UNITED NATIONS ENVIRONMENT PROGRAMME

Programme des Nations Unies pour l'environnement   Programa de las Naciones Unidas para el Medio Ambiente
Программа Организации Объединенных Наций по окружающей среде   برنامج الأمم المتحدة للبيئة

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UNEP

PROJECT DOCUMENT

SECTION 1: PROJECT IDENTIFICATION

1.1   Project title: Achieving Biodiversity Conservation through Creation and Effective Management of Protected Areas and Mainstreaming Biodiversity into Land Use Planning

1.2   Project number: 5528
                                          PMS: 01201

1.3   Project type: Full-sized Project

1.4   Trust Fund: GEF Trust Fund

1.5   Strategic objectives:

           GEF strategic long-term objective:

BD-1: Improve Sustainability of Protected Area Systems

BD-2: Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes, Seascapes and Sectors

1.6   UNEP priority:

1.7   Geographical scope: The Former Yugoslav Republic of Macedonia

1.8   Mode of execution: Internal Cooperation Agreement DEPI-ROE

1.9   Project executing organization: UNEP

1.10   Duration of project: 48 months
                                        Commencing:
                                        Completion:

1.11   Cost of project

	US$	%
Cost to the GEF Trust Fund	**3,680,731**	**14.37**
Co-financing		
Cash	**5,082,975**	
Ministry of Environment and Physical Planning	**5,082,975**	**19.85**
In-kind	**16,843,525**	
UNEP	**100,000**	**0.39**
Ministry of Environment and Physical Planning	**7,943,525**	**31.02**
Cyril and Methodius University of Skopje, Faculty of Forestry	**4,500,000**	**17.57**
Swiss Agency for Development and Cooperation	**3,800,000**	**14,83**

Macedonian Wood Industry Cluster	**50,000**	**0.19**
Macedonian Academy of Sciences and Arts	**450,000**	**1.75**
Total	**25,607,231**	**100**

1.12   Project summary

The Former Yugoslav Republic of Macedonia is located in the Balkan Peninsula and displays a wealth of biodiversity and accompanying ecosystem services due to its versatile climatic, topographic and geologic characteristic. It is part of the wider Mediterranean Region that has been identified as the third most important biodiversity hotspot in the world. Unfortunately, pressures on biodiversity are rising at a time of intense socio-economic development currently happening in the country as well as other regional processes. On the other hand, lack of species and ecosystem inventory data, uncoordinated policies and weak institutional capacities hinders implementation of biodiversity conservation strategy and its mainstreaming into other relevant sectors. Since the state of biodiversity complexly depends upon many different factors, its conservation has to be tackled coherently by different methods and actions through following: expansion of protected areas network, strengthened management of those areas, increased connectivity of protected areas, identification and protection of endangered species, improved management of forest ecosystems, sustainable use of non-timber forest products (NTFP), mainstreaming of biodiversity into national planning processes, mainstreaming of biodiversity into land use planning and management and implementing of already adopted relevant legislation and developed strategic documents.

Responsible institution for biodiversity conservation including establishment of protected areas system as well as coordination of spatial planning is the Ministry of Environment and Physical Planning. This project proposal has been developed in full support and cooperation with all relevant stakeholders that were identified in the beginning of the project preparatory phase.

The overall objective of the project is to promote biodiversity conservation through supporting national capacities in expanding the national protected areas coverage, improvement of management effectiveness through creation of a good policy and capacity environment, improve land use planning and management and pilot testing and strong inclusion of local stakeholders throughout the process. In this way, the project will enable implementation of a number of national laws, policies and relevant strategic documents as well as contribute towards implementation of CBD Global Strategic Plan for biodiversity 2011-2020 and UNCCD Strategic plan.

The intervention strategy for this project has three main components: (1) Increase of Protected Areas Network, (2) Increased effectiveness of biodiversity management and (3) Land Use planning and Biodiversity mainstreaming, with three outcomes and 10 expected outputs.

By increasing of protected areas and effectiveness of biodiversity management, and mainstreaming biodiversity into land use planning and other relevant sectors (forestry), as well as capacity development and public awareness raising, the project will help to reduce main threats to biodiversity in Macedonia. In this regard it will contribute to maintaining global environmental benefits by contributing to global network of protected areas, conservation of rich species and endemism, strengthening sound practices for biodiversity conservation, conservation of valuable eco-systems (specifically forest habitats), sustainable use of wild species, and thereby reducing pressures to natural ecosystems, resulting in improved biodiversity conservation, reduce pressures to soil and climate change mitigation. In addition, through evaluation of ecosystems services, this project will provide appropriate guidelines for nature protection of protected areas, while providing the local populations with sustainable livelihoods.

TABLE OF CONTENTS

Annex A: Project results framework
Annex B: Response to GEF reviews
Annex C: Status of implementation of project preparation activities (PPG)
Annex E: Consultants to be hired
Annex F1: Detailed GEF budget
Annex F2: Detailed co-finance budget
Annex G: M&E budget
Annex H: Project implementation arrangements
Annex I: Project workplan with deliverables and benchmarks
Annex J: Focal area tracking tools
Annex K: OFP endorsement letter
Annex L: Co-finance letters
Annex M: Environmental and social safeguards checklist
Annex N: Acronyms and abbreviations

ACRONYMS AND ABBREVIATIONS

Acronym	Full name in English
BD	Biodiversity
Birds Directive	Council Directive 147/2009 ex 79/409/EEC on the conservation of wild birds
CBD	Convention on Biological Diversity
CDDA	Common Database on Designated Areas
CEPF	Critical Ecosystem Partnership Fund
CITES	Convention on International Trade in Endangered species of wild flora and fauna
CORINE	Co-ordination of information on the environment; land cover programme launched in 2000 by European Commission
CSO	Civil Society Organization
EA	Executing Agency
EEA	European Environment Agency
ESFM	Ecologically Sustainable Forest Management
EU	European Union
EUNIS	European Nature Information System, developed and managed by European Environment Agency and its European Topic Centre for Nature Protection and Biodiversity
GEF	Global Environment Facility
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
Habitats Directive	Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna
HNV forests	High Nature value forests
IA	Implementation Agency
IBA	Important Bird Area
IPA	Instrument for Pre-Accession Assistance of EU
IUCN	International Union for Conservation of Nature
JICA	Japan International Cooperation Agency
LSGU	local self-governing units
MAFWE	Ministry of Agriculture, Forestry and Water Economy
MAK-NEN	Macedonian National Ecological Network
MAP	Medicinal and Aromatic Plants
MASA	Macedonian Academy of Sciences and Arts
MDG	Millennium Development Goals

MEA	Multilateral Environmental Agreement
MES	Macedonian Ecological Society
MoEPP	Ministry of Environment and Physical Planning
M&E	Monitoring and Evaluation
NAP	National Action Programme
NBSAP	National Biodiversity Strategy and Action Plan
NCSA	National Capacity Self-Assessment
NEAP	National Environmental Action Plan
NFP	National Focal Point
NGO	Non-Governmental Organization
NEIS	National Environmental Investment Strategy
NSP	National Spatial Plan
NTFP	Non-timber forest products
PA	Protected Area
PC	Project Coordinator
PE	Public enterprise
PEFC	Programme for the Endorsement of Forest Certification; an umbrella organization that endorses national forest certification systems
PIR	Programme Implementation Report
PMU	Project Management Unit
PSC	Project Steering Committee
SDC	Swiss Development Cooperation
SEA	Strategic environmental impact assessment
SGP	Small Grants Programme
TAIB	Transition Assistance and Institution Building Component under EU IPA funds
UNCCD	United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought or Desertification, particularly in Africa
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	Convention for the Protection of the World Cultural and Natural Heritage
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development

Zoos Directive	Council Directive 1999/22/EC relating to the keeping of wild animals in zoos

SECTION 2: BACKGROUND AND SITUATION ANALYSIS (BASELINE COURSE OF ACTION)

2.1 Background and context

The Former Yugoslav Republic of Macedonia (from hereafter Macedonia) is a landlocked country that occupies a territory of 25.713 km[2] and is situated at the central part of the Balkan Peninsula – presenting one of the richest European regions in biological diversity[1]. It borders Albania to the West, Greece to the South, Bulgaria on the East while in the North it borders Serbia and Kosovo. The population of the country is 2.022.547 inhabitants with around 30% concentrated in Macedonia's capital – Skopje, while 43% are rural population (average density 78.7 inhabitants per km[2]).

Major part of the country's territory (44.1%) lies on an altitude between 500 and 1000 m (lowest altitude 40 m and the highest peak Golem Korab 2753 m) and nearly 80% of the territory is hilly and mountainous with number of valleys connected with deep gorges and canyons. It possesses some moderately significant water resources – a well-developed hydrological network (of which Vardar River Basin occupies the largest area - 80%) and three larger lakes of tectonic origin (Ohrid, Prespa and Doyran). Macedonia is under the influence of two zonal climates: Mediterranean and moderate continental, but combined influences predominate everywhere resulting in major climate modifications on a relatively small area. The average annual temperature varies between -0.4 and 14.2°C, and annual amounts of precipitations range from 460 to 1103 mm.

Although a small country (covers only 5% of the Balkan Peninsula) due to its versatile climatic, topographic and geologic characteristic, Macedonia displays a wealth of biodiversity and accompanying ecosystem services which can be considered a significant concentration of natural capital for the nation's sustainable development path. One of the main reasons for the high biological diversity is weak

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[1] Kryštufek, B. & Reed, J. M. (2004). Balkan biodiversity: pattern and process in the European hotspot. Spinger Verlag, 357 pp.

glaciations and existence of continuous forest vegetation in southern parts which has enabled these areas to preserve biological diversity, but also to attain many new species[2].

The following key ecosystems in the country: (1) forest ecosystems (including oak region, beech region and subalpine region), (2) dry grasslands, (3) mountain ecosystems, (4) natural lakes, (5) river ecosystems and (6) wetlands were defined in the Country study for biodiversity in Macedonia (Ministry of Environment and Physical Planning – MoEPP, 2003). These divisions cannot meet the requirements for the purpose of presentation of ecosystem diversity of an area, and they can hardly serve as basis for valuation of ecosystem services either. Thus, during 2013 as part of the NBSAP revision process, 28 most important (key) ecosystem types/groups (some of them with anthropogenic origin but with some importance for biodiversity) have been identified, according to EUNIS classification[3], with necessary modifications and it reflects great ecosystem diversity in Macedonia.

Although research on biodiversity is far from complete, this little country contains impressive diversity of species:

- o About 3200 vascular plants are known of which around 120 are local endemic species, some are characterized with great evolution age of Tertiary origin (denoted as paleondemites), such as: *Thymus oehmianus, Viola kosaninii, Crocus cvijici, Crocus scardicus, Colchicum macedonicum, Narthecium scardicum,* etc.

- o Over 2000 fungi (more than 1800 basidiomycete and about 200 ascomycete species) of which about 500 species can be used for human consumption. The number of known lichen species, that are relatively less studied, is around 450.

- o Vertebrates fauna is much better explored and according to the last estimates there are about 550 vertebrate species - 84 mammal species of which 8 are considered allochtonous (34% of the European autochthonous terrestrial mammals); 334 birds (64% of the species regularly found in Europe); 15 amphibians (19% of the European batrachofauna), 32 reptiles (21% of the European herpetofauna); 85 fish species of which 19 are allochtonous (representing around 12% of the fauna of freshwater fish in Europe or around 20% if introduced species are taken into account) and 2 species cyclostomata.

- o Fauna diversity is dominated by invertebrates – 13,450 species. One of the utmost aquatic invertebrate's diversity and endemism hot-spots is the Lake of Ohrid.

- o Brioflora of of Macedonia consists of over 500 taxa, of which more than 400 taxa of are true mosses (Musci), while around 100 taxa are representatives of the class Hepaticae (further research is necessary)

- o About 1700 algal species of which at least 150 endemic, the best studied being silicate algae (Bacillariophyta) with more than 1000 species while other groups are poorly explored. Ohrid and Prespa lakes watersheds host the biggest number of registered diatoms taxa.

Located in the Balkan Peninsula Macedonia is part of the wider Mediterranean Region that has been identified as the third most important biodiversity hotspot in the world with respect to the number of endemic plant species[4]. However, most of the endemic species are found on the high-mountain zones, refugial gorges and natural lakes. The endemism among plants is very significant - about 120 endemic plant species are found in Macedonia. As regarding mammals, four species that are endemic for the

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[2] Tzedakis, P. C. (2004). The Balkans as Prime Glacial Refugial Territory of European Temperate Trees. p. 49-68. In: Griffiths, H. I.; Kryštufek, B.; Reed, J. M. (Eds.). Balkan BiodiversityPattern and Process in the European Hotspot.SpingerVerlag, 357 pp.

[3] The most frequently used classification of habitats in Europe http://eunis.eea.eu.int/index.jsp

[4] Myers, N., Mittermeler, R. A., Mittermeler, C. G., da Fonseca, G. A. B., Kent, J. (2000). Biodiversity hotspots for conservation priorities. Nature 403: 853–858

Balkan Peninsula (*Apodemus epimelas*, *Dynaromis bogdanovi*, *Microtus felteni* and *Talpa stankovici*) have large parts of their natural ranges within the borders of Macedonia. , Endemism is also high on subspecies level, where of particular importance is the core population of the Balkan lynx (*Lynx lynx balcanicus*), Balkan chamois (*Rupicapra rupicapra balcanica*) and two localized subspecies of Souslik (*Spermophillus citellus gradojevici* and *S. c. Karamani*). The endemism among fish species is very high although some taxonomic issues still remain. The greatest number of endemics (over 700) is invertebrates. Among the regions exceptionally rich in endemics on the Balkan Peninsula which were identified by Stevanović et al. (2007)[5], the mountains on the border between Macedonia and Albania (Shar Planina and Korab) and border with Greece (Pelister, Kajmakchalan and Kozhuf) are considered of important biodiversity richness.

Forest ecosystems cover a large portion of Macedonia - the total forest land in the country occupies an area of 1,159,600 ha, out of which forests are 947,653 ha (about 38 % of the country's land surface). About 50% of forests comprise of pure and mixed oak stands (480 000 ha.), 30 % (285 000 ha.) beech stands, 8% (80,000 ha.) of Black Pine and Scots Pine, and 12 % other forest stands. Macedonian dendroflora comprise 319 tree and shrub species, with more than 80 sub-species and varieties, divided into 119 genera and 54 families. Based on the recent investigations, the above mentioned plants comprise 81 forest associations. Macedonia contains 49 endemic and sub-endemic tree and shrub species.

Forests are suitable habitats for many plants, bird and other animal species because of their structural and functional complexity, and these species are often highly dependent on the quality of forests. The concept of high nature value (from here HNV) [6] emerged in early 1990's when was introduced as one of the activities by the EU Biodiversity action plan (2006). HNV concept for forests was analyzed by European Environmental Agency (EEA) during 2014, and feasible and replicable methodology to define and identify HNV forest areas in Europe was proposed. A map of HNV beech forests for Europe was produced covering 19 countries not including Macedonia. Forest undisturbed by man is one of the categories included in the HNV concept. Preliminary research towards identification of virgin forests in Macedonia was conducted during 2010 (as part of the GEF/UNDP/MoEPP project on protected areas) and it was concluded that large forest areas that features virgin-like forest do not exist in Macedonia. Only 12 small sites of forest fragments/patches were identified covering an area from 10-90 ha. Further research and field work is needed in order to obtain accurate data on forest communities and area coverage, based on which adequate protection measures to be defined and implemented. Activities for creation of standards for sustainable forest management according to international standards PEFC (Programme for the Endorsement of Forest Certification) begun last year, which will support initiation of the certification of forests in the country, one of most important steps towards conservation of forest ecosystems and biodiversity.

Apart from forestry, other categories of land use are present in the country such as: agriculture (agricultural land covers 1,268,000 ha, of which 510,000 ha is arable land and 757,000 ha pastures), housing, industrial development and infrastructure. According to the Corine Land Cover nomenclature[7], 31 classes of land use have been identified in Macedonia (out of the total 44 classes, up to 3rd level of nomenclature).

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[5] Stevanović, V. Tan, K. & Petrov, A. (2007). Mapping the endemic flora of the Balkans - a progress report. Bocconea 21: 131-137

[6] HNV forests are '*all natural forests and those semi-natural forests in Europe where the management (historical or present) supports a high diversity of native species and habitats, and/or those forests which support the presence of species of European, and/or national, and/or regional conservation concern*' defined by Institute of European Environmental policy (IEEP, 2007)

[7] CORINE (Co-ordination of information on the environment) land cover programme was proposed by European Comision in 1985 and launched in 2000 aiming to satisfy the need for precise and easy accessible information on land cover in Europe. FYR of Macedonia was involved in this programme since 1998, two datasets are available (2000, 2006) and third one is in phase of development.

Land management system in Macedonia is not an integral part of resources management system. While almost 89% of forests are state owned, private ownership is dominant regarding arable land. Land fragmentation in Macedonia is one of the most significant problems for sustainable land management (average size of agricultural land is 0,33 ha, while 0,45 ha of forest). Land abandonment is a significant issue as well, with approximately 193,000 ha of all arable land left uncultivated.

Each of the natural resources is managed by different entities (public or private). The greatest part of the state owned forests are managed by Public Enterprise (PE) "Macedonian forests" (PEMF). Forests within protected areas are managed by management authorities (ex. public institution (PI) national park etc.). Small parts of forests are managed by other entities: local municipality administration, public communal enterprise or water management enterprise. Management of private forests is done by their owners. Management of private and state forest regardless their purpose should be in accordance with general forest management plans developed for a period of twenty years and adopted by the Macedonian Government. There is an obligation for preparation of forest management plans for a ten-year period for forests covering an area bigger than 100 ha, and adopted by the Ministry of Agriculture, Forestry and Water Economy (MAFWE). Existing forest management acts do not provide an adequate basis for support for ecologically sustainable forest management (ESFM) practices[8]. Nor does the combined legislation meet the cross-tenure needs of ESFM.

Mapping the distribution of vegetation types and human land uses provides critical information for managing landscapes to sustain their biodiversity and the structure and function of their ecosystems. Because vegetation type is linked to species composition or habitat types, vegetation maps provide crucial information for biodiversity conservation planning. Spatially explicit inventories of vegetation types and land cover permit comparisons between particular vegetation distributions and distributions of land cover, land-cover change, expected climate changes, and protected areas.

Although the interpretation of satellite imagery is useful for mapping vegetation type[9,10] it poses important challenges to mapping vegetation in regions with complex topography and climate such as in Macedonia. Mountain areas with complex topography are particularly important for biodiversity conservation.

Unfortunately lack of species and ecosystem inventory data currently hinders development of biodiversity conservation strategies, which are very necessary at a time of intense socio-economic development currently happening in Macedonia. Addressing this problem requires overcoming the remote sensing and mapping challenges, where diverse biotic, climatic, and topographic conditions combine to produce a landscape with varied vegetation communities. Previous maps for the country have not depicted land cover in conjunction with forest type beyond cover-based classes.

Forests have a key role not only in wood production but also in watershed protection, in non-timber products (mushrooms, berries, etc.), adaptation and mitigation to climate change, tradition and cultural heritage, tourism, recreation and a number of other. The total wood volume is estimated on 74,343,000 m^3, and the total annual increment represents 1,830,000 m^3 with average annual increment on one hectare of 2.02 m^3. The planned annual available cut in Macedonia in the last 10 years is approximately 1,300,000 m^3 (70% of annual yield), out of which 70% is utilized. Out of all wood cut, 80 to 85% is used as firewood.

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[8] The three principles guiding the concept of ecologically sustainable forest management are: 1) maintenance of the ecological process within forests, 2) preservation of their biological diversity, 3) obtaining for the community the full range of environmental and economic and social benefits from all forest uses within ecological limits.

[9] Scott, J.M., et al. 1993. Gap analysis: a geographic approach to protection of biological diversity. Wild. Monogr. No. 123. Suppl., J. Wildl. Manage. 57:1-41.

[10] Muchoney, D., 2000. Application of the MODIS global supervised classification model to vegetation and land cover mapping, Int. J. Rem. Sens. 21:1115-1138.

Medicinal and aromatic plants (MAP) count includes approximately 700 species that are used in traditional medicine in Macedonia as well as by neighboring countries. Among all these species, around 220 plant species are more frequently used. The amount of herbal tea exported in 2001 was 1,127,825 kg, valuing $1,453,052. In previous years, as much as $4.5 to 5 million were realized from herbal tea exports (Epicentar, 2008).

From approximately 2,000 species of fungi identified in Macedonia, 500 could be used for human consumption, and 50 species are being commonly collected. Additionally, four species of lichens are collected and exported.

Wild fruit and nuts consist mainly of high mountain fruits, the most important of which are blueberry, dog rose, raspberries, blackberries, Cornelian cherry, but also plums), wild apples, pears and cherries (which are used by the local population for making juice and jam, and as ingredients in the fruit teas very much in demand for export)[11].

Collection and trade of these species is regulated by two different laws (Law on Nature Protection and Law on Forests) and are therefore under responsibility of two different institutions (MoEPP and MAFWE). The Law on Nature Protection defines threatened and protected wild species of plants, fungi and animals and their parts (Lists of threatened and protected species were adopted in 2012, *Official Gazette of the Republic of Macedonia no. 15/2012*), containing species whose collection and trade is subject to permit issued by MoEPP. In addition, national parks issues permits for collection of wild species of plants and fungi on their territories, which income they use as one source of financing. At the same time, non-timber forest products (NTFP) and their use are defined by the Law on Forests the(article 72) and by-law *Rules on the types of non-timber forest products and the use and collection of non-timber forest products*, and managed by PE Macedonian Forests. Starting from 2013 permits for collection of NTFP are issued by PE "Macedonian Forests" that is trying to set sustainable system for using NTFP products and protection of biodiversity, in order to meet the commitments and requirements set out in international and national regulations. in April 2013, the Board of Directors of PE "Macedonian Forests" adopted all necessary regulations in the field of use of NTFP. Based on these regulations, all collectors/gatherers and legal entities, purchasers must be registered and have an annual "Permission for collection of non-timber forest products", for collectors and legal entities, buyers are registered through "Agreement for transfer of the collection and purchase of non-timber forest products through collecting points with compensation". Reporting and registration is performed in all 30 branches of PE "Macedonian Forests" throughout the country, where simultaneously receive detailed information about the overall system of sustainable use, its control and legal obligations of all stakeholders in this area. There are no accurate records of all collected quantities of wild species on annual basis in Macedonia neither quotas for sustainable use of wild species have been identified so far. This poses a serious problem as the quantity and collection of NTFP is currently not done in a sustainable way. Uncontrolled use of wild species (without defined quotas) might threaten some species or even impose extinction. Evidently, populations of several plant species have been endangered such as Gentiana *lutea, Gentiana punctata, Arctostaphyllos uva ursi, Sideritis scardica, Sideritis raeseri*, due to inappropriate collection and uncontrolled or unsustainable use.

