plan 2004-2008, Second Strategic Plan for Biodiversity Conservation (SAPBD 2) 2010-2015, the National Action Plan for sustainable us of the water resources (NAPSWR), the National Waste Management Plan (NWMP), etc.

The following summarizes analysis of documents prepared and published by different ministries and offices. These documents reflect about fifty different policies. Key words directly referring to biodiversity (also biological, natural diversity) were found in 11 documents – the Environmental Strategy and the NEAP 2, the draft for Nature Conservation Development Plan, State Budget Strategy, the Sustainable Macedonia 21, the Rural Development Plan, the Forestry Development Plan, the Fisheries Development Plan, the draft for National Strategy on Environmental Education, Hunting Activities Development Plan, final report of the monitoring system for the ecological tax reform and two programmes of the government – actual and that of the previous one. Nature conservation that can be considered an indirect reflection of biodiversity is in addition mentioned in National Master Plan of Macedonia 2020, Long-term Public Fuel and Energy Sector Development Plan until 2015, changes to the Rural Development Plan and Tourism Development Plan.

The documents expressing the sectoral policies cover the need for protection of biodiversity weakly, of secondary importance and often formally. Biodiversity is not an important issue in the documents outside the nature conservation and environment. Further the main national development plans as the cross-sectoral documents and selected sectoral development plans (many of which do have strong cross-sectoral features) are reviewed. The documents are grouped by sectors, always first the documents mentioning biodiversity and then the documents that do not mention biodiversity.

#### **National Master Plan of the Republic of Macedonia**

The Plan presents the vision of the spatial structure and the strategic goals for built and natural environment. It forms the basis for development of settlement system (living environment, economic activities, and major services) and protection of natural and cultural environment. The plan therefore forms a ground for important placement decisions and protection of certain areas and is a major factor that determines the spatial possibility for preservation of biodiversity. Several main goals of the National Master Plan are related to biodiversity:

- Preservation and development of the values of settlement and landscape structure;
- Protection and improvement good state of natural environment.

The Master Plan was created based on the understanding that the landscape structure is one of the major expressions of Macedonian culture and historical consistency, and an important factor supporting national identity and grade of environment. About three quarters is covered with forests and wetlands and, rich and diverse natural environment is one of most valuable dowries into the new century. Protection and development of the good state of natural environment is an important basic presumption for spatial management, settlement, land use, transportation, energy production and economic development.

### **State Budget Strategy 2008-2012**

The document provides the principles of the government for composing the state budget within five years, main goals of activities, analysis of the economic situation, prediction of the economic development and other relevant financial information. The State Budget Strategy also plans the priorities and goals for use the EU funding within the 2008–2012.

The foreword to the document mentions among other preservation of the unique natural environment, as a detail of a more flexible and sustainable model of the welfare society nature capital is mentioned including biodiversity. The valuation of natural resources is expected to be achieved by taxation system. Preservation of biodiversity as a basis for assuring generally favorable environment is seen, mostly by means of NATURA 2000 areas and other protected areas and general nature protection management. The applied action plan of the document for environment includes measure for preservation of biodiversity and securing sustainable use of natural resources as and investment from European Regional Fund.

### **Sustainable Macedonia 21 (SM21)**

Sustainable Macedonia 21 determines the goals for development of the Republic of Macedonia and society until 2030 and relates the developments in economic, social and environmental sectors to global (Agenda 21) and EU documents for long-term regional development (goals and courses of action). Goals for development are brought out: preservation of Macedonian cultural space, growth of welfare, increase of the coherence of the society and preservation of the ecological balance. Special part of this document is Ecological balance and very important goal: Preservation of biodiversity and natural areas where a danger is seen in the increase of the share of energy production based on renewable resources, a support worthy activity itself, increasing at the same time the pressure on natural environment and biodiversity. The document brings out a strong relationship between the Macedonian cultural space and natural biodiversity with a clear positive effect to biodiversity.

### **Coalition agreements of the government**

The coalition agreement of the previous government of Macedonian Parliament and Government included one very clear activity to create the NATURA 2000 network. This activity being lost from the new agreement can be related to the activity being fulfilled (further development of the NATURA 2000 network has moved into the daily activities) does not necessarily demonstrate change in attitude. The coalition agreement is much more declaratory but potentially includes more attention to biodiversity.

