

Ministry of Tourism and Environment of Montenegro (MoTE)

Ministry of Environment, Forests and Water Administration of Albania (MEFWA)

**LAKE SKADAR/SHKODRA INTEGRATED ECOSYSTEM
MANAGEMENT PROJECT**

**THE STRATEGIC ACTION PLAN
(SAP)
FOR SKADAR/SHKODRA LAKE
ALBANIA & MONTENEGRO**

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In cooperation with:

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Global Environment Facility (GEF)

World Bank (WB)

April 2007

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ABBREVIATIONS AND ACRONYMS

ALB	Albania
APAWA	Association for Protection of the Aquatic Wildlife of Albania
BSAP	Biodiversity Strategy and Action Plan
CETI	Center for Ecotoxicological Research of Montenegro
COOPI	Cooperazione Internazionale
COSPE	Cooperation for the Development of Emergent Countries
CSDC	Civil Society Development Centre
CTR	Council of Territorial Regulation
EU	European Union
FMO	Fishing Management Organization
GEF	Global Environment Facility
GoA	Government of Albania
GTZ	German Technical Cooperation
JSAP	Joint Strategic Action Plan
LA	Lake Administration
LEAP	Local Environmental Action Plan
LG	Local Government
LSIEMP	Lake Skadar/Shkodra Integrated Ecosystem Management Project
MAFPC	Ministry of Agriculture, Food and Protection of Consumer
MEFWA	Ministry of Environment, Forests and Water Administration
MES	Ministry of Education and Science
MN	Montenegro
MoU	Memorandum of Understanding
MoTE	Ministry of Tourism and Environment of Montenegro
MTCYS	Ministry of Tourism, Culture, Youth and Sports
NCW	National Council of Water
NEAP	National Environment Action Plan
NES	National Environmental Strategy
NPO	Non-profit organization
NGO	Non-governmental organization
NPSL	National Park Skadar Lake
OG	Operational goal
REA	Regional Environment Agency
REC	Regional Environmental Center
SA	Social assessment
SAP	Strategic Action Plan
SDC	Swiss Agency for Development and Cooperation
SME	Small enterprises
TDA	Transboundary Diagnostic Analysis
TEULEDA	Agency for the Local Economic Development
ToR	Terms of Reference
UNDP	United Nations Development Program
USAID	United States Agency for International Development
WB	World Bank
WFD	Water Framework Directive

Acknowledgments

The SAP working group from Montenegro would like to thank all institutions, organizations and individuals that were included in elaboration of this important document for Skadar/Shkodra Lake. We are expressing our strong believe that implementation of proposed actions within SAP document will improve environment of the lake, as well as improve cooperation between two neighboring countries Albania and Montenegro.

The working group of this Strategic Action Plan from Albania is grateful to all who have contributed through their kind assistance and support for the preparation of this document! We wish to thank the Head of Shkodra Region, Mr. Lorenc Luka, Mayor of Shkodra, Mr. Artan Haxhi and Mayor of Koplik, Mr. Perlat Ramçaj for their support in the project activities and help in defining some of the priority actions; experts of the Development Offices of Shkodra Municipality and Shkodra Region, respectively Mr. Ridvan Sokoli and Merita Kazazi for providing information and help in identifying some priority actions for the needs of local community; the administrations of the transboundary National Park of Neusiedler See (Austria) and Fertő-Hanság (Hungary) for their kind demonstration of experience on transboundary cooperation for the management of the lake ecosystem.

Both working groups wish to thank SNV Montenegro and especially their experts Jan Vloet and Martin Schneider-Jacoby, who were engaged in SAP elaboration from very beginning.

At the end, working groups wish to thank Ms. Agi Kiss, Project Manager-Team Task Leader from World Bank Washington, for process supervision and important suggestions and proposals during SAP development.

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FOREWARD

Skadar/Shkodra Lake has been recently the main focus of the transboundary collaboration between Albania and Montenegro in the environmental aspect. Several projects have been implemented by international organizations, government institutions, local NGOs etc. in both countries, Albania and Montenegro. These projects have played an important role in increasing knowledge on Skadar/Shkodra Lake and collaboration between the two countries not only in the environmental aspect, but also in scientific, cultural, socio-economic and sustainable development aspects.

Since 2003 the Global Environmental Facility (GEF) has approved a grant to assist Republic of Montenegro and Republic of Albania in preparation of the Lake Skadar/Shkodra Integrated Ecosystem Management Project (LSIEMP). The overall objective of the LSIEMP is to assist the governments of Albania and Montenegro in achieving more sustainable use of the natural resources of Skadar/Shkodra Lake and its watershed. The global environment objective of the project is to reduce pollution and conserve lake and its biodiversity as an internationally important natural habitat, especially for water birds. The project is implemented by World Bank (WB).

After the assessments of the environmental and socio-economic situation in the Skadar/Shkodra Lake area (TDA; SAs in MN and in ALB), the preparation of a Strategic Action Plan has been considered as an important following step, aiming to define concrete actions for improving the situation in the lake area.

This Strategic Action Plan (SAP) for Skadar/Shkodra Lake is presented here as a Joint SAP, prepared in an integrated way of the two National SAPs of Albania and Montenegro. The National SAP for Albanian part of the lake area is prepared by the Association for Protection of the Aquatic Wildlife of Albania (APAWA), while the National SAP for the Montenegrin part of the lake area is prepared by the Center for Ecotoxicological Research of Montenegro (CETI). This SAP (as well as the two National SAPs) is prepared in the framework of the preparation of Lake Skadar/Shkodra Integrated Ecosystem Management Project (LSIEMP), with the support of Global Environmental Facility (GEF), World Bank (WB), Ministry of Environment, Forests and Water Administration of Albania (MEFWA) and the Ministry of Tourism and Environment of Montenegro (MoTE). SNV Montenegro has had an important consultative role for the preparation of this SAP through a group of international consultants.

Consultations with the stakeholders, such as Shkodra Region, Shkodra Municipality, Kopliku Municipality and the Development Offices of these institutions (Albania) and institutions and experts from Montenegro (e.g. National Park Skadar Lake, University of Montenegro) have played an important role in identifying the main needs of the local communities and prioritizing the proposed activities.

The SAP is structured as follows:

Chapter 1 is an introduction, which describes the aim and objectives of the SAP, the catchment area of Skadar/Shkodra Lake, it highlights the importance of Skadar/Shkodra Lake in the regional context and describes the existing protected status and management principles of the lake in both countries.

Chapter 2 represents an analysis of the lake area and current situation. It consists in several sub-chapters.

As regards to the abiotic environment, the sub-chapter 2.1 gives a general description of the geology, geomorphology, climate and hydrology of the lake, as well as the water characteristics and pollution.

The *sub-chapter 2.2* is dedicated to the biotic environment, vegetation and flora, aquatic and terrestrial ones, endangered plant associations and species, fauna of the lake and its watershed with invertebrates and vertebrates. This sub-chapter gives also a general overview of the endangered animal species and endangered habitats.

The *subchapter 2.3* gives information on socio-economy and population, historical and cultural values, agriculture and land use, stockbreeding, agro industry, fishery and tourism.

Chapter 3 is a summary of previous assessments made in the framework of other projects supported by the LSIEMP: 1) Transboundary Diagnostic Analysis (TDA) and 2) Social Assessment (SA). These assessments involve a large analysis of the current situation, emphasizing environmental impacts, socio-economic situations, institutional and legislative framework, as well as proposed measurements and recommendations for improvement of the current situation in Albania and Montenegro.

Chapter 4 is dedicated to the development framework for Skadar/Shkodra Lake. It makes an analysis of the rationale for a strategic approach, showing the importance of the main issues on which the preparation of SAP is based. In this chapter the SAP vision, mission, goals, operational goals, expected results, indicators and stakeholders are analyzed in details.

Chapter 5 is presented in a table format, describing the proposed actions for each country and joint actions, too, between Albania and Montenegro. The budget for each proposed action is given in the table.

1. INTRODUCTION

1.1 Aim and objectives of the Joint Strategic Action Plan for Skadar/Shkodra Lake

The aim of the present Joint Strategic Action Plan for Skadar/Shkodra Lake is to assist the government institutions and other interested groups/institutions in Montenegro and Albania to define actions and projects at local, national or bilateral level, aiming to improve the environmental management and supporting sustainable economic use of the natural resources of Skadar/Shkodra Lake and its surrounding areas.

The SAP also aims to facilitate the provision of information and its exchange among the stakeholders, to create a broad-based framework for future cross-border and cross-sectoral actions for the management of the lake and to define and describe the initiatives and procedures that should be taken for accomplishment of these objectives.

The Joint SAP is broad-based, integrated document, for improving environmental management and supporting sustainable economic use of the natural resources of Skadar/Shkodra Lake and the surrounding watershed area. The JSAP is expected to serve as a framework and blueprint to guide and coordinate cross-boundary and cross-sectoral actions of Governments, donors and private sector investors. This includes the proposed GEF-financed Lake Skadar/Shkodra Integrated Ecosystem Management Project, among others. The SAP outlines specific objectives and targets for management of the transboundary water body, and a prioritized program of strategic and integrated actions for achieving them.

The JSAP was prepared by drawing upon, first of all, three documents already developed in preparing the GEF/WB project: Transboundary diagnosis analysis (TDA) and the Social assessments (SA) for Montenegro and Albania. Further, existing national and local plans, strategies and documents were reviewed; consultations with important stakeholders were held, including local community and residents, local and central government, NGOs, donor organizations and the private sector.

1.2 Watershed area of Skadar/Shkodra Lake

Skadar/Shkodra Lake is situated in the western part of the Balkan, in the border between Albania and Montenegro, between 42°21'54'' and 19°09'52'' in the north (Malo Blato, Sinjac), 42°03'15'' and 19°30'00'' in the south (Bojana/Buna spring), 42°03'15'' and 19°30'00'' in the east (near Shkodra), 42°21'19'' and 19°01'28'' (near Rijeka Crnojevic). The watershed area of Skadar/Shkodra Lake has a surface of 5179 km², of which 1027 km² are within the Albanian territory.

The main areas of the watershed area of Skadar/Shkodra Lake are the fields of Niksić and Cetinje, low field area of Zeta – Shkodra, River Morača with its watershed, Perroi i Thate with its watershed, as well as some other smaller areas like valley of Crnojevic and valley of Rrjollli. The average altitude of the watershed area is 770m, what shows that this lake collects waters from a mountainous area. The altitudes vary from 5m above the sea level in the low filed of Mbishkodra, up to 1490 m above the sea level near the spring of Morača.

The watershed area of Skadar/Shkodra Lake is inhabited by a population of about 500.000 inhabitants in Albania and Montenegro. About 65% of this population be-

longs to Shkodra and Podgorica, while the other part to smaller towns like Koplik, Bajza in Albania, and municipalities of Nikšić, Cetinje and Bar in Montenegro, as well as villages around the lake.

1.3 Skadar/Shkodra Lake in the regional context

Besides for Albania and Montenegro, Skadar/Shkodra Lake is an important area in a larger regional aspect, too. It is an important reserve of biodiversity and a migratory road for many animal species of the region. This area represents also particular values in hydrologic and ecologic aspects, taking into account connection of the Lake with a larger hydrographic net in the Balkan through Drini River (Ohrid and Prespa lakes) and with the Adriatic Sea through Bojana/Buna River.

Protection and sustainable development of this area and lake ecosystem has been in the main focus of the environmental collaboration between Albania and Montenegro. The dialogue between the two governments on issues related to the Lake environment began in 1994. In May 2003 a Memorandum of Understanding for the Protection and Sustainable Development of joint resources was signed by the Ministers of Environment. By doing so, the two countries commit to conserve the natural resources of Skadar/Shkodra Lake in a coordinated and integrated manner and to improve the relevant national level regulatory and institutional capacities.

In the last few years the Governments of the two countries have acknowledged the possible impact of further degradation of the lake natural resources and showed their willingness to cooperate in improving the protection and management of the lake and its watershed. This Joint Strategic Action Plan for Skadar/Shkodra Lake also is in the framework of the implementation of the Memorandum of Understanding, signed in 2003.

1.4 Existing protected areas and management principles on Skadar/Shkodra lake

In Montenegro Skadar/Shkodra Lake has been a National Park since 1983 (IUCN management category II). In 1995 National Park Skadar Lake was recorded in the Ramsar list (wetland area of international significance). The National Park area has a total surface of 40.000 ha.

In Albania the actual protection status of Skadar/Shkodra Lake is “Managed Natural Reserve” (IUCN Category IV), declared by the Albanian Government with the decision No. 684, date 02. 11. 2005.

The protected area in Albania includes three categories of protection:

- a. The core zone* (marked in the map with “1/a”) composed by: the lake shore from the western extreme of Zogaj village to the border between Republic of Albania and Montenegro, the slope of Taraboshi Mountain from altitude 494 m in the south to 200 m within the lake waters, in the segment Zogaj-Albanian-Montenegrin border in the north. The second level of protection is applied in this area.
- b. Habitat Management Area* (marked in the map with 2/a) composed by: the whole lake water surface, except the one included in the area 1/a mentioned above; the Albanian western shore from Bojana/Buna bridge in the east, to Zogaj village in the west (bordering zone 1/a of this point) including all the latitude of this segment up to the

altitude of 300 m in Taraboshi mountain slope in the south. The third level of protection is applied in this area.

c. Traditional Development Area (marked in the map with 3/a) composed by: the whole eastern surface of the lake bordering on the west with the area 2/a mentioned above of this point up to Shkodër-Hani i Hotit motorway in the east and Shkodra city in the south-eastern end. The fourth level of protection is applied in this area.

The Albanian part of the lake area has been also declared as a Ramsar site (Ramsar Convention “On internationally important wetlands, especially as waterfowl habitats”) by the Ramsar Secretariat and the decision No. 683, date 02. 11. 2005 of the Albanian Government.

The administration of the managed natural reserve of Skadar/Shkodra Lake in Albania is composed by ten employees (Rangers), who depend on the Ministry of Environment, Forests and Water Administration. This Ministry is charged with drafting the administration regulations, the management plan and the monitoring programme of the managed natural reserve of Skadar/Shkodra Lake in cooperation with local government, non profitable organizations, community representatives and scientific institutions.

2. ANALYSIS OF THE STUDY AREA AND CURRENT SITUATION

2.1 ABIOTIC ENVIRONMENT

2.1.1 Geology and geomorphology

Most of the hypotheses on the origin of Skadar/Shkodra Lake state its tectonic – karstic origin, during Tertiary or Quaternary. Tectonic depressive movements created a large flooded area. The actual lake area is surrounded by calc and dolomite formations of Palaeozoic, Mesozoic and Tertiary.

The geomorphology of Skadar/Shkodra Lake basin is mostly determined by limestone and associated karstic processes. This basin is a depression located south of the Dinaric Alps and orientated northwest-southeast, parallel to the current shore of the Adriatic coast. The flat Zeta Plain and the main inflowing rivers are located on the northern and north-eastern side of the lake. Their deposits and the lower edge of the Plain have created a wide marsh belt that is regularly flooded. Skadar/Shkodra Lake is separated in the southwest by steep hills from the Adriatic Sea: the Taraboshi and Rumija mountains. This area has a width up to 15 km, with a maximal altitude of 1600 m. Elongated islands of hard and soft substrate are along the coastline of the lake, especially in the Montenegrin part. Many karstic springs are in the south-western part of the lake. The lake area drains through the Bojana/Buna River to the Adriatic Sea. This river is the only emissary of Skadar/Shkodra Lake.

2.1.2 Climate

Mediterranean climate predominate in the Skadar/Shkodra Lake basin. The annual potential of the sun radiation is 2054 kw/m², which is considered as a high amount, with a high importance as an ecologic factor for the area. The annual average number of sunny days on the lake is 116,4, while of the cloudy days is 73 – 106. Wind activity is determined by cyclonic factors of the Mediterranean and Balkan, but also by the local factors. In the Albanian part (Shkodra Area) predominate the winds from east and south-east, while in Montenegrin part (Virpazar) predominate the winds from north-east and south-west. There are 15 types of winds, which are known on the Skadar/Shkodra lake basin, of which Murlan and Shirok are the most important. The annual average temperature of the air is 14°C - 16°C. The highest average temperature is usually recorded in August (in Shkodra 21,4°C – 27,5°C and Virpazar 20,1°C – 29°C) and the lowest average in January (in Shkodra 0,5°C – 6,5°C and Virpazar 0,6°C – 6,7°C). The highest values of air humidity are recorded in November (77%), while the lowest in July (55%). The average of the annual rainfall on the lake is between 1750 mm and 2500 mm, but within the basin some areas receive over 3,000 mm. The lowest rainfall is recorded in July (42 mm in Shkodra and 46 mm in Virpazar) and the highest in November (274 in Shkodra and 349 in Virpazar).

2.1.3 Hydrology

Skadar/Shkodra Lake is the largest lake of the Balkan Peninsula. The lake area varies between 353 km² at a minimum lake level of 4.6 m (above sea level) and 500 km² at a maximum lake level of 9.8 m (with 335 km² in Montenegro and 165 km² in Albania). The drainage area of the lake is about 5,500 km² (4,470 km² in Montenegro and 1,030 km² in Albania). The average depth of the lake is 5-6 m. Maximal length of the lake is 44 km and the maximal width is 14 km. The whole coastline of the lake, including

islands, is 207 km. The most important tributaries of Lake Shkoder enter the lake from the north: Morača, Crnojevića River, Orahovštica, Karatuna, Baragurška River in Montenegro, Perroi i Thate, Rjolli and Vranka River in Albania. On the west side many small streams flow into lake. Precipitation on the lake, groundwater and springs contribute also to the inflow. Two main groundwater sources can be distinguished: aquifers in the Zeta Plain and karstic springs, mainly on the south-western side of the lake. The lake's outflow through the Bojana/Buna River is sometimes impeded due to high water levels in the Drini River, which flows into the Bojana/Buna less than a kilometre from the lake outlet. The average outflow by River Bojana/Buna is 300 m³/s.

2.1.4 Water characteristics

According to the TDA, Content of dissolved oxygen in the lake waters varies 7 mg/l – 12 mg/l in the surface water layers and 5 mg/l – 12 mg/l in the bottom water layers. Low content of oxygen, up to 3 mg/l, has been recorded near Crnojevića River. Saturation index is about 80%. Free carbon dioxide (CO₂) is recorded in very small concentration in the lake waters. The highest value in the coast has been recorded near Crnojevića River 2 mg/l – 5 mg/l, while the highest value recorded for the lake water is 13,07 mg/l among the macrophytes, in reductive chemical conditions and very low intensity of natural light. Carbonates vary from 2 mg/l – 19 mg/l, while bicarbonates 86,6 mg/l – 254 mg/l. High variation of bicarbonates may be the main reason for the high variation of conductivity (100 µmhos – 343 µmhos) (Dhora 2005). Water alkalinity varies 1,47 – 4,18 mval/l, while Ph 7,1 – 8,5, but it usually remains between 7,9 – 8,2. These Ph values fall within the optimum (6 – 8,5) for the development of a high diverse biota. The lake water is characterized by a high content of calcium, with an average 31 mg/l – 42 mg/l. Several areas have high calcium content, up to 132 mg/l. Total content of the dry residuals has been assessed 98 mg/l – 164 mg/l in the pelagic waters and 102 mg/l – 240 mg/l in the littoral waters. Values of phosphates in the lake waters are 0,002 mg/l – 0,004 mg/l. In certain periods, in the littoral parts near the river mouths, these values increase hugely, up to 150 – 1000 times, e.g. near Crnojevića and Morača mouths. Average value of the total phosphorous varies 0,004 mg/l – 0,040 mg/l, but near Crnojevića River these values reach 0,100 mg/l – 0,350 mg/l. Content of nitrates in pelagic waters is 0,012 mg/l – 1,200 mg/l, but its variation is high between the seasons. The highest values have been recorded near Morača River, up to 9mg/l. Nitrites vary between 0,0 to 0,030 mg/l, with the highest values in the littoral. Chlorines have a content 6 mg/l – 9,8 mg/l in most of the lake area, but very low content in the “eyes” (wells). Content of Silica is 1,3 mg/l – 3,45 mg/l, Magnesium 4,8 mg/l – 74,8 mg/l and sulphates 3,2 mg/l – 30 mg/l.