In terms of protected areas (PA) network, Macedonia comprises 86 protected areas[12] covering an area of 230,083 ha (or about 8,9% of the country territory), as can be seen from table1. and Figure 1 below. First National Park was established in 1948 with proclamation of the first National Park - Pelister. Six categories of protected areas that are harmonized with IUCN categorization are envisaged in the Law on Nature Protection (adopted in 2004). The Protected Areas (PA) network includes a variety of large and small sites representing different habitat types and various rare, endemic or relict species however the

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[11] First Macedonia National CBD Report, July, 2003.

[12] Common Database on Designated Areas (CDDA), MoEPP 2014

threat status of habitats and species was hardly considered and some areas were designated for conservation of geodiversity or fossils. Close to half of the area under protection belongs to the 3 national parks: Galicica, Mavrovo and Pelister covering high portion of forest ecosystems. Aquatic protected areas are represented by 3 natural lakes (Ohrid Lake, Prespa Lake and Doyran Lake) that are declared as monuments of nature[13].

Table 1. Protected areas in Macedonia (Source: MoEPP, CDDA 2014)

Category of protection according to IUCN	Number of sites	Coverage (ha)	% of the country territory
Ia. Strict Nature Reserve	2	7787	0.3
Ib. Wilderness Area	-	-	-
II. National Park	3	114870	4.48
III. Natural Monument	67	78967,5	3.0
IV. Nature Park	12	3045	0.12
V. Protected landscape	1	108	0.004
VI. Multipurpose Area	1	25305	0.98
Total	**86**	**230083**	**8,9**
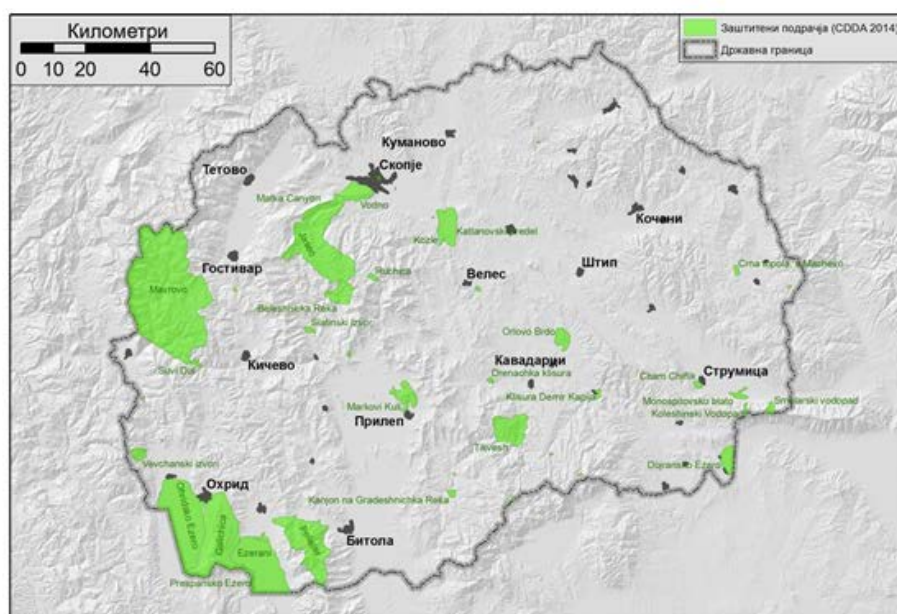
Figure 1. Protected Areas network in Macedonia

The national network of protected areas in Macedonia does not represent a coherent system, i.e. it is in transitional phase and covers areas proclaimed in different periods, according to different categorizations and with different goals; some areas are proclaimed under the old categorization, some under the new, some are re-proclaimed areas, some in a process of re-proclamation, and some areas are in process of proclamation according to the new national categorization. There is also a striking disparity in the distribution of PAs between East and West of Macedonia. A specific challenge presents harmonization of existing PAs with the existing legislation that stipulates that re-proclamation of all PAs proclaimed before adoption of the Law on Nature Protection (2004) has to be done within a six-year period. Currently, the

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[13] Fifth National Report to CBD, Macedonia, November 2014

process of establishing a national system of protected areas is accomplished very slowly and without prioritization for proclamation of PAs. Re-proclamation process is completed for 10 PAs, and only two new protected areas were proclaimed.

Management authorities are designated only for the 3 national parks, some monuments of nature and multipurpose area 'Jasen'. The protected areas in Macedonia are not adequately managed due to a number of different reasons. Management authorities of PAs are under direct supervision by Nature Department in MoEPP that approves their management plans and annual reports and work plans, etc. Low administration capacity for planning, establishment and management of protected areas in the relevant government institutions plays a large role. Further on, management bodies are not nominated for most of PAs - there is law capacity of the existing management authorities mainly national parks and several other PAs; some municipalities (Makedonski Brod and Kratovo) due to lack of adequate capacity for protected area management delegated it to civil society organizations. Management plans with concrete measures for protection of threatened and important species were prepared and adopted for 3 protected areas: NP 'Pelister', NP 'Galichica' and Nature Park 'Ezerani', however lack of management plans and lack of resources for implementation of prepared strategic document and management plans is apparent. The Law on Nature protection prescribes many different ways in which protected areas could be financially sustainable, such as through: compensation for entrance, visit, parking, staying, visiting certain buildings, compensation for controlled shot of game and collection of wild plant species and mushrooms and other forest fruits, use of park's visual identity on products and services for commercial purpose, National budget and budget of the local self-governments, and other sources (donations, grants, gifts, etc.). However lack of financial resources and inadequate economic instruments for the maintenance of protected areas (there is little to no centralized funding, PAs are self-financed through unsustainable use of natural resources (such as extensive woodcutting) is evident. All the above mentioned as well as insufficient involvement of local communities and relevant stakeholders in the management of protected areas[14] are common obstacles for successful functioning of national protected areas network.

Establishment of a coherent national ecological network is prescribed by the Law on Nature Protection (article 53) for the purposes of conservation, maintenance or restoration to a favorable conservation status of the ecologically important areas in order to resolve the problem of fragmentation of habitats due to economic development. National ecological network (MAK-NEN) was developed in 2011 where large carnivores, particularly brown bear, were taken as a model species for identification of core areas (13 identified with primary goal to preserve biological diversity; protected mostly at national level or by certain international instruments), corridors (36 in total), buffer zones and restoration areas. Corridors are playing a crucial role in establishing connectivity of protected areas (core areas), and their maintenance of different type of habitats is of great importance. Most of the identified corridors for brown bears are uninterrupted preserved forest habitats, or mosaic of small natural or semi-natural habitats (woodlands, meadows, shrubs, abandoned orchards, etc. Forestry sector play a key role in their maintenance as well as traditional agricultural practices. In this regard, identification and proper management of HNV forests will contribute to the maintenance of the national ecological network. Management measures are proposed for each corridor in MAK-NEN (Brown bear corridor management plan, 2011) however so far there has not been testing of site-specific measures.

Nevertheless, the global, regional and national processes that cause biodiversity loss does not exclude Macedonia - pressures on biodiversity are rising and the numbers of species which are threatened and habitats suffering from some form of degradation are increasing every day.

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[14] Action Plan for the Implementation of the Programme of Work of the Protected Areas of the Convention on Biological Diversity, Macedonia, June 2012

During the last several years' scientific community proposed several red lists of fungi, daily butterflies and orthopterans. The Red List of fungi was proposed in 2012 by Karadelev & Rusevska[15] and contains 213 species of the philyms Ascomycota and Basidiomycota. Species are categorized by IUCN criteria, and category of critically endangered (CR) has 21 species, endangered (EN) – 30 species, vulnerable (VU) – 71 species, near threatened (NT) – 40 species, least concern (LC) – 9 species and data deficient (DD) has 42 species. In 2012, Krpač & Darcemont[16] proposed Red List of daily butterflies in Macedonia. This List includes 69 species, among which 1 was evaluated as endangered (EN), 15 as vulnerable (VU), 24 as near threatened (NT), and the rest of 27 were not awarded status by IUCN, but were regarded as important for conservation due to their endemism or small area of distribution. Lemonnier-Darcemont[17] prepared Red List of orthopterans in Macedonia based on IUCN criteria including 17 taxa (around 10% of the overall Macedonia's fauna): one critically endangered - CR (*Bradyporus macrogaster macrogaster*), four endangered - EN (*Saga pedo, Bradyporus oniscus, Paracinema tricolor* and *Stethophyma grossum*), eight vulnerable - VU, and four near threatened - NT. Additionally, 10 taxa were categorized as "data deficient" - DD. All remaining species of orthopteran fauna in Macedonia are assessed as least concern - LC.

Regarding higher plant groups, Angiosperms are the most endangered group (280-300 endangered species). Based on the investigations conducted in areas where extinction of certain plant species has been recorded earlier, conclusions that the species *Acorus calamus* - Struga area, *Sagitaria sagitifolia* - village of Novaci, *Lysimachia thyrsiflora* - Mavrovo Pole and *Aldrovanda vesiculosa* - Prespa, Ezerani, are extinct from the country territory remain. Population of *Nymphaea alba* from the Dojran Lake shore is still considered extinct and 2 more species *Senecio paludosus* and *Ranunculus lingua* are close to extinction. Populations of 14 species are under severe threat due to degradation or fragmentation of their habitats. Populations of the species *Gentiana lutea* and *Gentiana punctate*, common Bearberry *(Arctostaphyllos uva ursi)* have been endangered by massive and inappropriate collection of these species, and there has been apparent depletion of the populations of the species *Sideritis scardica* (Bistra Mt.), as well as *Sideritis raeseri on G*alichica Mt., due to traditionally massive and inappropriate collection.

The presence of threaten species in the country is defined according to the IUCN red lists and other relevant international agreements. The IUCN Global Red List of species (2013) lists 82 plant species for the territory of the FYR of Macedonia, most of them belong to the categories "least concern" (LC) and "data deficient" (DD). Though their number is certainly higher – the lack of data is evident. Five mammalian species registered in Macedonia are regarded vulnerable (IUCN 2013): *Rhinolophus mehelyi, Myotis capaccinii, Vormela peregusna, Spermophilus citellus* and *Dinaromys bogdanovi* and four other autochthonous species are considered near threatened. On subspecies level, Balkan lynx is considered critically endangered (with an overall estimated population on the Balkans of around 22-40 adult individuals). Thirty species are included in Appendix 2 to the Bern Convention and additional 25 in Appendix 3. Twenty five species (all bats) are included in Appendix 2 to Bonn Convention and 14 species are included in Annex 2 of the Habitats Directive. Minimum eight nesting bird species are fully extinct from Macedonia, and at least seven more are lost as nesting species from the Macedonian fauna. Two species (*Neophron percnopterus* and *Falco cherrug*) are globally threatened, and two more that are regularly present (Dalmatian Pelican and *Aquila heliaca*) have been categorized as vulnerable (IUCN 2013). Annex 1 of the Birds Directive includes 65 bird species from Macedonia in their reproductive period that is the basis for the establishment of Natura 2000 network. 15 bird species are included in Appendix 1 to the Bonn Convention and four species are listed in Appendix 1 of CITES. There are no

[15] Karadelev, M. Rusevska, K. (2012). Contribution to Macedonian Red list of fungi. Poceedings of the 4th Congress of Ecologists of Macedonia with International Participation, Ohrid, 12-15 October 2012. Macedonian Ecological Society, Skopje, 68-73

[16] Krpač, V. T., Darcemont, C. (2012). Red list of butterflies (Lepidoptera: Hesperioidea & Papilionoidea) for Republic of Macedonia. Rev. Écol. (Terre Vie) 67: 117-122

[17] Lemonnier-Darcemont, M., Chobanov, D., Krpač, V. T. (2014). Red List of Orthoptera of the Republic of Macedonia. Rev. Écol. (Terre Vie) 69: 151-158

globally threatened species among amphibians in Macedonia (IUCN 2014), however seven are listed in Appendix 2 of the Bern Convention and 3 species are put on Annex II of Habitats Directive. Orsini's Viper is considered globally vulnerable species (IUCN 2013) and is listed in Appendix 1 to CITES. Three reptile species are near threatened, 24 species are included in Appendix 2 to the Bern Convention, and seven species are included in Annex 2 of the Habitats Directive.

However, national red lists of threatened species of plants and animals have not been adopted by the Government of Macedonia yet. On the other hand lists of strictly protected and protected wild species were adopted in 2011 without prior categorization of species based on their threat status.

Developing indicators to monitor the changes in the status of biodiversity (and environment in general) are important tool for designing proper policy measures. Environmental monitoring and reporting is an obligation prescribed by the national legislation (Article 45 of the Law on Environment), European legislation (driven by the desire to get closer to the practices of the European Union in this area) and reporting obligation to the EEA, and these processes are certainly helpful for the reporting based on the requirements of other multilateral agreements (MoEPP 2010). MoEPP is preparing annual reports (based on 40 national environmental indicators adopted by Macedonian Government in 2008) and submitting on annual basis to the EEA. Lack of data (especially lack of relevant data to serve the indicator based reporting purposes, the quality or the format of data, discontinuous collection of data by the relevant institutions, are the main problems faced by experts in the preparation of environmental indicators. Additional indicators to follow the status of biodiversity (ex. Red list index) need to be developed.

Unsustainable use of biological diversity is evident in many sectors, most prominently in agriculture, forestry, hunting, fishing and collection of wild plants. For some of these activities there are legal regulations, but are not as effective as intended and do not ensure a high level of protection. Such a situation is particularly evident in the protection of autochthonous genetic material and the conservation of wild species. Economic benefits of the utilization of biological resources outweigh the protection measures for their maintenance in a rapid and unsustainable way is the "business as usual" for Macedonia that needs urgent changes.

As land is the anchor to all terrestrial life, it is of fundamental importance to economic wellbeing, as well as diversity of species and environment in general. Various and potentially competing uses of land exist in the country, and increasing pressure for development inevitably leads to changes in land use, as well as land degradation. In turn, changes in land cover affect the capacity of ecosystems for providing services to humans. Macedonian Government aims to minimize the impact from changed land use patterns, and to control the development in general through designating spatial plans. However, it is evident that the instruments established within the National Spatial Plan and relevant legislation are not sufficient and fully appropriate to control the process of land use changes. Weak institutional arrangements, also with regard to law enforcement, together with the process of privatization and the changed responsibilities in regard to decentralization are the main reasons that pressure exerts on the state of the land, the land-use, natural resources, spatial organization and the quality of the environment as pointed out in the Second National Environmental Action Plan (MoEPP 2006).

The unique values of biodiversity and ecosystems in Macedonia are being progressively eroded because of either changes in/or intensification of specific human activities including unsustainable patterns of exploitation of natural resources, and inappropriate land-use practices that result in progressive soil and water contamination, loss of forest cover, erosion and wildlife loss. The biodiversity conservation is subject to different, uncoordinated and even conflicting management regimes and policies, which further exacerbate the threats to the ecosystem as a whole. Thus, the development and implementation of an integrated approach to the country's conservation and management is of paramount importance.

Since the state of biodiversity complexly depends upon many different factors, its conservation has to be tackled coherently by different methods and actions through following: expansion of protected areas network, strengthened management of those areas, increased connectivity of protected areas,

identification and protection of endangered species, improved management of forest ecosystems, sustainable use of non-timber forest products (NTFP), mainstreaming of biodiversity into national planning processes, mainstreaming of biodiversity into land use planning and management and implementing of already adopted relevant legislation and developed strategic documents.

2.2 Global significance

Although relatively small in territory, due to its position on the Balkan Peninsula as part of the wider Mediterranean region, Macedonia can be considered as a country that holds an important position on the global map in terms of biological diversity. The entire country hosts unique biotopes that are important from both a European and global conservation perspective. Prespa region within Macedonia is considered to be an ecosystem of global significance and has been identified as one of Europe's 24 major transboundary "ecological bricks"[18].

The overall objective of the project is to promote biodiversity conservation through supporting national capacities in expanding the national protected areas coverage by at least 1.5%, improvement of management effectiveness through creation of a good policy and capacity environment, improve land use planning and management and pilot testing and strong inclusion of local stakeholders throughout the process.

In doing so, it will encourage synergy between efforts aimed at the conservation of the country's globally significant biodiversity and important ecosystem functions, and strengthens the capacity to conserve, sustainably use, and effectively manage biodiversity on an ecosystem basis. It will also strengthen the management capacity for high nature value forest areas, and prevent habitat degradation. The global existence values arise from the nontrivial per capita existence values multiplied by the hundreds of millions of citizens who hold these values and live outside of Macedonia.

i. The project will contribute to the conservation of impressive species diversity of this country, as part of the Balkan Peninsula and European continent: more than 21 000 wild species in several groups: bacteria, lichens, fungi, mosses, higher plants, invertebrate and vertebrate animals, about 1000 of which are endemic. Also, identified and adopted red list of threatened species of plants and animals (selected groups) will be used as a basis for creation of new protected areas and developing appropriate conservation measures for endangered species. In this way, the project will contribute towards implementation of CBD Global Strategic Plan for biodiversity 2011-2020, in particular implementation of Aichi targets 11, 12 and 19.

ii. High diversity of ecosystems in Macedonia including large coverage of forest ecosystems (about 40% of its land) is evident. The project will support conservation of valuable ecosystems/habitats through creation of new protected areas, conservation of high nature value forests as well as sustainable use of forest ecosystems thus contributing to implementation of several Aichi targets (5, 7 and 19).

iii. The national network of protected areas includes 86 areas covering about 9% of the country territory. On the other hand, about 9671 km^2 or 38% of the country territory fulfils the criteria for Key Biodiversity Areas. Project will support expansion of national protected areas network by at least 1,5%. A target for expanding the protected areas coverage by about 12% is already established in the National Spatial Plan and new national target for protection of about 15% of the country territory is set in the draft NBSAP (2014), following the CBD recommendations aiming to contribute to implementation of global Aichi Targets (in particular target 11).

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[18] Langer, H., 1990. Ecological Bricks for our Common House in Europe. Munich: Verlag für Politische Oecologie. Global Challenges Network and Verlag für Politische Oecologie.

iv.   Since Sharr Mountain is the site of a proposed national protected area, this project would also bring the global environmental benefit, including communities oriented alternative livelihood options, of preservation and sustainable use of wild plants and fungi, that may otherwise disappear as a tradable good due to overuse of the carrying capacity. More than 70 species of medicinal plants are collected and used in the area of Sharr Mt. including *Hypericum perforatum, Sideritis scardica* (endemic species), *Achillea millefolium, Artemisia absinthum, Capsella bursa-pastoris, Cichorium intybus, Vaccinium myrtillus, Melissa officinalis, Tilia grandifolia, Tilia cordata,* etc. (Rexhepi et al, 2014[19]). Proclamation of these areas will enable protection of valuable forest communities of the tertiary relic plant species that are of global significance: *Picea excelsa, Pinus mugo var. mughus, Taxus baccata, Ruscus hypolossum, Silene schmuckeri, Rhododendron ferrugineum, Arctostaphyllos uve ursi, Rhamnus pumila, Primula longiflora, Gentiana lutea, Sambucus racemosae, Artemisia petrosa*), and the forests of the endemic and relic Macedonian pine (*Pinus peuce*) and the Bosnian pine (*Pinus heldreichii*). The last forms on Shara mountain the oldest Tertiary communities unique in space and time (*Seslerio-Pinetum heldreichii, Luzulo maxime-Pinetum heldreichii*).

v.   Connectivity is crucial in conservation of biodiversity and ecosystem services. It connects fragmented habitats supporting the species population exchange, enabling migration, and spreading of the species. Globally, the model of ecological networks is seen as one of the most effective measures for protection of biodiversity and giving a possibility for sustainable use of nature and biodiversity as well as providing an effective tool for mitigating the effects of climate change. MAK-NEN map was developed based on international standards. Through development and testing of site-specific measures for management of two selected pilot corridors from MAK-NEN and/or restoration activities on the ground involving local stakeholders, a good example/experience will be provided to be replicated in other countries and also contribute to implementation of Aichi target 11 and 19.

vi.   Protection of remnant forest areas with high degree of naturalness that support many plants, bird and other animal species is of high importance. Because the quality of forests has been altered in the past due to human impacts such as silvicultural practices and the use of exotic species resulting in a general simplification of these ecosystems (EC, 2006), HNV forest concept was introduced. Through selection of HNV forest areas, Macedonia will contribute to development of forest naturalness indicator for Europe (initiated by EEA during 2014) as well as it will give a basis for introducing the process of certification of forests in the country.

vii.   Ecosystem services and socioeconomic benefits: the plethora of biodiversity in Macedonia has led to significant economic and trade opportunities. A 2008 study conducted by the EPI CENTAR and financed by USAID's AgBiz Program found that Macedonia is a major exporter of wild gathered products such as medicinal plants, berries, fungi and lichens to the international market. For instance, wild fungi – including endangered species of Boletus, Cantharellus, Lactarius and Morchella – are directly exported by the Macedonian private sector across the international marketplace, concluding that "the market requires much more quantity than the current supply". Left unprotected in such high demand, and without adequate control on quantity, these wild mushrooms and medicinal plants could be under critical threat of extinction within next few years.

viii.   Land use planning system can achieve conservation outcomes through the identification and protection of natural areas with significant biodiversity values, by directing development away from natural areas, and by controlling the impacts of land uses on these areas. Mapping forest

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[19] Rexhepi, B., Mustafa, B., Hajdari, A., Rushidi-Rexhepi, J., Quave, C & A. Peroni (2014). Cross-cultural Ethnobotany of the Sharr Mountainns (Northwest Macedonia), chapter 5 In: A.Peroni, C.L. Quave (eds.), Ethnobotany and Biocultural Diversity in the Balkans. Springer Science + Business Media New York

vegetation will greatly assist land use planning, as it is difficult to plan for the protection of habitat when it has not been spatially defined.

ix.   The project will help meet the international 2020 biodiversity goals and objectives agreed under the CBD. Following the EU policy, Macedonia's target is to halt the loss of biodiversity and degradation of ecosystem services by 2020, and restoring them in so far as feasible, while stepping up the country contribution to averting global biodiversity loss.

x.   At the systems management level, this project would also bring global environmental benefit by setting a scientific baseline (through the inventories and mapping undertaken in a common methodology) that would bring better transparency and data sharing capability to any institution or agency as well as developing indicators that would help analyzing European environmental trends. In fact, the European Environment Agency has already begun requesting national data samples on particulate matter and soil conditions, and the country's capacity to comply with such requests would be greatly facilitated by this project. Also red list index is one of the 26 indicators for biodiversity developed by EEA.

2.3 Threats, root causes and barrier analysis

Main threats

The transformation of Macedonia from a centrally planned economy to a market free based one was a radical change that affected all social and managerial structures in the country and set the stage for rapid economic development. The process of economic transitions was difficult for the regions and relegated issues such as integrated ecosystems management into less important on the scale of national priorities. The inappropriate integration of land, water and biodiversity concerns into development planning has resulted in the emergence of threats to biodiversity loss.