The Environmental Policy includes the aim of the environmental policy of the government: to ensure pure and naturally diverse environment supporting continuance of Macedonian people and preservation of that for generations. The government coalition assumes natural environment and seeks for reasonable balance between the environmental protection and other goals of society. To achieve this goal the government green coalition among other aspects emphasizes on active measures to protect and restore biodiversity. Certain measures mentioned:

- to develop of ecological tax reform, turning the monitoring system of following the „polluter pays” principle and the requirements for re-use/recycling of waste into effective.
- increases the payments for generating waste and resource use, including the oil-shale;
- improves the functioning of the network of protected areas and makes stronger the monitoring of the natural values to make better the protection of forests, wetlands and other important eco-systems;



- completes the reform of the nature protection management by giving the Department of Nature Protection have obligation of management and rights for supervisory of protected areas;
- to support traditional management of heritage landscapes and communities.

The tax reform plan could be brought out as an example of positive surprise. The reform plan supports the concept of nature's capital including the biodiversity, stresses that natural resources and ecosystems cannot be fully replaced by produced goods and the critical issue is following the precaution principle while formulating the policies, and ensuring sustainability of ecosystems by preservation of biodiversity.

#### **Sectoral development plan 2007–2010.**

The development plan underlines in descriptive part the relations to biota, landscape and cultural diversity and relying on the same values.

#### **Research and preservation, Sectoral development plan 2008–2012.**

The development plan underlines in descriptive part the relations to biota, landscape and cultural diversity and importance of natural places for cultural and natural conservation.

The major high priority success factors listed are science, education, technology and innovation and highly qualified and mobile workers (or human capital).

The goals, priorities and common understanding of future determine by the Development Strategy Macedonia 2020 are assumedly basis for all other strategic development plans and other documents. Nature conservation and biodiversity are mentioned in this documents.

#### **Strategy for accomplishment of basis for population policy 2006-2015**

The population policy covers policies for reproduction, family, geriatrics, healthcare, regional issues and migration.

#### **Development Plan for Support to Civic Initiative 2010**

The aim of the development plan is to establish favorable conditions for civic initiative.

**Environmental Strategy 2020** and the implementation document The Second National Environmental Action Plan 2008-2012. Nature conservation and biodiversity are fully include in this document (Chapter for Nature Protection, part of Biodiversity Conservation).

#### **Economy: Long-term Public Fuel, Energy Sector Development Plan 2006-2015**

Nature conservation restrictions for development of fuel and energy management and while using certain energy resources are mentioned. National development plans and other similar level documents not referring to biodiversity in economy sector.

#### **Communication, transportation**

Nature conservation and Biodiversity are not directly reflected in development plans dealing with communication and transportation.

#### **The Macedonian Communication Strategy for Environment (2006-2020)**

The strategy is a sectoral development plan, setting out the. General framework, objectives and respective action fields for wide implementation of ICT in development of knowledge based of Environment Protection and nature Conservation in 2006–2020.

#### **The Public Transport Development Programme 2008-2015**

The vision, principles and main courses of action for development of public transport in 2008– 2015.

## **Housing and communal services**

Nature conservation and Biodiversity are not directly reflected in development plans dealing with housing and communal services.

## **The Rural Development Plan 2008-2015**

The general goal of compiling the rural development plan was to support the sustainable development in rural areas using the measures for rural development.

The National Rural Development Plan 2008-2015 is aimed at raising the competitiveness of agriculture and forestry in Macedonia, improvement of environment and localities, improvement of life quality and diversification of rural economy considering the distinctive character of rural life. The diversity is seen as an important strength and decrease of diversity as a threat, the activities preserving the diversity need to be supported (activities for protection of species and habitats).

## **National Fisheries Development Plan 2006– 2010**

The strategy aims at development of native fisheries as an economic activity and increase of competitiveness of fish production in internal and external markets supporting development of favorable and balanced economic environment. The basis of strategy outlines considerations that the ability of fisheries sector has to meet the sustainable development of natural resource preserving the aquatic species and their natural habitats.

## **National Forestry Development Plan 2006-2010**

The development plan determines the priorities for development of forestry until year 2010 and lists the activities needed to achieve the goals.

The development plan stresses biodiversity of forests as a benefit from the forest while discussing the importance of forestry and for biodiversity preservation is highlighted with a reference to the Convention. The need for biodiversity conservation is highlighted as a general principle or forest policy. The diversity is related to the vitality and sustainable productivity of the forests, protection of eco-systems.