2.2 BIOTIC ENVIRONMENT

The region of Skadar/Shkodra Lake is located in a zone where two major zoogeographic areas meet: the Palaearctic region (Europe, Asia, the Mediterranean and North Africa) and the Palaetropic region (Africa). Their linkage and influences can be seen among ornithofauna, with incidences of African species (e.g. African cuckoo, African black heron, flamingo) and winter migratory species of West Siberia (ducks, geese). During the last glacial period Skadar/Shkodra Lake represented a refuge for several species. As a result, today some relict and endemic animal and plant species are met in the area. After the ice age, species such as the turtledove, the Dauric swal-

low, Syrian woodpecker and Spanish sparrow have come to the region as they expanded their distribution area.

Skadar/Shkodra Lake and its watershed represent a complexity of habitats with a high diversity of living organisms. It encompasses several types, subtypes and many smaller classification units of habitats, such as lacustrin, palustrin, riverin, limnetic, litoral, open water areas, vegetated and unvegetated, floating, emergent and submergent vegetation, hard and soft bottom, forest, shrub and herb vegetation etc. This diversity of habitats shelters a high diversity of plants and animals.

The table below shows the species number for the main groups in watershed of Skadar/Shkodra Lake, after Dhora 2005.

Table 1. Species number in the watershed of Skadar/Shkodra Lake (after Dhora 2005).

Vascular plants	1900	147 aquatic
Freshwater molluscs	54	
Insects	6000	210 aquatic
Fish	54	
Amphibians	16	
Reptiles	28	4 aquatic
Birds	282	112 aquatic
Mammals	57	3 aquatic

2.2.1 Vegetation and Flora

2.2.1a Aquatic vegetation

In the recent publication “Shkodra Lake [Liqeni i Shkodres]” (Dhora 2005) is reported a number of 1100 microalgae, referred to Petkovic (1981), Rakaj, Hindak & Hindakova (2000), Rakocevic (2001) and Rakaj & Miho (2005). About 420 species belong to the diatoms, where the most abundant are *Navicula*, *Nitzschia*, *Cymbella*, *Gomphonema*, *Fragilaria*, *Achnanthes*, *Cyclotella* etc. Species of these genera are found in both plankton and benthos. Chlorophytes are characterized by a high diversity, too. 470 species are known from this group for Skadar/Shkodra Lake, among which *Pediastrum*, *Scenedesmus*, *Tetraedron*, *Closterium*, *Cosmarium* and *Staurastrum* are the most abundant. Other well-presented groups are also Euglenophyta with *Euglena*, *Phacus*, *Trachelomonas* and Cyanophyta with *Croococcus*, *Merismopedia*, *Microcystis* and *Oscillatoria*.

The total number of aquatic macrophytes for the whole area of Lake Shkoder is 164 species belonging to 66 genera and 43 families. At the northern shore of the lake dominant plant communities include the *Scirpus* – *Phragmites* community (*Phragmites communis*, *Scirpus lacuster*, *Typha angustifolia*) and the *Myriophyllum verticillati* – *Nuphar* community, where especially *Nuphar*, *Ceratophyllum*, *Trapa* and *Potamogeton* species are represented. The western lake shore consists of steep rocks and hills with hardly any submerged vegetation. Along the eastern and southern lake shore extended reed beds (*Phragmites*) have developed.

36 associations of macrophyte plants have been listed for the whole lake by Dhora 2005: *Potamion*, *Najadetum marinae*, *Charetum fragilis*, *Charetum* sp., *Chareto* –

Nitellopsidetum obtusae, Potametum pectinati, Myriophylletum (spicatum – verticillatum), Potametum perfoliati, Potametum – Ranunculetum, Potametum lucentis, Potameto – Najadetum, Utricularietum vulgaris, Nympheion, Myriophyllo – Nupharetum lutei, Nymphoidetum peltatae, Nympheetum albo – lutea, Nymphaetum (alba), Hydrocharetum (morsus – ranae), Ceratophylletum (demersum), Potametum natantis, Ranunculion, Ranunculetum fluitatis, Phragmitetalia, Eleochari – Hippuridetum, Heterophylletum, Eleocharietum (pallustris), Sparganio – Glicerietum fluitantis, Scirpetum (lacustris), Scirpeto – Phragmitetum, Phragmitetum (australis), Typhetum (angustifolia – latifolia), Menthetum aquatica, Ludwigietum palustris, Magnocaricietum, Juncetum and Agrostitetum (alba).

Besides biodiversity values, reed beds and other macrophytes are also important for their purification capacities through nutrient retention and transformation (nitrogen, phosphor), and binding of pollutants. The water quality of part of the Morača River improves by passing through the macrophyte vegetation of the wetland before it enters the lake.

2.2.1b Terrestrial vegetation (including lake watershed)

Around the lake stands of willow (*Salicetum alba*) are the most abundant forests, mainly on the northern shore and in the flooding area. They are used by the local population for the production of fuel wood, for construction and for wooden handi-craft products. Forests of Skadar's oak (*Quercus robur ssp. Scutariensis*), which were widespread in the past, have substantially degraded. The most significant forest communities are domestic chestnut and oak (*Querceto castanetum montenegrinum*), oak and European Turkey oak (*Quercetum confertae ceris*), as well as hornbeam (*Carpinetum orientalis*) with several sub-communities. Only degraded stands remain from the once well developed forests.

Zone of Macchie-Shibljak vegetation

This zone goes up to 400 – 500 m altitude. Among the evergreen trees and shrubs of this zone are: *Quercus ilex*, *Phillyrea latifolia*, *Juniperus oxycedrus*, *Erica arborea*, *Olea europea*, *Arbutus unedo* and *Larus nobilis*. Other common species (not evergreen) of this zone are: *Pistacia terebinthus*, *Punica granatum*, *Carpinus orientalis*, *Crataegus monogyna*, *Rubus ulmifolius*, *Paliurus spina-cristi*, *Quercus robur*, *Ulmus laevis*, *Ulmus minor*, *Genista hassertiana*, *Fraxinus angustifolius*, *Fraxinus ornis*, *Populus alba*, *Populus nigra*, *Salix alba*, *Salix elaeagnos*, *Salix purpurea*, *Alnus glutinosa*, *Ficus carica* etc.

Zone of Oak

This zone is situated from 300 – 700 m altitude in the basin of Skadar/Shkodra Lake. The most common oak species in this zone are *Quercus trojana*, *Quercus cerris*, *Quercus petraea*, *Quercus frainetto* and *Quercus pubescens*. Other species of this zone are *Acer planatoides*, *Acer pseudoplatanus*, *Acer obtusatum*, *Castanea sativa*, *Sorbus torminalis*, *Sorbus umbellata*, *Sorbus aria*, *Tilia platyphyllos*, *Corylus avellana*, *Crataegus pentagyna*, *Juniperus communis* etc.

Zone of Beech

The zone of beech covers the altitude 600 – 1700 m of the Skadar/Shkodra Lake basin. In some areas this zone may reach up to 1900 m together with the zone of pines. Common trees of this zone are *Fagus sylvatica*, *Acer pseudoplatanus*, *Sorbus graeca*,

while the common shrubs are *Cotoneaster integerrimus*, *Rubus idaeus*, *Vaccinium myrtillus* etc. Among the pine trees, the most common are *Pinus leucodermis* and *Pinus nigra*.

Zone of Alpine Pastures

Alpine pastures cover the areas over 1800 – 1900 m of the lake basin. The most spread plants of this zone are *Rosa sp*, *Juniperus sabina*, *Luzula italica*, *Gentiana verna*, *Gentiana lutea*, *Astragalus purpureus*, *Anthyllis aurea*, *Silene macrantha*, *Campanula*, *Poa*, *Festuca*, *Sesleria*, *Koeleria*, *Bromus* etc.

2.2.1c Endangered plant associations and species

At least, six important plant associations are considered as endangered, after Dhora & Sokoli (2000): *Nymphoidetum peltatae*, *Potameto – Vallisnerietum*, *Myriophyllo – Nupharetum lutei*, *Trapetum natans*, *Phragmitetum australis* and *Leucojo – Fraxinetum angustifolia*. 20 vascular plant species, most of them macrophytes, are endangered in the Skadar/Shkodra Lake and its coasts. The most threatened are considered *Marsilea quadrifolia*, *Hydrocotyle vulgaris*, *Hydrocharis morsus – ranae*, *Butomus umbellatus*, *Cladium mariscus*, *Nuphar luteum*, *Nymphaea alba*, *Nymphoides peltata*, *Sagittaria sagittifolia* and *Trapa natans*.

2.2.2 Fauna of Skadar/Shkodra Lake and its watershed

2.2.2a Invertebrates

The majority of Skadar/Shkodra Lake invertebrate groups have not been well researched. As invertebrates play an important ecological role, among others as principal food source for many higher level species, the lack of knowledge prevents a good understanding of the lake's ecological functioning.

Zooplankton of the lake is an important community, which defines the trophic structure of the ecosystem. It plays an important role in the dynamism of nutritive matter in the water and other populations of vertebrates, especially fish. Zooplankton of Skadar/Shkodra Lake is predominated by protozoans, (especially Ciliophora), rotifers and crustaceans (mostly Cladocera, Copepoda, Ostracoda). Other groups presented in plankton are also bivalves (larval stage), Branchiura, Gastrotricha, Hydrozoa etc.

Zoobenthos is another important community of invertebrates, with a high diversity and predominating biomass in the lake. Protozoans and rotifers are characterized by a high species diversity in the zoobenthos, too. From the molluscs, 54 species are known in the lake and its watershed, of which 42 are gastropods (snails) and 12 are bivalves (mussels). Oligochaetes represent one of the most abundant biomass among the invertebrates, despite their relatively limited species number. Crustaceans are well-presented in the zoobenthos of the lake, predominated by Cladocera, Ostracoda, Copepoda, Amphipoda and Decapoda. About 152 species of insects are known in the zoobenthos of Skadar/Shkodra Lake, mostly in their larval stages. Chironomids are the most presented group of insects with 20 species. Gastrotricha, Bryozoa, Hydrozoa and Spongia are other groups in the zoobenthos of the lake.

2.2.2b Vertebrates

Skadar/Shkodra Lake has a high variety of fish fauna. Besides the potentials of the lake itself, the high diversity of fish is also due to the large network of rivers and streams in the lake watershed and the communication with the Adriatic Sea. The ich-

thiofauna of this basin includes highland coldwater species, warm freshwater species and several marine species. 54 fish species are known in the lake. The relatively high number of endemic species makes the lake significant on regional level. About 10 species are the most important for the fishery in the lake, especially carp, bleak and eel. Two fish families are especially important: cyprinids (most abundant in species) and salmonids (which are much rarer).

The lake and its basin are very rich in amphibians and reptiles. These include endemic and endangered species. The lake, with its wide zone of water vegetation, floodplains, humid forests as well as many streams, is an ideal habitat for amphibians like the Ranidae. Currently 51 species of herpetofauna have been met, including a large number of protected species and many endemics and subendemics.

Skadar/Shkodra Lake is a very attractive area for birds, especially along their migratory routes, but also provides good nesting and colonisation conditions. The avifauna is characterized by a high diversity, with 282 species, belonging to 18 taxonomic orders. About 90% of the bird species are regionally and intercontinentally mobile, linking the region to neighbouring countries, Asia and Africa. Around 73 species of migratory nesting birds inhabit the lake in spring and summer and leaving in autumn. About 18 species fly over the area during autumn and spring, 45 species are regular winter guests and 12 species spend summers on the lake, while their populations nest in the north. In addition, there are some 90 species that visit the lake irregularly, including those that fly over or visit the lake during the winter or summer season. The number of waterfowl on the Montenegrin side is determined by winter counts since 1990. Between 1990 and 1999 numbers varied between 150,000 and 250,000, but since 1999 the species number has dropped strongly to 35,000 in January 2005. *Fulica atra*, *Anas platyrhynchos* and *Aythya ferina* are found in large numbers. Bird abundance was one of the main reasons for claiming Skadar/Shkodra Lake as an internationally important wetland and waterfowl habitat (Ramsar site) in Montenegro (since 1995) and Albania (since 2005).

The mammals related to Lake Skadar/Shkodra are not well researched. The total number of species found is 50 (belonging to 6 orders). Only a few mammals are strongly linked to the water habitat, like the otter (*Lutra lutra*). Bats are especially abundant around the lake. The other mammals live mainly in the forested areas, predominantly located on the south-western shore of the lake and in the mountainous areas.

2.2.2c Endangered animal species

Skadar/Shkodra Lake and its watershed area has a high number of endangered animals, of which many species have regional or international (European and global) threatening status. This is another reason for the international importance of the Skadar/Shkodra Lake. Dhora & Sokoli (2000) have published a list with 124 endangered aquatic animal species of the lake. If considering the terrestrial species, too, the list of endangered fauna of the lake watershed would be much longer. From these 124 endangered aquatic animals, 9 are molluscs, 33 are fishes, 12 are amphibians, 4 are reptiles, 65 are birds and 1 is mammal. It is noticed the high percentage of threatened animals among fishes, amphibians and birds, with many species of global concern.

2.2.3 Endangered habitats of Shkodra Lake in Albania

Several aquatic and wetland habitats of the Albanian part of Skadar/Shkodra Lake are considered as endangered in Dhora & Sokoli (2000). These includes: the eyes (wells) Syri i Sheganit and Hurdhana e Kosanit; underwater meadows of Shegani; floating

“meadows” in the eastern coast of the lake (Shkoder, Bishti Qenise, Buze Uji, Hot); reed beds and areas of rushes (*Juncus*) in Shkoder, Vrake and Buze Uji; Forest areas of Shegan, Kamica, Vraka, Zogaj, Tarabosh and Shiroka; gravel and pebble habitats of Zalli i Bardhe, Zaruf – Burg, Buze Gegaj – Zogaj. All these habitats are protected under the new protection status of the Albanian part of the lake (Category IV – Managed Natural Reserve, since November 2005). The most important areas in biodiversity aspect, such as Shegani coast (north-east of the Albanian part) and Zogaj coast (north-west of the Albanian part) have been evaluated as core areas and are protected under the second category of protection, based on the Albanian law, as described in 1.4 above.

2.3 SOCIO-ECONOMY AND POPULATION

2.3.1 Population in the watershed of Skadar/Shkodra Lake

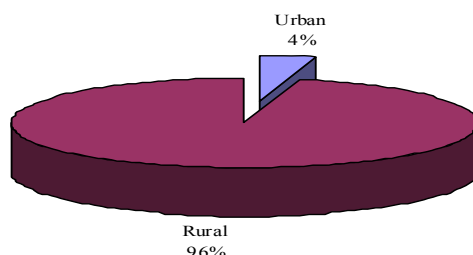
In the watershed of Skadar/Shkodra Lake the approximate number of inhabitants is 500,000. The majority of this population in Albania belongs to Shkodra Region, while in Montenegro it belongs to Podgorica, Niksic, Cetinje and Danilovgrad. The current population growth in Montenegro is 0.03% and the life expectancy is 73 years. In Albania it is respectively 0.6% and 74 years. The population living below the poverty line in both countries is about 30%.

In Montenegro the area of Skadar Lake National park is situated on the territories of three municipalities: Podgorica, Bar and Cetinje. Municipality of Podgorica take a part with over of 70% in total population of Skadar Lake National Park, and its domination and influence on demographic moves are evidentially.

Social assessment for Montenegro (presented later in the text) for Skadar Lake involved 40 settlements, which belong to National Park or its frontier part, and according to Census from 2003 total number of inhabitants in settlements belonging NPSL were 12,474. The highest number of inhabitants is concentrated in the settlements which belong to municipality Podgorica – 10,288, while the rest belongs to municipalities Bar (1,668) and Cetinje (518).

Settlements in Virpazar and Rijeka Crnojevica only had urban characteristics. In the settlements with urban characteristics only live 553 inhabitants or 4%, while in rural settlements these number is much higher and it is 11,921 or 96%.

Graph 1: Structure of inhabitants in the urban and rural settlements in the area of National Park of Skadar Lake in Montenegro.



According to Physical Plan of National Park Skadar Lake from 2001, territory of the Park involved 17 settlements which number of inhabitants is between 6 and 543.

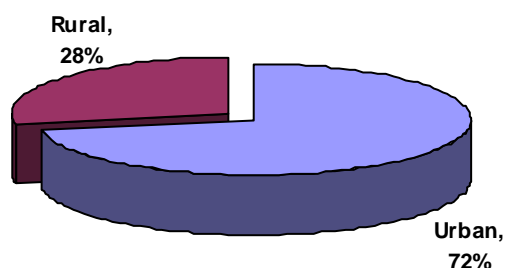
Analyses of demographic moves, which involved settlements, which administratively belong to the Park, as well as the settlements, which are directly, recline on the Park, indicated absolute decreasing in the number of inhabitants in long-term period. In the last ten years, decrease is slower, what is more result of demographic exhaustion than undertaken actions on consolidation and improvement of Lake and its surrounding.

In the Albanian part there are around 20 villages in the lake area and 2 municipalities, where Shkodra is the only main town of the area. From those, 10 villages with 300-1000 inhabitants are located more closely to the lake.

Table 2

Municipalities and communes in the lake area					
Nr.	Municipality/ Commune	Surface (km ²)	Population	Nr. families	Nr. villages
1	Shkodra	30	109,632	34,682	-
2	Koplik	9.30	12,900	3,040	-
3	Rrethina	47.05	16,242	5,762	10
4	Gruemire	113.70	15,130	3,010	15
5	Kastrat	128.70	12,740	2,530	12
6	Qender	46.72	4,800	1,260	8
	Total	375.47	171,444	50,284	45

Source: INSTAT



Graph 2: Structure of inhabitants in the urban and rural settlements in the Skadar Lake area in Albania.

Shkodra is the most developed centre of the region and the biggest Municipality of the lake area. It is situated on the south-eastern part of the lake. Its surface is about 30 km², height 9-10 m on the sea level or 3-4 m on the level of lake. It has a population of 110.000 inhabitants and 34.682 families. The population of Shkodra city represents 32% of the total population of Shkodra Region (Qarku Shkoder) and the 45% of population of Shkodra District (Rrethi Shkoder).

Within the last 13 years the total population of the area increased by 26.546 inhabitants. During this period the village population has declined by approximately 18%, while there is an increase of the population number in the urban areas by approximately 8.7%, which indicates that the movement of the population from the village to the urban areas within the region has in fact been more evident compared to the movement from the cities itself.

Part of the population has moved within the region toward Shkodra town. This is more evident for the district of Malesi e Madhe from where the percentage of the newcomers in Shkodra is approximately 51% of the total immigrants while only 10% of the total immigrants have migrated to Shkodra from the Puka district.

Albania has made significant economic progress since its transition from a communist regime towards a democratic market-based economy. The country's economy has been increasing since 1993 at an annual rate of about 8%. Although agriculture has traditionally played an important role in the economy, recent growth has been driven by the services and construction sectors. Agriculture in Albania counts for about 25% of its GDP. About 20% of the land is cultivated and approximately 50% of the labour force is engaged in agriculture; the majority of the balance is involved in industries.

2.3.2 Economy in the watershed of Skadar/Shkodra Lake

2.3.2.a In the Albanian part

Through centuries Shkodra played an important economic, urban and cultural role in Albanian life based on location as a bridge for intensive communication with European and south east European countries, with its regional natural resources, its urban life continuity and a consolidated economic traditions. All these strengths are yet a basis of the Shkodra future economic development.

During XVIII-XIX century until Second World War Shkodra was a prime merchant's city, positioned along the ancient trade route between the Mediterranean Sea and Kosovo in the interior, consolidating its trade position with different European countries, being an inland port, with 2500 shops in the bazaar and 80 types of crafts represented.