During the PPG consultations, stakeholders agreed on the failure to integrate biodiversity conservation into sustainable development of the country. In addition, during the process of revision of NBSAP (2013-2014), 17 threats of very high priority have been identified based on completed analysis of threats carried out in accordance with the current EU classification (reporting under Article 9 of the Habitats Directive) using 5 different criteria for prioritization. The following threats or sectors have led to decrease of populations in many species, and reduction of coverage of priority habitats:

-    Succession of habitats due to depopulation of rural areas as a result of economic changes on one hand (abandonment of traditional modes of exploitation of meadows and pastures through mowing and grazing), and intensification of agricultural production on the other, threatens many habitats;
-    Forest fires are one of the root causes for modification of habitats – a total of 92223 ha were destroyed by forest fires in the period 2003-2013 (extreme years were 2000 and 2007), particularly thermophilous oak forests and shrublands that are characterized with high diversity and/or presence of species characteristic for Mediterranean coastal forests and maquis biome.
-    Intensified economic growth has often been based on unsustainable use of the natural resources, particularly water and mineral resources (mining and quarries), leading to habitat destruction and alteration. Unsustainable/uncontrolled collection of wild plants and fungi species, as well as unsustainable hunting and fishing practices are also contributing factors for biodiversity decline. Also, it is estimated that up to 300 000 m^3 of wood is logged annually illegally.
-    Continual unplanned urbanization leads to direct uptake of habitats and disturbance of species and habitats on large and significant parts of the country's territory; some of the remaining lowland priority habitats, especially marsh habitats are under threat from urbanization.

- Decline in pray availability - negative trend in large herbivores (red deer, roe deer, chamois) and reduction in livestock lead to decline in the number of predators (especially Balkan lynx) and necrophagous species (vultures and eagles).
- Surface water intake for energy production and irrigation - almost all rivers are under great direct and indirect anthropogenic pressures (e.g. reservoirs that have been built on some rivers). Also pollution of groundwater due to agricultural and forestry activities (wide spread use of chemicals) threatens especially endogenic fauna and aquatic organisms.
- Climate change – total of 18 habitats and 58 vulnerable plant species have been identified as potentially affected by temperature changes and decrease in the volume of precipitation on the basis of conducted modelling of habitats and species, as well as expert estimates in the process of elaboration of the Third National Communication on Climate Change (MEPP 2014).

Land degradation is also identified as a major threat to biodiversity, ecosystem stability, and an array of socio-economic segments. Because of the interconnectivity between ecosystems across scales, land degradation triggers destructive processes that can have cascading effects across the entire biosphere. Loss of biomass through vegetation clearance and increased soil erosion produces greenhouse gases that contribute global warming and climate change. Land degradation and desertification affects biodiversity and global climate change through soil and vegetation losses. Damage to Macedonian soils from modern human activities is increasing and leads to irreversible losses due to soil erosion, soil sealing, loss of soil organic matter and soil contamination. Overexploitation of forests in the central part of Macedonia caused accelerated erosion, loss of soil, loss of water, biodiversity loos, and finally transformation of former forest ecosystems into steppe-desert area. The impacts of land degradation extend far beyond local, national or regional scales. Therefore, investing in sustainable land management is essential for sustaining the multitude of global environmental benefits that humanity obtains from ecosystems.

At large scales, these events and processes may threaten whole vegetation types, remnants or populations of species; at small scales, microhabitats and small populations may be threatened.

Root causes
Stakeholders consulted during the PPG phase identified the following root-causes of biodiversity loss in Macedonia: weak integration of biodiversity concerns into development planning, lack of evidence-based decision making, insufficient harmonization amongst stakeholders, lack of economic instruments, capacities and public awareness. In addition, Macedonia has been in a socio-economic and political transition, coping with high rates of poverty.

1. *Socio-economic challenges,* such as unemployment and poverty, have resulted in focusing of communities on immediate economic priorities rather than environmental issues, including biodiversity. Thus, biodiversity conservation challenges are often not seen as a national priority and receive less attention than the issues of job creation, economic growth and poverty alleviation. Although in a long run, biodiversity used in a sustainable manner can contribute to economic growth and poverty alleviation

2. *Public awareness, information availability and exchange* are also identified as major root causes of biodiversity loss in the country. There is a widespread lack of awareness regarding biodiversity issues among the population in Macedonia. In particular, knowledge and awareness about biodiversity values, protected areas as well as land use planning is rather limited. General opinion that within protected areas any activity is forbidden still exists in some parts of the country as remnant from the previous social regime, thus general resistance towards proclamation of new protected area still exists among local communities. Also, there is an insufficient awareness about the values of protected areas and ecosystem services they provide. Lack of baseline data (or sometimes scattered in different institutions and organizations) on wild species status and trends, vegetation maps, biodiversity rich forests and other important habitats as well as other layers and

databases is evident. Availability of this information/data is necessary for process of mainstreaming of biodiversity in land use planning including awareness raising. Lack of knowledge regarding sustainable use of wild species and lack of data on the species status and population density (to be used for defining quotas for sustainable use of wild species) was identified as one of the gaps for use of wild species in the process of revision of NBSAP.

3. *Lack of capacity and resources,* at central and local level for implementation of biodiversity conservation measures. Threats to biodiversity not only come from biological and physical processes, but also from institutional issues. Nature Protection Department within the MoEPP faces lack of capacity (currently has only 15 employees) and lack of financial resources to implement relevant legislation and other tasks described in the institutional framework chapter, including planning, establishment and supervision of protected areas. Good management practices of protected areas are not well known as only several protected areas (mainly national parks and multipurpose area Jasen) have designated management authorities with management plans developed. Management authorities employ approximately 130 people that show limited capacity for effective management of protected areas. There is also lack of capacity to specify efficient measures for planning of land use and mainstreaming biodiversity into land use planning.

4. *Narrow-focused forest management system* - From an ecosystem management perspective, forest management in Macedonia is lacking in several respects. First, forest management is focused primarily upon producing a good supply of timber and firewood for the country, with habitat values, watershed management values, and biodiversity conservation not being in the primary focus of management objectives. There is an emerging awareness of ecosystem-oriented forest management and the importance of adopting related practices, but there is no institutional capacity to develop and apply ecosystem-oriented forest management. The original natural forest ecosystems in the country consisted of multi-species, multi-age stands, however monoculture afforestation has led to the simplification of forest species composition and age structure, reduced forest ecosystem complexity and degraded forest habitats, and disrupted ecological interactions. This kind of forest management gives no priority to restoring native forest species diversity, to maximizing age structure within the forest, and to improving forest ecosystem health. Allowable harvest levels are determined without regard to maintaining or rehabilitating natural forest species composition and without regard to impacts on other species.

5. *Missing or inadequate conservation measures* – were identified as one of the greatest issues in biodiversity conservation in Macedonia (indicated by the analysis of the implementation of the first Biodiversity Action Plan, but also other strategic documents). Inadequate mainstreaming of constrained available financial resources and human capacity is evident. Foremost amongst this problem is the failure to adequately value biodiversity in decision-making, and this is exacerbated by shortcomings in knowledge of biodiversity and the lack of commitment and capacity to manage ongoing threats.

6. *Insufficient harmonization amongst legislation and strategic documents relating to biodiversity conservation.* As biodiversity conservation is truly a cross cutting issue, one of major obstacles is mainstreaming it into array of economic sectors. In Macedonia biodiversity conservation is insufficiently mainstreamed into national policy documents, some documents are already outdated (for ex. Natural Heritage Study as part of the National Spatial Plan) and biodiversity conservation issues are inadequately incorporated in the forestry policy documents. In regard management of protected areas, insufficient involvements of local communities and relevant stakeholder have

been identified as one of the root causes[20]. There is overlapping of responsibilities/competences concerning use of wild species and issuance of permits collection between different institutions (MEPP, MAFWE, PE "Macedonian Forests" and protected areas).

The barriers - factors that may impede successful development activities are identified as follows:

- *Lack of coordinated/adjusted policy framework* - poor coordination among sectoral strategies, overlapping of existing relevant legislation (nature and forestry), non-precise and overlapping of legislation for use of wild flora, fungi and fauna species,

- *Lack of institutional capacity* – was identified as root cause for inadequate biodiversity conservation but might also be a barrier for implementation of this project (see also the risk analysis in chapter 3.5). Sometimes, implementation of developed policy documents and/or guidelines is delayed due to lack of capacity of relevant institutions for their implementation and enforcement.

2.4 Institutional, sectorial and policy context

2.4.1 Legislation

National resources, flora and fauna are defined as goods of general public and as such enjoy special protection under the Constitution of Macedonia. An impressive amount of national legislation has been developed covering the environmental and forestry issues, particularly within the framework of the accession process to the European Union, where by the Government has transposed most of the EU Acquis[21].

Major pieces of pertinent legislation include:

- **Law on Environment** (2005) as a framework law regulating the protection and improvement of the environment,

- **Law on Nature Protection** (2004) regulating the protection of the nature through protection of biological and landscape diversity and protection of natural heritage within and outside of protected areas,

- **Law on Forests** (2009) that regulates the issues related to planning, management, use, protection of forests and its provisions are applied to all forests and forest land regardless of use and ownership (including forest products) as well as relevant by-laws.

Regarding spatial planning, separate law regulates the conditions, methods and dynamics of implementation of the National Spatial Plan, the rights and responsibilities of entities in the implementation of the Spatial Plan, funding and supervision. The Law on Land/Soil to complement the existing Law on Environment, Law on Water and other relevant laws has not been adopted yet. This law is in its drafting phase, carried out by MEPP. The table below provides an overview of legislation relevant for nature protection and land use planning in Macedonia. This legislation lays the foundation for policy-driven interventions envisaged in this project to occur.

Table 2. Existing legal framework for biodiversity protection and land use planning

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[20] Action Plan for the Implementation of the Programme of Work of the Protected Areas of the Convention on Biological Diversity in Macedonia, MEPP, June 2012

[21] The EU acquis is the accumulated legislation, legal acts, and court decisions which constitute the body of European Union law. Environment is one of the 31 chapters of the acquis for the purpose of negotiation between the EU and the candidate member states.

Legislation	Official Gazette of RM no.
Law on Nature Protection	67/04, 14/06, 84/07, 35/10, 47/11, 148/11, 59/12, 13/2013, 163/13, 41/14
Rulebook on the content of the Valorization Study, Official Gazette of the FYR of Macedonia	26/2012
Rulebook of the content of the management plan, Official Gazette of the FYR of Macedonia	26/2012
Lists of threatened and protected wild species of plants, fungi and animals and their parts	15/2012
Lists of determining the strictly protected and protected wild species	139/2011
Law on Environment	53/05, 81/05, 24/07, 159/08, 83/09, 48/10, 124/10, 51/11, 123/12, 13/13, 163/13, 41/14
Law on Forests	64/09, 24/11, 53/11, 25/13, 79/13, 147/13 and 43/13
Rulebook on non-timber forest products species and the manner of use and collection	155/2011
Rulebook for the content of special plans for management of forests with economic purpose and forests with protective purpose and their preparation, adoption and approval	Draft Rulebook is already prepared and currently under review
Law on implementation of the Spatial Plan of the FYR of Macedonia	39/04
Law on spatial and urban planning	51/05, 137/07, 91/09, 124/10, 18/11, 53/11 and 144/12

2.4.2 Strategies and Plans

Macedonia has developed a number of strategic documents relevant to biodiversity and nature conservation and land use planning including:

o The *Spatial Plan of the FYR of Macedonia* (2002-2020) is an integral strategic development document defining the spatial organization of the State and the goals and concepts of the spatial development of certain areas, as well as the conditions for the implementation thereof. Some of the main goals are: to acquire rational usage, organization and spatial management in accordance to the needs rational relocation of production, achieve more stable regional development and enhancement of material, cultural, sociological and other living and working conditions of the citizens, etc. The National Spatial Plan (NSP) is elaborated through spatial plans of the planning regions and spatial plans for areas of special interest of the country. Furthermore, spatial plans have been elaborated through urban plans. The Spatial Plan has been drawn up by the Public Enterprise for Spatial and Urban Planning (now Agency for Spatial Planning) in coordination with the Ministry of Environment and Physical Planning, based on 12 expert studies as a professional and scientific basis.

The 'Natural heritage' chapter of the Spatial Plan deals only with the network of national protected areas and the areas planned for protection (total of 265 areas processed according to the former categorization of PAs) with the aim to protect all areas of exquisite natural values and preserve important flora and fauna by protecting larger spatial entities. One of the goals is establishment of eco network of protected objects and green corridors. Projection of increasing the territory under protected areas to almost 12% by 2020 is foreseen.

The National Spatial Plan also contains projection for the development of forestry until year 2020. The goals under 'Forestry and forest land' part are mainly concentrated to enlargement of forest land, restoration of degraded forests and shrubs and their transformation into more productive forests, taking cultivation measures in all development phases of forests and afforestation of different areas with projection of 79220 ha to be afforested by 2020. The main objectives were geared towards increasing forest area according to global regionalization and categorization of space, improving the quality of forests by improving the species composition, converting coppice into high forests, reconstruction of degraded forests and shrubs, taking silvicultural measures in all stages of forest development, introduction of modern equipment and technology in the utilization of forest products, increased openness of forests, and taking timely precautions in protection of forests. In terms of forest management, the wider concept of forest contributing sustainable development is envisaged as a way of promoting the forests and enhancement of the forest fund.

o The *Second National Environmental Action Plan (NEAP 2)* (2006–2011) is a strategic document providing general instructions and directions for the Country in the field of the environment. It defines the problems of the environment, establishes priorities and goals for different media and sectors that affect the environment, and provides special measures and actions for overcoming the problems. The obligation for preparation of this document arises from the Law on Environment.

The 'Nature and Biodiversity' section aims at the achievement of the main goal of establishing an integral system for nature protection and biodiversity preservation according to EU standards and international agreements. The measure 'Implementation of effective mechanisms for further implementation of the National Biodiversity Strategy and National Capacity Self-Assessment, the Law on Nature Protection and providing adequate conditions for the establishment of the Natura 2000 network' is foreseen with several actions.
The 'Land and landscape use' chapter identifies the increasing pressure for development which inevitably leads to changes in land use patterns, as well as land degradation. Thus, several measures and specific action are planned to achieve the objective of 'sustainable spatial planning and land management development'.
Objective 'implementation of integrated forestry policy based on sustainable development principles' is established in the Forestry chapter with several measures for introduction of good practices and procedures for sustainable forest management, control over the erosion processes, forest fire protection and strengthening legal and institutional management capacities.

o The *First National Biodiversity Strategy and Action Plan* (NBSAP) (adopted in 2004) is a fundamental strategic document with the overall aim of conservation of biological diversity and ensuring its sustainable use for the welfare of the people, taking into consideration Macedonia's unique natural values and rich tradition. Revised NBSAP (prepared during 2013-2014, in a process of adoption) set new national biodiversity targets that are to a high extent harmonized with Aichi Targets and one of the main principle of the Strategy is mainstreaming biodiversity into relevant sectors.

o The overall goal of the *Strategy for Sustainable Development of Forestry* in Macedonia (adopted in 2006 for the 20 years period) is to increase the contribution of the forestry sector to the national economy and rural development through sustainable forest management, ensuring renewable resources and protection of local and global environment, and providing products and services for improving the quality of life of all citizens. The Strategy is mainly focused on the economic aspects of forests: increasing forest area, improving the composition and quality of forests, protection of forests against fires and diseases, forest management measures, promoting the use of timber and wood products from sustainably managed forests, etc. One of the goals defined in the

strategic goal 'forestry and environment' refers to the conservation and revitalization of the components of biological and landscape diversity of forests in Macedonia through the integration of conservation objectives into forestry practices.

o The *National Strategy for Sustainable Development* was adopted in 2010 for the period 2009 – 2030. The National Strategy for Sustainable Development (NSSD) of the Republic of Macedonia sets a vision, mission and objectives for economically, socially and environmentally balanced development. It provides an effective framework for sustainable development that serves to encourage investments and to offer effective guidelines for planning and delivery of public and commercial services within commonly accepted economic, social and environmental parameters. The Strategy provides an integral approach of planning, which offers the overall umbrella for all other policies and strategies in various fields. The NSSD respects already set strategic directions in different sectors, but also provides strong cross cutting links essential for sustainable development.

o Newly adopted *National Strategy for Agriculture and Rural Development* (NSARD) for the period 2014 – 2020 has one of the main objectives to create preconditions for better use of agricultural potential of the country through better land management and institutional capacity building, strengthened rural development, and establishing conditions for safe food production and trade.

o *National Strategy for Waters* (for the period 2012-2042) and *Macedonian water strategy action plan (2011-2014)*. Water strategy summaries facts from the field of water legal and institutional framework and comprehends conclusions on state of water with separately investigated general river basin characteristics, state of water use, state of river training and protection against harmful effects of water and state of water protection. Based on the state of waters, action plan is developed.

o *National capacity self-assessment* for Macedonia was prepared in 2005. Assessment of the capacities of the country to meet the obligations under the global environmental conventions pertaining to biodiversity (UNCBD), climate change (UNFCCC) and land degradation and desertification (UNCCD).

o Several other strategies are of importance for biodiversity conservation and land use planning in Macedonia – *National Environmental Investment Strategy* (2009-2013), *Strategy for Energy Development* in Macedonia to 2030, *Strategy for Regional Development of Macedonia* (2009-2019), *National Transport Strategy* (2007-2017), *Tourism Development Strategy* (2009-2013), *National Rural Tourism Strategy* (2012-2017), *Poverty Eradication and Social Exclusion Strategy* of Macedonia (2010-2020), etc.

Above presented policy documents give a solid policy base for biodiversity conservation and land use planning. While useful as informative tools they have not resulted in the scale of implementation necessary to ensure sustainable use of biodiversity or sustainable forest and land management. There are many overlaps or fragmentation of efforts by different institutions with regards to their policies, programs and operations when dealing with biodiversity issues and land use planning. The major gap has been the lack of national-level inventories and comprehensive data that would give the basis for evidence-based decision making and implementation of policies, strategies and action plans. Also some of them are outdated and in need of revision (for ex. Natural heritage study of the National Spatial Plan).

o Macedonia has ratified many **multilateral environmental agreements** such as CBD, Ramsar Convention, Bonn Convention, Bern Convention, CITES, UNESCO, UNCCD, UNFCCC etc. (Table 2). Obligations from these agreements have been taken into consideration nationally in

terms of transposing into national legislation and achieving conservation and sustainable use of biodiversity, forest and land management. The status of implementation of these agreements is different, however some of them need more efforts for implementation of certain measures on the ground.

Table 3. Ratified multilateral agreements of relevance for biological diversity in Macedonia

Multilateral agreements	Ratification and Implementation
Convention on Biological Diversity (CBD)	• Ratified with the Law on Ratification (Official Gazette of Macedonia no. 54/97); entered into force in 1998 • First NBSAP adopted in 2004 • Five national reports and several thematic reports prepared and submitted to the CBD Secretariat • Revised NBSAP prepared
Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention)	• Ratified with Decree on ratification (Official Gazette of SFRJ no. 9/77); Macedonia became Party to the Convention with nomination of Lake Prespa on World Ramsar List in 1995 • National Report on the Implementation of the Ramsar Convention for the period 2009-2011 was submitted in June 2012 (the 11th Conference of Parties • Two areas from Macedonia (Prespa and Dojran Lakes) are included on the Ramsar list, both protected at national level, whereas, in the past few years, a number of activities were implemented for protection the Lake Prespa
Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention)	• Ratified with the Law on Ratification (Official Gazette of the Macedonia no. 38/99); entered into force in 1999 • National Report for implementation of the Convention for the period 2009-2011 was submitted in 2011
Agreement on the Conservation of Bats in Europe (EUROBATS)	• Ratified with the Law on Ratification (Official Gazette of the Macedonia no. 38/99); entered into force on 10.09.1999 • National Report for implementation of the Agreement for the period 2007-2010 was submitted in 2010
Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA)	• Ratified with the Law on Ratification (Official Gazette of the Macedonia no. 32/99); entered into force on 01.11.1999 • National Report for implementation of the Agreement for the period 2009-2012 was submitted in 2012
Convention for the Protection of the World Cultural and Natural Heritage (UNESCO)	• Ratified with act on succession from SFRJ in 1977 (Official Gazette of SFRJ no. 56/74); Macedonia became Party to the Convention on 08.09.1991 • Ohrid region is included on the UNESCO list of world natural and cultural heritage • Two areas (Markovi Kuli and Slatinski Izvor) are included on the tentative list • The transboundary biosphere reserve Ohrid-Prespa was declared in 2014
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	• Ratified with the Law on Ratification (Official Gazette of the Macedonia no. 82/99); Macedonia became Party to the Convention on 02.10.2000 • Annual reports are regularly submitted to the Secretariat of the Convention with detailed data on issued CITES certificates for import, export and re-export of species included in Appendices of the Convention
Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)	• Ratified with the Law on Ratification (Official Gazette of the Macedonia no. 49/97); entered into force in 1999 • National Emerald network including 35 areas have been developed in the period 2002-2008) • Report on implementation of the Convention for the period 2009-2012 was submitted in 2013

United Nations Framework Convention on Climate Change (UNFCCC)	• Ratified with the Law on Ratification (Official Gazette of the Macedonia no. 6/97); entered into force 28.04.1998 • Third National Communication on climate change was adopted in 2014
Convention on Access to Information, Public Participation in Decision-making and Access to Justice on Issues related to Environment	• Ratified with the Law on Ratification (Official Gazette of the Macedonia no. 40/99) • Strategy for implementation of the Aarhus Convention in Macedonia was adopted in 2005 • National reports on implementation of the Convention were submitted in 2005 and 2008
United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought or Desertification, particularly in Africa (UNCCD)	• Ratified with the Law on ratification (Official Gazette of the Macedonia no. 13/2002); entered into force on 06.06.2002 • Biennial national reports on implementation of the Convention are submitted on a regular basis • Activities for the preparation of a National Action Plan for implementation of the Convention are on-going

o **EU Accession process**

After signing the Agreement for Stability and Association with European Community and its member states in 2001 and submission of the membership application, Macedonia became a Candidate country in March 2004 and EU integration is one of its key political priorities. In that direction, several strategic documents and plans have been developed aiming to meet the EU requirements in the process integration (refer to table below). In fact, environmental sector is one of the main pillars in the process of fulfillment of the requirements and achievement of the EU standards.