## **National Hunting Activities Development Plan 2006–2010.**

The Development Plan states being based on the Convention and stresses the need for conservation of the game and habitat diversity. No major development plan or strategy in the primary sector passes the biodiversity without mentioning it.

## **The National Tourism Development Plan 2006-2020**

The national tourism development plan presents the balanced strategy for development of tourism as economy sector during 2006-2020, aimed at support to economic growth of Macedonia by increasing international competitiveness of tourism sector. The development plan is focuses on strengths of Macedonia and resolving the bottlenecks supporting the development of tourism economy. Among the development plans of other sectors several are named supporting biological and landscape diversity.

## **Education and science**

Biodiversity and nature conservation are included in development plans dealing with education and science. The National Strategy on Environmental Education is in completion that reflects the need to know and teach the relations of nature to other human activities. The development plan also included biodiversity conservation and sustainable use of natural resources.

## **National development plans**

National development plans and other similar level documents not directly referring to nature conservation and biodiversity (priority is economy and technology). The National Research and Development Plan (2009-2020) provide the goals and action courses to achieve them to ensure quality

and growth of the research and development activities. The strategy and the implementation plan provide the framework and volume for support measures in public sector, giving the research and development.

### **The Development Plan for e-learning 2008-2015**

The development plan determines the main development courses of e-learning for the period. The aim of the plan is to raise the efficiency and quality of learning by use of ICT, turning e-learning a part of regular studies and providing the needed prerequisites for it.

### **The National Education Strategy 2006- 2015**

The document determines the strategic development courses in education for the 10 year period. The guidelines adopted by the Parliament will guide the government, ministries and institutions of higher education.

### **Health, social care and youth**

Nature conservation and Biodiversity are not directly reflected in development plans dealing with health, social care and youth. National development plans and other similar level documents not referring to biodiversity in health, social care and youth: Strategic Development Plan for Sport for All for 2006-2010.

### **Regional development and regional policies**

Nature conservation and Biodiversity are not directly reflected in regional development plans, especially in Balkan Peninsula (Programme for Stability of Western Balkan).

### *Comments of implementation of Strategic Action Plan*

Needs for an improved Action Plan implementation include the strengthening of capacity building at national and local level, the provision of appropriate financial resources for the implementation process, improved communication, improved education, and increasing public awareness. Challenges are the implementation of joint programmes for the sustainable use of biological resources balancing trade and biodiversity protection at the regional level. Further challenges are:

- Continuing biodiversity loss,
- The global economic and financial crisis,
- Poverty and indigence in this region,
- Illegal trade,
- Hunting and fishing.

The situation with the sustainable use of the components of biological diversity has been increased in last five years, but only in the protected areas. Nature conservation and sustainable use of bio-resources outside of protected areas has not been monitored. Several scientific studies and reports have focused degradation of site endangered wildlife species.

Environment awareness and nature education of try society, relevant ministries, local municipalities, university and schools is in progress (step by step). Since 2006 in Macedonian Parliament has been established the Green Coalition of Macedonia. The Macedonian Center for Environment Protection (MCEP) in 2007 has produced a set of National Environmental indicators (NEI) and mini-set with tree national indicators of biological diversity. In 2008 has been adopted a set of National Biodiversity Indicators by Macedonian Government.

In relation to the first goal the Macedonian Government in December 2006 has adopted Programme of work with priorities. Several activities have been included in Annual Programme for investment for investment for Environment Protection (2006, 2007 and 2008).

In the Country Study of bio-diversity 6,7% of territorial land of Macedonia has been protected. In the reporting period (2006-2008) Macedonian Parliament has adopted laws of proclamation five very important natural ecosystems.

In NSBDAP (2004) and the Master Plan of the Republic of Macedonia (2006) this percent will be increased to 11,5 % of national territory by 2024.

Result of implementation four projects for designation important areas (ASCI) is 35 Emerald sites. They are including Important Bird Areas (IBA), 19 Important Plant Areas (IPA) and 11 Prime Butterflies Areas (PBA). But many of priorities of NSBDAP have not been realized. Also monitoring of wild endangered species involved in the national and international trade is produced in NSBDAP.

The state interest is to increase the level of bio-diversity conservation and restoration by 30%, establish a database for species, habitats and protected areas, reduced the number of threatened species, introduced appropriate mechanisms for stimulating bio-diversity conservation and deterring bio-diversity loss outside of protected areas.