Before 1990s Shkodra was one of the main Albanian industrial and economic centers having its labor skills highly specialized in some branches related to processing of the regional raw materials and based on previous skills traditions.

The main activities of the **processing industry** in Shkodra were the processing of tobacco and manufacture of cigarettes, production of conserved foods, sugar-based foods, soft and alcoholic drinks, pasta, bread, rice and vegetable oil.

The main activities of the **textile industry** were focused on garments and silk products. The city also had a wood-processing and paper-production plant.

The most important **mechanical engineering industries** concerned wire manufacturing, elevator manufacturing and bus assembly.

Two important **handicraft enterprises** well known in Albania were the Artisan Products Enterprise and the Straw and Reed Enterprise.

As a result of market economy reforms after 90s, big changes took place in the economic structure of Shkodra, so that some nine-tenths of the former state-owned enterprises in the city were privatized. However, the majority of these privatized businesses did not continue their original production lines, particularly in the mechanical engineering industry, which had been unique in the country and had a guaranteed national market. Food processing, wood processing and the artisan products industry, which were among the largest producers of the time, were dissolved into a large number of small enterprises (SMEs).

Meanwhile, tobacco processing and the cigarette manufacturing industry were completely destroyed: incapability to invest in technological renovation and competition from imported products caused its bankruptcy.

2.3.2.a1 Agriculture and land use

In Shkodra region agricultural land occupies approximately 13%, while forests, pastures and abandoned land approximately 64%.

The two main occupations in land use for the region as well as for the eastern lake-shore are agriculture and livestock rising.

The main agricultural plants are field plants like wheat, maize, green beans, potatoes, vegetables, forage crops, tobacco etc. Almost 50% of the total surface is used for fodder and this clearly indicates that livestock is a very important activity in this region. It also is an indicator of the low economic level of the farmers. They cannot afford to cultivate the land providing seeds and fertilizers every year. The current economic level of the farmers doesn't provide for an advanced technology to support agriculture development in the area. Cultivation of vegetables is common near the large inhabited areas especially for selling. Fruit-trees and especially vineyard is developing these last 10 years mainly for industrial purposes.

Table 3

Actual land use and products in the Shkodra District area								
Nomination	Shtoj i Ri	Shtoj i vjetër	Shirokë	Golem	Dobraç	Grudë-fushë	Grudë e Re	Zogaj
Inhabitants	1266	1592	1161	1540	1265	2479	739	367
Families (No)	357	390	357	360	387	680	209	103
Farmers (No)	120	145	-	120	220	365	128	
Land use/ha	467	452	16	340	458	421	398	30
Crops/Ha	80	96	-	46	54	49	35	-
Vegetables/ha	100	110	-	14	15	12	13	-
Potatoes / ha	-	-	-	2	5	6	10	-
Beans / Ha	-	-	-	3	4	6	2	-
Tobacco / ha	-	-	-	-	-	1	1	-
Forage / ha	200	250	-	124	145	125	120	-
Specimen /beef	247	256	35	125	142	250	203	49
Sheep	785	788	59	125	100	365	215	79
Goats	-	-	45	25	36	27	19	59
Equine	110	92	12	25	34	25	12	25
Birds/ poultry	958	1000	30	658	548	657	698	50
Pigs	-	-	-	24	24	38	68	-
Bees	25	30	32	30	25	45	54	36

Source: Regional Directorate of Agriculture and Food

Table 4

Actual land use and products in the area Malesia e Madhe (2004)													
Nomination	Koplik	Kosan	Flake	Kamice	Ju-bice	Sterbeq	Kalldrun	Gril	Grizh	Omar	Boriç	Guci e Re	Dobër
Inhabitants	1129	414	349	660	533	533	692	763	369	258	426	397	405
Families	2980	103	68	150	148	150	180	80	89	73	95	102	113
Farmer	-	98	65	144	141	145	175	73	85	73	90	65	100
Land use/Ha	-	201	187	375	372	217	343	196	189	230	254	200	230
Crops /Ha	-	5	6	8	7	7	10	6	15	20	21	5	6
Vegetables/Ha	-	10	6	7	7	8	7	6	20	21	31	6	8
Potatoes/Ha	-	-	10	11	11	11	10	7	-	26	-	5	10
Bean/Ha	-	6	5	4	5	6	4	4	10	30	12	4	6
Tobacco /Ha	-	15	2	1	1	1	2		12	21	10	9	12
Forage /Ha		54	50	60	50	50	55	40	65	70	50	54	56
Specimen/beef	20	315	310	320	290	315	340	300	325	221	321	129	130
Sheep	30	700	650	670	630	590	720	590	521	512	500	320	318
Goats	10	39	-	-	-	-	-	-	20	21	25	12	10
Equine	15	35	25	27	24	19	21	17	30	29	36	25	20
Birds/ poultry	60	648	810	930	970	1010	920	830	865	325	327	658	600
Pigs	10	62	50	520	230	290	310	630	200	-	-	251	265
Bees	-	35	12	10	13	9	7	10	25	24	28	30	20

Source: Regional Directorate of Agriculture and Food

Currently, agriculture has many problems related to production, marketing, development of farms and infrastructure. High prices of inputs and mechanization, fragmentation of land, lack of updated technologies as well as irrigation and drainage system have caused low level of production and decrease of income for the farmers. Poor infrastructure such as poor roads in the villages, destroyed, irrigation system, lack of electricity, high price of transport have added to the difficult conditions. They work on individual basis and are not conscious to unite, having a bitter experience from collectivization. Apart from these, being undetermined in ownership the land is neither sold nor rented and it cannot serve as guarantee for bank credits as well.

2.3.2.a2 Stockbreeding

Stockbreeding is rather developed because of the existence of the pasture area, climatic conditions, and the fast and high incomes provided by the natural resources. Stockbreeding occupies 50% of the total agricultural production (in the economic terms). The regional Directorate of Forests and Pastures is on charge of pasture areas. Though pastures are under state administration, no active pasture management is observed.

Main destination of stockbreeding production is trade market and familiar needs provision for milk, cheese meat etc. The peasants sell the production themselves, but there exist also some cases of organized production collection by the private cheese production companies.

Table 5

Current Livestock production			
District	Milk/head	Milk total/year	Meat/year
Shkodra	2900kg	85747 ton	10115 ton
Malesia e Madhe	1363kg	17349 ton	3068 ton

Source: Regional Directorate of Agriculture and Food

Production of meat from cattle ranks first with 57%, pork with 24%, mutton with 18% and poultry with 1%. These last two years stockbreeding farms for meat production have increased. Currently in the region there are more than 20 farms with more than 200 pigs, 50 farms with more than 10 calves and two farms with more than 1500 pigs.

2.3.2.a3 Agro industry

Agro-industry is an ever-developing economic branch. Agro-industries are private owned and have updated technologies. All these agro industries work with less than half of their capacities because of lack of raw material and lack of market access. Difficulty of market access is not only regarding infrastructure but also quality and production cost. Reasonable prices and high quality of imported products have made it difficult for home agro industry to have full market access for their products. Number of employees in these agro industries is around 615. Most of the employees work in meat, bread and cheese production industries

Table 6

Agro industrial capacities		
Processing factories	Number	Capacity
Meat	3	2.200 kg/day
Cheese, milk, yogurt	70	1.300 ton/day
Bread	60	80.000 kg/day
Fruits/vegetables	1	30.000 kg/day
Drinks	5	1.600 hl/year
Olive oil	1	400 kg/hour

Source: Regional Directorate of Agriculture and Food

2.3.2.a4 Fishery

Fishery has been mostly concentrated in some villages in the coast of the Skadar/Shkodra Lake and Bojana/Buna River.

Fishing in the lake falls into three categories: commercial, small scale household use and sports fishing. The number of people practicing sports fishing is limited. There isn't an organized way of selling fish. Actually, fishing is an activity for less than 15% of the families living at the lake coast. This is due to the fact that fish stock decrease has caused income decline, consequently making coastal people find other living means such as retail, agriculture, agro industry, stockbreeding, migration etc. The Fishermen Management Organization counts 195 licensed legal subjects (groups) with about 450 fishermen. Zogaj is the only village that relies on fishing as the only means of living, while Shiroka is partially depended.

The most traditional species of fishing in the Albanian part are carp (*Cyprinus carpio*), bleak (*Alburnus alburnus alborella*), eel (*Anguilla anguilla*), mullets (*Mugil cephalus*) and twaite shad (*Allosa fallax*). Last decades there is a quick increase of the introduced fishes in the bycatch, such as Prussian carp (*Carassius auratus gibelio*) and perch (*Perca fluviatilis*). The carp is considered as “the king of the lake” and a “symbol” of Shkodra fishery by the locals.

During two last decades the illegal fishing in the lake increased. It is fished even in spawning period and with illegal means of fishing. Apart from that a very serious issue for the legal fishermen remains the unequal competition by the illegal fishermen. Only 100 fishermen were counted in 1990 while in 2005 around 450 legal and many more illegal are counted. The licensed fishermen appeal to the state for support to prevent illegal fishermen from ruining fish resources.

Aquaculture is almost undeveloped. Fishing in the lake is organized either through the FMO (Fishermen Management Organization), established by a WB Project on sustainable fishery or individually.

The World Bank has promoted the establishment of the FMO through the implementation of the project on Sustainable Fishery. It has also supplied this organization with two new buildings in Shiroka and Zogaj.

2.3.2.a5 Tourism

In Shkodra area there exist a whole range of natural attractions, from the mountains of highlands to the Mediterranean coastline of the Adriatic, from the shores of the largest lake in the Balkans to the rocky outcrop of Rozafa Castle, which stands majestically above a city that one hundred years ago had a navigable river bringing merchant and passenger vessels into its heart. The city of Shkodra with 2400 years of history was claimed the cultural capital of Albania still keeping some relics from the long turbulent history such as the castle, churches and mosques, archaeological museum, traditional old houses and streets, a rich and rare photo archive and organizes different cultural event.

12 hotels and 350 beds is the accommodation capacity in Shkodra town. With 3 border points with Montenegro (Murikan 13 km from Shkodra, Hani-Hotit 30 km from Shkodra and a ferry link to Virpazar through the lake, recently open), Shkodra is included in different tourist packages mainly covering day –trip itinerary for tourists, which are visiting Montenegro and Croatia.

The Albanian Alps with cultural tradition and natural beauty, always considered as a target for discovery are revealing increasingly the interest of local and international visitors which are stopping overnight in Shkodra and organising 1-3 days tours to Vermosh, Thethi or Razma, hosted by locals in private accommodation.

The lake shore is used traditionally from local residents for daily summer holidays, especially over weekends for bathing. Also, bars and restaurants (around 22 in the western shore) along the lakeshore in Shiroka-Zogaj and Sterbeq are another leisure attractions for locals, considered by them as a tourist offer to guests. Zogaj and Shiroka are used by Shkodra locals as health and family tourism destination, using private houses for some days as accommodation and are considered relevant for cultural tourism with handicrafts and fishing tradition. Still water sports, nature tourism, farm tourism and camping, as potentials for the lake watershed are not yet offered as a tourist product.

Solid waste and wastewater management are considered as factors hindering the growth of tourism figures along the lakeshore.

Regarding the villages and the territory along the eastern lakeshore there are very few accommodation offers and there is no organized information on the tourist offer. Koplik, as the main urban centre with many good quality new houses, might be a centre offering private and farmhouse accommodation for visitors, wishing to enjoy farm and nature tourism near the lake.

2.3.2.b In the Montenegrin part

Economy of the Skadar Lake region in Montenegro is modest. Main activities are agriculture, including fishery, and tourism.

2.3.2.b1 Agriculture

Agriculture is the basic for rural area, and this place as well, for centuries. Lake hinterland has modest agricultural potentials, consist of small lands in slews, formed on

the thin substratum. Larger complexes don't exist, except in a Zeta valley, which is outside of the National Park area, but leaning on it. Due to natural factors stock-farming and fishery are the main agricultural activities.

Agricultural fields that are the most quality ones, are aluvian soils, in area of 17.000 ha on the flat hinterland part, namely in Zeta valley region.

Krajina region is oriented in agriculture, within it in stock-farming and farming, and less in fishery. Agriculture is less and less basic activity in region.

Crmnica region is already in a phase of significant degradation. Size of average estate is small and exclude serious production of goods. Winegrowing and growing of fruit are prevailing principally for self use.

For the region of Riječka nahija picture of agricultural stage is similar. Degradation of agrarian significantly took place and, once agrarian region become one with non-agrarian characteristics.

For this region fishery was always the main source of existence, especially for Prevlaka, Dodoše, Žabljak and Vranjina. This relation changed over time, and with decrease of fish stock the common stability of this settlements decreased. Today fishery is still important basic, but not as existence one, anymore, due to lack of recourses and changings of working engagement toward other activities.

2.3.2.b2 Industry

Industrial activities aren't ones of particular importance for the Lake, and especially for National Park. The only industrial drive is Plant for fish processing, in Crnojevica River. Plant is working over decades with variable results, faced with problems, above all, raw material (fish) from the lake and labour.

Also, there are local inhabitants, daily migrants from the Park settlements from Krajina and, a little bit less, from Crmnica area, which gravitate in Bar, while influence of Cetinje and industrial drive from Podgorica is significantly smaller.

2.3.2.b3 Tourism

In respect to complementary of Skadar lake zone and Montenegro coastline offer, and additionally with Cetinje as a royal capital offer, Podgorica as a capital and Bar as a main port in Adriatic region, one can tell with certitude about great potential of the region. Natural values, cultural heritage, gastronomy, old fishermen settlements, closeness of the seaside, are advantages of the Lake, which are still not even nearly utilized, rather packed in sharp recognizable tourist product. Moreover, possibility of opening the Lake with navigable system of Bojana, opening boat line Virpazar-Skadar, as well as Sozina tunnel, generate conditions for major changing of Lake offer.

Excursive tourism – boat trips – In NP Skadar lake currently the most utilized is excursive form of tourism, which mostly has visitors from Montenegro coastline for clients. Excursive tours are done through local stakeholders, and according to NPSL record, in the season of 2006, 7000 tourists visited Lake in this way.

Accommodation capacity – Accommodation capacities are very modest. Besides three hotels, there are private accommodations as well, which are, the most common, not registered.

Other tourist contents – Beside something around ten tourist objects, in offer exists also bird watching, wind surfing, walking. All these contents are still in the beginning and do not generate significant income.

3. SUMMARY OF ASSESSMENTS

3.1 Transboundary diagnostic analysis

A Transboundary Diagnostic Analysis (TDA) is defined by GEF as “a scientific-technical assessment by which environmental issues affecting international waters in a region are identified and quantified, their causes analyzed and their impacts assessed, and the main actions needed to improve the problem are identified”. The TDA is a preparatory study for the Lake Skadar/Shkodra Integrated Ecosystem Management Project.

In next sub-chapters will be given: information availability analysis, main trends in pollution, institutional and legal aspects of lake protection and usage, transboundary cooperation, analysis of pressures and threats, as well as proposed ecological improvement options, as they were presented in TDA.

3.1.1 Data availability and knowledge gaps presented in TDA

There is in all fields of Skadar/Shkodra Lake environment quite some data available, but data collection has often been uncoordinated, irregular in time and space, and using different methods and standards (nationally and transboundary). The dramatic political changes and bad economic situation in both Montenegro and Albania in the past 15 years contributed to this. The result is that parameters and variables are difficult to compare and trends hard to assess.

After relatively long pause in organized monitoring of water and other indicators, since a few years, with institutional strength increasing, monitoring programs are being developed (both by governmental and non-governmental organizations) in most environmental fields. One problem is that the objectives of the programs are often not clear and the resulting strategy and design possibly inadequate.

The main problem today, however, is financing of often expensive programs. A sometimes related issue is that, because of both the cost of data collection and the value and ‘power’ that data represent, access to the data may be restricted. Some institutes and investigators are often not willing to share their data, unless high prices are paid.

3.1.2 Quality of lake environment-Quality of groundwater, surface water, soil, rain and air

Most pollutants for surface Skadar/Shkodra Lake's water, groundwater, soil and air originate from Podgorica, situated on the Morača River terraces in the Zeta Plain. On the Albanian side the main polluter is the City of Shkodra with its solid waste and wastewater. The main sources of pollution are:

- The Aluminium Plant Podgorica (KAP);
- Steelworks in Niksic;
- Wastewater from the cities and towns in the basin;
- Municipal wastes from the cities and towns in the basin.

Aluminium Plant Podgorica - hazardous waste disposal



During the past three decades the lake and its basin have experienced varying states of pollution. A well defined pollution trend for the basin as a whole is difficult to establish on the basis of the fragmented and inconsistent data sets. Also, water quality in the lake varies in space and time. Most pollutants are brought by the Morača and Crnojevića Rivers that are common places of disposal for poorly treated solid waste and wastewater. The concentration of pollutants like ammonia is high in the northern and north-western part of the lake and near the entry points of the Moraca. Further, the concentrations of pollutants show seasonal variation, depending upon the weather and the flow in the tributary rivers. For example, the dissolved oxygen is lower in the

summer period. During peak flows, the Morača River water influences most the water quality of the lake.

In general, the quality of the lake water appears to be reasonably good, thanks to the high refreshment rate of 2-3 times per year. However, lake sediment and dry soil quality in some locations is a concern. The following discussion by parameter group gives more details:

➤ Trend in basic parameters:

Most basic parameters of the lake water quality have remained more or less the same since the 1980s, but e.g. nitrates and oxygen have deteriorated. The increase in nitrates and reduction in oxygen, in particular near the Moraca Delta and the Zeta Plain on the Montenegrin side, may indicate an increase in organic pollution (e.g. by urban wastewater). Eutrophication is not (yet) an issue as a result of the high ‘turn-over rate’ of the lake water, but stagnant corners near the Moraca Delta and Zeta Plain are at risk.

➤ Trend in PCB-s and PAH-s:

Concentrations of PCB in surface waters were above the permitted limit in the Moraca River between 1990 and 1995. Recent measurements of PCB and PAH concentrations are below the detection limit and are currently no reason for concern for surface water quality (as long as the measures taken by KAP remain effective). In the groundwater and sediments these parameters were reason for concern. The values measured in 2005 decreased to acceptable levels, probably due to the measures taken at the KAP. In the dry soils of the Zeta Plain PCB and PAH show concentrations harmful for biota.

➤ Trend in heavy metals:

The analysis of metals in the water of the Morača River, Crnojevića River and in the Skadar/Shkodra Lake in 1981 (and the years before) showed minimum concentrations of Na, K, Cu, Zn, Cr, Pb, Mn, Co, As, Hg, CN and Fe. The comparison between their concentrations upstream of the rivers and at the lake showed little difference, except for some insignificant increased concentrations of Na and Fe at a specific site in the Morača River. This implies that the lake water at that time was hardly polluted by the existing industries within the lake basin. Note that the KAP began its first production at its full capacity in 1973. Further, all analyzed metals were below the Montenegrin MDK standards for drinking water.

Recent analyses of lake water and sediments show an increase in concentrations of heavy metals. The concentrations are higher at the mouth of the Moraca River, mainly due to the industrial wastes originating from the KAP. The highest Hg content in July 2005 was 1.77 mg/kg in sediments (0.40 mg/kg in fish), while it was undetectable in 1974-1977. Heavy metals accumulate in the sediments, while the water is refreshed over twice a year. The Hg in the sediment exceeds the EU standards on four of eight locations and of Ni on two out of eight locations in 2005. On the Albanian side of Skadar/Shkodra Lake in 2003, at 7 out of 10 locations the concentration of Ni exceeded the EU standards.

➤ Springs:

The current analysis of Albanian spring waters (Shegani and Viri) near the lake show that their quality is good and within the permissible limits of the EU standards. Although data are missing on spring water quality in Montenegro, one can expect that these are also of good quality, by lack of pollution sources in their areas of origin.