Table 4. Strategic documents in the EU accession process

Document	
National Strategy for European integration	• adopted in September 2004 • one of the main targets identified in the area of environmental protection is the protection of biodiversity • integration of environmental protection into other sectoral policies leads to a more sustainable development of different sectors in an efficient and rational manner.
National Programme for approximation of the EU Acquis (NPAA)	• first adopted in 2006 • comprehensive document that defines the dynamics of the adoption of EU legislation, strategic directions, policies, reforms, structures, resources and deadlines that have in order to meet conditions for EU membership • revised and updated annually with activities arising from regular Progress reports of the European Commission; process is coordinated by the Secretariat for European Affairs of the Macedonian Government • MoEPP is responsible for updating the information regarding environmental issues including nature protection. Several activities for preparation and adoption of bylaws related to protection of habitats and ecological network, development of strategic documents (ex. NBSAP) as well as proclamation of protected areas and preparation of management plans are included in the NPAA table • This matrix will be used in formulating the negotiating positions of the Macedonia after opening the negotiations for EU membership
Sectoral approximation strategy of nature and forestry sector	• developed in 2006-2007 as part of the CARDS 2006 project "Strengthening of environmental management in Macedonia" • aim is to recommend the most appropriate and most suitable approach for the Government related to issues concerning the nature and forestry towards the of EU integration process

	- In addition to the Habitats Directive (92/43/EEC) and the Birds Directive (147/2009/EC ex. 79/409/EEC), the following EU legislation were analyzed: Endangered Species Regulation (EC/338/97), Zoos Directive (1999/22/EC), Leghold Trap Regulation (EEC/3254/91) and Monitoring of Forests Regulation (EC/2152/2003) as well as several relevant international agreements. - Based on the detailed legal and implementation gap analyses of the selected directives, the actions needed for full legal transposition and practical implementation of the EU requirements were defined - Actions required for implementation of Bird and Habitat Directives include biodiversity data collection, establishment of protected areas and biodiversity database, analyses and development of PAs network and management planning of possible N2000 sites

Harmonization of national legislation with provisions of the main EU nature directives (Bird and Habitat directives) started about 10 years ago. Monitoring of the progress in the transposition and implementation of EU environmental legislation started in 2006, including several legal acts in the field of nature protection. It is done on an annual basis based on the analysis of the responses to be entered in the table of concordance and implementation questionnaire prepared by the European Commission.
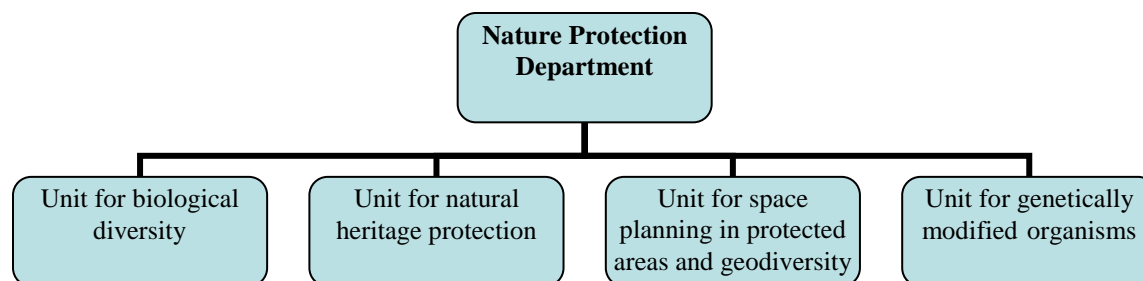
According to the last progress monitoring undertaken during 2014[22], transposition of the Bird and Habitat Directives is 84% and 55% respectively, however the progress in implementation of Birds Directive and implementation of the Habitats Directive remains at an early stage. Implementation of the CITES Regulation (EC/338/97) is also assessed as an early stage. Implementation of the Timber Regulation (EU/995/2010) has not started yet due to unresolved competency issues. MAFWE departments - Forestry and Hunting Department and Department for Forest Police along with the State Inspectorate for Forestry and Hunting (body within MAFWE) are responsible institutions for implementation of this Regulation. However, additional analysis is required for determining if other institutions such as MoEPP, Ministry of Economy, State Market Inspectorate and Customs Administration should be vested with responsibilities. Council Regulation (EC/2173/2005) on the establishment of a Forest Law Enforcement, Governance and Trade (FLEGT) licensing scheme for imports of timber into the European Community (aiming to reduce the consumption of illegally harvested timber and support sustainable forest management) was monitored for the first time in 2014 and is currently nonfunctional.

2.4.3 Institutional framework

There are 2 levels of government in Macedonia – national and local level. Institutional framework in the field of environment (including nature protection) and land use planning include competent ministries, agencies, institutions and local governments. Even though decentralization process started in 2005 very few obligations related to nature conservation and sustainable use of natural resources are transferred to municipal level.

Responsible authority for execution of the works related to nature protection and spatial planning is the **Ministry of Environment and Physical Planning** with approximately 250 staff employed.

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[22] Human Dynamics Consortium (2014). Monitoring transposition and implementation of the EU Environmental Acquis, Progress report 9 f the FYR of Macedonia

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                    │  Nature Protection  │
                    │     Department      │
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│ diversity     │ │ heritage      │ │ planning in   │ │ modified      │
│               │ │ protection    │ │ protected     │ │ organisms     │
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Nature Protection Department, within the MoEPP performs tasks relating to policy making (strategies, programmes, action plans and measures for nature protection), responsible for the enforcement of the national legislation (Law on Nature Protection) and multilateral agreements in the area of nature protection; takes part in the approximation of the national legislation with the EU Acquis; accomplishes inter-institutional cooperation in the process of preparation and adoption of other laws and strategic documents related to nature protection; undertakes procedures for proclamation of protected areas and protection of natural heritage, including threatened species; supervision over the work of management authorities of protected areas and implementation of management plans; accomplishes inter-sectoral cooperation in order to ensure sustainable use of natural resources, space planning and development within protected areas; cooperates with international organizations in relation to nature protection and implementation of multilateral agreements on nature protection; prepares/updates register of natural heritage and cadaster of protected areas; performs monitoring of the status of biological diversity and geo-heritage and takes measures for protection and conservation and encourages scientific and research work. Nature Department also conducts administrative procedure for issuance of different permits, licenses, CITES certificate regulating international trade in endangered wild species of plants, fungi, animals and derivatives thereof; consent on management plan for protected area; consent on annual programmes for nature protection in PA; consent on urban planning documentation; expert opinions for the issuance of permits for collection of threatened and protected wild species of plants, fungi and animals; expert opinions for the issuance of permits D4 for export or import of wild species of plants, fungi, animals and derivatives thereof; expert opinions determining the legal status of illegally built structures, etc.

The **National Committee for Biological Diversity** was established in 1999 with the aim to coordinate implementation of the Convention on Biological Diversity on a national level. It is composed of approximately twenty scientists and experts and was especially active during the elaboration of the Country Study on Biological Diversity (first national report, 2003) and the first NBSAP (2004), however, presently it is almost inactive. Proposal for revision of this Committee was prepared in the process of revision of NBSAP in 2014, and therefore should be re-established by Macedonian Government and actively involved in implementation of requirements according to the UNCBD.

National Council for Nature Protection as an advisory body to the Minister of Environment regarding the nature conservation issues (according to article 145, Law on Nature Protection). The Council was re-established by the Macedonian Government in 2009, but is currently not active.

Through the **Department of Spatial Planning** MoEPP implements policy and monitors the process of use/design of space in the country. It comprises of 3 units: for spatial plan and policy, implementation of spatial plans and unit for strategic environmental impact assessment (SEA). Their main tasks are to coordinate the process of preparation of spatial plans, conduct their adoption procedure, monitor implementation of the spatial plans, give expert opinions for compliance of lower level plans with the National Spatial Plan, prepare decisions for conditions for planning of space, assess implementation of NSP and prepare biennial implementation program, coordinate and implement SEA policy, prepare opinions/decisions for developed SEA reports and other relevant tasks.

Ministry of Agriculture, Forestry and Water Economy has an important role in the conservation and sustainable use of biological diversity, as they are responsible for protection and sustainable use of forests

and other forest products, regulation of hunting and fishing (Department of Forestry and Hunting, State Inspectorate of Forestry and Hunting), protection of agro-biological diversity (Department of Livestock Breeding, Administration of Seeds and Seeding Material), development of organic agricultural production (Department of Agriculture, Division for Organic Production, State Inspectorate of Agriculture), rural development (Department of Rural Development), agricultural land consolidation and management (Department of Agricultural Land Registration and Management, Department of Agricultural Land Consolidation, Land Parcel Identification System) and other tasks.

Management authorities of protected areas are responsible for biodiversity management of individual protected areas. Depending on the category of protection, different bodies have been designated as management authorities. Public institutions established for management of national parks (Mavrovo, Galicica and Pelister) are the most important. Public enterprise was established for management and protection of 'Jasen' Multipurpose Area. Other institutions could be designated as responsible bodies for management of protected areas – in most cases these are local self-government units, or, in other cases, civil society organizations appointed as management bodies (NGO Izvor – Kratovo, NGO Ursus Speleos, etc).

At the local level authorities are responsible for setting up local policies, regulations on the protection of natural resources, developing local action plans, keeping the record in the area of monitoring of environmental media, informing the public on the state of environment, implementing parts of the EIA process, etc. Other local units of the above mentioned ministries have also an important role. Public enterprises for water management and public enterprises for communal affairs are the most important players on local level. Some municipalities are designated as management authorities of protected areas (ex. Resen, Vevchani, Novo Selo, etc.)

Nature protection is multi-sectoral issue that requires high coordination and collaboration between responsible ministry for environmental affairs and many different sectors such as forestry, agriculture, transport, energy, tourism etc. Insufficient inter sectoral coordination and cooperation among sectors, as well as overlapping responsibilities, weak communication, lack of capacities at national and local level, lack of financial resources etc. have been identified as main obstacles for implementation of CBD at national level[23]. Usually the benefits acquired from biodiversity and ecosystem services are overlooked and undervalued by decision makers (MoEPP that has no strong position in the Government, MAFWE, Ministry of Economy, Ministry of transport and Communications, etc.) that lead not only to loss of biological diversity loss, but have affected adversely environmental human health.

2.5 Stakeholder mapping and analysis

Macedonia is a landlocked nation with a population of just over 2 million persons. The advantage of its relatively small size is that the key stakeholders and relevant organizations are well known.

National governmental institutions - provide political and institutional supervision. Its main responsibilities include:

- Coordinate project activities at national and local levels;
- Provide technical expertise through its personnel and networks;
- Provide guidance and coordination to other Macedonian stakeholders;
- Facilitate access to sites and locations;
- Engage in and support soil sampling and analysis;
- Address logistical issues, e.g. through organization of meetings and provision of relevant facilities;

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[23] Fifth National Report to CBD, MEPP 2014

- Support project management and regular project reporting;
- Co-chair the project Steering Committee.

- The **Ministry of Environment and Physical Planning** is foreseen to provide political and institutional supervision, particularly as it houses the National Focal Point persons for the CBD, the UNCCD and the UNFCCC. Hence, it is the center of policy making for implementation of multilateral environmental agreements as well as environmental legislation in general. The Ministry would also co-chair the Project Steering Committee.

- The **Ministry of Agriculture, Forestry and Water Economy** is also an important stakeholder for implementation since many of the planned interventions focus upon consolidation of productive lands, and improved management of biodiversity rich forests. MAFWE would be assisting at implementation of components that are concerning mainstreaming biodiversity into land use policies, documents and strategies, as well as a data source for many other outputs.

State agencies, institutions and enterprises

- **Agency for Spatial Planning** is responsible for preparation of spatial plans in the country (NSP, regional spatial plans, spatial plans for national parks, etc.)

- **The Public Enterprise (PE) 'Macedonian Forests'** is responsible for both management and harvesting of more than 80% of the national forests, including all forest outside of protected areas. As such, PE Macedonian Forests plays in integral role in raising the awareness of the public regarding the role of sustainable forestry in conservation of biodiversity. The Enterprise will be especially important in the process of identifying HNV forests and their management, development of supporting documents and maps needed for revision of forest management plans that include biodiversity and sustainable use of NTFP.

- **National hydro-meteorological service** is a public service that provides meteorological, climatological, agro-meteorological, hydrological information data and is responsible for monitoring of air, water and soil quality.

- **Management authorities of protected areas** (of which the most experienced are public institutions national parks and public enterprise for management of Jasen) are still lacking capacities and is important to be involved in the training activities of the second component (output 2.1.3), on the other hand their experience in the process of development of management plans can be used.

Scientific, educational and academic institutions

The scientific and academic communities play a critical role (along with MEPP, MAFWE, and the PE 'Macedonian Forests') in the design and implementation of all three components of the project in particular:

- **Macedonian Academy of Sciences and Arts** (MASA) was established in 1967 by Macedonian Assembly as the highest scientific, scholarly and artistic institution in the country with the aim to monitor and stimulate the science and arts. In the organizational structure of the Academy there are 6 departments one of which is Department for Natural, Mathematical and Biotechnological Sciences that would have its role in collection of data necessary in different components of this project. In 2014, Research Centre for Environment and Materials was established that implement project activities of the MASA members and collaborators from other scientific institutions. MASA has extensive experience in realization of scientific research projects in the field of biodiversity in particular, publishing monographs of flora and vegetation in Macedonia, monographs on Macedonian soil, special editions dedicated to different groups of organisms (eg. Fungi, algae etc.) as well as experience in organizing symposia and thematic workshops at the

national level and in cooperation with other academies. Its involvement in development of red list index and red data book as well as preparation of vegetation map would be of crucial importance.

- **Ss. Cyril and Methodius University** is the oldest and largest university in the country. Several faculties such as Faculty of Natural Sciences, Faculty of Forestry, Faculty of Agricultural Sciences and Food, and Institute of Agriculture are of crucial importance and will have significant roles in the design and implementation of several project components such as creation of new protected areas, development of Red list index, management plans for PAs, identification of HNV forests, preparation of forest vegetation maps, identification of quotas for sustainable use of NTFP, delineation of drought risk areas and regions vulnerable to desertification, map of soil erosion risk, soil sealing rate and loss of organic matter data and analysis in Macedonia.

- **Other universities** that recently established programmes in ecology might take part in contribution to several project components, such as: Tetovo University and University 'Goce Delchev' – Shtip

- **National Institution Macedonian Museum of Natural History** was founded in October 1926. The Museum collects (more than 270,000 specimens of rocks, minerals, fossils, plants, fungi and animals from Macedonia), studies and displays (about 4000 original exhibits) the natural heritage of Macedonia. Its involvement in the red listing process would be of great importance.

- **Hydro biological Institute – Ohrid** is a public scientific institution established with a main focus on limnology studies of 3 natural lakes (Ohrid, Prespa and Doyran lakes) but also artificial lakes and rivers as well as reproduction and regular stocking of the endemic Ohrid trout. It could contribute to development of red list index of fish species.

Multilateral and bilateral donors and international organizations

The bilateral development organizations which are present and relevant to this GEF proposal include Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the Japan International Cooperation Agency (JICA), Swiss Development Cooperation (SDC) and the United States Agency for International Development (USAID). They are dedicated and involved in long-term sustainable development of the Macedonian socio-economic and environmental sectors, and currently have significant programmes which could contribute to this GEF FSP via co-financing (both cash and in-kind) as well as project continuity via regional and transboundary mechanisms. These institutions have expressed support to this project during the scoping mission organized by UNEP in the context of the preparation of this project.

The GEF Small Grants Programme (SGP) has an office in Skopje and has implemented numerous community-level interventions in the area of livestock, alternative livelihoods and afforestation in drought-stricken communities. It is foreseen that GEF SGP can add value in pilot projects that are strategically designed as interventions following the results of the nationwide inventory and mapping analysis with this GEF project.

Civil society organizations

National civil society organizations are very important in communicating the project to local communities and public awareness raising that is crucial for success of this project. Few international environmental nonprofit foundations operate within the country, but local organizations such as the Macedonian Ecological Society (MES) has extensive local networks and significant experience in project implementation in the area of biodiversity conservation. MES has done extensive work on identification of Important Plant Areas, Important Bird Areas, Key Biodiversity Areas, representative sites for protection and preparation of ecological network, development of proposals for new protected areas, population studies on priority species and their conservation GIS analysis and database, stakeholder involvement in the mentioned processes, conservation of priority groups (birds, large mammals, etc.), research on virgin forests and high nature value forests, education and promotion activities.

Several CSOs have experience in development of valorization studies and management plans for protected areas such as MES, BIOECO, Ursus speleos, etc.

CNVP - Connecting Natural Values and People Foundation is working in the field of forestry with an aim to contribute to improvement of poor governance in forestry sector, decrease of illegal logging, capacity building, proper legal tenure and environmental benefit to people who depend on forests and natural resources in rural areas. Currently they are working on creation of standards for sustainable forest management according to PEFC criteria.

Balkan Foundation for Sustainable Development is currently finalizing the National Action Programme aligned to the UNCCD 10 Year Strategy and Reporting Process under UNCCD, and have an array of experience in delivering different outputs in the area of sustainable development in Macedonia.

Some CSOs also provide basis for scientific research and modeling of their priority target species or habitats, including GIS and databases, and are therefore important sources of knowledge about biodiversity in the country. CSOs will be involved in all three components of the project, either through scientific work, public hearings, stakeholders' workshops, trainings or through implementation of pilot projects.

Public and private companies

Other stakeholders include public and private companies. Private company 'Farmahem' for environmental consultancy is responsible for coordination of the Swiss Nature programme in Macedonia provides the opportunity for scaling up project outcomes through ongoing environmental project collaboration and co-financing.

Small and medium buyout enterprises of non-timber forest products as well as processing and trade companies are important to be involved in the third component for establishing system of use of NTFP and pilot testing of identified quotas for sustainable use of NTFP.

Local government

Local and municipal governments and communities will be involved in the implementation of several project components. Local self-governing units (LSGUs) typically have strong community support and can be demonstrative in proving outcomes which have potential for scaling up to the national level.

In conclusion, public awareness of conservation issues, especially for biodiversity and protected areas, is relatively low among general population and land users. There is a lack of awareness on the tools for conservation measures and opportunities arising from implementing such approaches. Consequently, biodiversity conservation is, so far, relatively low on the policy agenda in Macedonia. At the same time, the classical sectors that directly impact biodiversity conservation such as agriculture, forestry and construction a very significant percentage of Macedonian population work forces. This highlights the need to include gender sensitive assessments to biodiversity conservation measures and related socio-economic studies (reflected by the activities of this project, please see output 2.1.1, 2.1.3 and 3.2.1 of Annex A – Project logical framework)

Table 5: Identified main stakeholders for biodiversity and land use planning in Macedonia

Main stakeholders	Scope of Work on biodiversity and Land Use Planning Issues
Governmental institutions/ agencies	
MoEPP	Responsible for overall environmental management in the country
	Acts as a focal point for various multilateral environmental agreements (e.g. CBD, UNCCD, etc.)

	Spatial planning department
Agency for Spatial Planning	Responsible for preparation of different spatial plans
MoAFWE	Development of forest policy, forests protection and management plans is one of the responsibilities of the Forestry department within the Ministry
Management authorities of protected areas	Responsible for management of different categories of PAs (national parks, monuments of nature, multipurpose area, etc.)
Research institutes/universities	
Macedonian Academy of Sciences and Arts	Implements scientific research projects in the field of biodiversity and in particular flora and vegetation in Macedonia, Macedonian soils, etc.
Faculty of Natural Sciences	Research of the status, trends and threats to biodiversity and contribution to its protection and management
Faculty of Forestry	Research of forest ecosystems, erosion process, management planning of forests, etc
Faculty of Agriculture (Pedology Department) and Agricultural Institute	Investigation of soil properties, national classification, mapping, analysis of the mineral content in different systematic soil categories, developing soil database, etc.
Natural History Museum of Macedonia	Responsible for studying, collecting, keeping and displaying of natural heritage
Hydro biological Institute	Main tasks limnology study of the 3 natural lakes
Public and private companies, CSOs	
PE 'Macedonian Forests'	Responsible for management of state owned forests as well as NTFP through its 30 local branches
Farmahem	Responsible for coordination of the Swiss nature conservation programme in FYR of Macedonia
Small and medium buyout companies	Establishing system of use of NTFP and pilot testing of identified quotas for sustainable use of NTFP
CSOs	Outreach to wider public, public awareness raising, campaigns etc.,

Above-mentioned project stakeholders were already appropriately involved in the project through out the PPG of this project through different meetings and consultations. For most of the identified stakeholders there is one or two representatives or "focal" points that will be involved throughout project implementation. The most effective and important coordination of stakeholders and information will be through continuous national or local stakeholder meetings that will take place throughout implementation of all three components of the project and will involve all identified stakeholders. Project Management and Implementation Unit and the Project Steering Committee will act as major stakeholder coordinators of the project and will coordinate all necessary information, meetings and make sure that each stakeholder has a definite role in the project. In addition to this, there will be Scientific Advisory Board formed for this project that will consist of all stakeholders that will provide expertise and technical advice during project implementation.

A Communication Strategy will be developed at the inception phase of the project, that will detail coordination mechanism for stakeholders information management or each component of the project.

Baseline analysis and gaps

Great species and ecosystem diversity in Macedonia, main threats and sectors that affect biodiversity in the country and might cause biodiversity loss as well as policy and institutional framework were already described in the previous chapters. Projects and programmes that contribute to biodiversity conservation are described in the chapter 2.7 below. The current situation regarding the biodiversity conservation in the country can be summarized as follows:

- An assumption regarding threatened species in the country is based on the international IUCN red lists and presence of species that are listed on the annexes of different multilateral agreements (Bonn Convention, Bern convention, etc.) that are of European or global conservation concern. Accurate picture of the threatened species does not exist even though several red lists of fungi, daily butterflies and orthopterans were proposed by scientific community (see chapter 2.1).

- In 2011, the lists of strictly protected wild species (including total of 194 species of which 9 fungi, 51 flora and 134 fauna species) and protected wild species (total of 820 species of which 75 species of fungi, 151 flora and 594 fauna species) were adopted according to the Article 35 of the Law on Nature protection (species that are categorized as critically endangered, endangered or vulnerable may be proclaimed as strictly protected or protected wild species and thus acquiring the status of natural heritage) based on the outcomes of the UNDP/GEF/MoEPP project on protected areas (see chapter 2.7).

- Protecting certain areas enables protection of threatened species and habitats and conservation of valuable biodiversity only if the network is properly designed and PAs effectively managed. As described in chapter 2.1., currently the national PAs network comprises 86 protected areas and is in transitional phase. Legal basis for establishment of protected areas network is well developed in the Law on Nature Protection including categorization of PAs (in accordance with the IUCN categorization), proclamation procedure following the assessment of the status of natural values/biological diversity in protected/proposed areas and development of studies for (re)valorization (in accordance to the *Rulebook on the content of the Valorization Study, Official Gazette of Macedonia no.26/2012*) as well as provisions for management and financing of PAs. Certain support for institutional and legal framework development of PAs network was provided through GEF/UNDP/MoEPP project on protected areas (see chapter 2.7)

- There is a long-year experience with establishment of management bodies for the 3 national parks and several other protected areas (ex. 'Ezerani' Nature Park, 'Prespa Lake' Monument of Nature, 'Jasen' Multipurpose area, etc.). Good management plans with concrete measures for protection of threatened and important species and habitats, as an important prerequisite for effective management of protected areas, were adopted for 3 PAs and drafted for several other PAs in accordance with the *Rulebook of the content of the management plan, Official Gazette of the FYR of Macedonia, no. 26/2012* (developed as part of GEF/UNDP/MoEPP project on protected areas, KfW project for support of NP Galicica, UCODEP/MoEPP project etc described in chapter 2.7). Means of financing of National Parks and other PAs is prescribed by the Law on Nature Protection (more details are given in chapter 2.1), also payment for ecosystem services was introduced in 2010 (GEF/UNDP/MoEPP project on protected areas).