Concerning communication, education and public awareness, an internet connection and web-site were set up as well as a central database for biodiversity. Education programme for schools, universities and other institution were established. Public awareness activities were supported by institutions, NGOs, and media. Books, leaflets, and CD ROMs about biodiversity conservation were produced. Further activities has been organized include eco-campaigns, trainings, seminars, and workshops.

The legal framework includes a number of legal acts relevant for biodiversity conservation and sustainable use of biological resources. The CBD was ratified in 1998; a law on nature protection was adopted in 2004 and revised twice in 2006 and in 2007. Legislation on water management, forestry, hunting and fishery was adopted between 2007 and 2008. Four strict nature reserves, three national parks and eight nature monuments were legally proclaimed.

## **Chapter IV**

### **Progress Towards the 2010 Target and Implementation of the Strategic Plan**

#### **Overall assessment of progress towards the 2010 target**

The strategic biodiversity targets and their achievement indicators used in national territory have been elaborated according to the local conditions and requirements. In the 5th chapter (“targets and measures”) of the most important state guideline document – National Biodiversity Strategy and Action Plan – there are targets and indicators of every single area of action. It can be said that the global 2010 targets and indicators and National targets and indicators are quite coincided.

When comparing internationally used separate targets and indicators intended for achieving the 2010 biodiversity goal and Macedonian respective targets and indicators, then in the fields of Promote the conservation of the biological diversity of ecosystems, habitats and biomes there are very similar analogues existing. However, there are no direct indicators in the field of Promote the conservation of genetic diversity. In the field of so-called classical nature conservation, there have been bigger developments concerning the 2010 target – mainly due to the creation of Emerald Network and of NATURA 2000 areas.

In the field of Promote sustainable use and consumption there are generally no analogical targets and indicators. Although targets have been set in the programmes of different sectors from the aspect of usage and production, they are usually not from the aspect of sustainable use. Such indicators have been implemented for example as usage indicators in peat, fish, forests and game reserves, but not directly for measuring the importance factor of sustainable use.

In the field of Address threats to biodiversity have different 2010 targets and indicators between subjects. As to the subject of changes in usage of land there are both indirect goals and indicators set in Macedonia; some targets have been set as to the control of invasive alien species, but no indicators yet; as to the impact of climate change to living nature there are yet neither direct goals nor indicators present.

In the department of Maintain goods and services from biodiversity there are neither direct goals nor indicators as to maintaining the ability of ecosystems to support human well-being (targets and indicators concerning water quality in water ecosystems).

There are no nationally controlled targets and indicators originating from the protection and use of biodiversity in the sphere of Protect traditional knowledge, innovations, practices and fields of the fair and equitable sharing of benefits of genetic resources and Provision of adequate resources.

#### **Progress towards the 2010 target**

Progress towards the Goals and Objectives of the Strategic Plan of the Convention

In Republic of Macedonia, there is no plan for achieving the strategic goals of the Convention on Biological Diversity. The strategic goals and their achievement indicators have been developed originating from the local needs and nuances and are mainly found in National Strategy of Investing for Environment Protection until the year 2020 and in the Second National Environmental Action Plan 2006– 2011, the implementation document of this strategy.

## Progress in implementation of the Strategic Plan

**Table: Assessing Progress Towards the 2010 Target**

Goals	Targets	National Targets	National actions	Outcomes achieved	National/global indicators used	Overall assessment (using symbols)
<b>1. Promote the conservation of the biological diversity of ecosystems habitats and biomes</b>	1.1 At least 10% of each of the world ecological regions effectively conserved.		Promotion of the conservation of the biodiversity at national level has been increase of 1,7% since 2004 to 2008 (7,8% of the country is covered by protected areas) in 2009 is 8,7%, and to almost 10% in 2010.		MK-NI 008 PA	(75% implemented)
	1.2 Areas of particular importance to biodiversity protected		The National Environmental Action Plan (NEAP 2) and National Emerald Network has established important ecosystems and areas for biodiversity conservation: 83 Protected areas ( 4 Strict National Reserve, 3 National Parks and 72 Natural Monuments, 3 areas which characteristic landscape and one integral protected area), 77 Corine sites, 48 Wtlands (2 ramsar sites) and 35 Emerald sites. Management Plan is being implemented for National Park Pelister, and two MP are prepared for National Park Mavrovo and National Park Galichica. Project implemented in 6 ornithological localities to protect 4 bird species (vultures).		MK-NI 008 PA	(75% implemented)