3.1.3 Quality of Lake's environment-Status of flora and fauna, pollutants in biota

The current status of the ecology in the Skadar/Shkodra basin is a mixed picture for the various flora and fauna groups. The good status of some flora and fauna species and habitats is partly the result of the turmoil in the previous decade that halted the economic development in the area, and the slow recovery in recent years. The limited number of pollution sources in combination with the high refresh rate (2-3 times a year) of the lake water and the inflow of clean karstic groundwater are the main reasons that the water quality remains good. The low population pressure and the inaccessibility of the higher parts of the catchment's contribute too. In contrast, hunting has continuously affected wildlife, in particular birds, fish and mammals. The Skadar Lake National Park organized until 2001 hunting trips. The recent decline in bird numbers is a serious concern. Autochthonous fish is recovering after a decline in a period of uncontrolled fishing (1980's), but migratory species seem still to be affected by fishing, although not necessarily within the basin. Exotic species are expanding rapidly. Data on the status of other faunal species is limited due to a lack of monitoring. The flora remains relatively undisturbed to date; illegal logging in forests occurs.

➤ Pollutants in biota

Concentrations of PCB-s and other pollutants in lake water, river water, groundwater, lake sediments and in tissue samples from various fish species living in Skadar/Shkodra Lake have been analyzed during the last 15 years. The concentrations of PCB's exceeded in some cases in the period 1990-1996 the permitted US EPA values for food consumption (2 ppm or mg/kg).

A recent study from 2005, by the Universities of Heidelberg (Germany), Podgorica (Montenegro) and Shkodra (Albania), showed that the highest concentration of total PCB-s was found in Rudd (*Scardinius erythrophthalmus scardapha*) being 200 µg/kg and that the lowest concentration was found in perch (*Perca fluviatilis*) being 35 µg/kg.

Recent data from Montenegro on PCB-s in water and in fishes (analyzed in 2004 and 2005) show that concentrations of PCB-s decreased strongly since the 1990s. This is the result of a combination of the following:

- the removal of the source of pollution: all barrels and soil contaminated with Piralen from the KAP are put in a special bunker;
- pollutants are transported quickly by groundwaters due to the high permeability of the soil in the Zeta Plain;
- the high precipitation in the region during the last 15 years;
- the high 'refresh' rate of the water in the lake.

PCB-s end up partly in the lake sediments, where they can remain for a long time. This was confirmed during a project carried out by Heidelberg University with the Universities of Montenegro and Shkodra in 2001-2002, applying passive sampling using Semi-permeable Membrane Devices (SPMD), simulating long-time exposure of

an organism to pollutants. Benthic fauna (e.g. worms, eels) are in particular exposed to pollutants in the sediments.

3.1.4 Institutional context and stakeholders in Montenegro

The Ministry of Tourism and Environment (MoTE) is responsible for the formulation and execution of the national environmental policy. Its responsibilities include nature protection, biodiversity and protected area management and its legislation. This Ministry is responsible for the tourism promotion of National Parks. In addition to these, it has a regulatory and coordinating role in communal and housing issues, including waste and wastewater management. Further, the ministry coordinates activities of nature protection institutions such as Public Enterprise National Parks of Montenegro, as institution in charge of managing Skadar Lake National Park.

The Ministry of Agriculture, Forestry and Water Resources (MAFWR) is responsible for, among others, the management of water resources (including their protection against pollution), agricultural land, forests, hunting and fishing.

Ministry of Economic Development is in charge in areas of physical planning, constructing inspection, as well as planning of mineral resources exploitation (peat from the lake was elaborated resource for commercial exploitation).

The Ministry of Internal Affairs has the authority to control fishing through their National Park wardens. Ministry of Culture, Sport and Media is in charge for preservation and restoration of cultural monuments, which are distributed in the lake area.

Local governments play an important role because of their direct involvement in physical planning and implementation of urban development, and in acts that regulate the use of areas adjacent to the National Parks. They can have considerable impact in the Park management by controlling (and monitoring) illegal construction of buildings. Further, their responsibilities and authorities extend to the management and operation of public utility services such as municipal (solid) waste, water supply and sanitation. The inspectorates for these public utilities are organized within local administration.

The Public Enterprise National Parks is responsible for protecting, promoting and managing the four Montenegrin national parks: Biogradska Gora, Lovcen, Durmitor and Skadar Lake. Its revenue is partly generated by the collection of fees and charges of activities such as fishing, wood cutting and other economic activities.

The Skadar Lake National Park management authority is directly involved in the protection and management of the lake and its shores. Main national park administration duty is to preserve protected area, but also it is included in planning of sustainable economy. Park management is done in accordance with Physical Plan of Skadar Lake as National Park. Based on this document, NPSL developed a 5 year program (2005-2010) and annual plans for the conservation and development of the park.

Three municipalities – Podgorica, Bar and Cetinje – bordering the lake, have a two-fold role in the management of the SLNP. They act as protection institutions as well as resource users. These local bodies are directly related to the park management and preservation because of their responsibility for managing municipal solid waste and wastewater (through public enterprises). They are also the sources of funding for the public enterprises. However, they have limited budget and, as a consequence, shifts

their interests towards the use of the lake's resources through different economic activities.

Private enterprises and local businesses such as hotels, handicrafts shops, tourist agencies, fish markets, hunting clubs, restaurants, catering services etc. are another group of stakeholders.

University of Montenegro and Ministry of Education and Science have the special interest in development of research and educational programs in biology, ecology and tourism in region of national park.

3.1.5 Institutional framework in Albania

The system of environmental administration in Albania includes the central and local administration. These are linked with special laws, agreements and decisions, which regulate the communication through them.

3.1.5.1 Central institutions

In the context of Lake Shkoder ecosystem, the central government responsible for planning, formulating and implementing environmental policies and strategies include the following ministries:

- Council of Ministers
- Ministry of Environment, Forests and Water Management
- Ministry of Health
- Ministry of Agriculture, Food and Consumer Protection
- Ministry of Public Works, Transport and Telecommunication
- Ministry of Public Order
- Ministry of Economy
- Ministry of Tourism, Culture, Youth and Sports

The Council of Ministers is the main organ of the administrative system. The approval of national strategies, the National Environmental Action Plan and affiliated documents are the attribute of the Council of Ministers, which receives such documents for consideration and deliberation upon proposal from the Minister of the Environment, Forest and Water Management. The Council of Ministers through the special organizations structures, such as the Council of Territory Regulation is the highest body, which approves the urban planning studies, master plans and regional plans, procedures for the proclamation of protected and buffer zones. It is also responsible for proclamation of the protected areas in Albania.

Ministry of Environment, Forests and Water Administration is the main public institution responsible for environmental issues and the main governmental body in charge with policy preparation and elaboration in the field of the environment in Albania. It is the highest authority entrusted with the power to submit to the Council of Ministers laws and by laws concerning the environment. From September 2005 the Ministry of Environment, Forest and Water Management includes also the two very important institutions, fishery inspectorate and forestry service, that deals with the management of the main activities in the wetland areas and is responsible for the management and administration of Protected Areas and National Parks and of wildlife and game hunting in Albania.

The Directorate of Fisheries administrates the resources of marine and freshwater fauna, in the areas where there is fishing and aquaculture. The Ministry is aided by an Advisory Commission on Fishing and Aquaculture. The Commission defines exploitation norms, designs management and development plans that are subject to periodic review including the number of fishing subjects, fishing zones and fishing instruments.

The General Directorate of Forest Service within the MEFWA is responsible for the management and administration of Protected Areas and National Parks and of wildlife and game hunting.

The Ministry of Agriculture, Food and Consumer Protection is another responsible body in the field of environment, more precisely dealing with natural resource management in the field of agriculture and livestock. Further, they play an important role for the formulation and monitoring of agriculture and animal production policies. It is also responsible for the maintenance of drainage and irrigation systems.

Ministry of Tourism, Culture, Youth and Sports and the Ministry of Public Works, Transport and Telecommunication are responsible for the policy and planning of activities related to the development of tourism areas along the lake, water related activities in the lake basin and territorial regulation.

The Ministry of Public Order has an important role as far as border control and law enforcement is concerned in the project sites. The project area is considered as borderline territory and as such they are controlled by the Ministry of Public Order. The role of this ministry is to guarantee the implementation of law in general and specific laws in particular. Cooperation with Order Police, Border Police and any other police forces at the central and local level is vitally important for ensuring the legal protection status of the project sites. This is related also to the enforcement of certain rules such as for fishing, hunting, agriculture and other rules necessary for the sustainable development of the project sites.

There is a great diversity within government system due to structural and other institutional differences. However, the main ministry that has the most important stake is the MEFWA. With the inclusion of the forestry, fishery and water management institutions in this body, most of the tasks are part of the obligation of this ministry (monitoring and protection functions, investment and exploitation functions). However, a lot need to be done at the institutional level to avoid the overlapping of tasks between different ministries.

The ministries and central government have some other institutions, which have an important role in the lake development and management. These committees and institutions are:

- National Council of Waters (NCW)
- Council of Aquiferous (River) Basins
- The Council of Territorial Regulation
- The Institute of Urban Planning Study and Design

The National Water Council is the central decision making body for the development and management of water resources in the country. The NCW is headed by the Prime Minister and its members include Ministries of Environment, Tourism, Foreign Affairs, Energy, Agriculture, Health, and Academy of Sciences and the Technical Secretariat for Water. It formulates water strategies, decides national water policies and has the power to endorse international agreements on cross-border water bodies. For each river basin or a group of river basins a Council of Aquiferous (River) Basin is formed.

The Council of Territorial Regulation of the Republic of Albania is responsible for the approval of urban studies concerning development of National Parks, development of tourism, ports and physical infrastructures, mostly at the national level.

3.1.5.2 Local Institutions

There are several offices that work on the local level and most of them are depending from the Ministries.

The Ministry of Environment, Forest and Water Management includes the Fishery Inspectorate of Shkodra and Malesia e Madhe which collects and processes statistical information with regard to fishing, defines methods of cultivation, controls the operations of fishing establishments, their geographical location and maintains the registers of fishing vessels. The Inspectorate of Fishing activity consists on controlling, monitoring, licensing and having penalty for illegal fishing in the lake area.

The Directory of Forestry Service in Shkodra is one of the most important offices on the regional and local level. Administration of the hunting stock and the stock's surface are the competence of the Directorate and the Institute for Forest and Pastures Research. This directorate is responsible to evaluate and preserve the forests and pastures in Shkodra Lake Region. The forestation directorate represents an important stakeholder group with respect to defining priorities for project preparation, future prospective of the area as well as involving in project implementation.

Recently, in Shkodra Lake work also 10 rangers, as a task force for the protected area. They work mostly for prevention of illegal fishing, but also in the territory control, which means the control of negative activities around the lake.

An important stakeholder is also the Regional Environmental Agency (REA) located in Shkodra city and covering the whole Prefecture territory. This is depended from Ministry of Environment, Forests and Water Administration. REA is authorised to make environmental planning and recommendations regarding the environmental management issues. It has the right to control the environmental effects of the activities implemented in the lake area.

Water Basin of Drini – Buna Directorate is the main important body in the field of water resource management. This office represents the local authorities responsible for management of water reserves in the respective basins. The basin Council has a juridical status and is a subordinate of the technical secretariat of the National Council on Water (NCW). Composition, rights and duties of the basin Councils should be determined by the NCW.

Other local institutions and authorities dealing with environmental issues are:

- The Prefecture of Shkodra
- Council of Shkodra Region
- Municipality of Shkodra and Municipality of Koplik
- Comunes of the areas (villages) around the lake
- Public Health Directorate for Shkodra and Malësia e Madhe
- Construction Policy
- Council of Territorial Regulation (CTR) of Shkodra Municipality and Shkodra Region
- Commission of Restitution and Compensation of Property (to the former owners).

These local level institutions are responsible for the design of local environmental action plans in accordance with national environmental strategies and technical assistance provided by the Ministries.

The Council of Territorial Regulation of the Shkodra region has an important role since it functions on the basis of bilateral agreement on the delegation of the power of urban planning. The CTR assists the Municipality of Shkodra in the sustainable development of environmental plans.

An important stakeholder is also the Commission of Restitution and Compensation of Property which has the responsibility to conduct a legal review of ownership rights of former owners. Forest areas, pastures and land bordering the lake coast were designated for restitution and compensation only after its monetary value had been established.

Municipalities and communes can influence licensing of all activities under their jurisdiction. In addition, despite the fact that lagoons and forests are not under communes and municipality administration, they are asked to exert their authority and influence for solving many problems or play an intermediary role with the communities living nearby.

3.1.5.3 Scientific - Research Institutions

The most important institutions which work as scientific and educational bodies on Shkodra Lake are:

- University of Shkodra
- University of Tirana
- Albanian Geological Service
- Institute of Hydro-Meteorology
- The High Forestry School, Shkoder

Shkodra University represents an important actor for the activities on Shkodra Lake. It is an important stakeholder in respect of defining area priorities, providing expertise in different fields, as well as involving them in implementation of different projects. In the Department of the Biology – Chemistry is established the scientific sector of Bio – Ecology of the Shkodra Lake. This sector has done several scientific researches and studies regarding the flora and fauna of the lake. The Microbiological Laboratory, also established in the Faculty of Natural Sciences provides microbiological analyses including those of the Lake waters as well. The Faculty of Natural Sciences, the branch of Biology-Chemistry and that of Geography of the Shkodra University are main contributors through their studies and research in and around the lake. University of Tirana, through the Department of Biology and the Museum of Natural Sciences (Faculty of Natural Sciences) has been working on inventory and monitoring of the flora and fauna of Albania, including also Shkodra Lake area. The main studies of Tirana University on Shkodra Lake deal with herpetofauna (amphibians and reptiles), birds and mammals.

Albanian Geological Service and the Institute of Hydro-Meteorology are responsible for developing studies dealing with geology, geomorphology, hydrology, hydrochemistry and sedimentology of the lake. Majority of the existing studies on these fields have been conducted by these institutions.

The High Forestry School of Shkodra is a well-known school for its tradition on cultivating young generations of foresters. This school is a potential actor for providing expertise on development and management of the forest areas around Shkodra Lake

3.1.6 Legal framework in Montenegro

Main legal act for management of Skadar Lake in Montenegro is Physical plan for Skadar Lake as National Park. This plan is developed in 2001. All activities planned to be implemented in the national park, should be in accordance with Physical plan. This plan is adopted, as it was prescribed by Law on National Parks. What is urgently needed to be done, is detail elaboration for development of certain location, proposed for development in Physical plan-mainly sustainable tourism.

Based on Physical plan, Program for protection and development of Skadar Lake is elaborated, for period of five years (2005-2010).

By Law on National Parks, most of activities are restricted in the NPSL. If certain activity is planned to be carried out in the region of the Shkoder Lake, it is subject to development of an Environment Impact Assessment and this assessment includes an intervention analysis and expert reports that are forwarded to the Ministry of Tourism and Environment for approval. The Ministry is in charge of approving or rejecting the intervention. Also, Law on National Parks provides managing, using, protection and improvement measures for National Parks.

Law on Environment regulates relations between human and nature, protection of nature, preventing its from destroying, as well as providing conditions for permanent use of nature. Prohibitions and licensing are also defined by this Law.

Law on Nature Protection defines categories of protection of natural areas in Montenegro. Also, managing tools are presented. This Law, from 1976, should be soonest modified and harmonized with certain EU directives.

Another relevant laws including:

- Law on Waters,
- Law on Freshwater Fishery,
- Law on Forests,
- Law on Agricultural Land,
- Law on Tourism,
- Law on Waste Management, etc.

In addition to all these amendments, State of Montenegro will need to ratify all conventions and international treaties following international recognition of its statehood (especially important Ramsar Convention-Convention on wetlands and Water Framework Directive-WFD on water management and water quality).

3.1.7 Legal framework in Albania

Almost the whole environmental legislation of Albania dates after 1990, following the political, economic and social changes. Last 15 years the Albanian parliament has approved many laws dealing directly or indirectly with the environment.

List of relevant laws:

Law “On the Land” (1991)

Law “On Seeds and Seedlings” (1992)

Law “On Forests and Forestry Police” (1992)

Law “On the Service of Plants Protection” (1993)

Law “On Protection of Natural Medical, Ether Oil and Tanifer Plants” (1993)

Law “On Protection of Wild Fauna and Hunting” (1994)

Law “On Protection of Horticulture Trees” (1995)

Law “On Fishing and Aquatic Life” (1995)

Law “On Pastures and Meadows” (1995)

Law “On Water Reserves” (1996)

Law “On the Regulatory Framework of the Water Supply Sector and of Disposal and Treatment of Waste Water (1996)

Law “On Environment Protection” (2002)

Law “On Protected Areas” (2002)

Law “On Protection of Marine Environment from Pollution and Damage” (2002)

Law “On Protection of Transborder Lakes” (2003)

Law “On Environmental Impact Assessment” (2003)

Law “On Biodiversity” (2006)

Preparation of several laws has been assisted by international experts and most of them are based on European legislation.

Albania has also ratified many of the most important environmental conventions in international scale.

The environmental policy identifies the following priority objectives: strengthening environmental management capacities at national and local level, developing the necessary legal framework, ensuring the integration of environmental considerations into sector policies and programmes, improving the environmental situation in identified “hotspots”, promoting environmental awareness, and integrating the sustainable development principle in the use of natural resources.

In 1999 the first Biodiversity Strategy and Action Plan (BSAP) was made. One of the goals of the BSAP was the enlargement and enforcement of the network of protected areas. The updated National Environment Action Plan (NEAP) of 2002 (the original one was from 1992-1993) and National Environmental Strategy (NES) of 2006 elaborate the environmental policies of the country. These updated documents envisage measures to be taken for the protection of environment and normative acts to be approved. In 2003 an intersectorial committee has been established for the implementation of the NEAP.

Despite the good progress, the implementation of the laws is not at a high level. More institutional strengthening is needed and clarification of competencies are recommended to avoid overlapping between institutions.

Albania has a considerable area proclaimed protected ones, but the law “On protected areas” need to be elaborated. As most of the big aquatic systems in Albania are parts of the protected areas networks (or planned to be), the most important step is filling the gaps of the legislation related to the management and protection.

A special issue is the Law on transboundary lakes. It is still not very clear the responsibility of different authorities in managing the transboundary lakes, concretely between the fishery, forestry (administrators of PA) and water management authorities.

In Albania, the legislation for environmental protection and management is in the process of being harmonized with the EU environmental legislation. Actually in the MEFWA is present an action plan for the EU approximation of all the environmental legislation that has been approved by the government.

The Strategic Plan of the Government of Albania for European Integration include the work for the harmonization of the legislation with EU norms and standards; development of urban and regional plans for the orientation of physical investment; creation of capacities to monitor and operate with the data, according to the model of the European Environmental Agency; further strengthening of the Ministry of Environment, Forestry and Water Administration; development of the national network for

implementation of the National Action Plan in the field of the environment; an increase of the role of NGOs in problems of the environment.

The Albanian government has proclaimed the Albanian part of Lake Shkodra a “Managed Natural Reserve” through the Council of Ministers’ decision, No. 684 dated 02.11.2005. The Albanian part of Shkodra Lake and Buna River wetland complex has been also approved as a Ramsar site in 2005 (included in the list of internationally important wetlands, especially as waterfowl habitat). The enforcement of the laws, regulations and implementation of these government decisions are still weak. An inter-ministerial and inter-sectoral cooperation is needed for the suitable management of Shkodra Lake at the actual situation.

3.1.7.1 Strategic documents and plans in Albania

-National Strategy for Tourism Development in Albania.

Council of Ministers of the Republic of Albania, GTZ, 2001.

It defines main tourism products for Albanian tourism such as sun and sea, cultural/business and special interest tourism. Shkodra Lake is one of the areas identified for special interest tourism.

-Strategy and Action Plan for the Development of the Albanian Tourism Sector Based on Cultural and Environmental Tourism.

Ministry of Tourism, Culture, Youth and Sports, UNDP December 2005.