- Expansion of protected areas network is envisaged in the National Spatial Plan (to about 12 % of the country territory), the first NBSAP (2004) as well as in the draft NBSAP (2015). Identifying the need for updating the information regarding protected and proposed areas from protection included in the Natural Heritage study (as part of the National Spatial Plan) and taking in account

other relevant strategic documents, existing initiatives and in accordance with the CBD goals, representative network of protected areas was developed during 2010-2011 (as part of the GEF/UNDP/MoEPP project on protected areas) comprising of 99 areas in total covering about 20% of the country territory. Representative network includes areas of different natural values (marshes, mountain areas, alpine, forest areas, lowland and even semi-natural ecosystems) compared to the existing protected areas which are oriented more to forest, alpine and lake ecosystems.

- In order to ensure connectivity of ecological areas a National ecological network (MAK-NEN) was developed in 2011 (see chapter 2.7), where large carnivores in particularly the brown bear was taken as a model species. MAK-NEN map is characterized by specific spatial architecture and supported with Bear Corridor Management Plan, providing general recommendations for management of the three different types of corridors identified. Its establishment is prescribed by the Law on Nature Protection.

- Forests are one of the most important ecosystems in the country and their protection and sustainable management are of vast importance for biodiversity conservation. Preliminary identification of areas as near-virgin forests was done during 2011 (GEF/UNDP/MoEPP project on protected areas), some steps for identification of HNV forests in a transboundary pilot area Osogovo Mt. have been initiated (Osogovo project) as well as creation of sustainable forest management standards according to PEFC criteria (see chapter 2.7).

- Vegetation maps in the country were developed during 80's using only field samples and information relating to the biogeography without application of modern technologies, such as GIS and satellite remote sensing data. These maps are not accurate and have not depicted land cover and land use in conjunction with forest vegetation types. So, the potential use of these vegetation maps is rather limited for ecological, climatic and conservation applications within global, national and local perspectives.

- Land degradation is considered to be a significant threat to the biodiversity globally, and that fact does not surpass Macedonia. Integration of biodiversity conservation into land management and land use planning has been a long standing issue in Macedonia i.e. the National Spatial Plan includes chapters that relate to biodiversity conservation and natural resources was adopted in 2004 (more details are given in sub-chapter 2.4.2). Also, the erosion map in Macedonia has been developed 30 years ago. Mapping of soils in the country and development of the Soil Information System is an ongoing activity (see chapter 2.7)

- A long tradition of use of many medicinal and aromatic plants and fungi exist in Macedonia. They represent an important income for the local population in the poor rural communities (including both man and woman), an additional form of financing of PAs management authorities as well as an important export product. However, continuous utilization of natural resources in Macedonia, especially forests and non-timber forest products as well as medicinal and aromatic plants lead to unfavorable status of some species populations and habitats (see chapter 2.1). As already described, the collection and trade of threatened and protected wild species, such as plants, fungi, animals and their parts are regulated by the Law on Nature Protection and under competences of MoEPP. At the same time part of these species are defined as NTFP, defined by the Law on Forests and under competences of PE "Macedonian Forests". Both institutions are trying to set sustainable system for using wild species and protection of biodiversity on the territory under their jurisdiction.

The following gaps in the baseline to achieve good biodiversity conservation and PA management were identified:

o Currently, there are no national red lists of threatened species of plants, fungi and animal species group adopted by the Macedonian Government and their trend is not monitored (Red List Index has not been developed). During stakeholder consultation in the process of preparation of this project proposal, scientists pointed out that the following taxonomic groups should be considered for development of the Red List Index: vascular plants, mammals, birds, amphibians and reptiles, as from the other taxonomic groups (fish, invertebrates) assessment would be done only for selected globally important species. Preparation of national red lists of threatened species and regular monitoring will give a scientific basis for development of adequate conservation measures for endangered species in the country including revision of the species to be listed under strict protection.

o The lists of strictly protected and protected wild species were adopted in 2011 without prior categorization based on their threat status and contain many vague formulations, high number of typing, nomenclature and taxonomic errors, and also include many species that do not have specific importance in terms of threat, endemism or distribution, population status, etc. Therefore, improvement of these lists needs to be completed based on the scientific assessment of the threat status of species, which will be accomplished by this GEF project. .

o The process of protected areas proclamation is carried out slowly due to insufficient financial resources required for development of studies for (re)valorization as well as provision for nomination of an adequate management body, but also as a result of difficulty to establish balance between environmental and economic processes during the economic transition in the country[24]. Criteria for prioritization of proclamation of PAs need to be developed, however some areas are already identified in policy documents, and some activities already implemented through a number of projects; eg. Shara Mt., Jablanica. Development of valorization study for one or more areas proposed for protection will support the process of expansion of protected areas.

o Overall management of PAs still need much improvement - capacities of nominated management authorities are very limited, where national parks have a slightly better situation, most of PAs are lacking management plans and sustainable financing. In terms of capacity building, training and raising of awareness of administrative staff and rangers in PAs, management authorities, Nature Department staff and nature and forestry inspectorates is required to increase the effectiveness of biodiversity conservation. Identification of management priorities based on the improved knowledge on threatened species, HNV forests, and development of management plans (considering the number of existing protected areas in the country) is imperative as tools for biodiversity conservation. Involvement of relevant stakeholders during the process of proclamation of protected area and development of management plan is important in order to ensure transparent and integrated view of the process that will benefit later in the period of its implementation. Prescribed means of financing of PAs are rarely implemented in practice. Since there is little to no centralized funding for the maintenance of protected areas, the management authorities are self-financed and currently depend mainly on revenue generated by activities such as timber harvesting (i.e., sanitation cuts). Although national parks 'Galicica' and 'Pelister' have recently introduced compensation for entrance and for use of wild species (medicinal plants, berries and mushrooms), in general, achieving financial sustainability presents challenge to protected areas in Macedonia.

o Both Representative network of protected areas and MAK-NEN requires formal adoption by the Macedonian Government in order to be used in the process of creation of PAs system, spatial planning as well as the use of natural resources. Also there is no experience for development and testing of site-specific measures for management and restoration of corridors covering different habitat types and through involvement of local stakeholders. Representative network of PAs,

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[24] Fifth National Report to CBD, 2014

MAK-NEN, as well as other set of results, will be used as evidence-based information and tools to revise the Natural Heritage Study and support in development of spatial planning database through taking into consideration biodiversity conservation.

o   This GEF project will directly contribute to betterment of biodiversity conservation through establishment of the protected area (National Park), development of valorization studies as well as PA management plans including rational means of financing, implementation of the National Ecological Network guidelines including High Nature Value Forests and rural areas as well as extensive training programmes for rangers, environmental inspectors and relevant national and local authorities.

o   Increasing awareness of the importance of forests and their economic, social and environmental role in the daily lives of the citizens of Macedonia require greater accountability in the management of forests as a natural resources, with special emphasis on their protection and control of all forest products used today; whether it is firewood, industrial wood, wood for construction, and non-timber forest products that represents significant income for the rural population. Despite some initial steps, the concept of high nature value forests has still not been introduced in Macedonia. Furthermore, criteria for identification of HNV forests need to be developed and incorporated into national legislation, following with research of forest ecosystems for identification of this type of forests at the national level and guidelines for management of HNV forests that would be developed and tested on several pilot sites.

o   As described in the chapter 2.1, forests in Macedonia are under management of several enterprises and MAFWE is directly responsible for approving and control of implementation of forest management plans. The legislation needs to specify ESFM principles and objectives and provide clear guidance to their achievement in planning and implementation. Through the introduction of ESFM practices the planning and management of forests in Macedonia would be able to: maintain the full suite of forest values for present and future generations, maintain and enhance long-term multiple socio-economic benefits to meet the needs of societies, protect and maintain biodiversity, maintain the productive capacity and sustainability of forest ecosystems, maintain forest ecosystem health and vitality, protect soil and water resources, maintain forest contribution to global carbon cycles, maintain natural and cultural heritage values and utilize the precautionary principle for prevention of environmental degradation. These principles are currently not followed in the forestry sector in Macedonia, where the current Rulebook for preparation of forest management plans is not suitable for other forests than economically profitable ones.

o   Reliable information on natural, cultural and resource values at an appropriate level of detail and scale is required to plan and manage the forests on an ecologically sustainable basis. Measuring, monitoring and evaluating environmental performance are key activities for ensuring ecologically sustainable forest management and enable the identification of any corrective actions that may be required. Development of new generation of forest vegetation maps will enable assessment of the distribution of vegetation biodiversity among different land ownerships in Macedonia (public, private, protected etc. forests), that will act as an important evidence-based tool for conservation of forest biodiversity. Furthermore, these forest vegetation maps will contain detailed tree and stand-level attributes of forest vegetation composition and structure for each forest land pixel in a broad landscape, which can be transferred into vegetation biodiversity indicators at individual tree, species, community, and landscape level. Indicators of vegetation biodiversity can be summarized for any geographical units for which GIS coverage is available, such as watersheds or ecoregion. The new forest vegetation maps could be combined with models of stand and landscape dynamics to assess potential effects of forest management practices on biodiversity, to be used at the decision-making level and for development/updating spatial plans. Broad-scale biodiversity assessments used in the past, such as gap analysis have not considered inter-

community variability in species composition, nor elements of structural complexity such as canopy layering, dead wood, and large remnant trees, that are key habitat elements for wildlife and other taxa on forest lands. These fine-scale vegetation elements are especially important in assessing the potential effects of forest management on biodiversity. The failure of broad-scale assessments to explicitly consider fine-scale elements of forest vegetation can be attributed simply to the lack of relevant vegetation data at this scale in the country. Assessments have had to rely on maps of generalized forest vegetation types or stages of development derived from satellite image classifications. In addition, most broad-scale conservation assessments have focused on the degree to which natural community types are represented in protected areas such as national parks. Semi-natural, managed forests have not been considered, nor have private forest land ownerships. The managed forest land contributes substantially to overall conservation efforts while simultaneously producing commodity values. The proposed new generation forest vegetation maps will support response models for a set of biodiversity indicators at species, ecosystem, and landscape scales, and will be sufficiently detailed to be sensitive to serve biodiversity conservation measures in forest management practices.

o   This GEF project will contribute to forest biodiversity conservation and above mentioned principles of sustainable forestry through identification of the HNV Forests and development of guidelines for their management, development of supporting documents and tools for revision of the National Forest Policy and other existing policy documents such as Forest Management Plans.

o   Gaps in legislation and overlapping of lists of threatened and protected species under competence of MoEPP and list of NTFP (under competence of PE Macedonian Forests) are making confusion in competences of the institutions that leads to uncompleted licensing system. MoEPP is establishing licensing system for collection and trade without quotas for sustainable use. On the other hand, in April 2013, PE "Macedonian Forests" adopted all necessary regulations in the field of use of NTFP. There are no records of all collected quantities of wild species in Macedonia. The best source of information regarding collected quantities is contained in export permits issued by MoEPP, although feedback information is needed from exporters to confirm the quantities implemented relative to permits obtained. In order to make full assessment, quantities of collected resources used in Macedonia, mainly for domestic use, should be made as well. Although the Law on Nature protection prescribes that the total quantity for collection of wild species for commercial purposes shall be established on the basis of preceding assessment of the species status and opinion obtained from scientific and professional organizations about the density of the species' population in natural habitats every year, this is not implemented in practice and quotas for use of these species based on the scientific assessment of biomass production have not been developed. Finally the effective system for collection, purchase, use and export of wild species requires proper monitoring in order to find out if the measures are effective. Through implementation of pilot project for testing of identified quotas in selected regions, baseline data and information will be set and available for the whole system for sustainable use of wild species

o   The National Spatial Plan, in particular natural heritage chapter is very old and outdated (prepared in 1998 and not revised since), using not only outdated categorization of protected areas, but is generally not taking into account the land degradation data and impacts on biodiversity. Contemporary trends in European soil policy require new updated techniques and methodologies for the preparation of erosion risk map that are not incorporated in the outdated erosion map of the country. Further on soil sealing rates are not defined in the country. Mapping of up-to-date spreading of artificial structures is a basic pre-condition for planning and managing sustainable development of urban agglomerations and is a useful tool to check-up of soil ecological functions. Soil organic matter, although representing just small part of the soil, is the most important compound directly related to soil genesis and evolution, defining soil fertility.

Such decline of soil fertility and change of land use have a serious impact on biodiversity. This GEF project will contribute to mainstreaming biodiversity into relevant land use planning through development of necessary soil quality maps and databases and guidelines for proposed revision of National Spatial Plan specifically relating to biodiversity conservation. That way this GEF project will support evidence based decision making and development and implementation of national and local policies and plans not only in the field of soil but in various other sectors that have an impact on biodiversity conservation (agriculture, forestry, water management, nature protection and biodiversity, spatial planning).

o Lack of coherence and harmonization of biodiversity conservation and land use planning activities among different stakeholders and different institutions is identified as one of the root causes for inefficient biodiversity conservation in Macedonia

o Weak communication, cooperation, and coordination between the institutions dealing with biodiversity conservation, forestry sector and land use planning is also a challenging topic.

o In general, lack of human and technical capacities for biodiversity conservation and mainstreaming were identified as one of the main gaps during preparation of project document

2.6 Linkages with other GEF and non-GEF interventions

Macedonia, has so far implemented a number of projects, including GEF supported projects, as interventions based on the above laws and strategies.

- "*Support to Macedonia for revision of the National Biodiversity Strategy and Action Plan and preparation of the Fifth National Report to the Convention on Biodiversity*" (GEF/UNEP/MEPP 2013-2014).

  Currently the National Biodiversity Strategy and Action Plan (2004-2008) is being updated as a part of the national implementation efforts of the CBD through GEF enabling activities. New national targets and actions were discussed at wide stakeholders' workshops. An official adoption procedure of revised NBSAP is expected in the beginning of 2015. Revised NBSAP provides information on latest data on biodiversity and habitats/ecosystems, current state and way forward on protected areas network, biodiversity conservation and management outside of protected areas, establish management practices in forestry and agriculture (and other relevant sectors) that contribute to conservation of biodiversity and maintenance of ecosystem services, though combating habitat loss and sustainable use of natural resources which are fundament for development of this GEF project as the next step.

- "*Strengthening the Ecological, Institutional and Financial Sustainability of Macedonia's National Protected Areas System*" (GEF/UNDP/MoEPP project 2008-2011)

  Within this project national representative network of protected areas and areas proposed for protection was developed, with a set of recommendations that will contribute to more efficient preservation of species and habitats/ecosystems. Output 1.1.1 of this GEF project will be developed based on the data collected through this project activity. Also, National Biodiversity Information Database has been developed, however it needs regular updating for the species/habitats (especially threatened species and habitats, protected areas, biodiversity rich forests, etc.) which will be accomplished by outputs 1.1.1, 2.1.1, 2.1.2 and 3.1.3 of this project.

- "*Development of the national ecological network in Macedonia (MAK-NEN)*" project was funded by the Netherlands BBI Matra fund, and implemented during 2008-2011. Apart from the MAK-NEN map, Bear Corridor Management Plan was developed providing general recommendations for management of the three different types of corridors. Two pilot corridors from MAK-NEN will be selected for development and testing of site-specific measures for management and

restoration by this GEF project, as a first step towards on the ground implementation of the MAK-NEN (output 1.1.2).

- *"Balkan Lynx Recovery Programme (BLRP)"*, financed by MAVA Foundation started in 2006 and is ongoing. The results of the two main components that are implemented are: (i) direct conservation and monitoring activities for the Balkan lynx, other large carnivores and large ungulates and (ii) support for establishment of new protected areas in the western part of the country (Jablanica, Shar Planina and Ilinska-Plakenska mountain range) in the Balkan lynx distribution area. Knowledge and results of the mentioned project will be used for implementation of the Component 1 and output 2.1.3 of the Component 2 of this GEF project.

- "*Nature Conservation Programme in Macedonia*" is a Swiss funded project, coordinated by private company Farmahem and Helvetas international (started in 2013 and ongoing). One of the components of the project has special focus on ecological gap analyses and preparation of sensitivity map in Bregalnica watershed as well as proposals for establishment of new protected areas that will contribute to accomplishment of outputs 1.1.1, 2.1.2 and 3.1.2 of this project.

- "*Integrated Ecosystem Management in the Prespa Lakes Basin*" (GEF/UNDP/MEPP project) through which monitoring schemes were elaborated, transboundary conservation action for selected species and habitats prepared, and management plan for 'Ezerani' Nature Park was prepared. Species and habitats data will be used in the process of preparation of Red Lists Index envisaged with output 2.1.1 of this GEF project. Furthermore, the knowledge and experience of the process of preparation of valorisation study and management plan for 'Ezerani' Nature Park through stakeholders' involvement will be used as positive experience to accomplish outputs 1.1.1 and 2.1.3 of this GEF project.

- *"Revitalization of Prespa Lake ecosystems"* (2010-2015), funded by SDC. On the basis of the recommendations in the Prespa Lake Basin Management, activities towards improvement of Prespa Lake state, strengthening of its adaptation capacity and provision of long-term plan for control of eutrophication processes are in phase of implementation as part of the SDC/UNDP/MoEPP project. Management plan for protected area Prespa Lake as monument of nature was developed and strengthening of management capacities of Resen municipality and implementation measures are underway. Results of this project could be used as guidance and information source for activities in component 1 of this GEF project.

- Results and experience gained through implementation of the two projects for preparation of management plan for national parks Galicica and Mavrovo will be used for accomplishment of the outcome 2.1.3 ("*Cross-border Biosphere Reserve Prespa Park - Support to the Galicica National Park"* (2009-2011), financed by KfW and UCODEP/MoEPP "*Environmental protection, economic development and promotion of sustainable eco-tourism in NP Mavrovo*" (2009-2012), funded by the Italian Ministry of Foreign Affairs.

- The *Important Plant Areas (IPA) program* was implemented in Macedonia during 2006-2009 by Macedonian Ecological Society. Collected site based data for 42 identified IPAs with characteristic species and habitats, protection status, management and major threats will be used in creation of new protected areas (output 1.1.1), vegetation map (output 3.1.3) as well as red listing process in this GEF project (outputs 2.1.1 and 2.1.4).

- The transboundary project "*Osogovo Mts. in the Balkan Green Belt*" started in January 2007 and is still ongoing. It is implemented by Macedonian Ecological Society in partnership with the Bulgarian Biodiversity Foundation (BBF) and is financially supported by Frankfurt Zoological Society (FZS) and Pronatura. Extensive biodiversity data were collected, integrated GIS database for Osogovo Mts. was created, valorization study was prepared for proclamation of the area as 'protected landscape' (IUCN category. V), assessment of biomass production of blueberries was

undertaken, forest communities from the forestry sector perspective were analyzed, and other activities. During 2014, pilot activities for identification of HNV forests have been initiated in cooperation with the responsible branch of PE Macedonian forests and with support of the Bulgarian partner's experience. Experience and data gained will be used to accomplish several outputs in Component 1, 2 and 3 of this project.

- Vision for the transboundary protected area Shar Planina – Korab was developed in the framework of the project "*Development of prospects for a transboundary protected area Sharr/Šar Planina-Korab*", within the Environmental Security Initiative (2012-2013) that involved as partners one non-governmental organization from each of the three countries sharing the concerned area – Macedonia, Albania and Kosovo and EuroNatur Foundation from Germany with an aim to establish local partnerships, facilitate cross-border contacts and consultations and identify common priorities nature protection and local development in the area. The Vision was signed at the Second Trilateral Ministerial Conference for transboundary area Sharr Planina-Korab-Deshat, by the Ministers of environment of the three countries Macedonia, Albania and Kosovo in November 2013 (organized by MEPP with support of the UNEP, EuroNatur and Macedonian Ecological Society). Results from this project and established partnerships will be used as starting point in the process of creation of new protected areas (output 1.1.1).

- Valorization of natural values of the Mountain of Jablanica – Shebenik was carried out during 2006 as part of the Project "*Balkan Green Belt as Corridor for Bear, Wolf and Lynx*", implemented by the MES, BIOECO, Society for Protection and Promotion of Nature and Environment in Albania (PPNEA) and EuroNatur Foundation in order to develop document to assist the competent Ministries in Macedonia and Albania to undertake measures for protection of this transboundary area. On Albanian side Shebenik was proclaimed as national park in 2008. Considering the importance of the local population in decision making process and the need to strengthen the public awareness, 2 transboundary projects are in phase of implementation by MES and PPNEA: "*Improvement of transboundary cooperation and development of the mountain massif Jablanica-Shebenik through active participation of local population*" (IPA cross-border programme, 2013-2014), and "*Water for lakes, swamps, springs and people on Jablanica Mountain*" (CEPF project, 2014-2015). The goal of both projects is to contribute to the promotion of positive practices for sustainable utilization of natural resources in several municipalities along the mountain massif. Experience from the projects activities will be used to accomplish several outputs of this GEF project.

- Important segment of the project "*Dinaric Arc Parks*" (WWF project, 2012-2014) concerns development of management capacity, for the purpose of which several trainings have been completed. The three National Parks of Macedonia "Mavrovo", "Galichica" and "Pelister" participated in the project. Results of this project will be used in designing training for PAs staff in output 2.1.3.

- Experience gained through the two Dojran Lake conservation projects financed by CEPF for "*Education and capacity strengthening for protection of Dojran Lake, a priority area for biological diversity*" (MES/CEPF project 2013-2014) and "*Capacity building for Dojran Lake sustainability*" (REC/CEPF Project 2014 and ongoing) aiming at strengthening the capacity of the local self-government and other relevant stakeholders with regard to integrated management of waters and natural resources and creating a local group for biological diversity conservation, will be used in the process of developing new protected area(s) and management plan (output 1.1.1 and 2.1.3).

- Macedonia has completed its *Third National Communication to the UNFCCC* in 2014 and specific mitigation measures for biodiversity are recommended. In general, increasing of PAs network and connectivity of these areas with functional corridors to allow free movement of

species and habitats are recommended as measures for climate change adaptation of biodiversity. Thus, increasing of PAs network and prescribing and testing management measures for ecological corridors envisaged with Component 1 in this project will also support the adaptation of biodiversity to climate change.

- Project on forest mapping systems for fire prevention has recently been initiated by the Government with the support of Japan International Cooperation Agency (JICA). The result gained from this project on biodiversity rich forests (output 2.1.2) and non-timber forest products (outputs 3.1.1 and 3.1.4) will be used in already established forests digital database through JICA project.

- "Support to Macedonia for *development of National Action Programs (NAP)* aligned to the UNCCD 10-Year Strategy and Reporting Process under UNCCD" is an ongoing project. This project includes preparation of the aligned National Action Plan in Macedonia to combat land degradation and desertification that will guide the efficient and effective implementation of the NAP and other relevant action in accordance with the five operational objectives of the 10 Year UNNCCD Strategy.

- FAO project "*Soil mapping and development of the Macedonian Soil Information System (MASIS)*" is an ongoing project. Developing Soil Information System (SIS) with accurate and up-to-date soil information is of high priority for Macedonia for land management under the current climate change era and taking into account the currently dispersed soil data. Such system will enable the different applications regarding food security, climate change mitigation and adaptation, biodiversity conservation and provision of ecosystem services, land suitability analysis, land degradation assessment, etc. The system will also allow the integration of soils with other disciplines and will be fundamental for monitoring the status of soils as per human interventions though land use changes and climate change impacts.