			Project to protect bat species in natural habitats (8 caves). Project to protect 6 endemic fishes in Ohrid Lake, Prespa Lake, Doyran lake and their rivers network, and Treska, Babuna, Topolka, Boshava, Doshnica rivers.		
<b>2. Promote the conservation of species diversity</b>	2.1 Restore, maintain, or reduce the decline of populations of selected taxonomic groups		Populations of selected endemic species of fish ( <i>Salmo macedonica</i> ) in rivers Treska, Babuna, Topolka, Boshava and Doshnica, located in north-western, western, central and southern part of Macedonia has been increased which artificial production of young fish in Institute of fishing- Shum Struga and reintroduction in natural aquatic habitats (rivers). This project started in 2007 and will county to 2012. Annual reintroduction of young fish is 100000 individuals: 40.000 in river Treska, 30.000 in rivers Babuna and Topolka, 20.000 in river Boshava and 10000 individuals in river Doshnica.		MK-NI007 EPS (more of 50% impl.)
	2.2 Status of threatened species improved		Implemented programme activities from SAP since 2006 for increase native population of Hermanos turtle which measures of nursery and		MK-NI007 EPS (80% implemented)

			breeding in two farms of turtles. In 2006 has been produced 700 young Hermanous turtles, 800 in 2007, 900 in 2009 and 2150 in 2009, or summary 4550 individuals in farm of village Belo Pole, Dolneni, and 11135 individuals in farm of village Ratavica, Probishtip (2504 young individuals in 2006, 1930 in 2007, 2600 in 2008 and 1990 individuals in 2009). The native populations of second threatened species Graecas tourtles, in farm of village Ratavica also has been increased from 466 individuals in 2006 to 4380 individuals in 2009.			
<b>3. Promote the conservation of genetic diversity</b>	3.1 Genetic diversity of crops, livestock and of harvested species of trees fish and wildlife and other valuable species conserved, and associated indigenous and local knowledge maintained.		The National Hromozom Atlas of flora species at national level has 550 species of Angiosperms plant from 170 orders and 30 families. More of 450 plant specimens contained in the Botanical Garden at the Faculty of Natural Sciences in Skopje, and more of 750 plant species in City Park in Skopje. Referring genetic resources of agricultural diversity in Macedonian Register of flora species are 130 domestic and 2205 imported		International indicators/CBD	(60% implemented)



			<p>flora species. Very important genetic resources are 20 endemic species of fish and more of 60 imported fish species, 15 species of amphibians, 32 species of reptiles, 328 species of birds and 82 species of mammals. Increasing population of black sheep in several localities of the eastern part of Macedonia which scientific methods of the Faculty of Food and Agriculture-Skopje by initial group of 100 females and 15 males black sheep.</p>			
<b>4. Promote sustainable use and consumption</b>	4.1 Biodiversity-based products derived from sources that are sustainably managed, and production areas managed consistent with the conservation of biodiversity.		Tea plantations in Northern, Western and Southern part of Macedonia managed by private companies in way to protect natural population of the Shar Planinian tea of Jacupica and Shar Planina mountain.		International indicators/CBD	(90% implemented)
	4.2 Unsustainable consumption, of biological resources, or that impacts upon biodiversity, reduced.		Inspection control of cutting of forest and control of collection or harvesting of wild plants.		International indicators/CBD	(65% implemented)
	4.3 No species of wild flora or fauna endangered by international trade.		Moratorium of fishing of endemic throat (Salmo letnica) since 2005 to 2010 in Ohrid Lake.		International indicators/CBD	(95% implemented)
<b>5. Pressures from habitat loss, land use change and degradation, and</b>	5.1 Rate of loss and degradation of natural habitats decreased.		A Programmes of prevention of degradation of natural habitats, especially wetlands near		International indicators/CBD	(65% implemented)