This document provides a new orientation of Albanian government toward cultural and environmental tourism, emphasizing promotion of the importance of the nature and culture heritage and culture tourism and ecotourism development as a base for the new possible development, providing sustainable management of tourism’s impact on nature and culture heritage. The vision of this strategy is formulated: Albania is a safe, high-value tourism destination featuring an unparalleled variety of world-class natural and cultural attractions in a small geographic area, managed in an environmentally and socially responsible manner, easily accessible to European tourism markets.”

-Regional Economic and Social Development in the North of Albania and Perspectives of European Integration.

Shkodra District Council, GTZ, 2005.

Considers North Albania as a region according to EU regional economic development concepts and provides a SWOT analysis of the North Albania economy.

-Local Environmental Action Plan (LEAP) for Shkodra.

REC, 2005

This document gives orientations for the priority actions for improvement environmental situation in Shkodra Lake area. It combines and integrates environmental issues with socio-economic ones and emphasizes the role of the local actors.

-Strategy of Economic Development of Shkodra Municipality.

Shkodra Municipality, WB Delta project, 2005.

The vision of the city is formulated: Shkodra will be an important economic, educational and regional exchange centre that will develop in harmony with the city’s history, culture and people, becoming with its outstanding natural environment, an attractive place in which to live, to work and to visit. Tourism is considered one of the

strategic objectives and a set of action plans covering a municipal tourism strategy, integrated management of the lake eco-system and other lake eco and cultural tourism products are planned.

-Regional Plan for Shkodra – Lezha 2005 – 2020.

Albanian Development Fund, Eptisa, EC, 2006.

This regional plan covers a strategic framework for multi-sectoral spatial development, synthesizing five topics such as spatial planning for anticipated growth, strategic infrastructure, economic development strategy, environmental strategy and effective implementation proposals. This plan proposes a cross-border polycentric urban region and integrating it (in terms of transportation, electronics and public/private institutions) as a single functional economic space. This region is called “PodShkod” and base the plan on the twin urban magnets of Podgorica and Shkodra. The proposal is to concentrate population growth in those parts of the region with the best employment possibilities. Shkodra and Koplik-Shkodra corridor are considered as growth areas. The future growth sectors are identified as follows: agribusiness, forestry and timber products, fishery, sustainable tourism, light manufacturing industry, services for companies. Also spatial development proposals are given for the protection of Shkodra lakeshore from uncontrolled developments.

Weaknesses of the institutional and legislative framework

Institutional and legislative context related to the environment is generally described above. As it was stated, new institutional structures are created and they partially are not yet fully settled and the inter-institutional relations and responsibilities are still developing. This situation has its impact on the environmental state, because of the lack of an appropriate conservation and management of the lake related to the weakness of institutional and legislative framework.

The low level of implementation of the existing environmental laws remains an issue of important concern.

There is a weak communication between different state structures and institutions for their common fields of activity. There is a kind of overlapping for some issues dealing with environment, tourism, land use and territorial planning between the respective ministries.

The influence of local government (municipalities and communes) is not in a proper level as regards to the environmental issues. (e.g.-The existing Law on Organization and Functioning of Local Government in Albania reserves extensive rights to the local level, but the real decentralization is not in the due level yet.)

Informations, proposals and declarations of different NGOs that operate in the region and hold and transmit public opinion have been often neglected by different state structures, although there is a slight improvement in this aspect in the last few years.

3.1.8 Transboundary collaboration

Skadar/Shkodra Lake area is a common resource to Albania and Montenegro. The dialogue between the two governments on issues related to the lake environment began after 1990, after decades of no-cooperation.

In 1994, a Protocol for cooperation was signed between the Universities of Shkodra and University of Montenegro for conducting scientific research on Skadar/Shkodra Lake. Later, the German Rectors' Conference and the University of Graz supported these two universities in their bilateral cooperation on Skadar/Shkodra Lake. Laboratory equipments for chemical and biological analyzes are provided to both universities and an ongoing project, called the "Integrated Monitoring of Lake Skadar/Shkodra" was promoted to create the ground for a long-term cooperation.

As a example of first transboundary cooperation structure, Joint Forum of Skadar/Shkodra Lake has been created with aims to address Lake issues in bilateral scope. This structure was established in project "Promotion of Networks and Exchanges in the Countries of South Eastern Europe", funded by the Swiss Agency for Development and Co-operation (SDC), and implemented by Regional Environmental Centre (REC). This project established first connections and cooperation mechanisms between Montenegro and Albania, serving as a base for further bilateral and international activities.

The cooperation between Albania and Montenegro has been quickly concretized, through implementation of small and medium projects on transboundary issues and activities, first by local NGOs and later by local and central governments and international organizations.

An important role for increasing transboundary collaboration have played also the facilities created by the two governments for the regime of border passing for Albanian and Montenegrin citizens and improvement of the infrastructure for the communication between the two countries. The opening of a new border crossing, Murriqan – Sukobin, in May 2002, has shortened significantly the distance between Shkodra and the coastal areas of Montenegro. Recent establishment of the ferry line between Shkodra and Virpazar will help small-scale activities between the two countries, mostly in tourism field.

At the official level, in May 2003 the Memorandum of Understanding (MoU) for the Protection and Sustainable Development of joint resources between Montenegro and Albania was formally signed by the Ministers of Environment. By doing so, the two countries commit to conserve the natural resources of Skadar/Shkodra Lake in a coordinated and integrated manner and to improve the relevant national level regulatory and institutional capacities. Both governments show their willingness to cooperate in improving the protection and management of the lake and its resources.

A recent development in bilateral co-operation is the joint inauguration by the Prime-ministers of the two countries of the international workshop on "Skadar/Shkodra Lake international designations for territorial development" on 18-19 October 2005 in Vranjina (Montenegro) and Shkodra, conducted by international organizations like UNDP, UNESCO, IUCN and others.

Last, the two Ministers of environment signed Declaration of Lake Day, précisng that in third week of June will be every year celebrated Skadar/Shkodra Lake Day.

The Government of Albania, by the Decision of its Council of Ministers no. 337 of 15.07.1999, has provided a special state-level commission to deal with water-related issues with the neighboring countries. However, this Commission has been inactive to date.

Transboundary collaboration on environmental issues between Albania and Montenegro, despite started since 13 – 14 years is not in a satisfactory level yet, in respect of the concrete and measurable results and achievements (apart from agreements, documentations and organizations of meetings). Albania has some other experience with the set-up of a bilateral Management Committee for Lake Ohrid with Macedonia, which can serve as an example for the bilateral structures with Montenegro for Skadar/Shkodra Lake.

It is a positive fact that both countries are making their efforts for the integration of the EU legislation into the national laws, which will obviously help in strengthening of institutional and legislative framework for the conservation of the lake area and transboundary collaboration.

In this point of view, one of the main goals and many actions of the present JSAP are dedicated to improvement of institutional and legislative framework, as well as the joint management of Skadar/Shkodra Lake in many aspects.

3.1.8.1 Joint documents, signed between Montenegro and Albania, in relation to Skadar/Shkodra Lake

Memorandum of Understanding between the Ministry of Environmental Protection and Physical Planning of the Republic of Montenegro (now: Ministry of tourism and environment) and the Ministry of Environment (now: Ministry of Environment, Forests and Water Administration) of the Republic of Albania, 2003.

Agreement on International Lake Passenger Transport between Republic of Montenegro and Republic of Albania signed by Foreign Affair Ministers of Montenegro and Albania in 2004; Montenegrin Government Decision on Opening Virpazar Border Crossing for international passenger transport followed the signing of the Agreement.

Declaration on Skadar/Shkodra Lake signed by the Lake's Forum Members, 2006

Statement of Co-operation between Old Royal Capital Cetinje and City of Shkodra, 2006.

Declaration on the Occasion of Designation of the “Lake Day” signed by the Minister of the Environmental Protection and Physical Planning of the Republic of Montenegro and the Minister of Environment, Forests and Water Administration of the Republic of Albania, 2006.

3.1.8.2 Ongoing and planned projects in the Skadar/Shkodra Lake area

3.1.8.2.1 Joint projects

REC – implements Promotion of Networks and Exchanges in the Countries of South Eastern Europe Project funded by the Swiss Agency for Development and Co-operation (SDC) since 2000. The project focuses on enhancing cross-border co-operation, dialogue and partnerships, preparation of studies, capacity building and education/awareness raising. Joint Lake Forum was established with 13 members (6 on Montenegrin and 7 on Albanian side). The current project is closing at the end of 2007 (proposal for continuation has been submitted and approved by the donor).

GTZ - Cross-border Spatial Planning Project for Skadar/Shkodra Lake region (duration May 2005 – October 2007); under the project endorsed by the relevant national Ministries, spatial plans will be prepared for certain locations in both Albania and Montenegro

Dinaric Arch Initiative (**DAI**) international workshop “Lake Skadar/Shkodra International Designations for Teritorial Development” was held in October 2005 in Vranjina and Shkodra, bringing together, among others, Prime Ministers and Environment Ministers of the two countries. This workshop was organised by the DAI –a framework for co-operation between the offices of UNESCO, WWF, IUCN, UNDP and the Council of Europe. The main objective was to discuss the future development scenarios of the transboundary Lake and its basin.

SNV – is supporting (providing technical assistance) developemnt of the joint Strategic Action Programme under the LSIEMP. SNV actively works together with GTZ in municipal capacity issues related to IT, planning and finance.

Albanian and Montenegrin Academies of Sciences – implemented a joint project on surveying Bojana/Buna riverbed.

The EULIMNOS project (www.eulimnos.org) was initiated with the aim of establishing long-term cross border co-operation between established scientists, experts and students with an interest in the conservation of Lake Skadar/Shkodra. The scientific aim of the EULIMNOS is to obtain a comprehensive insight into the current ecological status of the Lake. The project involved participants from the Universities of Shkodra (Albania), Podgorica (Montenegro), Graz (Austria) and Heidelberg (Germany) and was funded by the German Rectors Conference (HRK) within the framework of the European Union Stability Pact for SEE.

The DRIMON project (www.niva.no): Interdisciplinary assessment of water resource management in two transboundary lakes in South Eastern Europe. The project involved participants from the Universities of Albania, Montenegro, Macedonia and Norweigian Research Council NIVA. The objectives the DRIMON project are: Establish nutrient budgets and address siltation challenges for the lake basins of Prespa and Skadar/Shkodra, and assess the status of the lakes through dose-response relationships between nutrients and sediment inputs and their effects in the lakes; Sug-

gest environmental goals for lakes Prespa and Skadar/Shkodra, based on information on their trophic status and evidence of their reference (or natural) conditions, in dialogue with stakeholders.

3.1.8.2.2 Project implementing in Montenegro

GTZ – “Support to Tourism Destinations in the Hinterland of Montenegro” Project (duration of the first phase is beginning 2006 – end 2007; the whole project is expected to last until end 2010). The current project focuses on Skadar Lake area, Cetinje and Plav municipalities.

IRD – Implements “Clean Lake Project”, including cleaning of Zabljak Crnojevica, Besac, and Lesendro fortresses, and fishing settlements along the lake coast, in order to create better conditions for tourists who visit them. To that end, IRD will finance the procurement of two boats, motor grass cutters and saws, rubbish containers and wooden bins (this is a follow up to IRD project that supported development of bird-watching facilities and eco-tourism on the Lake).

Council of Europe/ Ministry of Culture – implements “Regional Programme for the Cultural and Natural Heritage in South-east Europe”; within this framework, Pilot Project on the Skadar Lake Region aims to explore new methods of management and project implementation in addressing local/regional development issues.

UNDP – implements two Republic-wide projects that also have relevance for Skadar Lake: Strengthening Governance Systems in Urban Planning in Montenegro and Environmental GIS for Montenegro.

ADA – interested in supporting tourism development initiatives, possibly in partnerships with GTZ and SNV.

ERM (Italian consulting group) – organised workshop on biodiversity monitoring in the framework of initiative supported by EBRD and MEPPP.

Italian Ministry of Environment and Territory – is expected to provide support for ADRICOSM-STAR project (in the framework of ADRICOSM-Partnership). The project will develop system for monitoring and forecasting models for the coastal zone in Montenegro and Bojana/Buna River (in support to sustainable development of the coastal zone). Italian Ministry will also support development of sustainable and eco-tourism in the Montenegrin national parks, including Skadar Lake.

3.1.8.2.3 Projects implementing in Albania

The pilot **Fishery Development Project** financed by the WB has started its implementation since February 2002 and is foreseen to end in March 2007.

Main objectives of the project are to improve the work for the management of fishing, establishment of the Fishing Management Organizations (FMOs) and rehabilitation of fishing centers.

So far the project achievements have been:

Establishment of FMO, which counts around 450 fishermen;

Construction of Fishing Centers in Shiroke and Zogaj (another one is expected to be

constructed in Malesia e Madhe);

Supply of the center in Shiroka with facilities for conservation of the bycatch.

Intervention in support of artisan fishing activities in Shkodra. Implemented by COOPI (Italian NGO), starting from February 2003. It aims to support the rehabilitation and development of artisan fishing activity in the prefecture of Shkodra, contributing to creating the conditions for repopulating and conserving fish resources in Lake Shkodra and to improve the socio-economic conditions of the beneficiary families. 175 people have been direct beneficiaries, while approximately 735 people have been indirect beneficiaries, including fishermen, unemployed persons and their families.

Economic Development for the North of Albania (GTZ). During 2003 the German government granted 55.000 EURO for supporting development in north Albania. Main goals of the project were: regional development, agriculture as the main economic sector, private sector, crossborder cooperation, establishment and support of labor market, living standards, infrastructure and public services etc.

A safer future for Shkodra Water Basin Implementing EU standards. Implemented by CSDC (Civil Society Development Centre), which is an organization established by OSCE. The main objective of this center is offering the logistic support and services for NPOs as well as working on their capacity building. The relevant project has been supported by WWF. It aimed to raise public awareness for improving the water quality, based on WFR. In its framework a crossborder round table has been also organized.

OXFAM (international organization working on Rural Areas Development and Promotion of Production and Marketing.) This organization offers financial support to the farmers of rural areas, especially to those of mountain areas.

Core Objective: Alleviation of poverty in rural areas.

Direct beneficiaries: 3,000 people

Indirect beneficiaries: 20,000 people.

Promoted projects and activities: beekeeping, agro-industry, wine production, medical plants etc.

UNOPS – PASARP (international organization, which supports infrastructure investments, social and health services.) Actually, its activity is reduced and it is going to be totally covered by another organization, which has been established under UNOPS activity and called TEULEDA.

TEULEDA (Agency for the Local Economic Development). The core objectives: support small enterprises development, territory marketing, identification and articulation of priorities and opportunities for the local economic development.

Priority sectors: Agriculture and agro-industry, handicraft, fishing, tourism services.

COSPE (Cooperation for the Development of Emergent Countries) is an international organization working on development in rural areas and capacity building. Its activity has started at 1995 and has been focused on the infrastructure investments, especially into the rural areas. Some of the activities has been also focused in supporting traditional products and handicrafts, involving especially women.

Last 15 years several technical reports of the projects and other publications (e.g. booklets) have published data on the environmental situation of Skadar/Shkodra Lake and its watershed. The most recent assessment of the environmental situation of the relevant area has been published in the TDA (Royal Haskoning, WB, 2006). Considering this assessment as the most updated ones, a part of the data in the following is mostly based on the TDA assessment.

3.1.9 Environmental state and threats

As stated in the TDA, “*the current status of the ecology in the Skadar/Shkoder basin is a mixed picture for the various flora and fauna groups. The good status of some flora and fauna species and habitats is partly the result of the turmoil in the previous decade that halted the economic development in the area, and the slow recovery in recent years.*”

A full analysis of the environmental situation should also consider the long-term changes of the water regime, which has caused changes of the original natural habitats. Interventions in the lake watershed, especially in Drin River, are the main reasons for the high oscillations in the lakeshore. These oscillations cause an unstable situation and frequent alterations of the habitats. This situation is directly reflected in the state of flora and fauna, as well as in the agriculture and microclimate for the local communities around the lake.

The limited number of pollution sources in combination with the high refresh rate (2-3 times a year) of the lake water and the inflow of clean karstic groundwater are the main reasons that the water quality remains good. The low population pressure and the inaccessibility of the higher parts of the catchments area contribute, too. However, high eutrophication rate has been recorded in some areas of the lakeshore in the Albanian part. Filipovic & Avdagic (1997) have reported a high increase of the nitrates in the soil around the lake, because of the agriculture, which can easily penetrate in the water and sediments of the lake. There are contradictory data on the contents of the toxic elements in the lake. The main sources of the toxins remain the industrial wastes in the Montenegrin part and sewage of Shkodra in the Albanian part.

Uncontrolled fishing in the Albanian part of the lake, last 15 years, is an issue of a great concern. The situation of the population of traditional autochthonous species, e.g. carp and bleak, is deteriorated. The introduced fish species has changed the population structure of the ichthiofauna of the lake since many years and they became important components of the bycatch now, such as *Carassius auratus gibelio*, *Perca fluviatilis*, *Pseudorasbora parva*, *Gambusia affinis* etc.

Hunting has continuously affected wildlife, especially birds and mammals. There has been a quick decline in bird numbers after 1990 in the Albanian part. A serious loss should be considered the significant decrease of the nesting species. Taking into account that the lake area shelters several species of global concern and the fact that it is a very important migration route for many species, the degradation of fauna of Skadar/Shkodra Lake area is an issue of large concern. However, data on the status of several fauna groups are limited, due to the lack of a regular and coordinated monitoring (nationally and transboundary).

The damage of the forest areas has been considerable in the last decades in the Albanian part of the lake and its watershed. Actually, a limited area of autochthonous forest vegetation has remained. In the lakeshore this vegetation is presented by narrow strips in the eastern coast of the lake, predominated mostly by willows and tamarisks.

Aquatic vegetation of the lakeshore has been also impacted from the use for the livestock, industry, handicrafts etc (collections of reeds, rushes (*Juncus*), cattail (*Typha*). Changes in water regime and consequently in the water level in the lakeshore have also a strong impact in the vegetation.

Building activities remaining problem, both in Albania and Montenegro. In Albania, there is development of small, individual houses around the Lake, as well as small tourism facilities. In Montenegro, within National Park borders there are examples of illegal constructions. Development of physical planning documentation is very important for Lake cities and settlements.

Project ideas regarding lowering the Lake level is old one, but before this concept is seriously elaborated, environmental impact assessment (or strategic impact assessment), should be developed, to precise all negative impacts, caused by lowering the Lake, and to define capacities of the ecosystem to recover after this project is realized.

3.1.10 Analyses of pressures and threats

The following threats for the deterioration of the soil, water and sediment quality, and biodiversity of Skadar/Shkodra Lake and its basin have been identified:

- Pollution (industries, municipalities, solid waste, liquid waste);
- Hunting and fishing;
- Lakeshore development;
- Water management measures.

The impacts of these causes cannot be quantified in the absence of a comprehensive set of data concerning the quality of soil, water and sediment and biodiversity, and pertinent data related to the causes.