- Project "*Creation of standards for sustainable forest management according to PEFC*" is on-going project, coordinated by CNVP aimed at developing awareness and capacity on sustainable forest management and PEFC certification within the forestry community of Macedonia, Albania and Kosovo, with the goal to lay the groundwork for the development of national forest certification systems.

Most of the previous ecosystem management projects in Macedonia have typically been at the small and medium scales, evidenced by the projects' local or sub-national scope in particular regions such as where critical watersheds are located (e.g., Prespa and Ohrid Lakes) or where unique habits are found (e.g., Shar Planina Mt. Jablanica, Osogovo Mt. etc.).

This GEF project will continue to build on the experiences and work already done in the area of biodiversity conservation, by filling in the gaps and building stronger pillars for sustainable biodiversity conservation. By strengthening the conservation of biodiversity, building baseline platform of national inventories and mapping, Macedonia will better comply with obligations under international frameworks such as the Convention on Biological Diversity (CBD) and the Convention to Combat Land Degradation (UNCCD) – but also regional frameworks like the European Community's Council Directives 92/43/EEC ("Habitats Directive") and 79/409/EEC ("Birds Directive").

An EU funded project "*Strengthening the central and local administrative capacity for the implementation of Natura 2000 in Macedonia*" (IPA TAIB 2011) is expected to start by the end of 2015, under which an inventory for development of EU ecological network Natura 2000 in Macedonia is planned to be prepared in order to identify and select suitable places for designation as Special protection areas according to the Birds Directive and Special areas of conservation, according to the Habitats Directive. Preparation of two bylaws relating to the establishment, identification and mapping of habitat

types and development and maintenance of GIS system for the protection of nature are envisaged by the project. Furthermore, the project is planning to carry out a public campaign with all relevant stakeholders. In addition, another EU funded project "*Strengthening the administrative capacity for implementation and enforcement of EU legislation on environment and climate change*" (IPA TAIB 2013) in the framework of nature component, draft management plans for three pilot protected areas in category monument of nature are planned to be developed, as well as action plans for key species and habitats in these protected areas, in accordance to the Birds and Habitats directives. These EU projects together with GEF funded project may benefit and complement each other.

The above-mentioned initiatives will be coordinated throughout the project through the means of continuous national and local stakeholders meetings. The project will be implemented in a very transparent way, involving all the relevant stakeholders throughout the project in all of the components. For each stakeholder meeting/workshop/public discussion, special attention will be paid to involvement of vulnerable groups, minorities as well as gender-balance. Project Management and Implementation Unit as well as the established Project Steering Committee and the Scientific Advisory Board will be responsible for coordinating different initiatives, making sure that all relevant information is available and integrated into this GEF project, as well as that there is no duplication of activities. Also, yearly meetings will take place with the Council for Sustainable Development, which is located in the Office of Deputy Prime Minister, especially concerning the first component: Development of National Park Shar Mountain. In addition, during the inception phase of the project there will be a Communication Strategy developed that will specify different means of coordination of relevant information/data/initiatives for each component of the project.

SECTION 3: INTERVENTION STRATEGY (ALTERNATIVE)

The overall intervention strategy for project "Achieving Biodiversity Conservation through Creation and Effective Management of Protected Areas and Mainstreaming Biodiversity into Land Use Planning" (BD Macedonia Project) is summarized along its three main components, and the respective outcomes and outputs.

Table 6. Project Intervention Strategy

Project components	Expected outcomes	Expected outputs
Component 1: Increase of Protected Areas Network and Connectivity	Outcome 1.1. Improved biodiversity conservation through creation of new protected areas and pilot project implementation	1.1.1. Supported Establishment of at least One Protected Area (Shara Mountain – 42,000 ha) as National Park
		1.1.2. Two pilot corridors from the proposed National Ecological Network selected for development and testing of site-specific measures involving local stakeholders for management and restoration of High Nature Value Forests and other habitats
Component 2: Increased effectiveness of biodiversity management	Outcome 2.1. Improved management effectiveness and capacity building as a tool for biodiversity conservation and protection of threatened species and habitats	2.1.1. A "Red List Index" for Macedonia is generated, reflecting the prioritized list of threatened species within the country and guiding the creation and effective management of new and existing Protected Areas
		2.1.2.High Nature Value Forests are identified and at least two (2) guidelines

		for their management are developed in favor of biodiversity conservation
		2.1.3. Protected areas management plans are prepared according to new methodologies and PA staff, environmental inspectors and forest guards are trained under the updated biodiversity management regime
		2.1.4. The first red data book in Macedonia for at least one taxonomic group is developed
Component 3: Land Use planning and Biodiversity mainstreaming	Outcome 3.1. Biodiversity conservation mainstreamed in national planning	3.1.1. Guidelines are prepared for proposed revision of National Spatial Plan that relates to biodiversity conservation and a spatial planning database (spatial and urban planning) is developed, and capacities of spatial planners on mainstreaming biodiversity conservation into national planning is built.
		3.1.2. Supporting documents for proposed revision of Forest Management Plans for areas managed by Macedonian Forests are developed with an aim to introduce ecologically sustainable forest management practices and inclusion of specific elements for threatened biodiversity
		3.1.3. Identified quotas for sustainable use of non-timber forest products in are developed at least one region with highest potential and need
		3.1.4 Lessons learned and Sustainability Strategy Developed

3.1. Project rationale, policy conformity and expected global environmental benefits

The Project objective and activities are in line with the objectives set by a number of National Laws, Policies and Strategies (Law on Nature Protection, Law on Forestry, National Biodiversity Strategy and Action Plan, National Action Plan aligned to the UNCCD, Strategy for Sustainable Development of Forestry, National Spatial Plan, National Strategy for Sustainable Development of Macedonia etc.) and its main objective is "to support the expansion of national protected areas system and enabling capacity conditions for effective management and mainstreaming of biodiversity conservation into production landscape."

The Project will contribute to the achievement of Strategic Goals of the UNCBD Strategy for Biodiversity 2011-2020[25], in particular the following Aichi Biodiversity Targets: Target 1 Increased Awareness about Biodiversity Values, Target 5 on Reduction of Natural Habitats Degradation and Fragmentation, Target 7 on Sustainable Forestry Target 11 on Protected Area and Connectivity, Target 12 on Prevention of Extinction of Species, and Target 19 on Improved and Shared Knowledge.

The Project will contribute to the achievement of Strategic Objectives 2 of the UNCCD "Improvement of the conditions of the affected ecosystems" and Operational Objective 1 "Advocacy, awareness raising and education".

GEF is the main financial mechanism for the implementation of UNCBD and UNCCD, and with a mandate to address biodiversity conservation and land degradation. The Project is fully compliant with GEF Biodiversity Objective 1 - Improve Sustainability of Protected Area, and 2 - Mainstream Biodiversity Conservation and sustainable Use Production Landscapes, Seascapes and Sectors, and its key outcomes. [26]

By increasing of protected areas and effectiveness of biodiversity management, and mainstreaming biodiversity into land use planning and other relevant sectors (forestry), as well as capacity development and public awareness raising, the Project will help to reduce main threats to biodiversity in Macedonia, i.e. biodiversity loss due to conversion of habitats, unsustainable economic growth, excessive and unplanned urbanization, and unsustainable forest management practices as well as lack of data and information, as well as low capacities and financial means for effective and integrated biodiversity conservation, thereby generating global environmental and local social benefits.

The Project will contribute to maintaining global environmental benefits by contributing to global network of protected areas, conservation of rich species and endemism, strengthening sound practices for biodiversity conservation, conservation of valuable eco-systems (specifically forest habitats), sustainable use of wild species, and thereby reducing pressures to natural ecosystems, resulting in improved biodiversity conservation, reduce pressures to soil and climate change mitigation. In addition, through evaluation of ecosystems services, this project will provide appropriate guidelines for nature protection of protected areas, while providing the local populations with sustainable livelihoods.

Furthermore, this project will contribute to the socio-economic wellbeing of the population of Macedonia, (especially women in the rural areas) who are traditionally gatherers of medicinal plants), through improved land use planning and by providing alternative and sustainable means of financing in the protected areas, such as eco-tourism revenues. Women in rural areas have an important role in good resource management and conservation at household, village, and community levels; traditional knowledge for sustainable use of resources is of great importance; also they have a strong influence on the ways in which local people understand, manage, and conserve biodiversity. Rural women in Macedonia play a key role in supporting their households and communities in achieving food and nutrition security, generating income, and improving rural livelihoods and overall well-being. They contribute to agriculture and rural enterprises and fuel local economy. As such, they are active players in achieving the MDGs. Specifically, women also play a major role in gathering of non-timber forest products, and by setting up quotas through this project, prices will be adjusted and they will have a direct benefit as the system of products will be regulated. Also, the Project will positively influence the access to environmental information and data will increase participation of all relevant stakeholders in decision making in the nature conservation sector.

3.2.   Project goal and objective

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[25] http://www.cbd.int/sp/targets/
[26] https://www.thegef.org/gef/GEF5_Strategies

The project objective is to support the expansion of national protected areas system and enabling capacity conditions for effective management and mainstreaming of biodiversity conservation into production landscape.

To achieve this objective, the Project will support activities through the implementation of the following three components: (1) Increase of PAs network, (2) Increased effectiveness of biodiversity management and (3) Land Use planning and Biodiversity mainstreaming.

3.3. Project components and expected results

Component 1: Increase of Protected Areas Network and connectivity

The first Component concerns with expansion of national protected area network and testing of site specific measures from the proposed National Ecological Network

This project will support the country to expand the current protected areas network by at least 1.5%, which is in compliance with national and international standards (planned in Output 1.1.1) is foreseen by National Spatial Plan, and by First National Strategy for Biological Diversity and Action Plan which outlines certain areas proposed for protection. Also one of the newly developed targets in the draft revised NBSAP refers to increasing of protected areas network up to 15% of the country territory. Output 1.1.1 will also include preparation of a study for valorization for areas proposed for protection (eg. Sharr Mountain) in accordance to national legislation, and in accordance with preliminary stakeholders meetings. As mentioned in the baseline scenario, both Shara Planina is very specific areas and characterized with rich biodiversity. Both of these areas are foreseen for protection by a number of strategic documents. The Output will include discussion of proposed protected areas with relevant stakeholders, and local communities through workshops and public hearings, at which the target area of protection will be identified, based on the developed criteria for prioritization of proclamation of PAs. All meetings and developed documents will take into consideration gender equality, as well as appropriate involvement of vulnerable groups and all ethnic groups represented in the country, paying special attention to equal involvement of ethnic Albanians and Macedonians. Support will be provided to Ministry of Environment and Physical Planning for the official process of proclamation of the selected areas for protection.

Complimentary to outcome 1 – Increase of protected area network, Output 1.1.2 will support connectivity between protected areas, by selecting two pilot corridors from the Macedonian National Ecological Network (out of 36 identified ecological corridors, the most important of which are those in the Western part of Macedonia connecting the 3 national parks) for development and testing of site-specific measures for management and restoration of important habitats, including implementation of sustainable forest management practices, conservation of biodiversity rich forests), restoration of riparian habitats and other planning policy (e.g. agro-environmental measures) through involvement of relevant stakeholders, that will consider gender and vulnerable groups equality. This output will also build on previous experiences, as the MAK-NEN and Bear Corridors Management Plan already exists but has not been implemented, which will be achieved by this GEF project.

Component 2: Increased effectiveness of biodiversity management

Goal of the second component is to improve management effectiveness and increase capacity as a tool for biodiversity conservation in Macedonia and protection of threatened species and habitats, which will be achieved through different outputs and implementation of their corresponding activities.

First output of Component 2 is creation of a Red List Index for Macedonia (output 2.1.1), reflecting the prioritized list of threatened species within the country and guiding the creation and effective management of new and existing protected areas, which will be piloted in output 2.1.4. Output 2.1.1 will be achieved through preparation of red lists of several taxonomic groups (ex. vascular plants, mammals, birds, amphibians, reptiles, butterflies etc.) based on IUCN criteria for red listing. For that purpose, IUCN

will facilitate training for red listing methodology and will provide technical and scientific back stopping of the whole process. The Law on Nature Protection prescribes an obligation for identified threatened wild species (those that are categorized as critically endangered, endangered and vulnerable) to be proclaimed as strictly protected or protected wild species, and certain protection measures to be introduced. The lists of strictly protected and protected wild species that were adopted in 2011 were prepared without prior categorization of species based on their threat status. Elaboration of national red lists of species founded on research and relevant expert assessments (through this GEF project) will help to overcome the deficiencies of these lists.

The first output will be complemented with the output 2.1.4 through development of first Red data book in Macedonia for at least one taxonomic group for which the most data are available (for example plants).

Although there has been some preliminary work on biodiversity rich forest done in the past, detailed assessment of high nature forests (HNV forests) based on international criteria has not been conducted yet. Output 2.1.2. of this GEF project; Identification of biodiversity rich forests and at least two developed guidelines for their management in favor of biodiversity conservation, will continue work in this area of research on forest biodiversity, where identification and delineation of important sites and development of guidelines for management of two pilot sites with biodiversity rich forests through involvement of local stakeholders will take place. Prepared documentation will be used by MAFWE and PE 'Macedonian Forests' later in the process of revision of the 10-Year Forestry Management plans and preparation of management measures for these sites.

Output 2.1.3 will include drafting of the management plan for areas that will be selected at preliminary project inception consultations (in accordance with output 1.1.1.) and according to the national legislation, and PAs staff and environmental inspectors will be trained on best management practices. All meetings and developed documents will involve vulnerable groups and all ethnic groups represented in the country, paying special attention to equal involvement of ethnic Albanians and Macedonians. In addition, all outputs will make sure that there is equal representation of women in all decision making, public discussion, workshops etc. At the inception of the project there will be a Communication Strategy developed, which will detail mechanisms of gender mainstreaming and involvement of vulnerable groups into each component of the project. This output will be complemented with the first component for designation of new protected areas and increasing capacities for protected areas management, and will include large-scale national stakeholder meetings and consultations.

Component 3: Land Use planning and Biodiversity mainstreaming

Third component is concerned with mainstreaming biodiversity conservation into land use planning; supporting future processes of revision and incorporation of biodiversity conservation into National Spatial Plan and Forest management plans.

Output 3.1.1 concerns with development of tools and databases necessary for developing guidelines for revision of National Spatial Plan relating to biodiversity conservation and building capacities of spatial planners and other relevant stakeholders on mainstreaming biodiversity conservation into national planning.

As previously mentioned, lack of evidence-based data in the sector of land use planning presents a significant threat to biodiversity in the country. National Spatial Plan that was adopted in 2002 is outdated and does not meet the modern trends in biodiversity conservation and sustainable use. Therefore, first output of component 3 will provide comprehensive documentation and databases to be used by spatial planners including: national erosion and drought sensitivity map and database of soil erosion risk, soil sealing rate and loss of organic matter will be developed as well as analysis of their impact on biodiversity will be developed including identification of high risk zones. Also, drought risk areas and areas vulnerable to desertification in Macedonia will be delineated. These maps and databases will be used together with the results of other components to develop proposed supporting guidelines for revision

of biodiversity conservation and natural heritage chapter of National Spatial Plan. Mentioned results, together with other similar maps and database (soil, water, forest vegetation, and other) could serve not only the institutions to make rational and evidence based decisions, policies and strategies, but also for future scientific research studies in the sector of environmental protection. Furthermore, this output includes will develop trainings modules specifically designed for for spatial planners on linking spatial planning with biodiversity conservation and land degradation as well as training for other relevant government officials.

Output 3.1.2 concerns with development of supporting documents for proposed revision of Forest Management Plans for areas managed by Macedonian Forests, with an aim to introduce ecologically sustainable forest management (ESFM) practices and inclusion of specific elements for threatened biodiversity.

As mentioned in previous chapters, currently forest management acts do not provide an adequate basis to support ecologically sustainable forest management, nor does the legislation meet the cross-tenure needs. The legislation needs to specify ESFM principles and objectives and provide clear guidance to their achievement in planning and implementation. In order to preserve and maintain biological diversity within forests, it is crucial to introduce ESFM practices into the context of the National Forest Policy and other existing policy documents such as Forest Management Plan. Reliable information on natural, cultural and resource values at an appropriate level of detail and scale is required to plan and manage the forests on an ecologically sustainable basis.

Current databases available to support forest management planning need improvement, particularly those supporting biodiversity. In order to address policy issues relating to biodiversity, productivity, and sustainability, detailed understanding of forest vegetation at broad geographic scale is required. Species richness is the most widely used measure of biodiversity, and mapping patterns of species richness within a landscape can provide a basis for future monitoring and an ecological basis for land management and conservation decisions. Therefore, digital forest vegetation maps at relevant scale for 3 pilot sections will be developed to be used as supporting documentation of the process of revision of Forest Management Plans and to support a wide variety of biodiversity assessments, management of protected areas, and land use planning concerns. They will provide a basis for responding to specific scientific questions about forest vegetation types and their relationship to environmental processes across the landscape. Maps will provide a consistent means for the inventory and monitoring of plant communities and they will support sustainable forest management.

Further on, this output will develop guidance on establishing system for sustainable use of threatened biodiversity as defined by Law on Nature Protection of non-timber forest products (NTFPs) and Forestry Law, through adjustment of legal framework and defining quotas for use of selected species. Currently, quotas for use of the threatened species including NTFPs are being abused without adequate scientific understanding of their carrying capacities and areas are not adequately zoned with consideration to the ranges of key species or the habitats under greatest threat. There is no system of sustainable use of natural resources (medicinal plants, mushrooms, forest fruits, etc.) established in Macedonia, although there is a long history of their use. Some of these species are becoming threatened due to over-exploitation (see previous chapters), as well as due to overlapping responsibilities of different institutions. Identification of the most affected species (of economic importance), preparation of quantitative analyses of annual production of the selected species, development of quotas for use this species in a rational manner as well as clear institutional responsibilities and improvement of legislation is crucial for establishing system of sustainable use of wild species, which will be achieved by this output.

This output is further supported by a practical project (Output 3.1.3) for pilot testing of identified quotas for sustainable use of selected wild species in at least one region with highest potential and need. The activities will be implemented in cooperation with PE 'Macedonian Forests' and other stakeholders (protected areas management authorities, local gatherers, buy-out companies, etc.). Lessons learned from

the pilot testing of quotas for sustainable use of wild species will give guidance for further replication of the sustainable use system on a national level. Since women play a major role in gathering of non-timber forest products, it will be made sure that women are heavily involved (through partnerships as well as individuals) in all activities of these components and decision making regarding setting up quotas, that will directly regulate the prices as well.

Finally output 3.1.4 consists of evaluation of work done on the project, identifying contributions and successes, addressing also activities which could have been done better, and emphasizing a way forward in the field of biodiversity conservation in Macedonia.

Stakeholder consultations and public awareness raising and knowledge transfer will be profoundly used as a method of implementation throughout the project. In order to ensure proper sustainability, and continuation of implementation of all the outputs, adequate trainings of experts for red listing, spatial planning officers for biodiversity conservation and sustainable land management, current and future environmental inspectors, rangers and forest guards for new management regimes will be trained through respective components of the whole GEF project. In addition, this project will make sure that gender equality and vulnerable groups are taken into consideration during all stakeholders consultations and processes. Special attention will be paid to equal and representative involvement of ethnic Albanians and Macedonians.

3.4. Intervention logic and key assumptions

The Project will be conducted at national and local level in order to target the appropriate level of policymaking and to ensure pilot testing of the developed management/conservation measures. The Project will build upon and collaborate with on-going and planned national, regional and international initiatives that will support the main Project objective.

The Project Management and Implementation Unit and Project Steering Committee (PSC) will play a key role in ensuring that close linkages between the Project with all relevant stakeholders, other relevant projects or initiatives are established and maintained, through organization of PSC meetings twice a year and continuous national and local stakeholders meetings, workshops and trainings. In addition, there will be a Scientific Advisory Board formed, and a Project Communication Strategy that will detail all the coordination mechanisms. In order to avoid duplication and to reduce overlap with other initiatives, the Project will be informed by lessons learned from other projects and will complement national plans and programs of the country. This will be achieved through consolidation of information and data gathered at stakeholders meetings as well as documents and data baseline analysis that will be initial part of each project deliverable. This way project will employ the results and data produced by other projects and aim at close partnerships with similar initiatives, both at national and regional level. During the preparation phase, an in-depth stakeholder analysis was performed. It took into consideration project-relevant initiatives and projects and potential partner organizations and agencies.

3.5. Risk analysis and risk management measures

The risk for project implementation are identified and assessed, along with mitigation measures for each identified risk.

Table7. Identified Risks and Mitigation Measures

Risk	Risk Level	Risk Mitigation Strategy
1. Communication among stakeholders: Evidence of poor communication	Medium to Low	Two key mitigation tools will be employed. First, UNEP as the GEF Executing Agency through its Vienna Office will support MoEPP in the design of stakeholder

across different stakeholder groups exists, which could ultimately affect a multi-focal area project		workshops including the inception meeting and ensure that information is communicated fairly and openly across all groups. Second, there will be numerous national and local consultations, trainings and communication platforms created including representatives from a number of relevant sectors. In addition, at least four Inter-Sectoral Working Groups shall be designed and assigned during the project implementation: three to coordinate the project components, and one overall for administrative management of project outcomes.
2. Lack of Political Will: Politically appointed policy makers that lack environmental knowledge or interest may threaten sustained long-term outcomes of the project	Medium	Project component 2, output 2.1.3 was specifically designed to mitigate this risk and build the capacity of key decision makers to seriously address environmental management responsibilities. Also, other two components contain large raising awareness and capacity building trainings. In addition, special attention will be paid to equal involvement of ethnic Albanians and Macedonians to all project components.
3. Challenge of reforms within the forest management regime: As the arbiter of forest management plans for 75% of national forests, the PE Macedonian Forests exercises significant power over any changes or reforms towards sustainable forest management.	Medium to Low	This risk will be mitigated through the inter-sectoral working groups (see Risk #1). A forest working group (of which PEMF would be a part) would naturally allow other stakeholders to have say in the strategic interventions on forest management. Secondly, component three will include PEMF, which will benefit its institutional capacity as well as its relationship with civil society.
4. Lack of community support for local-level interventions: Community support will be critical for proclamation of protected area(s) and sustainable use of NTFPs etc.	Low	The key factor to mitigating this risk is to have the full participation of local governments and CSOs active parts of the project. As such, including key local stakeholders in the working groups can mitigate this risk. Through involvement of local government and relative CSOs in the project activities, especially the pilot project foreseen by this GEF project the risk will be mitigated.
5. Lacking institutional capacities to manage and mainstream biodiversity conservation into relevant sectoral policies	Medium	The existing low knowledge and capacity levels for the implementation of relevant biodiversity conservation and protected area management methodologies is taken into account by the project implementation strategy, through a) a focus on developing knowledge tools such as a red list index, PA management guidelines and related capacity development measures in component 2, and b) through the project's efforts to mainstream biodiversity conservation into other sectoral plans and processes (component 3).
5. **Climate change as a direct driver affecting ecosystems in Macedonia**	Medium	Macedonia is a very exposed to climate change, being one of the most vulnerable in the region. However, its adaptation capacities are considered very weak due to many different reasons, some of which are outlined

		above in the text. Climate change vulnerability will be an integral part of the training activities and awareness to be conducted in all three components of the project. Also, the mitigation measures will be more focused after the assessment of biodiversity vulnerability to climate change in the country to be conducted in the context of development of management and land use planning. In August 2015, Macedonia has submitted its Intended Nationally Determined Contributions to the UNFCCC, committing to 30% reduction of GHG by 2030. This GEF project will take into consideration the new GHG reduction target as well as country's reporting to UNFCCC.