<b>unsustainable water use, reduced</b>			lakes and rivers has reduced the rate of decline of several forest types in the country.			
<b>6. Control threats from invasive alien species</b>	6.1 Pathways for major potential alien invasive species controlled		Since 2006 several actions has been taken to prevent the escape of 10 farmed fish ponds. The State Inspection of Veterinary and State Inspection of fishing make special controls entry points to prevent the introduction of invasive alien species.		International indicators/CBD	(80% implemented)
	6.2 Management plans in place for major alien species that threaten ecosystems, habitats or species.		Not special management plans for major alien species. In protected areas monitoring in place and both control of implemented measures have been organized by Management authority, State Environment Inspectorate, State Forestry Inspectorate and State Inspectorate of Fishing.		International indicators/CBD	(40% implemented)
<b>7. Address challenges to biodiversity from climate change, and pollution</b>	7.1 Maintain and enhance resilience of the components of biodiversity to adapt to climate change		In 2006, the Macedonian Government has adopted National Action Plan for prevention sensitive ecosystems and adaptation of biodiversity to climate changes. Special actions has been contributed by State Budget to minimise negative impacts of water reserves and to helping		International indicators/CBD	(60% implemented)

			farmers to produced forage agro-cultures and reduce nutrients, chemicals and sediments in land.			
	7.2 Reduce pollution and its impacts on biodiversity		As a result of banning the use of phosphorous in detergent, the extension of water treatment, new treatment technologies and new agricultural measures the nitrate, heavy metal and phosphorous loads found in water systems has decreased and water quality has improved.		International indicators/CBD	(55% implemented)
<b>8. Maintain capacity of ecosystems to deliver goods and services and support livelihoods</b>	8.1 Capacity of ecosystems to deliver goods and services maintained		The quality of forest communities and complexes in protected areas, i.e. NP Mavrovo, NP Pelister nad NP Galichica is maintained. Since 2004 the forest green belt was established in trans-boundary forest ecosystems Shar Planina, Korab, Deshat, Jablanica (MK-AL), Galichica, Baba-Pelister, Nidze, Kozhuf (MK-GR), Belasica, Osogovo, Plachovica and Ograzden to protect important bio-coridors for birds, mammals, especially large carnivore species.		International indicators/CBD	(70% implemented)
	8.2 Biological resources that support sustainable livelihoods, local food security and health care,		In framework of transboundary Prespa Park established by tree litoral countries (AL, MK, GR) has been created		International indicators/CBD	(75% implemented)

	especially of poor people maintained.		bio-corridor between Micra nad Macro Prespa Lake and their river network, important for migration of water-birds, raptors, wultures and endemic fish species. This ecosystems has provides environmental services for the fishery sector and by way of flooding reduction. Also very important benefit is economic incentives of local stakeholders is good basis to encourage them to actively participate in natural forest management, water management and sustainable us of bio-resources and biodiversity conservation and to provide a multitude of other cultural and socio-economic benefits.		
<b>9. Maintain socio-cultural diversity of indigenous and local communities</b>	9.1 Protect traditional knowledge, innovations and practices		An inventory of traditional knowledge related to the sustainable us of grasslands in Shar Planina, Bistra, Korab, Jablanica, Galichica, Baba-Pelister, Jacupica, Kozuf and Osogovo Mountaine (summer pastures) to protect autochthonic sheep in rural areas in Macedonia. Millennium traditional fishing	International indicators/CBD	(80% implemented)

			by water-birds in Doyran Lake. Fishermen put in place nets that allow big fish com in fishing areas			
<b>10. Ensure the fair and equitable sharing of benefits arising out of the use of genetic resources</b>	10.1 All transfers of genetic resources are in line with the Convention on Bio-Diversity the Inter-national Treaty on Plant Genetic Resources for Food and Agriculture and other applicable agreements		In 2007 Macedonia has introduced specific regulations on the access to genetic resources and benefit-sharing. The act sets out procedures for access to genetic resources for scientific research commercial purposes and conservation or industrial applications; provides for the sharing of benefits derived from genetic resources; and promote the sustainable management and utilization of genetic resources, thereby contributing to conservation of biological resources.		International indicators/CBD	(65% implemented)
	10.2 Benefits arising from the commercial and other utilization of genetic resources shared with countries providing such resources		-		-	
<b>11. Parties have improved financial, human, scientific, technical and technological capacity to implement the Convention</b>	11.1 New and additional financial resources are transferred to developing country Parties, to allow for the effective implementation of their commitments under the Convention, in accordance with Article 20		-		-	

## Conclusions

An overall assessment of whether the implementation of the Convention has had an impact on improving conservation and sustainable use of biodiversity, and the fair and equitable sharing of benefits arising out of the utilization of genetic resources, in their country.