Main pressures and threats and their expected short- and long-term impact on flora, fauna and habitats; government policies are expected to become more effective on long-term

Factor	Trend and impact on flora, fauna and habitats		
Current and continuing activities	Current	Short-term (1- 10 years)	Long-term (> 10 years)
Chemical pollution by industries	Slow increase: lake sediments are of concern	Strong increase: lake water may become a concern	Decrease: sediments remain a concern
Organic pollution/ waste-water by cities/ towns	Increase: surf. water locally of concern	Stabilisation: surf. water locally of concern	Decrease: surf. water locally of concern
Solid waste by cities/ towns			

Factor	Trend and impact on flora, fauna and habitats		
	Increase: ground-water locally of concern ?	Stabilisation: groundwater locally of concern ?	Decrease: groundwater locally of concern ?
Hunting	Unsustainable	Unsustainable	Sustainable ?
Fishing	Unsustainable	Sustainable ?	Sustainable
Tourism	Slow increase	Strong increase	Stabilisation
Small constructions on the lake shore (e.g. houses)	Increase: little impact	Strong increase: impacts are a concern	Stabilisation: impacts mitigated ?
Potential developments	If realized now	Short-term (1- 10 years)	Long-term (> 10 years)
Big development projects on/near lake (e.g. marinas)	Big impact	Big impact	Big impact
Projects lowering lake level, but maintaining dynamics	Huge impact	Big impact	Considerable impact
Projects lowering lake level and reducing dynamics	Huge impact	Huge impact	Big impact
Projects maintaining level, but reducing dynamics	Huge impact	Huge impact	Big impact

3.1.11 Transboundary management

To support the overall strategy for more sustainable use of the natural resources of Skadar/Shkodra Lake and its watershed, a number of support mechanisms or policies should be formulated. The most relevant policies for the sustainable use of the natural resources of Skadar/Shkodra Lake and its watershed are to be established and agreed between the key stakeholders involved in the development and implementation of the strategy. In the TDA relevant policies for achieving the sustainable use of the natural resources of Skadar/Shkodra Lake and its watershed are suggested. The Strategic Action Plan should define the institutional structures and include a roadmap and actions to give effect to these supporting policies.

A preliminary assessment of the institutional capabilities in both countries indicate that still much is to be done to achieve an institutional structure that could form the basis for an effective bilateral management structure. It is, therefore, recommended to focus on the strengthening of the relevant Albanian and Montenegrin institutions before a full fledged Skadar/Shkodra Lake Management Committee/Commission is established. In the meantime, however, it is very important that lines of communication between the two countries with respect to the Skadar/Shkodra Lake environmental issues are formalized.

3.1.11.1 Pathway to a bilateral management organization

It is proposed that initial bilateral management structure will consist of a Steering Committee (SC), supported by a joint secretariat. This joint secretariat could function as the bilateral working group (BWG) as defined in the mentioned Memorandum of Understanding.

For the design of the bilateral water management committee the BWG should make a comprehensive stakeholder analysis in the whole basin and establish an inventory of opinions and ideas of all parties. For the design of the bilateral water management committee, subjects to consider are the legal basis, objectives, responsibilities and 'decision power', structure of the basin organization, location, permanent and non-permanent members, voting and non-voting members, financing mechanisms, coherence of the organization's activities with other policies and conventions, etc.

Consultation with existing watershed management committees in other countries is advisable: committees in EU countries, having experience with the Water Framework Directive (like the ICPR and CIPEL), would be a logical choice, considering the prospect of EU accession.

3.1.11.2 Approaches for improvement and recommended strategic actions

Within the TDA, following approaches or policies for the strategic planning and management are recognized:

- Institutional development and coordination:
Assist the institutions involved in policy making, planning and managing development of the lake basin to develop their capacity and capability and systems for integrated and participatory management.
- Nature development:
Promote a coherent set of protected areas, well managed.
- Pollution reduction:
Promote Integrated Pollution Prevention and Control (IPPC).
- Legal framework:
Establish an appropriate legislative framework for integrated and participatory management, which promotes self-reliance, co-management and enforcement to the greatest feasible extent.
- Education and awareness raising:
Raise awareness of institutions and communities for sustainable use of natural resources.
- Information and knowledge development:
Support applied research and appropriate technology application. Improve information collection, storage, dissemination and accessibility.
- Environmental impact evaluation:
Improve environmental assessment, management and procedures.
- Livelihood support:
Assist in poverty alleviation in the lakeshore zone through supporting sustainable livelihoods development.
- Investment support:

Promote local and external investment in lakeshore areas for a sustainable economic and ecological development. Recognize the role and encourage involvement of private sector in all aspects of lake zone and basin management.

3.2 Social assessment in Montenegro

The *principal objective of Social Assessment (SA)* was to provide reliable data on project stakeholders and give a social and institutional context in which project activities are being prepared and would be implemented. The SA provided information about enabling and constraining the impacts of project activities on some target groups and the general population, in order to identify ways to overcome constraints that would limit the project impact. SA in Montenegro was developed by Center for entrepreneurship and economic development (CEED).

3.2.1 General characteristics of the Skadar/Shkodra Lake area in Montenegro:

The territory of Skadar Lake comprises the following social, economic, and ethnic entities, where entity is representing a wider socio-economic area consisting of more settlements:

- Krajina and Crmnica in the municipality of Bar
- Rijeka Crnojevića entity in the municipality of Cetinje
- Lješanska entity, Zeta and Malesija in the municipality of Podgorica in the north side of Skadar Lake

In each of these entities, settlements differ in terms of size, predominant activity, lifestyle of the inhabitants, and also in terms of national and religious affiliation.

The current socio-economic picture is presented in the following way:

- **Demographic analysis** shows negative trends in all settlements of Skadar Lake, next to the Zeta Valley. Such trends obviously are not negative for the local biodiversity and ecosystem of the Skadar Lake, but could be negative in cases of uncontrolled use of the resources by inhabitants of the Zeta Valley.
- The **migration** process is emphasized and people are leaving the villages in the area of the Skadar Lake. On the other hand, the remaining population is aging.
- **Employment and unemployment:** In the settlements of SLNP in comparison to 1991, the unemployment rate is approximately 40% higher. The labor pool of active inhabitants has been increased by 9%, in comparison with 1991 (between population censuses). This is the case only in the Zeta Valley settlements.
- **Activity of the population:** The two principle activities of the residents are tourism and agriculture combined with fishing. The population living on the beaches of the lake and its borders are involved mainly in fishing and to some extent in tourism. Agriculture is the primary occupation in the Zeta Valley.
- 34% of those surveyed inhabitants rely entirely on **pension income** (for example, the same applies to 64% of the population in Rijeka Crnojevića).

3.2.2 Main economic activities in the area

Agriculture:

- Agriculture is the main source of income for households in Malesija (more than 61% of monthly household income comes from agriculture), Zeta (19%) and Krajina (17%). Others produce agricultural products but only for personal consumption.
- Those involved in agricultural production professionally currently use pesticides and plan to continue to use pesticides in the future as well.

Fishing:

- Fishing is the most prevalent in the Zeta Valley, Vranjina and the Krajina.
- As reported by the households surveyed, income from this activity has decreased in the last three years.

Tourism:

- The most popular is boat trips tourism and catering: in 2004, 7,000 tourists and in 2005, 15,500 tourists visited the area (sources are the records of the National Park). In 2004, five entrepreneurs and twelve cruising boats on the territory of the National Park were engaged in this activity.
- A certain number of households in Krajina and Crmnica derive income from tourism, as well as entrepreneurs involved in catering.
- Indirect income from tourism is gained through the sale of fish, olive oil, and fruits to the tourists coming to visit Krajina and Vranjina.
- In general, reported as a secondary activity for the majority of households in this area, 20% of households derive their annual income from tourism.
- The reasons for low utilization of tourism as financial support for households are the short tourist season, poor organization and insufficient accommodations.

3.2.3 General conclusions of the household survey (HHS) and Focus Group (FG) discussions, as research methods for development of SA:

- Every identified entity should be considered as a specific group of settlements with unique living characteristics in this area. In accordance with those characteristics, it is necessary to create special development policies.
- The key precondition for qualitative tourism in this area is infrastructure and the education of the local population.
- The infrastructure, seen as quality water supply and waste treatment, is a precondition for the population's return to the Skadar Lake area.
- Quality strategic plans by the Government of Montenegro are needed to further develop and control use of the Lake resources (agriculture and fishing).
- Cooperation between the local population and Park management must be developed, as well as the cooperation between local governments and Park management.
- The population living in the area of the National Park understands the importance of that ecosystem and they believe that their lifestyles do not endanger the lake's natural resources.

3.2.4 Conclusions and recommendations

Recommendations for the project design and its implementation:

1. Setting up a unit/office/team that will implement and monitor the project so as to establish strong control over funds distribution and the process/projects' evaluation during project implementation.
2. Involvement of all interested structures through public campaigns and information dissemination among interested stakeholders so they are aware of the processes envisioned by the project. This would allow inhabitants of small villages around the lake to be involved or engaged should it be in their interest to do so.
3. A transparent process of funds distribution through organizing public tenders and clearly defining the tender rules in advance.

Once the inhabitants of the area realize the direct benefits of an improved infrastructure through increased monthly income and improved quality of living standards, they will be ready to take part in the project.

Lake management and development should be directed toward sustainable tourism that would involve the local population. Through participation in the project, they would be encouraged to stay in the region. Preconditions for population involvement are as follows:

- Education of the population about the importance of the Lake ecosystem, and types of tourism and services that could be developed in the region.
- Education of the population in business start-ups and creatively using the existing potential resources in the area.
- Establishing the conditions to create a pilot project that would demonstrate functional ecotourism and village tourism.

3.2.5 Recommendations for specific activities

In the area of **agriculture** it is necessary to:

- Prepare a strategy of agricultural development for this region with special attention to taking significant measures for organizing agricultural production in the Zeta valley.
- Create a strategy for encouraging vineyard growth in the surrounding area (with the aim to develop villages and village tourism).
- Facilitate the creation of a marketing chain for agricultural products.
- Brand-control of authentically produced food, drinks, honey, etc.
- Control of pesticide usage through the work of agricultural pharmacies and inspections.
- Education of the population through workshops and public campaigns.

In the area of **fishery** it is necessary to:

- Adopt a new Law on fresh water fishery with a special emphasis on fishing in the NPs or the adoption of regulations that would control fishing at the Skadar Lake.
- Enabling the establishment of fishermen's associations.
- Zoning of the Lake.
- Enforcing and improvement of the Park Warden guardian service.

- Building of a fish database that could be used for planning the fish quantity and regulating the number of fishing licenses.
- Permanent monitoring of the fish fund.

In the area of **tourism** it is necessary to:

- Build a strategy of tourist development for the lake that would target previously unorganized management.
- Make Location studies for tourism “spots” defined by the Physical plan of Skadar Lake National Park.
- Develop a principle of tourism diversity and avoid development of mass tourism and simplified offer.
- Involve the local inhabitants through public campaigns, educational programs for family businesses (a pilot project of tourism development that would demonstrate to the citizens how it is possible and in which ways to do tourism).
- The creation of a data base for the accommodation facilities and families that are ready to work in eco and village tourism.
- The creation of credit lines to assist interested parties in developing tourism enterprises.
- The revitalization and promotion of cultural heritage with the aim of tourism development.

3.2.6 Cross border cooperation and institutional framework

It is necessary to:

- Find a mechanism for the harmonization of legislation and activities from both sides.
- Establish an efficient monitoring system to understand the current situation and future steps.
- Establish institutional and legal framework through encouraging the existing cadre, engaging a new one and the implementation of outside experience.
- Develop the harmonization mechanism of regulations and activities on both sides.
- Stabilize the institutional and legal framework through strengthening existing staff and employing new staff.
- Implement good examples and practices from similar foreign water eco-systems.

3.2.7 Precondition for fulfillment of Social assessment findings and proposals in Montenegro are:

- **Zoning of the Lake**, with clear distinctions separating zones for the sustainable usage of resources from the protected zones.
- **Development of a monitoring system** controlling the influence of certain developing areas on the Lake’s resources and more quality planning.
- **Full preservation of the cultural historical heritage and traditional way of life** as a basis for sustainable development in the project area.

3.3 Social assessment in Albania

This assessment is based on two document reports, in the framework of LSIEMP: 1. Social Action Plan (Junge, 2006) and 2. Social Assessment for Albania (Ziu, 2006). The main purpose of these reports was to operationalize the Social Assessment findings for the Strategic Action Plan and the World Bank Project Appraisal Document. Their objectives were: to identify potential socio-economic impacts of the project and appropriate mitigation measures; to develop realistic socio-economic objectives, targets and indicators for the project; to identify mechanisms for effective communication/outreach and stakeholder participation in project implementation; to identify appropriate institutional arrangements for implementation of activities at community level; to find out what is the potential for including community-based or community-level activities within the project; and to develop specific Terms of Reference for addressing socio-economic aspects in the preparation of a Strategic Action Program for the lake.

In the following there is a summary of the main target areas with potential socio-economic impacts, which have been identified for consideration during Project preparation, together with potential Project impact, mitigation measures and recommendations.

3.3.1. Increased control of fishing and hunting

Because of a lack of reliable data or consensus on what are sustainable fish stock levels in the lake, it is unclear whether over-fishing is currently taking place. If some fishermen would need to give up their licenses, a small-scale livelihoods study would be advisable. Without a reliable assessment of fish stock sustainability, it would be premature to begin revoking licenses. It is unclear whether the development of alternate income sources, while worthwhile in its own right, would lead to reduced pressure on fishing in the near term.

There is virtually no reliable data on hunting in the area. It appears that most of the hunting is not carried out by local persons. It is highly unlikely that hunting is a matter of income generation, much less a livelihood issue.

3.3.1.a Potential Project impact and mitigation measures

A reduction in fishing permits is assumed, but this is not a recommendation. If no reduction takes place, at a minimum a freeze on issuing new licenses is advised.

The reduction in fishing licenses would result in loss of daily income for a number of households. The following impacts would arise from loss of fishing licenses, the operation of the OMF fish collection point.

Likely negative socio-economic impacts

- 1) Some fishermen lose their right to fish in the lake.
- 2) Some traders would lose income if most fishermen began using the OMF fish collection point.

- 3) Increased pressure on illegal fishing. At the same time, a reduction in licenses may not lead those fishermen who lost their license to abandon fishing but might make them resort to more risky behavior.

Potential mitigation measures

- 1) Freeze, as opposed to reduce, the number of fishing licenses, with an eventual reduction through attrition instead of license revocations;
- 2) Regardless of whether fishermen lose their licenses or not, stimulate small-scale income generation activities in the lakeside communities.

Likely positive socio-economic impacts

- 1) Improved quality of fish resulting from introduction of proper hygienic conditions, storage, etc.
- 2) Increase in income to fishermen resulting from better market conditions resulting from greater reliability of wholesale buyers through fish collection points and better storage methods.

3.3.1.b Recommendations

Recommendations for SAP:

- 1) Assess the importance of fishing to licensed fishermen;
- 2) Estimate hunting levels and identify who does the hunting;
- 3) Estimate cost and viability of reestablishing fish reservoirs; and
- 4) Determine why the World Bank/COOPI fish collection point has not begun operating yet and what implications this has for the Project.
- 5) Assess whether more control of fishermen per license is feasible.
- 6) Explore possible of introducing a tradeable quotas regime for fishing.

Recommendations for Project:

- 1) Place a moratorium on the issuance of new licenses until a satisfactory assessment of fish stock is available, rather than taking away fishing licenses;
- 2) Consider linking compensation of fishermen who lose licenses to support for economic activities in lakeside villages;
- 3) Expand monitoring of fishing to include hunting;
- 4) Establishment of a regulated outdoor fish market; and
- 5) Do not compensate hunters for loss of any potential income loss.

3.3.2. Regulation (or removal) of lakeside buildings and businesses

The construction of lakeside buildings is a present problem and poses future risks to tourism, lake access and ecological sustainability. Lakeside buildings can be divided into the several categories, each of which will probably require separate treatment.

The key problems with respect to illegal buildings and businesses are i) legality; ii) control over access to lakefront areas; iii) unplanned development, with haphazard construction needlessly deforming large parts of the lakeside environment; and iv) weak institutional oversight.

3.3.2.a Potential Project impact and mitigation measures

Likely negative socio-economic impacts

- 1) In the case of businesses (primarily restaurants), removal would result in the loss of capital investments and a potential decrease in business;
- 2) In the case of private homes, removing the building would require physical displacement;
- 3) In the case of unoccupied or unfinished buildings, removal would result in loss of capital;
- 4) Loss of tourism if restaurants are removed.

Potential mitigation measures

- 1) Regulation instead of removal of buildings and businesses.
- 2) Heavy involvement of lakeside communities in decision-making.

Likely positive socio-economic impacts

- 1) Improved lakeside environment
- 2) Improved access to lake for local communities and general public
- 3) Increased tax revenue if businesses regulated

3.3.2.b Recommendations

Recommendations for SAP:

- 1) Define the objectives with regard to illegal buildings – regulation, removal, demolition;
- 2) Determine what qualifies as ‘lakeside’ building;
- 3) Take inventory of all lakeside buildings, and businesses, according to their legal status, category, residence of owners, implication of 1998 Law on Urban Areas, etc;
- 4) Consult with communities on best resolution of illegal buildings;
- 5) Hold community consultation meetings to decide on policy;
- 6) Define what is acceptable in terms of the number of lakeside buildings and businesses permitted; and
- 7) Investigate the possibility of allocating quarry sites for businesses to relocate.

Recommendations for local authorities and Ministry of Environment, GEF Project

- 1) Consider legalization of some or all existing buildings and businesses;
- 2) Adopt and enforce moratorium on further development;
- 3) Create, or adopt existing, lakeshore development plan;
- 4) Demolition of unfinished buildings
- 5) Relocation of some or most lakeshore businesses to quarry sites;
- 6) Monitor lakeside area to prevent further illegal buildings;
- 7) Consider setting conditions and fees in exchange for allowing lakeside business owners to continue operating; and
- 8) Introduce taxes for lakeside businesses.

3.3.3 Waste management

Solid waste and waste water in the lake and around the lakeshore is a socio-economic problem insofar as it relates to tourism, institutional capacity, health and society's attitude toward public goods. Failure to deal with the waste issue will degrade credibility in the government's commitment to protecting the area, will certainly repel foreign tourists.

There appears to be widespread awareness of the problem of ubiquitous solid waste. Instead of awareness campaigns, concrete measures are suggested. These might include i) installing garbage bins; ii) putting up signs; iii) assigning a cleaning crew to the protected area; iv) introducing fines for littering; and v) monitoring.

3.3.3.a Potential Project impact and mitigation measures

The impacts of the Project with respect to waste management are likely to be positive. Not addressing the issue would, however, have negative impacts, as it would reduce the Project's and Government's credibility in terms of environmental management. The negative impacts listed below are strictly of an economic, not social nature.

Likely negative socio-economic impacts

- 1) Higher operating costs to lakeside businesses if they have to introduce water treatment systems;
- 2) Higher costs to lakeside businesses if a waste management tax is imposed; and
- 3) Potential fines for those who litter.

Potential mitigation measures

- 1) Subsidy of waste water treatment system.

Likely positive socio-economic impacts

- 2) Cleaner lakeside areas;
- 3) Improved environment; and
- 4) Increase in foreign tourist.

3.3.3.b Recommendations

Recommendations for SAP

- 1) Estimate costs for clearing lakeshore waste
- 2) Estimate costs for installing garbage bins
- 3) Assess feasibility of introducing a waste management tax on lakeshore businesses

Recommendations for Project

- 1) Do not address waste management through awareness campaign;
- 2) Installing garbage bins;
- 3) Putting up 'do not litter' signs
- 4) Assigning a cleaning crew to the protected area;
- 5) Introducing fines for littering; and
- 6) Monitoring.

3.3.4. Tourism-related economic development

Tourism in the area is mainly local. The various problems outlined in this report suggest that most foreign tourists do not see the area as a vacation area for relaxing and spending time. Income from foreign tourism will not increase significantly without major investments (beyond the scope of the Project). Any negative impacts arising from Project interventions in tourism-related economic development (likely to be small scale) will be addressed through other Project components.

3.3.4.a Potential Project impact and mitigation measures

Impacts of the Project in terms of tourism will generally be positive given the low level of attention devoted to this sector until now. Negative impacts would be related to increased tourism which resulted in increased waste disposal and environmental damage. These issues should be addressed independently, through i) a lakeside waste management program, as discussed above; and ii) improved urban and environmental planning.

Likely negative socio-economic impacts

- 1) Potentially increased (improper) waste disposal; and
- 2) Increased burden on existing infrastructure (roads, water, electricity).

Potential mitigation measures

- 1) Tourist tax on hotels and restaurants to cover increased costs.