3.6. Consistency with national priorities or plans

The Constitution of the Macedonia (1991) states that "every citizen has right to a healthy environment and a duty to improve and protect environment and nature", and also "natural wealth of the country, flora and fauna, are determined as goods of public interest enjoying special protection". The Law on Environment (2005) is a framework law that regulates the protection and promotion of the environment for the purpose of providing of the citizens' right to a healthy environment including biological diversity. The Law on Nature Protection (2004) states that protection of nature shall be organized by protection of the biological and landscape diversity and the protection of the natural heritage both within and outside of protected areas. That legal qualification is being fully embodied by the proposed project by the nature of the project's data inventories and mapping being national in scope and widely disseminated via sub-national workshops. All project outputs are directly contributing to implementation of these Laws.

The National Spatial Plan of Macedonia calls for 12% of the country's territory to be designated as protected areas. With the current protected area network standing at just under 9% of the country territory, the proposed project would be able to achieve partly the target set under the Spatial Plan due to the protected area increase outputs under project component 1. Also, one of the goals of the National Spatial Plan is establishment of eco network of protected objects and green corridors. Pilot projects for management of corridors within project component 1 will provide on the ground experience for implementation of the prepared ecological network.

Currently the country is updating its National Biodiversity Strategy, where the Action Plan is outlining some of the priority measures:

- Under "Extension of the system of Protected Areas", the priority is proclamation of the Shar Planina National Park and/or Jablanica National Park (coherent with output 1.1.1 of this project proposal)
- Under "Improvement of protected areas systems management", the priority is development of spatial planning database as it relates to protected areas (coherent with all outputs of the project)
- Under "Capacity building for biodiversity conservation", the priority is to equip and train staff of inspectorates (coherent with output 2.1.3)
- Under "Investigations and Monitoring, the priority is to prepare vegetation/habitats map and identify and map biodiversity rich forests (coherent with output 3.1.3.)
- Under "Conservation of Species", the priority is to prepare Red List Index, which is also coherent with output 2.1.1 and 2.1.4 of this project.

This project would represent implementation of some of the most priority measures from the National Biodiversity Strategy's Action Plan, which would present a large and important step in biodiversity conservation in Macedonia.

This GEF project is in line with several goals and planned actions in the NBSAP (2014) starting from increasing the network of protected areas, improving management effectiveness of protected areas, providing connectivity of protected areas network through sustainable management of corridors, mainstreaming biodiversity into other sectors (one of which is forestry and spatial planning), development of red lists and red data books, conservation of important habitats (including HNV forests) as well as increasing capacities and awareness regarding nature conservation.

Macedonia is currently finalizing the development of the National Action Program to Combat Land Degradation and Drought for UNCCD. This Project will benefit from the implementation of the most important actions set out in National Action Program, such as drought and desertification vulnerable areas map, and soil erosion map that are not only important for LDD but also for biodiversity conservation taking in consideration influence of these processes on the entire ecosystem.

The National Environmental Approximation Strategy (2008) includes a list of priorities for implementation which would directly benefit from the proposed project, including:
- "Reliable data collection systems" and "systems for monitoring and reporting on the state of environment" (All the project components contribute to this priority)
- "Tools for raising the environmental awareness of industry and the public in order to secure understanding, co-operation and support for conducting the environmental measures" (All the project components contribute to this priority)
- "Training of staff on governmental and municipal level involved in all affected sectors of society" (Output 2.1.3)

The National Environmental Investment Strategy - NEIS (2009 – 2013), section on Nature Protection (Section 3.8) calls for projects to be financed which would contribute "mainly to the implementation of the following directives: Habitat and Bird Directives, Endangered Species Regulation 97/338/EEC and the Zoos Directive." The proposed GEF project would contribute directly to the implementation of the Habitats Directive (by increase of Protected Areas under Component 1), the Birds Directive and Endangered Species Regulation (by creation of Red Lists of species which further categorizes prevalent species, including birds, and their levels of endangerment. It also proposes proclamation of certain protected areas such as Jablanica, Jakupica and Osogovo. The NEIS further mentions that the country struggles with integrated planning due to a lack of coordination. As already mentioned, this project would be integrated from the very start through inter-sectoral working groups with further coordination added from GEF implementation agencies (UNEP). Hence, the project could be a model for demonstrating proper integrated environmental management as sought in the NEIS.

In the National Programme of Work on Protected Areas Action Plan (2012) priority activities for its implementation include: 1. Integrating protected areas into broader landscapes and sectors so as to maintain ecological structure and function (proposed by this project in all three components); 2. Strengthening effectiveness of protected areas management (supported by component 2) and 3. Improvement of the system of protected areas management effectiveness with regard mitigation of negative climate change impacts by mainstreaming climate change vulnerability in development of PA plans and capacity building (Components 1 and 2).

The last point on cooperation is foreseen by the Second National Environmental Action Plan (NEAP, 2006) in Section 6.10 on Environment in Governmental Decision Making. There, Measure M1 calls upon the MoEPP to "give priority to make more frequent use of preparatory and ad hoc working groups established within [the Ministry] as well as across ministries and other stakeholders, thereby providing for

an improvement of cross sectoral cooperation". Regarding 'nature and biodiversity' measure for NEAP 2 calls for implementation of effective mechanisms for further implementation of the NBSAP and NCSA, the Law on Nature Protection and providing adequate conditions for the establishment of the Natura 2000 network. Strengthening institutional and human capacities to mainstream biodiversity issues across different sectors, development of a red lists and Red data book, establishment of guidelines for revision of Natural Heritage Study of the National Spatial Plan (relating to biodiversity) and establishment of ecological network are some of the proposed actions in NEAP tied to several project outputs. NEAP 2 also addresses rural development and mainstreaming outcomes at the local level. This includes increasing implementation at the local level: "demonstration and pilot projects" should be "used as practical demonstration of costs and benefits" of sustainable development. This will be accomplished by numerous pilot projects of this GEF project.

Furthermore, The National Strategy for Sustainable Development identified "Seven Strategic Thrusts" for achieving sustainable development in Macedonia. Of relevance to the proposed GEF project are calls for raising awareness with the public; introduction of e-government as a key tool (which would benefit from the digital planning tools in Component 3); and a call for more integrated and participatory approaches within government bodies – which is a key planned effort in the project implementation.

In addition to the national legislation and policy frameworks, the project is in line and supportive of Macedonia's commitments for implementation of international agreements such as the CBD, UNCCD, CITES, Bern Convention etc. to which Macedonia is Party too.

This project is in accordance to the UNDAF outcome related to environmental protection, in particular outcome 2 'National capacities for management of ecosystems, biodiversity conservation and sustainable use of natural resources improved' and will contribute to the output 2.1 – a national network of protected areas is established, by strengthening planning, financing and management practices. Also, it is in line with the draft UN Strategy 2016-2020 for Macedonia, outcome 4 'Environmental sustainability'. In order to make sure that UNDAF will be leveraged to achieve full impacts of this project, there is a responsible UNEP staff member in Regional Office for Europe that is responsible for following the UNDAF process in the whole of SEE region.

3.7.   Incremental cost reasoning

A summary of the incremental reasoning for the project is presented in the table below, based on the baseline analysis and the elaboration of the intervention strategy detailed in Sections 2 and 3 above. It compares the outcomes of the current baseline (business as usual scenario) with the expected outcomes of the alternative scenario (with project interventions), thus refining the benefits for biodiversity at global and national levels that can be attributed to the project as its incremental contribution.

Table 9. Summary of incremental reasoning

Baseline Scenario B (Business As Usual)	Alternative Scenario A (with project interventions)	Increment (A – B)
Component 1: Increase of Protected Areas Network and Connectivity **Baseline:** ▪ Insufficient and not completed national network of PAs ▪ Currently only 8.9 % of the	▪ List of criteria/indicators for prioritization of PAs developed ▪ Priority sites for proclamation as PAs identified ▪ Relevant biodiversity data collected and consolidated	**Local/national benefits:** ▪ Developed valorization studies (biodiversity data available) for proclamation of new PAs ▪ Network of PAs increased for at least 1.5% of the national territory

Baseline Scenario B (Business As Usual)	**Alternative Scenario A** (with project interventions)	**Increment** (A – B)
territory is classified as Protected Area. The National Spatial Plan envisages increase of PAs network to about 12% by 2020 ▪ No systematic approaches for creation of PAs network - not developed criteria for prioritization of PAs to support expansion of PAs, and consequently proposed areas for protection are not prioritized ▪ Continuous pressure on biodiversity due to habitat fragmentation (rooting from uncontrolled and unplanned urbanization, etc.) ▪ Low level of understanding of connectivity needs of PAs ▪ Developed guidelines for management of ecological corridors are not tested on the ground **Probable results:** ▪ Existing network of PAs in the country remains uncompleted and erratic ▪ Priority areas for protection are not identified and surveyed ▪ Proclamation of new protected areas is not initiated ▪ Fragmentation of habitats and pressures on biodiversity remain high and unchecked ▪ Nonfunctional ecological corridors identified in MAK-NEN ▪ Not implemented management measures for ecological corridors	for new protected area(s) ▪ Valorization study and all required documentation to initiate the proclamation procedure of new PAs prepared and submitted ▪ Guidelines and methodologies for pilot corridors management tested on 2 sites	▪ Protected important and threatened species ▪ Developed supporting documents for proclamation of new PAs ▪ Pilot project for management of corridors implemented and guidelines for other corridors developed ▪ Awareness on connectivity needs of PAs increased in pilot areas **Global benefits:** ▪ Contribution towards the global Aichi targets 11, 5, 12 and 1. ▪ Protection of species and habitats of European and global importance (covered with the new protected areas) ▪ Improved knowledge on connectivity needs and management measures for ecological corridors, and possibility to be replicated on a trans-boundary level
Component 2: Increased effectiveness of biodiversity management	▪ Identified threatened species in the country ▪ Relevant data for selected	▪ Red list database developed ▪ Increased capacities for

54

Baseline Scenario B (Business As Usual)	**Alternative Scenario A** (with project interventions)	**Increment** (A – B)
Baseline: ▪ Threatened species and habitats in the country have not been identified ▪ No Red lists of threatened species prepared and red list index developed ▪ No Red data book developed in country ▪ High nature value forests in Macedonia have not been identified ▪ Only few management plans prepared in accordance to the new legislation ▪ Low management capacities to support conservation of threatened species and habitats of environment/nature inspectors, rangers, forest guards ▪ Low awareness and knowledge about ecosystem services and their economic valuation **Probable results:** ▪ Threatened species and habitats in the country will remain unknown ▪ Limited capacities for red listing methodology ▪ Areas of high nature value forests in the country will remain unknown ▪ Guidelines for management of high nature value forests will not be prepared and tested on the ground ▪ PA Management plan will not be prepared ▪ Knowledge about ecosystem services and valuation methods will remain the same ▪ Limited capacities for management of PAs	species collected and threat status identified ▪ Red lists of threatened species prepared ▪ Criteria for identification of important forest habitats (High nature value forests) agreed ▪ Relevant forest habitats data collected and HNV forests identified ▪ Recommendations for conservation of the threatened species/habitats developed ▪ Management plan for at least one PA drafted according to national legislation ▪ Study for assessing the economic values of ecosystem services in at least one PA developed ▪ Assessment of management capacities of PAs, environmental inspectors and forest guards conducted ▪ Training on PA management approaches conducted	redlisting methodology ▪ Coherent and coordinated approach to the conservation of key species developed ▪ Knowledge and awareness about threatened species increased ▪ Relevant data about high nature value forests available and accessible ▪ Management guidelines for pilot areas developed ▪ Plan for management of new PA drafted ▪ Study for economic valuation of ecosystem services in PA developed ▪ Experiences about ecosystem services ▪ Knowledge about economic valuation methods of ecosystem services increased ▪ Increased capacities for management of PAs **Global benefits:** ▪ Red list index developed to be used at European and global assessments ▪ Knowledge improved about species of global importance under threat ▪ Valuable forest habitats (HNV forests) identified following European criteria ▪ Experience in management measures of HNV forests ▪ Experience in management planning of PAs ▪ Contribution towards the global Aichi targets 1, 5, 7, 11, 12 and 19.

Baseline Scenario B (Business As Usual)	Alternative Scenario A (with project interventions)	Increment (A – B)
Component 3: Land Use planning and Biodiversity mainstreaming • Integrated Land Use planning and Biodiversity Conservation is not practiced at national and/or local level • The National Spatial Plan is outdated, poorly communicated, coordinated and implemented at local levels, and it does not include elements on biodiversity conservation • National erosion map is outdated • Forest Management Plans does not provide ecologically sustainable forest management practices and inclusion of specific elements for threatened biodiversity • Databases available to support sustainable forest management planning, particularly those supporting biodiversity are limited • Land use data is outdated, and soil sealing rates are not defined at national and local levels • Lack of information about use of natural resources (NTFP) • System of use of non-timber forest products is not developed (unclear legal regulations and responsibilities, undetermined sustainable use quotas) **Probable results** • Limited capacities at national and local levels for	• Development of databases and documentation for land use planners on Land Use Planning and Biodiversity Conservation mainstreaming • Areas vulnerable to desertification delineated • Drought sensitivity map with high risk zones and their impact to biodiversity available to all users • Soil sealing rate in the country defined • Training on tools and methodologies for Biodiversity Conservation and Sustainable Land Use conducted • Guidelines for revision of NSP relating to biodiversity conservation prepared • Supporting documentation for mainstreaming biodiversity in the future process of revision of Forest management plans developed, such as Forest vegetation maps, guidelines for sustainable forest management and quotas for sustainable use of NTFP • Assessment studies for production of selected wild species (NTFP) prepared • Sustainable quotas for selected wild species developed and approved • Recommendation for revision of legal instruments for sustainable use of wild species developed • Increased public	**Local/national benefits:** ▪ Relevant Biodiversity Conservation and Land Use Planning data available and accessible ▪ Knowledge about soil erosion and soil sealing processes and regions vulnerable to desertification improved ▪ Mainstreaming of supporting documentation, such as Forest Vegetation Maps and guidelines for sustainable forest management in the future process of revision of Forest management plans ▪ Improved capacities of spatial planners for Biodiversity Conservation and Sustainable Land Use ▪ Capacities for Biodiversity Conservation and Land Use Planning strengthened ▪ Developed guidelines for revision of NSP relating to biodiversity conservation ▪ System of sustainable use of NTFP tested in pilot areas **Global benefits:** ▪ Interactive mapping tools for Land Use Planning and Biodiversity mainstreaming ▪ Lessons learned on broad public engagement in Biodiversity Conservation and Land Use Planning implementation ▪ Experiences in mainstreaming biodiversity conservation into land use planning processes ▪ Experience in sustainable

Baseline Scenario B (Business As Usual)	Alternative Scenario A (with project interventions)	Increment (A – B)
Land Use planning and Biodiversity Conservation • Land degradation remains as one of the main treats to biodiversity loss, as it is directly connected to soil quality, erosion processes, pollution and soil sealing • No information about erosion and soil sealing processes will be collected • Erosion map will remain unrevised and useless for biodiversity conservation • Decline of soil fertility and change of land use have a serious impact on biodiversity • Vegetation maps inadequate • Information and data on natural resources (NTFP) are still scattered and lack national harmonized methodology and approach • Use of NTFP will remain unsustainable and uncontrolled	awareness and knowledge on biodiversity conservation and sustainable land use planning	use of NTFP based on identified quotas ▪ Contribution towards the global Aichi targets 5, 7 and 19.

In conclusion, this project will remove the barriers to establishing effective biodiversity conservation in Macedonia as explained in the table below:

Current gaps and barriers	Removal strategies in this GEF project
Lack of capacities for planning, establishment and management of protected areas at a central and local level	Outputs: 1.1.1, 1.1.2, 2.1.1, 2.2.1, 2.1.2, 2.1.3, 3.1.1, 3.1.4, 3.1.2, 3.1.3, 3.1.4
Lack of financial resources for implementation of already existing strategic documents	Outputs: 3.1.1, 3.1.2, 3.1.3, 3.1.4
Lack of effectiveness of protected areas management	Outputs: 1.1.1, 1.1.2, 2.1.1, 2.1.2, 2.1.3, 2.1.4, 3.1.2, 3.1.3
Lack of mainstreaming biodiversity conservation into national strategic documents	Outputs: 3.1.1, 3.1.2, 3.1.3
Insufficient involvement of indigenous and local communities and relevant stakeholders in the management of protected areas	Most Outputs, especially in Component 1 and 3 contain many public hearings and consultations, stakeholder workshops and pilot projects that will involve local communities in activities of this GEF project.

Lack of public awareness of ecosystem services in protected areas	Public raising awareness will be a part of all three Components, either through public consultations, stakeholders workshops or direct trainings of government staff (spatial planners, rangers, managers of parks etc.). The project will contain a public awareness raising campaign on integrated biodiversity conservation, which will be implemented throughout the project.

3.8.   Sustainability

The Project is innovative as it is the first large-scale, nationally driven initiative to develop a way to conserve biodiversity through an integrated approach; increase of protected areas, mainstreaming biodiversity through strategic documents of different sectors (land use and forestry) and building capacities and implementing activities through pilot projects.

Furthermore the proposed project will be innovative specifically in the following three ways. First, numerous stakeholders have mentioned that communication and collaboration have been underutilized in past national projects. This project envisions enhanced collaboration through much greater levels of participatory engagement in expert working groups and with executing agency leadership. This coordination would make the needed difference in mainstreaming important components to local stakeholders. This is further evidenced by the projects' planned awareness building efforts via trainings in biodiversity conservation.

Second, several of the project outputs will help move the country's ecosystem management capabilities into the digital era. While most existing forest and habitat maps are printed on hardcopy, the proposed project includes digital forest vegetation maps, erosion and draught sensitivity map, soil sealing rate, etc., as well as a comprehensive Red List Index available in digital format and accessible to all stakeholder groups.

Third, the management plans for land use, and forests will be modernized with the current best practices and knowledge base. Innovative methods technologies will be used to conserve biodiversity through protection of forests, mainstreaming conservation in land use planning of the most sensitive areas.

The sustainability of the projected outcomes (such as increased coverage of protected areas that prioritize endangered species and threatened habitats) benefits from the country's bid for accession to the European Union and to comply with international frameworks. Macedonia has been involved in several regional processes for strengthening environmental management at the national level (ex: SDC in Prespa and Bregalnica basins) as well as policy-oriented technical assistance from the European Commission's Instrument for Pre-Accession Assistance (IPA) mechanism. The additional value of this GEF project is that it is assisting Macedonia comply with EU guidelines and standards and conditions, making the project in the long run self-sustainable, as Macedonia's succession into EU will continue the activities that will be strongly initiated by this project. The project is building a strong baseline for conservation of biodiversity, which will be naturally carried on through EU legislation that Macedonia is bound to adopt and follow.

On the other note, by creating earlier pilots that naturally feed in to the components of the current GEF-5 project proposal, and by fitting into subsequent regional and transboundary approaches outside of GEF support, international donors will bring a level of continuity and co-financing that will benefit the sustainability of the current projected outcomes.

3.9.   Replication

One focus of this project is its integrated approach to conservation of biodiversity in Macedonia, which allows for a stronger capacity development of the main stakeholders, from users of ecosystem services to decision makers at all levels, using improved and updated methodologies and tools that are applicable in local circumstances and allow for monitoring impacts in the long term.

These, and other specific activities, such as the development of a Red List Index of Species, protected areas management plans and a number of spatial and forest digital tools, or the strengthening of local conservation capacities through training, are aimed at local application and allow for replication in other areas as well as at higher levels, both governmental and geographical. All these tools will be applied keeping their replication potential in mind, both regionally and beyond.

All intervention and awareness/education activities (in all three components) will allow for the monitoring of good practice and therefore lessons learned will help replication through communication at international level - this will be particularly achieved through international meetings and a conference, as well as the establishment digital online tools, amplifying the potential of examples to be replicated at international level in comparable cultural landscapes reaching far beyond the project.

A further replication opportunity of the project lies in forming knowledge networks, creating bridges that allow a streamlining of data to be used by local communities now and in the future. By connecting national public institutes with the private sector and local communities, replication is envisaged for future projects that propose an integrated approach both sectorally and on levels of governance, by adapting user-friendly tools that will enhance exactly this replicability.

3.10.   Public awareness, communications and mainstreaming strategy

The Project aims to provide that knowledge and information regarding nature conservation in Macedonia are mainstreamed into public and private sectors responsible for the use and management of biodiversity. For that reason, every component of the project and respective outputs will be done through wide stakeholder participation approach and will include extensive public consultations.

Comprehensive list of stakeholders was developed during PPG phase including institutions, organizations, groups of citizens, etc that will be directly or indirectly concerned with project implementation. At the inception phase of the project, communication strategy will be developed that will define all the means and channels of communication (formal and semi-formal) to be used for the project implementation, based on the needs and requirements of stakeholders and their involvement in different project activities. Also UNEP office will be main responsible body to ensure proper communication of all stakeholders.

At the inception phase of the project, there will be a large public awareness raising campaign on integrated biodiversity conservation developed, and will run throughout the project implementation. In addition, Output 3.1.4 aims to further develop awareness activities, including all results obtained and sharing of lessons learned with the main identified stakeholders and the wider public based on a sustainable monitoring system. This component will tackle an important constraining factor - limited public awareness on nature conservation issues. Therefore, communication activities and public outreach will be executed in several regions of Macedonia and at different levels of governance. The outputs will include 2 individual stages:

- Analysis of the results of the projects and lessons learned from implemented pilot projects

- Identifying needs and recommendations for further development of different components.

The Project consists of national and local level activities, which will contribute to mainstreaming the process and the participation and ownership. All Project stakeholders, including the Government, scientific and other public institutions and CSOs, will be encouraged to work closely for training, capacity development and information sharing on nature conservation. It is expected that through awareness

raising activities, the understanding and interest in nature conservation at all levels of society will increase.

3.11. Environmental, social safeguards and gender consideration

The project is expected to generate positive and long-term environmental and social impacts (see Results Framework objectives, outcomes and indicators, Annex A). Progress towards these will be measured through the GEF Tracking Tools (Annex J), deliverables specified in Annex I and these will be constantly scrutinized under the project monitoring and evaluation plan (Annex G). Detailed lists of environmental and social issues that are of concern to the GEF and UNEP are provided in Annex M.