The convention's first target: conservation of biodiversity is based on traditions, and this sphere is actively dealt with. There are good experts in this field and production of practical basic knowledge is in process; nevertheless, there is yet much to achieve in putting the knowledge into practice.

Endangered biological resources have been registered, they are being researched, monitored and tried to rehabilitate when needed and if possible. CBD and sustainable use of natural resources as the platform of whole human activity.

One of the important problems in fulfilling the convention's requirements on national level lies in insufficient integrity into department. The main reasons and also needs for development are insufficient information exchange and communication between sectors and low awareness of the role of different sectors in fulfilling the CBD.

Another important need for development in implementing the convention's process in the country lies in changing and directing the attitude towards biodiversity – both for society in general and specific participants in official responsibility spheres. Both environmental and nature awareness and nature education as a whole are a high priority among development needs.

Suggestions for actions that need to be taken at the regional and global levels to further enhance implementation of the CBD at the national level, including: refining existing programmes of work or developing new ones to address emerging issues; suggesting goals and objectives must be included in the future Strategic Plan of the Convention. Also very important is to identify effective mechanisms.

Both on global and regional levels more attention should be paid to developing convention's so-called second and especially third pillar implementation mechanisms. Sustainable use of biological diversity components and fair and equitable sharing of benefits of genetic resource have high priority for effective measure for nature protection and biodiversity conservation.

In the global level of the Convention measures have already been taken in order to make the integration of biodiversity targets into sectoral policies more effective. Nevertheless one of the most important needs for development is information exchange and co-operation between sectors.

The Macedonian Government and National Committee for CBD fully support the Convention's implementation both regionally and globally. Also for as most important are programmes and projects of UN, UNEPP, UNDP, UNESCO, FAO and other international and regional organization and institution.

We believed that coordination with the Secretariat of UNEP/CBD is good example for integration of all resources in global level for Biological Diversity Conservation.

## Appendix I - Information concerning reporting Party and preparation of national report

### A. Reporting Party

Contracting Party	<b>Republic of Macedonia</b>
<b>NATIONAL FOCAL POINT</b>	
Full name of the institution	<i>Ministry of Environment and Physical Planning</i>
Name and title of contact officer	<i>Filip Ivanov, Director of Administration of Environment</i>
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E-mail	<b><i>infoeko@moepp.gov.mk</i></b>
<b>CONTACT OFFICER FOR NATIONAL REPORT (IF DIFFERENT FROM ABOVE)</b>	
Full name of the institution	<i>Ministry of Environment and Physical Planning</i>
Name and title of contact officer	<i>Aleksandar nastov, M.Sc. Nead of Div. of Biodiversity</i>
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<b>SUBMISSION</b>	
Signature of officer responsible for submitting national report	
Date of submission	<b>27.07.2010</b>

## **Appendix II – Sources of further sources of information**

MEPP (2006, 2007, 2008), Annual Reports for Implementation of Action Plan of Biodiversity,

MEPP (2009), Final Report of Implementation of SAP/BD (2004-2008), [www.moep.gov.mk](http://www.moep.gov.mk)

MEPP (2010), Assessment and Evaluation of Biodiversity on National Level/ Report and National Catalogue (Check List) of Species, MK, EN, (CD), [www.moep.gov.mk](http://www.moep.gov.mk)

MEPP (2010) Draft of Second Action Plan for Biodiversity Conservation in Republic of Macedonia (2011-2015). MK (CD), [www.moep.gov.mk](http://www.moep.gov.mk)

MEPP (2010) Draft of Fourth National Report of Republic of Macedonia to CBD COP10 MK, EN, (CD), [www.moep.gov.mk](http://www.moep.gov.mk), [www.cbd.int](http://www.cbd.int)

UNEP/CBD (2010), Global Biodiversity Outlook 3 EN (CD), [www.cbd.int](http://www.cbd.int)

### **Procedure followed in preparing the Fourth National Report**

The first Draft of 4<sup>th</sup> National Report was prepared the Authority of Environment in MEPP in cooperation which scientific experts from Macedonian Committee for CBD (February 2010).

The Draft was circulated to 8 relevant ministries concerned for comments.

The second Draft of this Report was prepared on the basis of the comments, by small working group of MEPP, Department of Nature and Macedonian Committee for CBD (March 2010).

Second Draft has been presented and analyzed during the Regional Workshop for CBD in Budapest, Hungary (30.06-2.07.2010).

Final version of this Report is prepared Division for Biodiversity in MEPP (July 2010).