Likely positive socio-economic impacts

- 1) Increased revenues for local businesses;
- 2) Increase in employment levels;
- 3) Increased pressure to improve infrastructure and tourist services; and
- 4) Greater appreciation of Lake Shkoder

3.3.4.b Recommendations

Recommendations for SAP

- 1) Confer with local authorities on existing tourism strategy and assess what elements could be included in the Project;
- 2) Assess feasibility of a tourist tax on local businesses; and
- 3) Discuss with UNESCO whether there are plans for protection of local historical or archeological sites.

Recommendations for Project

- 1) Regulate tourist agencies;
- 2) Establish tourism center; and
- 3) Establish tourist tax at restaurants and hotels.

3.3.5. Institutional framework

The inability of local authorities to resolve the issue of illegal lakeside construction underscores the institutional weaknesses with which the Project will have to deal.

A cursory analysis of institutions suggests that any institutional framework will need i) to involve weak institutions while not depending on them; ii) to generate public awareness and support for Project goals by politicizing them, making them into real issues which grab the public imagination and stir local authorities to action; and iii) To the extent possible, build an incentive system of rewards and penalties into the procedures.

It is likely that the safeguard policy on Involuntary Resettlement will be triggered by the Project. While it is unlikely that severe economic hardship would result from any displacement, or even that physical displacement of populations would take place, there are various potential direct and indirect impacts.

3.3.5.a Recommendations

Recommendations for SAP

- 1) Determine what types of incentives are appropriate for different institutions and different sub-projects; and
- 2) Develop peer-monitoring or other monitoring mechanism.

Recommendations for Project

- 1) Actively publicize the largest sub-projects
- 2) Incorporate incentives for relevant institutions.

4. DEVELOPMENT FRAMEWORK FOR SKADAR/SHKODRA LAKE

4.1 Rationale for a strategic approach

Taking into account that Skadar/Shkodra Lake is trans-boundary water ecosystem, it is clear that all future activities regarding management of the Lake-protection and development, conservation and sustainable usage of its resources, should be planned and projected in a strategic, coordinated, participatory, integrated and trans-boundary context. It demands a strong and clear institutional and legal framework for management at national level, participation of all stakeholders in decision-making processes, a cross-sectoral approach and, above all, trans-boundary cooperation.

The joint Strategic Action Plan (SAP) for the future sustainable development and conservation of Skadar/Shkodra Lake has been developed within the framework of broader Albanian and Montenegrin policies for sustainable development. In both countries a national SAP has been compiled and the results were merged during a workshop in Shkodra in December 2006. The joint SAP is based on the best professional and scientific knowledge available, as well as the overall experiences of both countries and taking into account the existing legal and administrative structures. The formulation of the SAP is based on the following key rationale:

- Skadar/Shkodra Lake is a single uninterrupted ecosystem, which cannot be preserved separately in each country. The ecological unity of the Lake area underscores the need for a holistic approach on defining comprehensive strategic actions necessary for its conservation and development.
- The greatest challenge in protected areas hosting settlements and human activities is how to find the appropriate balance between the legitimate requirements of local people for development and better living conditions and the conservation and enhancement of environmental conditions. Conservation measures must go along with development opportunities. Restriction of activities in some core natural areas should be compensated and local communities must have the opportunity to develop some economic activities.
- Large-scale or intensive development initiatives are incompatible with the preservation of the natural and cultural values of the area. The SAP provides innovative approaches that accommodate both nature conservation and development needs.
- The support of local people is crucial for the successful implementation of the activities. There is a need for immediate visible measures and tangible results, so people can see the difference and understand the importance of nature conservation.
- The involvement of local communities in all the decision-making process for the development of the area is a very important issue. The SAP provides measures for establishing appropriate procedures and mechanisms that guarantee a large participation of local communities in the process.
- The natural resources and development activities in the area are managed and controlled by several structures, whose duties and responsibilities are sometimes overlapping and not clear. It is necessary to establish clear functions and responsibilities for each management structure operating in the area.

- The appropriate management of the area requires a well-structured and detailed management plan. But, considering the actual situation in the area and the urgent need for actions, it would be satisfactory to start working with a light superstructure, focusing on priority needs and immediate actions
- Financial support is a key issue for the implementation of management activities. The area is attracting a lot of donors' interest and support. But, for the long term sustainable development of the area is necessary to provide appropriate mechanisms for sustainable financing of management actions. EU funding should be considered a good source of financial support.

4.2 Vision for the Skadar/Shkodra Lake

What's the future of Skadar/Shkodra Lake? How it will look in ten years from now? These are the two important questions that needed to be answered while defining a vision for Shkodra/Skadar Lake.

Skadar/Shkodra Lake is a trans-boundary water ecosystem and an important common resource to Albania and Montenegro. Both countries have committed themselves to conserve the natural resources of the Lake in a coordinated and integrated manner. Future activities regarding management of the lake protection and development, conservation and sustainable usage of its resources, should be planned and projected in strategic, coordinated, participatory, integrated and trans-boundary context.

The area has a long history and its well known for its cultural and traditional values. Skadar/Shkodra Lake and its surrounding area hosts important economic activities. The area has a great potential for tourism development. All these issues must be integrated in the future plans for protection and sustainable development of the area. It demands strong and clear institutional and legal framework for management at national level, participation of all stakeholders in decision-making processes, cross-sectoral approach and trans-boundary cooperation.

In defining the vision for Shkodra/Skadar Lake, the two national teams, involved in preparing the national SAPs, identified the following key words to formulate the vision statement of the future of the lake:

- trans-boundary protected area,
- coordinated management,
- high international standards for water quality and biological diversity,
- sustainable, integrated and regional development,
- unique places to see and visit.

This Strategic Action Plan proposes the following vision statement:

Skadar/Shkodra Lake is a trans-boundary equally protected area. The level of protection is in accordance with high environmental standards, high water quality and rich biological diversity. Skadar/Shkodra Lake is an area for sustainable activities and it offers authenticable ecological, historical, cultural, rural and educational experience with a lot of unique places to see and visit. The environment is smartly integrated in regional economy as regards sustainable tourism, fishery, safety food production, medical plants, clean water use, etc. The lake is sustainable used, with cross-border cooperation and management and high ecosystem protection.

4.3 Project Mission

The Strategic Action Plan aims to improve the environmental management and support sustainable economic use of the natural resources of the Skadar/Shkodra Lake and its surrounding areas. The SAP aims also to facilitate the provision of information and its exchange among the stakeholders, to create a large-based framework for future cross-border and cross-sectoral actions for the management of the lake and to define and describe the initiatives and procedures that should be taken for accomplishment of these objectives. It should consist of activities for a 5 year time duration, that contribute to the achievement of the vision for Skadar/Shkodra Lake, aiming to improve the environmental management and supporting sustainable economic use of the natural resources of the Lake and its surrounding areas. The mission of SAP is as follows:

- *Development of mechanisms and instruments for achieving environmental protected areas standards in both countries,*
- *Development of appropriate institutional framework for effective management of Skadar/Shkodra Lake in both countries and in transboundary context,*
- *Implementing concrete activities for preservation of lake ecosystem,*
- *Promotion of sustainable use of lake natural and cultural resources.*

In order to achieve the above mentioned mission and based on the assessment of the current situation of natural resources management and development activities, as well as on the need to improve existing legal and institutional arrangements for cooperative trans-boundary management of the Skadar/Shkodra Lake area, the activities of the SAP should fulfill the further presented SAP Goals.

4.4 Strategic Goals, Operation Objectives and Programme Targets - expected results, indicators and stakeholders -

4.4.1 Overview of the Strategic Action Plan's Goals and Objectives

Strategic Goals		Operational Objectives	
1	Joint Lake Planning and Management	1.1	Strengthen legal framework and improve law enforcement capacities to regulate and control development activities in the area
		1.2	Strengthening the institutional framework for environmental protection and sustainable development
		1.3	Support joint effective trans-boundary management of the Skadar/Shkodra Lake protected area.
2	Monitoring and Research development	2.1	Structures and facilities for monitoring and research on the Lake
		2.2	Monitoring of the Lake water quality and water regime
		2.3	Habitat and biodiversity monitoring in and around the Lake
		2.4	Specific research and educational programmes
		2.5	Monitoring of socio-economic conditions in the lake area
3	Improvement of Protected areas and Natural Resource Management	3.1	Establish an effective protected area management and zoning system
		3.2	Development of viable and sustainable village economies for local communities
		3.3	Protection, restoration and adaptation of cultural heritage
		3.4	Institutional investment and strengthening of PA management
		3.5	Promotion of tourism
4	Realization of Urgent Environmental Investment	4.1	Prevention of pollution of the lake water and its watershed from wastewater
		4.2	Prevention of pollution of the lake water and its watershed from solid waste.
		4.3	Prevention of pollution of water and groundwater from hazardous waste

4.4.2-Strategic Goal 1: Joint Lake Planning and Management

After the drastic political and economic changes in Albania and Montenegro in the 1990s, a new institutional structure was created in both countries, similar to those in other democracies with open market economies. The structures are new, not yet fully settled and the inter-institutional relations and responsibilities are still developing.

There has been some collaboration between the two countries concerning Lake Shkodra/Skadar, but this was and is mainly realized at scientific level (e.g. between the Universities of Shkodra and Montenegro, the two Academies of Science and their institutes) and through the REC offices.

The environmental legislation of Albania and Montenegro is in transition from the 1990s situation to full compatibility with the EU legislation. Both countries give ample attention to the legal aspects of the environment, but enforcement is a major problem.

Regarding the institutional structures, a distinction is to be made between the structures at national level and the bilateral management structure. The latter structure can

only be effective when at the national level the institutions are well equipped for the planning and management of the use of the natural resources in the lake and its surrounding area.

A preliminary assessment of the institutional capabilities in both countries indicates that still much is to be done to achieve an institutional structure that could form the basis for an effective bilateral management structure. It is, therefore, recommended to focus on the strengthening of the relevant Albanian and Montenegrin institutions before a full fledged Skadar/Shkodra Lake Water Management Committee is established.

In the meantime, however, it is very important that lines of communication between the two countries with respect to the Lake environmental issues are formalized. The first step would be the creation of a bi-lateral working groups for Lake Shkoder as stipulated in the Memorandum of Understanding in the field of environment between Albania and Montenegro (2003). These working groups should work on the development of joint activities as zoning, monitoring, tourism, fishing, basin management, boating and other which will be defined through project implementation. Also, established transboundary structures should work on promotional activities, such as a logo for the lake as a whole, joint events celebrating the lake, joint publicity materials that feature facilities and attractions from both sides of the lake etc.

The development and harmonization of relevant policies, legislation and regulations is very important for the protection and sustainable development of the lake, taking into account both the national legislation and policies of each country and bilateral, regional and international conventions, agreements and frameworks (e.g. Ramsar Convention, Convention on Migratory Birds, EU Habitats and Water Framework Directives, Espoo Convention on Environmental Impact Assessment in a Trans-boundary Context, etc.); spatial and zoning plans and establishing rules for fishing and other natural resource exploitation, etc.

Another important component is the establishment of institutional mechanisms for trans-boundary coordination, cooperation on technical and scientific items and joint management, including involvement of local communities and facilitating development and activities of local NGOs and community-based organization, etc.

To achieve **Strategic Goal 1**, the following **operational objectives** should be completed, through defined **program targets**:

OO 1.1 *Strengthen legal framework and improve law enforcement capacities to regulate and control development activities in the area*

- Improve legal framework regulating management of the area and development activities.

OO 1.2 *Strengthening the institutional framework for environmental protection and sustainable development.*

- Operational transboundary co-operation and co-ordination system.

OO 1.3 *Support joint effective trans-boundary management of the Skadar/Shkodra Lake protected area.*

- Implement pilot activities in transboundary management.

The main indicators to measure progress in achieving the **Goal 1** are:

- Joint working groups are working.
- Recommendations for legal framework improvement are proposed to the governments.
- Rules for the management authorities adopted.
- Lake Joint Management Plan is approved in both countries.
- ToR for the Transboundary Management Committee approved.
- A network and exchange of information between two countries and existing projects regarding Skadar Lake is in place.

The main stakeholders that need to be involved in realizing the activities under the **Goal 1** are:

In Albania:

- Relevant Ministries (M. of Environment Forests and Water Administration; M. of Tourism, Culture Youth and Sports; M. of Public Affairs, Transport and Telecommunication);
- Municipalities and communes of Shkodra and Koplik;
- Academic institutions;
- REA (Regional Environmental Agency);
- Agency for the Administration of the River Basin Drin – Buna;
- NGO-s.

In Montenegro:

- Ministry of tourism and environment,
- Governmental structures with responsibilities in Skadar Lake area (The National Park Skadar Lake),
- Municipalities Podgorcia, Cetinje and Bar;
- NGOs.

4.4.3-Goal 2: Monitoring and Research development

The TDA mentions that, although there are some data available, the data collection is often uncoordinated, irregular in time and space and using different methods and standards. The result is that parameters and variables are difficult to compare and trends hard to assess. Recently, monitoring programs are being developed (both by governmental and non-governmental organizations) in most environmental fields, but the problem is that the objectives of these programs are often not clear and the resulting strategy and design is possibly inadequate.

The SAP includes activities devoted to ecological and socio-economic monitoring, with a particular emphasis on: species, biocenosis, habitats and ecosystems of common interest; joint research and coordination/synergy in implementation of monitoring activities; effective and efficient sharing of data; establishment of sustainable and productive mechanisms for information exchange and collaboration. Specific monitoring activities and instruments will be indicated, along with a description of the measurable outputs.

The second Strategic Goal of the SAP is:

Establishing a permanent joint monitoring system, covering all elements of the eco-system, following the EU Water Framework Directive and Ramsar Convention, associated with an informative framework/mechanism to public and all interested parties (in particular to the following actors: future transboundary management structure, lake executive management staff, governments (central, local), research institutes, universities and public, via internet, press information and bulletins and networked exchange information by both partners (MN, AL).

To achieve this Goal it is necessary to organize and implement coordinate monitoring of relevant chemical-physical, biological and sociological parameters which represent quality and quantity of water body, status of biodiversity, status of natural resources, waste production, disposal, treatment and use, land use and variation of landscape, convergence between countries, empowering of citizens, economic prosperity, infrastructure for tourism and business activities, education and public health. On Skadar/Shkodra Lake must be organized and put in operation a permanent coordinated monitoring system of relevant ecological parameters, as well as organized proper information system and efficient exchange of information.

In accordance with WFD for evaluation of the chemical and ecological status of the transboundary and protected lakes, there must be defined joint standards for quality of surface and underground water, sediment, taxonomic elements for algae, macrophytes, phytoplankton and zooplankton, fishes, birds, mammals, etc. in accordance with EU standards.

To achieve **Strategic Goal 2**, the following **operational objectives** should be completed through defined **program targets**:

OO 2.1-Strengthen and development of Structures and facilities for monitoring and research on the lake

- Establish jointly working monitoring system, with stations for whole lake,
- Provision of database for the monitoring of the ecological status of the Lake.

OO 2.2-Promote the monitoring of the Lake water quality and water regime development to detect changes of the ecosystem

- Establish regular water quality sampling system.

OO 2.3-Establish habitat and biodiversity monitoring in and around the lake

- Strengthen capacities for monitoring of habitat and biodiversity.

OO 2.4-Specific research and educational programmes

- On-site research, specific environmental studies and educational programme

OO 2.5-Monitoring of socio-economic conditions in the Lake area

- Periodic studies of trends in well-being of the population; income, productivity, employment, etc.

The main indicators to measure progress in achieving the **Goal 2** are:

- Joint monitoring programs are in place.
- Monitoring facilities and equipments are set up.
- Staff capacities are improved.
- Joint monitoring data are published every year.
- Data and information exchange is common practice.

The main stakeholders that need to be involved in realizing the activities under the **Goal 2** are:

In Albania:

- Ministry of Environment, Forests and Water Administration (with the relevant directories);
- Fishery Inspectorate;
- Forestry Service;
- The Protected Area Lake Shkodra
- Directory of Agriculture and Food;
- Directory of Public Health;
- Academic Institutions (Universities of Shkodra and Tirana, Biological Research Institute, Hydro-Meteorological Institute, Albanian Geological Service).

In Montenegro:

- Ministry of tourism and environment,
- The National Park Skadar Lake,
- Agency for environmental protection (to be established),
- Monitoring institutions,
- Research/scientific institutions,
- NGOs.

4.4.4 -Improvement of protected Areas and Natural Resource Management

The current status of the environment in Skadar/Shkodra Lake basin is a mixed picture for the various flora and fauna groups. Some uncontrolled building activities, industrial growth, increasing of municipal waste production, low financial and institutional capacities of the managing institutions, lack of efficient management system etc., are threats to the environment in the lake area.

Fishing and occasional illegal hunting continuously affecting wildlife, in particular fish, birds and mammals. The recent decline in bird numbers is a serious concern. Autochthonous fish is recovering after a decline in a period of uncontrolled fishing (1980's), but migratory species seem still to be affected by different activities, including over fishing. Exotic fish species are expanding rapidly. Data on the status of other fauna species are limited due to a lack of monitoring. Illegal logging in forests occurs.

Because of the lack of reliable data or consensus on what are sustainable fish stock levels in the lake, it is unclear whether over-fishing is currently taking place. If some fisherman would need to give up their licenses, alternative small-scale activities should be supported.

Recently, the Albanian part of the lake is designated as a protected area (Nature Managed Reserve). The management unit is not yet in place, as well as an appropriate management plan and zoning system. In Montenegro the National Park is in charge of protecting Lake within borders of the park, as well as regulating of activities on Lake (e.g. to control fishing and distribute licenses).

The greatest challenge in protected areas hosting settlements and human activities is how to find the appropriate balance between the legitimate requirements of local people for development and better living conditions and the conservation and enhancement of environmental conditions. Conservation measures must go along with development opportunities. Restriction of activities in some core natural areas should be compensated and local communities must have the opportunity to develop some economic activities. Based on the above information, the third Goal of the SAP is:

Establishment and promotion of effective system of natural and cultural resources management for sustainable use and benefit for local community by strengthening protected area system. This encompasses the harmonized zoning, planning, operation, controls, use, inspections etc. Based on the strengthening of the protected areas, sustainable and joint tourism development is promoted at Lake Shkodra/Skadar, as an attractive area for tourism offering authentic ecological, historical, rural, recreational and educational experience, aiming at national and local benefit.

This Goal consists of activities related to joint planning for management of the lake and its biodiversity and natural and cultural resources. This includes, for example, development of lake-wide zoning and management plans with participation of all stakeholders, development of collaborative plans for species conservation, cooperation in handling pest outbreaks and other trans-boundary threats; collaboration in anti-poaching and security; joint training for Protected Area personnel; and exploring the potential for a trans-boundary protected zones.

An important component of this Goal is awareness raising and building of public and political support for protection and sustainable development of the lake, its resources and its communities at all levels, including international community, national authorities and decision-makers, citizens of both countries, tourism markets, etc, promotion of commitment to trans-boundary cooperation at the national level, including consideration of a trans-boundary protected area.

Vacation tourism is mainly local. Tourist activity in the Skadar/Shkodra Lake area seems to be mainly in the form of Albanians visiting restaurants at the lake on day trips and foreigners coming from Montenegro for a guided or un-guided day trip. Most Albanians go to Velipoja seaside area, which has the highest number of hotel beds of any commune (village) in Albania, for extended summer holidays.

In Montenegro already a more specific tourism has developed in the National Park, including excursions on the Lake and first facilities for birds watching. The centre of this activities is Virpazar. The National Park has renovated the old building of Bio-

logical Institute at the Lake and is using it as an administration and information centre of the park including a restaurant and a landing site.

Revenue from tourism can and should be used to cover the costs of environmental protection. The TDA notes “... *if the tourist facilities and attractions are set up in an ecologically sustainable way, negative impacts on flora and fauna may be limited. Impacts can even be positive if tourist earnings are invested in nature protection and development.*”

Also, cultural heritage of the Skadar/Shkodra Lake is very diverse. Within joint SAP, activities of rehabilitation of selected cultural sites will be implemented, through which tourism offer of the lake will be promoted.