Environmental Safeguards

The Project aims to produce positive environmental and social impacts under all its three components. It will develop and improve the institutional, organizational and individual capacities of government bodies responsible for nature conservation and involve public and private entities in coordinated measures such as development of the Red List Index and protected area proclamation. The Project seeks to improve conditions of biodiversity conservation and create opportunities through increased and improved management of protected areas, mainstreaming of biodiversity conservation in national planning, number of digital tools developed for foresters and spatial planners, training and pilot projects. SEA will be performed for all national scale land use plans, not only according to EU Acquis but also according to national law. This SEA if conducted will include ecosystem services concept.

The project is also expected to create indirect environmental benefits through improved ecosystem management and the potential for enhanced climate change mitigation opportunities through integrated nature conservation.

Social safeguards

The Project design and implementation strategy respects internationally proclaimed human rights including dignity, cultural and intellectual property rights. Full stakeholder identification and consultation has occurred during the PPG phase, and a communication and outreach strategy will be prepared at the inception phase of the project to assure appropriate dissemination and use of the project's results.

The Project is expected to significantly improve the capacity of targeted institutions and local stakeholders, and is expected to enhance other socioeconomic benefits in the long term, arising from improved biodiversity conservation, particularly for sustainable forestry sector, land management as well as eco-tourism that has an enormous potential in the country.

During implementation of the PPG, a gender and vulnerable groups analysis was done. The results of this analysis have shown that women constitute on average an equal part in all meetings held during the PPG phase. Overall, women are equally present in most of government institutions, academia, private sector and NGOs, with the exception of the Forestry Faculty, which consists of visibly more men. However, what has been observed during the PPG phase is that vulnerable groups and ethnic and religious minorities are not proportionally represented at the stakeholders meetings and institutions. For example, ethnic Roma people or ethnic Egyptians, consist of more than 4% of population in Macedonia, but are very rarely represented in government institutions, academia or private or non-governmental sectors. Another ethnic precaution is visible divisions between ethic Macedonians and ethnic Albanians in the whole country. Ethnic Macedonians and Albanians are proportionally present in the government institutions, however that is shown not the case in academia, private and NGO sector.

Gender relations between women and men play a key role in the access to environmental resources, control of the resources, and the goods and services they provide. The same is true for representation of vulnerable groups and ethnic or religious minorities. In order to ensure that there are no disproportionate

negative impacts to women or other disadvantaged or vulnerable groups, appropriate involvement of all social groups will be ensured during project's implementation. There will be a Communication Strategy developed at the inception of the project, which will identify all relevant vulnerable groups and ethnic and religious minorities, as well as taking gender equality into consideration, and detail their involvement throughout the project at various levels of implementation. Vulnerable groups and ethnic minorities will be invited to every national consultation, workshop and training, and the project implementation team will be gender balanced. Key indicators for gender equality considerations and involvement of ethnic/religious minorities and vulnerable groups will be their active participation during development of project such as; percentage of women present at national stakeholders meetings (especially local meetings that will not take place in the capital Skopje), number of ethnic/religious minorities involved in drafting of government documents, public hearings, trainings etc. Another set of indicators will be in actual developed documents; all documents (national plans, strategies, feasibility and valorisation studies etc.) developed in all components of the project will consider gender mainstreaming and inclusion and representation of all ethnic and religious groups found in the region on implementation.

SECTION 4: INSTITUTIONAL FRAMEWORK AND IMPLEMENTATION ARRANGEMENTS

UNEP's Division of Environmental Policy Implementation (DEPI) represents the Implementing Agency (IA) of the *Global Environment Facility* (*GEF*), with following roles:
- Providing consistent and regular Project oversight to ensure that GEF policies and criteria are adhered to and that the project meets its objectives and achieves expected outcomes
- Performing the liaison function between the project and the GEF Secretariat
- Application of UNEP policy and criteria to strengthen execution arrangements
- Ensuring that both GEF and UNEP guidelines and standards are applied and met (technical, fiduciary, M&E)
- Ensuring timely disbursement/sub-allotment to executing agencies, based on agreed legal documents
- Approve budget revision, certify fund availability and transfer funds
- Providing technical support and assessment of the execution of the Project
- Providing guidance if requested to main TORs/MOUs and subcontracts issued by the project
- Follow-up with EA for progress, equipment, financial and audit reports
- Certify project operational completion

UNEP Regional Office for Europe is Executing Agency (EA) of the project. Through offices in Geneva and Vienna and a experts office in Skopje, main responsibilities include:
- Overseeing that the project is executed according to the agreed workplan, budget and reporting tasks
- Participate in the Steering Committee meetings
- Signing the relevant Legal Instrument to allow disbursement of funding with UNEP
- Ensure technical quality of products, outputs and deliverables
- Addressing and rectifying any issues or inconsistencies raised by the IA
- Support compilation and submission of progress, financial and audit reporting to IA

also:
- Take responsibility for the execution of the project in accordance with the project objectives, activities and budget
- Deliver the outputs and demonstrate its best efforts in achieving the project outcomes
- Notify IA in writing if there is need for modification to the agreed implementation plan and budget, and to seek approval
- Address and rectify any issues raised by IA with respect to project execution in a timely manner
- Report to IA and comply with the administrative and financial procedures

- Managing the financial resources and processing all financial transaction relating to sub-allotments
- Preparing sub-project documents using appropriate legal instruments
- Preparing all annual/year-end project revisions
- Attending and facilitating inception workshops and steering committee meetings
- Assessing project risks in the field, monitoring a risk management plan
- Coordinate project execution with MOEPP and Macedonian stakeholders, based on MoUs

Technical support will be provided by the UNEP Regional Office for Europe assessment team, when needed.

Ministry of Environment and Physical Planning of the Former Yugoslav Republic of Macedonia on behalf of the Macedonian Government will provide political and institutional supervision. Its main responsibilities include:

- Coordinate project activities at national and local levels;
- Provide technical expertise through its personnel and networks;
- Provide guidance and coordination to other Macedonian stakeholders (such as representatives of the protected areas, EU delegation responsible for environment issues etc);
- Facilitate access to sites and locations;
- Engage in and support to data sampling and analysis;
- Address logistical issues, e.g. through organization of meetings and provision of relevant facilities;
- Support project management and regular project reporting;
- Chair the project Steering Committee.
- Appoint the Project Director*

* In order to ensure proper coordination of the project within the Ministry of Environment and Physical Planning, the Ministry will appoint a **Project Director** who serves as the liaison person between the Vienna Office/PMIU and the Ministry. The Project Director will facilitate as necessary the work of PMUI and project execution with the partners and will ensure that the project fit into the national development agenda. The Project Director will facilitate the mobilization of the Government co-financing and support as necessary in resources mobilization. The PMUI and the project Director will discuss and agree with PMUI the project technical and financial reports before it is sent to UNEP.
-
A Project Steering Committee (PSC) will provide overall guidance and strategic direction and oversight to project management and will approve all final outputs and deliverables of the project. The PSC will be multi-disciplinary and multi-sectoral in fields related to nature protection, forestry and land use planning. The PSC will include representatives of relevant Governmental institutions of the Former Yugoslav Republic of Macedonia, including, but not limited to the current line ministries responsible for environmental and nature protection issues – the Ministry of Environment and Physical Planning and the Ministry of Agriculture, Forestry and Water Economy. Membership will also include UNEP representatives as well as GEF OFP, UN CBD Focal Point and UNCCD Focal Point in the Former Yugoslav Republic of Macedonia, as well as the representatives of the Swiss Agency for Development and Cooperation and the Wood Industry Cluster. The PSC will meet at least twice a year to review project progress, provide direction and guidance, and assist in project implementation, as well as provide synergies with other complementing initiatives and ongoing projects. UNEP EA and PMIU will service as secretariat of the PSC.

Scientific Advisory Board (SAB) will be composed of prominent scientific institutions with great experience and knowledge in the field of biodiversity conservation and land use planning. The SAB will include, but not limited to Macedonian Academy of Sciences and Arts, Faculty of Natural Sciences, UKIM-Skopje, Forestry Faculty, UKIM-Skopje, Tetovo University, National Committee for biodiversity, PE Macedonian Forests, management authorities of protected areas, conservation NGOs, Agency for Spatial Planning and a number of international nature protection organizations such as IUCN.

Project collaborators
Partner organizations from the Former Yugoslav Republic of Macedonia will be involved in the project to provide expertise in biodiversity and land use planning knowledge and information management, regular updates on environmental management in the country, staff time and experience in guiding and advancing the activities' implementation, supporting the project with robust field data on environmental issues at stake, linking with stakeholders, including at local level for project implementation and for receiving stakeholders' input and feedback

Organizations, NGOs and research institutions working in the area of nature conservation, will be involved in the project through providing the outputs related to biodiversity and land use data management and networking, as well as contributing to fundraising. Exact partner organizations will be identified for each project component at the initial stages of the project implementation.

National and international consultancy services will be called in as required for specific tasks, such as needs assessments, development of indicator framework, capacity building and training for key stakeholders, design of delivery models and financing mechanisms. Consulting services will be procured in accordance with applicable UNEP/GEF rules and regulations.

- DESCRIBE THE INTERNAL STRUCTURE

The Project Management and Implementation Unit (PMIU) will consist of a Project Manager Coordinator from UNEP/ROE, Administrative and Financial Assistant and locally recruited staff in the country. The PMU will use premises in the country as provided by the Ministry of Environment and Physical Planning. The PMU roles will be to implement project outputs, monitoring and reporting, liaison with project partners, will act as the Secretariat to the Steering Committee, ensure project execution and all technical aspects of project implementation. Throughout the project, PMIU will closely collaborate with the Project Director that will be appointed by the MoEPP, and will act as the liaison person between the Vienna Office/PMIU and the Ministry. This way, PMUI will ensure collaboration with all country stakeholders, ministries and different municipalities and local communities, which is imperative for the successful implementation of the project.

- DESCRIBE THE EXTERNAL STRUCTURE

The PSC, chaired by the Ministry of Environment and Physical Planning, is in charge of the project oversight and overall guidance. It will meet at least on a semi-annual basis or according to the project's needs. Participation in PSC meetings will be possible also via video link or skype and decisions and consultations might also take place in email exchange form.

- DESCRIBE THE OVERSIGHT MECHANISM

The main oversight body for the project is its Steering Committee, comprised of the Implementing Agency, the Executing Agency, the beneficiary (Ministry of Environment and Physical Planning) and representatives of all main partners and stakeholder groups. Further monitoring and evaluation procedures of the project, including regular reporting duties, are detailed in Annex G. The Executing Agency can undertake field visits at any stage and is tasked to support the mid-term review and terminal evaluation and audit of the project.

For graphical representation of the implementation arrangements please refer to Annex H.

SECTION 5: STAKEHOLDER PARTICIPATION

The GEF has financed numerous enabling activities including NAPAs, NBSAPs, and NCSAs which form the national policies in Macedonia. By their very natures, these enabling activities have been the product of a multi-stakeholder process involving the key ministries, national focal points, universities, bilateral donors and civil society organizations. These very same stakeholders are part of the project design, coordination and implementation of this GEF project.

The **kick off meeting** took place on 12 June 2014 in Ohrid, whose purpose was to present the project concept that was approved by GEF in early 2014 and discuss relevant issues and follow up steps for preparation of full project document. The meeting has gathered 55 participants from the relevant institutions and organizations. As part of the meeting agenda relevant on-going or planned projects in the country, implemented by national and international organizations, that might contribute to this GEF biodiversity project were presented and expressed willingness for partnership.

Main points of discussion during the kick off meeting can be summarized as:
- involvement of MAFWE and forestry sector in the project preparation;
- possibilities to change some of the project outcomes, mainly sub-components related to forestry
- to develop criteria for selection of areas that will be elaborated and proposed for protection (Shar Mountain or others) to increase the protected areas network for about 3% (as one of the expected outputs in the project)
- recommendation for building upon results/documents from previous projects, financed by GEF or other donors.

Based on the conclusions and recommendations from the kick-off meeting, in the period September-December 2014 many bilateral meetings with relevant stakeholders were organized.

Stakeholder consultations:

A series of meetings with various national stakeholders were held in the period September 2014 – June 2015 during the PPG phase. The objective of these meetings was mainly to present the project concept and consult identified stakeholders about the project design and integrate their views towards potential contribution to the project during the implementation phase. The table below summarizes the outcomes and points discussed during the meetings, as well as identified project partners.

Table 9. Stakeholder Meetings and identified project partners during PPG phase

Institution	Outcomes of the meeting/ Points discussed

Institution	Outcomes of the meeting/ Points discussed
MoEPP	▪ request for incorporation of land degradation activities in the existing component for mainstreaming biodiversity into land use planning ▪ prioritization of the activities related to protection of Shar Mt. ▪ information and full cooperation with both CBD and UNCCD Nfp to be established during the PPG phase ▪ Revision of the project components was agreed with CBD and UNCCD NFP and Nature Department ▪ plan for providing co-financing letters
Macedonian Academy of Sciences and Arts	▪ Based on their expertise and capacity expressed readiness to participation in the project implementation, particularly in coordination and implementation of the activities related to development of national red lists and red list index
Farmahem company	▪ Responsible for overall coordination of Swiss funded 'Nature Conservation Programme in Macedonia' in cooperation with Helvetas interoperation ▪ Expressed willingness to support this GEF project, cooperate and exchange of information as well as to implement coordinated activities where similarities exist in both projects (ex. expanding the network of protected areas, conservation of forest ecosystems, etc)
Swiss Embassy, SDC	▪ Active in the country and supporting nature conservation projects for more than 15 years (ex. Development of management plan for Pelister national Park, and on-going 'Nature Conservation Programme in Macedonia') ▪ Expressed willingness to support and co-finance this GEF project
Austrian development Agency (ADA) & KfW	▪ In the framework of the Environment and Security (ENVSEC) Initiative, ADA has been active in South-Eastern Europe (SEE) and particular involved in transboundary Sharr Mt-Korab identified as one of the priority transboundary protected area in SEE ▪ KfW was financing the preparation of the management plan for Galicica National Park ▪ Experience and results from both projects/activities will be used for implementation of this GEF biodiversity conservation project; also KfW shows interest to continue the conservation work in the country
Delegation of EU in FYR of Macedonia	▪ EU progress report for the country states very little or no progress in the area of nature protection and not any project related to nature topic was implemented from IPA funds ▪ Acknowledged the concept of this GEF biodiversity project as it will provide valuable information to support the EU accession process in regard to implementation of EU Bird and Habitat directives

Institution	Outcomes of the meeting/ Points discussed
	▪ Indicated to pay attention to the projects for Natura 2000 that are in pipeline to be funded by EU IPA fund in order to avoid overlapping but to make synergy and coordinated actions
MAFWE, International cooperation department	▪ FAO programme is implementing several projects in the country, supporting MAFWE and other institutions in the country ▪ Possibilities for cooperation and co-financing to be explored ▪ Interested in cooperation of activities related to forests conservation
REC Country Office Macedonia	▪ Active in the area of environment and nature protection in the country since 1995 (particulary in public participation process, public awareness and education, stakeholders involvement in planning different environmental topics, etc.) and recently implementing the project for conservation of Dojran Lake. ▪ Expressed willingness to support this GEF project and cooperate in some activities
Macedonian Ecological Society	▪ NGO working in the area of biodiversity conservation and promotion of ecological science in the country and Balkan region more than 40 years ▪ Expressed support to this GEF project
Faculty of Natural Sciences, Institute of biology	▪ Long term experience in research of biodiversity in the country ▪ Supported the project and expressed willingness for cooperation
Forestry Faculty	▪ Long term experience in study and research of forests in the country ▪ Expressed willingness to support this GEF project and provide co-financing letter, and cooperation in some activities
Agency for Spatial Planning	▪ Responsible for preparation of National Spatial Plan and other plans ▪ Faced with outdated information on different level; not known when the process of revision will start, under competence of MoEPP ▪ Expressed support to this GEF project
PE Macedonian Forests	▪ Responsible for management of state-owned forests in the country ▪ Proposed some revision in the project components

Stakeholders Validation Meeting: Following the kick off meeting that took place on 12th of June 2014 in Ohrid, and all bilateral meetings with mentioned stakeholders (presented in table 9 above), in June 2015 a validation meeting was held with the representatives of the MoEPP and relevant stakeholders in order to discuss the project design, project activities and modes of implementation. All participants endorsed the project documents and emphasized the proclamation of national park Shara Mt as priority topic to be supported with this project. Proclamation of Shar Planina National Park is what the country can commit for now, which accounts for an increase of 1.5%, instead of 3% as foreseen by PIF. However,

the key stakeholders and the Ministry of Environment and Physical Planning has committed to identifying and specifying additional 1.5% at the inception phase of the project.

In order to ensure that there are no disproportionate impacts to women or other disadvantaged or vulnerable groups, appropriate involvement of all social groups has been ensured during the Project preparation phase and will be continued throughout the Project implementation.

Comprehensive list of all stakeholders is given in the Chapter 2.5 including their potential responsibilities during project implementation. Within the project inception phase the role of stakeholders will be defined in detail through their engagement in different levels and project activities such as: workshops, trainings, pilot projects, field work and expertise etc.

SECTION 6: MONITORING AND EVALUATION PLAN

UNEP will be responsible for managing the mid-term review/evaluation and the terminal evaluation. The Project Manager and partners will participate actively in the process.

The project will be reviewed or evaluated at mid-term (tentatively in 01/2018 as indicated in the project milestones). The purpose of the Mid-Term Review (MTR) or Mid-Term Evaluation (MTE) is to provide an independent assessment of project performance at mid-term, to analyze whether the project is on track, what problems and challenges the project is encountering, and which corrective actions are required so that the project can achieve its intended outcomes by project completion in the most efficient and sustainable way. In addition, it will verify information gathered through the GEF tracking tools[27].

The project Steering Committee will participate in the MTR or MTE and develop a management response to the evaluation recommendations along with an implementation plan. It is the responsibility of the UNEP Task Manager to monitor whether the agreed recommendations are being implemented. An MTR is managed by the UNEP Task Manager. An MTE is managed by the Evaluation Office (EO) of UNEP. The EO will determine whether an MTE is required or an MTR is sufficient.

An independent terminal evaluation (TE) will take place at the end of project implementation. The EO will be responsible for the TE and liaise with the UNEP Task Manager throughout the process. The TE will provide an independent assessment of project performance (in terms of relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. It will have two primary purposes:

- to provide evidence of results to meet accountability requirements, and

- to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP and executing partners.

While a TE should review use of project funds against budget, it would be the role of a financial audit to assess probity (i.e. correctness, integrity etc.) of expenditure and transactions.

The TE report will be sent to project stakeholders for comments. Formal comments on the report will be shared by the EO in an open and transparent manner. The project performance will be assessed against standard evaluation criteria using a six point rating scheme. The final determination of project ratings will be made by the EO when the report is finalized. The evaluation report will be publically disclosed and will be followed by a recommendation compliance process.

The direct costs of reviews and evaluations will be charged against the project evaluation budget.

The project Steering Committee will receive periodic reports on progress and will make recommendations to UNEP concerning the need to revise any aspects of the Results Framework or the M&E plan. Project oversight to ensure that the project meets UNEP and GEF policies and procedures is the responsibility of

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[27] For a short duration project, PIR will serve as the project Mid-Term Review (MTR)

the Task Manager. The Task Manager will also review the quality of draft project outputs, provide feedback to the project partners, and establish peer review procedures to ensure adequate quality of scientific and technical outputs and publications.

Project supervision will take an adaptive management approach. The Task Manager will develop a project supervision plan at the inception of the project which will be communicated to the project partners during the inception workshop. The emphasis of the Task Manager supervision will be on outcome monitoring but without neglecting project financial management and implementation monitoring. Progress vis-à-vis delivering the agreed project global environmental benefits will be assessed with the Steering Committee at agreed intervals. Project risks and assumptions will be regularly monitored both by project partners and UNEP. Risk assessment and rating is an integral part of the Project Implementation Review (PIR). The quality of project monitoring and evaluation will also be reviewed and rated as part of the PIR. Key financial parameters will be monitored quarterly to ensure cost-effective use of financial resources.

The GEF tracking tools are attached as Annex J. These will be updated at mid-term and at the end of the project and will be made available to the GEF Secretariat along with the project PIR report. As mentioned above, the MTR and TE will verify the information of the tracking tool.

SECTION 7: PROJECT FINANCING AND BUDGET

7.1. Overall project budget

	Project Preparation a	Project b	Total c = a + b	Agency Fee	For comparison: GEF and Co-financing at PIF
GEF financing	91,324	3,269,407	3,360,731	319,269	3,680,000
Co-financing	0	21,926,500	21,926,500	-	21,926,500
Total	91,324	25,195,907	25,287,231	319,269	25,606,500

	GEF Financing*		Co-financing*		Total ($)
Project Components	**($) a**	**%**	**($) b**	**%**	**c=a+ b**
1. Increased of Protected Area Network	1,035,824		7,926,500		8,962,324
2. Increased effectiveness of biodiversity management	1,094,000		8,900,000		9,994,000
3. Land use planning and Biodiversity Mainstreaming	1.070,907		5,000,000		6,070,907
4. Project Management	160,000		100,000		260,000
Total Project Costs	3,360,731		21,926,500		25,287,231

7.2. Project co-financing

Co-financing (USD)	Amount	%
Cash	*5,082,975*	*23.18*

Ministry of Environment and Physical Planning	**5,082,975**	23.18
In-kind	*16,843,525*	76.82
ÚNEP	**100,000**	0.45
Ministry of Environment and Physical Planning	**7,943,525**	36.22
Cyril and Methodius University of Skopje, Faculty of Forestry	**4,500,000**	20.52
Swiss Agency for Development and Cooperation	**3,800,000**	17.33
Macedonian Wood Industry Cluster	**50,000**	0.22
Macedonian Academy of Sciences and Arts	**450,000**	2.052
Total	**21,926,500**	**100**

7.3. Project cost-effectiveness

The project aims at reinforcing existing, but underutilized and uncoordinated institutional structures and policies related to land management in Macedonia. Project funds will be invested in better linking sectoral policies, upgrading analytical and research capacities and in working at local level to improve management efforts and risk and remediation planning.

The project has a focus on integrated land management in industrial/environmental hotspots with the mid- to long-term aim of reconverting formerly industrially used lands into its original uses, mostly agricultural. Alleviating and remedying pollution that is not confined to these hotspots but has further pollution potential is a cost-effective approach in itself, as it reduces spill-out risks and associated consequential costs of environmental disasters. This is further enhanced by the capacity development measures and improvement of laboratory analyses for soil sampling that is built into the project implementation strategy.

Execution by UNEP's regional office in Europe allows to keep project personnel costs very low, and GEF funds will instead pay for planning and implementing action on the ground, which contributes to both cost-effectiveness and sustainability of the project approach.

ANNEXES to this project document are to be found in separate files

Annex A: Project results framework

Annex B: Response to GEF reviews

Annex C: Status of implementation of project preparation activities (PPG)

Annex E: Consultants to be hired

Annex F1: Detailed GEF budget

Annex F2: Detailed co-finance budget

Annex G: M&E budget

Annex H: Project implementation arrangements

Annex I: **Project workplan with deliverables and benchmarks**

Annex J: **Focal area tracking tools**

Annex K: **OFP endorsement letter**

Annex L: **Co-finance letters**

Annex M: **Environmental and social safeguards checklist**

Annex N: **Acronyms and abbreviations**