This third Goal includes activities on collaboration on promoting sustainable economic use of the lake's natural resources: specific measures for tourism development (e.g. facilitation of border crossing and establishment trans-boundary circuits for tourists) and joint development, production and marketing of environmentally friendly “Skadar/Shkodra Lake brand” agricultural or natural resource-based products.

To achieve the **Goal 3**, the following **operational objectives** should be completed, through defined **program targets**:

OO 3.1-Support protected area management and zoning system

- Establish zoning for both protected areas,
- Establish management plans for PAs,
- Strengthen PA management capacities in Albania,
- Develop physical plans for Lake settlements,
- Develop capacities for PA staff in Montenegro.

OO 3.2-Development of viable and sustainable village for local communities.

- Restore or improve the livelihoods of people whose access to resources is or will be restricted,
- Integrated fishery management,
- Promotion of sustainable agriculture in the transition zone.

OO 3.3-Protection, restoration and adaptation of cultural heritage

- Protection, restoration and adaptation of selected cultural heritage.

OO 3.4-Institutional investment and strengthening of Protected Area management

- Construction of park facilities,
- Implement habitat restoration,
- Develop bird preservation and observation programme,
- Promotional activities of Skadar Lake

OO 3.5-Promotion of sustainable tourism

- Prepare Tourism Master Plans, in Al and in MN,
- Pilots on sustainable tourism development,
- Create an enabling environment for tourism.

The main indicators to measure progress in achieving the **Goal 3** are:

- The management unit in Albania is in place.
- The management plan in Albania is prepared and approved.

- New qualified staff engaged in NP SL in Montenegro.
- Zoning system of the Lake is adopted and applied on the Lake,
- Fishery study is developed and adopted in both countries,
- Certain numbers of physical plans produced, for tourism attractive locations,
- Selected cultural monuments restored, or in the final phase of restoration,
- Different types of sustainable tourism offers developed on the Lake,
- Number of tourists increased.

The main stakeholders that need to be involved in realizing the activities under the **Goal 3** are:

In Albania:

- Lake Shkodra Protected Area
- Prefecture of Shkodra;
- Shkodra Regional Council;
- Municipalities and communes of Shkodra and Koplik;
- Council of Territorial Regulation;
- REA (Regional Environmental Agency);
- Relevant Ministries (M. of Environment Forests and Water Administration; M. of Public Affairs, Transport and Telecommunication; M. of Tourism, Culture, Youth and Sports; M. of Agriculture, Food and Consumer Protection; M. of Finances);
- Universities;
- Users NGO (fishermen, hunters etc.);
- Local community;
- Relevant donors;
- Dinaric Arc Initiative.

In Montenegro:

- Ministry of tourism and environment,
- Ministry of agriculture, forestry and water management,
- Ministry of interior,
- Ministry of culture, media and sport,
- Ministry of finance,
- Skadar Lake National Park,
- Municipalities of Podgorica, Bar and Cetinje,
- Local communities,
- Users of the Lake as fishermen, tourist entrepreneurs,
- NGOs.

4.4.5-Strategic Goal 4: Realization of urgent environmental investments

According to the TDA “... *The environment in the Lake Shkoder basin is influenced by the various pollutant sources... The pollution of the lake and its surroundings is a combined result of a growing population producing municipal solid and liquid wastes...*”. Also, very important source of pollution is industrial hazardous waste. From Aluminium Plant in Podgorica (KAP). Having this in mind, it is of crucial importance to undertake measures on pollution prevention and reduction and improve-

ment of ecological conditions of the lake and its surrounding area. The forth Goal of the SAP is:

Reduction and prevention of pollution of the Lake waters and sediments, and establishing basin pollution control system, effective to the EU standards of water quality for swimming, drinking, tourism enhancement and fish quality.

Pollution prevention focuses on reducing or eliminating generation of pollution at their sources. Pollution prevention is important because it is often more economically feasible than remediation of polluted sites. Reduction of point sources of pollution is a comprehensive way to reverse eutrophication and improve the water quality of the Lake Skadar/Shkodra Lake, especially in the non-shore areas through the reduction of content of nutrients, and other pollutants, loading to the lake from point sources. Wild dumps of waste and in general waste dumping from roads or other accessible sites is a great problem impacting the landscape values of Skadar/Shkodra Lake and is a steady potential threat also for the water quality.

Prevention and reduction of lake pollution from industrial sources-Aluminum Plant-KAP in Montenegro, will be realized through the prevention and reduction of specific un-organic pollutions (heavy metals), to be loaded into Lake waters, which will improve ecology of the sediments. This is the way to carry out the prevention and reduction of specific un-organic pollutants, which originate in landfills with hazardous waste within the Aluminum Plant which, that through the system of underground and surface waters pollute waters and sediments of Skadar Lake.

Special care must be taken into account, because Skadar/Shkodra Lake is a Ramsar site (wetland of the International importance, especially as waterfowl habitat), with a special demand on the conservation and wise use of wetlands, primarily to provide habitats for water birds. The wetlands are recognized as ecosystems extremely important for biodiversity conservation, which is not possible without strict pollution prevention of the water, sediments and living organisms. In addition specific habitats as caves and tributaries are threatened by pollution from municipalities as Cetinje, Podgorica, or even small settlements around Skadar/Shkodra Lake.

For realization of this Goal the mechanisms for efficient pollution prevention and reduction of pollution must be developed in the frame of existing or new institutions from both sides. Because of that must be developed and organized efficient joint program for the prevention of watershed pollution and efficient control system.

To achieve the **Goal 4**, the following **operational objectives** (OG) should be completed through defined **program targets**:

OO 4.1-Prevention of pollution of the lake water and its watershed from wastewater

- Support waste water treatment plants development.

OO 4.2-Prevention of pollution of the lake water and its watershed from solid waste.

- Reinforce solid waste collection,
- Establish landfills.

OO 4.3-Prevention of pollution of water and groundwater from hazardous waste

- Remove threat of KAP hazardous waste impacts on the Lake.

The main indicators to measure success in achieving the Goal 4 are:

- 10% of decreasing of heavy metals concentrations in lake sediments.
- 50% of the houses around the lake are supplied with or linked to a wastewater treatment facility.
- Economic activities (restaurants, hotels, etc) are supplied with environmental friendly wastewater treatment facilities.
- Significant decrease of “hotspots” areas of solid wastes around the lake (facilities for their management are created).

The main stakeholders that need to be involved in realizing the activities under the **Goal 4** are:

In Albania:

- REA (Regional Environmental Agency);
- Municipalities and communes of Shkodra and Koplik, with their responsible sectors (Water and Wastewater Enterprises);
- KfW project;
- Directory of Public Health;
- University of Shkodra;
- Agency for the Administration of the River Basin Drin – Buna;
- National Council of Water;
- Local community.

In Montenegro:

- Ministry of tourism and environment,
- Agency for environmental protection,
- National park Skadar Lake,
- Municipality of Cetinje,
- Surrounding villages around the lake,
- Companies-KAP.

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6. Annex

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					AI (USD)	MN (USD)	ongoing foreign co-financing (USD)	another financing resources (USD)
1. Joint Lake Planning and Management								
1.1 Strengthen legal framework and improve law enforcement capacities to regulate and control development activities in the area	1.1.1	Improve legal framework regulating management of the area and development activities	1.1.1.1	Support a study to analyse existing legal framework for the management of natural resources in Albania and identify gaps and provide recommendations for improvement				15,000
			1.1.1.2	Support approximation of legislation between both countries to facilitate joint management of the Skadar/Shkodra lake				30,000
1.2 Strengthening the institutional framework for environmental protection and sustainable development	1.2.1	Operational transboundary co-operation and co-ordination system	1.2.1.1	Define and set up working groups for different transboundary activities as zoning, monitoring, tourism, fishing, agriculture, basin management, boating and traffic				150,000
			1.2.1.2	Establish and support Skadar/Shkodra Lake Commission				50,000
			1.2.1.3	Establish a joint secretariat for assisting Skadar/Shkodra Lake Commission		10,000		120,000
1.3 Support joint effective trans-boundary management of the Skadar/Shkodra Lake protected area.	1.3.1	Implement pilot activities in transboundary management	1.3.1.1	Develop and establish a joint vision on the Skadar/Shkodra lake, including issuing a joint Newsletter on conservation activities (three monthly and three lingual – support for 4 years) and the creation and promotion of a common label for the trans-boundary protected area / lake region		10,000		150,000
			1.3.1.2	Explore the importance of potential international designations as international RAMSAR site to promote and develop the protected areas and the lake region				40,000
			1.3.1.3	Creation of joint management plan for the lake, based on national strategic documents in Montenegro and Albania		2,000		40,000

					AI (USD)	MN (USD)	ongoing foreign co- financing (USD)	another financing resources (USD)
2. Monitoring and Research								
2.1 Strengthen and development of structures and facilities for monitoring the ecological state of Skadar/Shkodra Lake	2.1.1	Establish a jointly working monitoring system with stations for the whole lake	2.1.1.1	Establishment of monitoring unit at Shkodra Lake in Albania.	30,000			250,000
			2.1.1.2	Automatic stationary monitoring stations for measurements for general elements (physical-chemical) in accordance with WFD (3 stations in Montenegro)				400,000
			2.1.1.3	Establish two automatic monitoring stations for measurements of general physical-chemical elements of the water (in western coast – Shiroka and in north-eastern coast – Koplik) .				250,000
			2.1.1.4	Upgrade the existing biological laboratories for research and monitoring of biodiversity in AL and MN				130,000
	2.1.2	Provision of a database for the monitoring of the ecological status of the lake	2.1.2.1	Setting up an information database and a networked system of monitoring including software development				40,000
2.2 Promote the monitoring of the water quality and water regime to detect changes in the ecosystem	2.2.1	Establish regular water quality sampling system	2.2.1.1	Joint manual for the monitoring program of Skadar/Shkodra Lake and data distribution				40,000
			2.2.1.2	Implementation of the monitoring for 4 year, based on monitoring program		67,500		120,000
2.3 Establish habitat and biodiversity monitoring to identify describe the ecological state of the lake	2.3.1	Strengthen capacities for monitoring of habitat and biodiversity						

					AI (USD)	MN (USD)	ongoing foreign co-financing (USD)	another financing resources (USD)
			2.3.1.1	Monitoring of the vegetation of the lake, focused mostly on macrophytes (map of submerse vegetation);				25,000
			2.3.1.2	Monitoring of the fish population especially autochthonous species and important species of fish market (carp, eel, bleak, mullet...) and their important habitats for spawning and nursery				45,000
			2.3.1.3	Monitoring of the of the state of bird populations and their nesting habitats including facilities at the lake;				75,000
			2.3.1.4	Monitoring of the state of rare and endangered species and habitats				20,000
			2.3.1.5	Monitoring of benthos at specific sites				25,000
2.4 Specific research to preserve the good ecological state of the lake and detect potential threats	2.4.1	On-site research, specific water and environmental studies and educational programme	2.4.1.1	Implementation of bio-testing to detect environmental threats				50,000
			2.4.1.2	Development of hydrological model of the Skadar/Shkodra Lake				250,000
			2.4.1.3	Develop a study on the water quality of the springs, underground waters and superficial water of the lake (consultancies, field work, data analysis, stipulation of urgent measurements for improvement of the quality of lake water) and indicate the importance to local communities				37,000
2.5 Monitoring of socio-economic conditions in the lake area	2.5.1	Periodic studies of trends in well-being of the population; income, productivity, employment, etc	2.5.1.1	Periodic studies of trends in local resource use including the support demographic study of demographic development in Lake area				105,000

					AI (USD)	MN (USD)	ongoing foreign co-financing (USD)	another financing resources (USD)
3. Protected areas and Natural Resource Management								
3.1 Supporting protected areas management and zoning	3.1.1	Establish zoning for both protected areas and the whole lake	3.1.1.1	Making of a zoning plan, including info gathering, consultation, and adoption of the zoning				50,000
			3.1.1.2	Implement the zoning system (signalisation) at and on the lake				40,000
	3.1.2	Establish management plans for the protected areas and the whole lake	3.1.2.1	Updating or development of the management plans for the protected areas				40,000
	3.1.3	Strengthen protected area management in Albania	3.1.3.1	Designing and creating of an administration of the protected area in Albania	20,000			52,000
			3.1.3.2	Develop and / or update regulations and by-laws for the protected area management in Albania and approval				32,000
	3.1.4	Develop physical plans for Skadar/Shkodra Lake settlements	3.1.4.1	Preparation of urban, territorial and development planning for each of the villages around the lake.			100,000	
			3.1.4.2	Develop a landscape and building architecture identity based on local tradition. Establish basic rules for building in the area (type and size of buildings, village extension areas) and support removal of illegal activities.			10,000	70,000
	3.1.5	Develop capacities for PAs staff	3.1.5.1	Develop and implement training programmes for PAs staff				60,000
			3.1.5.2	Provide equipment for PAs staff		10,000		80,000
			3.1.5.3	Improve human capacities of NPSL in terms of staffing		60,000		25,000

					AI (USD)	MN (USD)	ongoing foreign co- financing (USD)	another financing resources (USD)
3.2 Development of viable and sustainable village economies	3.1.1	Restore or improve the livelihoods of people whose access to resources is or will be restricted	3.2.1.1	Promotion of village economies based on “wise use” of natural resources (trainings, including inventory of resources, identification of groups, and criteria on economy and positive environmental impact)			20,000	170,000
			3.2.1.2	Identify and promote pilots in commodity chain development that reduce pressure on natural resources and promote economic development	56,000	20,000	500,000	30,000
	3.1.2	Integrated fishery management	3.2.2.1	Making of a fishery stock assessment				30,000
			3.2.2.2	Making of a fishery management plan, including quota management system				10,000
			3.2.2.3	Identify, support, and invest in incentives to legal fishing				10,000
			3.2.2.4	Provide mechanism by which fishermen can identify and address issues of common concern				20,000
	3.1.3	Promotion of sustainable agriculture of the transition zone buffering the lake	3.2.3.1	Identify, define and implement sustainable agricultural pilots in transition zone	210,000	50,000		
3.3 Protection, restoration and adaptation of cultural heritage	3.3.1	Protection, restoration and adaptation of cultural heritage	3.3.1.1	Inventory of cultural heritage sites	10,000			20,000
			3.3.1.2	Implement two pilot renovations and provide required equipment	20,000			160,000
3.4 Institutional investments and strengthening of PAs management	3.4.1	Construction of park facilities to mitigate impacts and to raise public awareness	3.4.1.1	Master plan for informational infrastructure			10,000	
			3.4.1.2	Implement park signalisation			80,000	40,000
			3.4.1.3	Rehabilitation of existing structure to serve as visitor centre			150,000	50,000

					AI (USD)	MN (USD)	ongoing foreign co-financing (USD)	another financing resources (USD)
			3.4.1.4	Support for the establishment of information and education infrastructure (build an information and education centre in Shiroka; visitor centres in western and eastern coast of the lake; watch towers in Vraga, Kalldrun, Kamice, Shegan; cycling routes; signing and info desks along the road Buna Bridge – Zogaj and Grile – Shegan)	30,000			200,000
			3.4.1.5	Establishment of a small natural museum (exhibition) of Shkodra Lake (Flora, Fauna, Palaeontology, Archaeology).				50,000
			3.4.1.6	Support for the establishment of the facilities for cultural activities (theatre, amphitheatre, temporary stages in Shiroka and Koplik).	200,000			
			3.4.1.7	Making infrastructure for “eco camping” site				50,000
	3.4.2	Implement habitat restoration	3.4.2.1	Projects for restoration and enlargement of the areas with autochthon vegetation, especially forests (willow, ash, poplar) in the east coast of the lake (Pilot project for 6 ha in Koplik).				60,000
			3.4.2.2	Controlled grazing Virpazar				10,000
			3.4.2.4	Support erosion control measures on streams of Taraboshi Mountain (pilot project for the most problematic streams).				110,000
			3.4.2.5	Maintain controlled cattle grazing as a tool for management of habitats (Pilot project for preservation of a pasture area in Shegan)				30,000
			3.4.2.6	Stipulation of the measurements for protection of important habitats for fish reproduction and nursery (5 Ha Kamic and 2-3 Ha in Shiroke)				20,000

					AI (USD)	MN (USD)	ongoing foreign co- financing (USD)	another financing resources (USD)
	3.4.3	Develop bird preservation and observation programme	3.4.3.1	Study unit for bird preservation at the lake (Vranjina)		20,000		50,000
			3.4.3.2	Platform for nesting of pelicans and other selected endangered bird species				45,000
			3.4.3.3	Building of platform and two towers for birdwatching and wardening				45,000
	3.4.4	Promotion of Skadar/XShkodra Lake	3.4.4.1	Promotion programme for sustainable tourism				30,000
			3.4.4.2	Educational awareness programme		10,000		30,000
			3.4.4.3	Producing of promotional materials		10,000		125,000
3.5 Promotion of sustainable tourism at the Skadar/Shkodra lake based on the natural and cultural values	3.5.1	Prepare of joint approach for tourism developmet at the lake	3.5.1.1	To produce a tourism master plan in Montenegro			20,000	
			3.5.1.2	To produce a tourism master plan in Albania				30,000
	3.5.2	Pilots in sustainable tourism development	3.5.2.1	Public pilots (construction of water sports center, construction of small marina in Shiroka, set up small scale tourist infrastructure)	150,000			
			3.5.2.2	Private pilots (creation of tourist facilities, development and promotion of Shiroka, educational projects in Shiroka and Koplik)	180,000			
	3.5.3	Create an enabling environment for tourism	3.5.3.1	Activities from Regional Development Plan	525,000			

					AI (USD)	MN (USD)	ongoing foreign co-financing (USD)	another financing resources (USD)
4 Urgent environmental investment								
4.1 Reduce impact from sewage waters on groundwater, tributaries and parts of the lake	4.1.1	Supporting of constructing waste water treatment facilities in Skadar/Shkodra Lake area	4.1.1.1	Waste water treatment of Cetinje municipality and of settlements from around the Lake in Montenegro (e.g. Karuc, Vranjina)		50,000		
			4.1.1.2	Waste waters treatment facilities for Skadar/Shkodra Lake settlements			200,000	
			4.1.1.3	Pilot projects for wastewater treatment using environmental friendly technologies for the touristic buildings (bars, restorants and hotels) in the areas Shiroke – Zogaj and Shegan.			400,000	
			4.1.1.4	Establishment of the wastewater plant of Shkodra			875,000	
			4.1.1.5	Asses the feasibility for introducing wastewater fee to businesses				5,000
4.2 Reduce impact of solid waste on landscape (clean-up of wild dumps) and environment	4.2.1	Reinforce solid waste collection to mitigate impacts on landscape and environment	4.2.1.1	Support for National park and local municipality in organization of the collection and disposal of the solid waste (containers, garbage bins, equipments...) and support activities for cleaning the existing solid wastes along the whole lakeshore			20,000	120,000
			4.2.1.2	Support a project for raising awareness of the local community for the economic benefit (tourism, fishery, agriculture) from reducing and controlling the pollution (consultancies, seminars, publications).				12,000
	4.2.2	Establish landfills to deposit solid waste properly	4.2.2.1	Establishment of a landfill for the urban wastes of Shkodra and Koplik	125,000			
			4.2.2.2	Develop studies for the establishment of landfills for the urban wastes of Bajza and Koplik (feasibility study, planning)				15,000
4.3 Reduce impact of hazardous waste on water, groundwater and environment	4.3.1	Remove threat of KAP legacy	4.3.1.1	Inventory of hazardous waste on KAP waste disposal and categorization of waste on hazardous waste disposal in KAP		50,000		300,000
			4.3.1.2	Project design for hazardous waste disposal in accordance with EU regulations		100,000		300,000
			4.3.1.3	Co financing of Construction of the hazardous solid waste disposal		3,000,000		400,000