

Final Report submitted to the
United States Agency for International Development

Kosovo

**Biodiversity
Assessment**

Under the

**Biodiversity and Forestry Indefinite Quantity Contract
Contract No. LAG-I-00-99-00013-00, Task Order No. 811**

Submitted to:

USAID/Kosovo

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May 2003

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List of Acronyms and Abbreviations

ADS	Automated Directives System
amsl	above mean sea level
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
CSP	Country Strategic Plan
EA	Environmental Assessment
EAR	European Agency for Reconstruction
E&E	Europe and Eurasia Bureau
EGAT	Economic Growth, Agriculture, and Trade Overview Bureau
EIA	Environmental Assessment Impact
EU	European Union
FAA	Foreign Assistance Act
FAO	Food and Agriculture Organization of the United Nations
FRY	Federal Republic of Yugoslavia
FY	Fiscal Year
GDP	Gross Domestic Product
GTZ	German Development Assistance Implementation Agency
ha	hectares
IEE	Initial Environmental Evaluation
INEP	Institute for Nature and Environment Protection
IUCN	World Conservation Union
JSF	Japan Special Fund
KAE	Kosovo Association of Ecologists
KBS	Kosovo Business Support Program
KEK	<i>Korporata Energjetike e Kosoves</i> (Power Corporation of Kosovo)
KEPA	Kosovo Environmental Protection Agency
KFA	Kosovo Forest Agency
KFOR	Kosovo Force (NATO)
KTA	Kosovo Trust Agency
MAFRD	Ministry of Agriculture, Forestry, and Rural Development
MESP	Ministry of Environment and Spatial Planning
NATO	North Atlantic Treaty Organization
NGO	Nongovernmental Organization
PAS	Protected Area System
PEA	Programmatic Environmental Assessment
PISG	Provisional Institutions of Self-Government
REC	Regional Environmental Center in Central and Eastern Europe
REReP	Regional Environmental Reconstruction Program
SIDA	Swedish International Development Agency
SO	Strategic Objective
SP	Strategic Plan
TSP	Transitional Strategic Plan
UNMIK	United Nations Interim Administration Mission in Kosovo
USAID	United States Agency for International Development

Executive Summary

Purpose and Objective

The purpose of the biodiversity assessment is to help inform the United States Agency for International Development (USAID)/Kosovo Mission's planning during the development of their new five-year Country Strategic Plan (CSP, FY 2004-FY 2008) and to ensure USAID compliance with Section 119 of the US Foreign Assistance Act (FAA 119) and Agency guidance on Country Strategy Development. In meeting the FAA 119 requirements of USAID/Kosovo, the assessment had three main objectives:

1. Provide an overview of biodiversity status and threats.
2. Highlight actions needed to conserve biodiversity.
3. Analyze and assess how USAID/Kosovo's planned future CSP may impact on, or contribute to, biodiversity conservation.

Based on Mission guidance, the Biodiversity Assessment Team also briefly assessed ways in which the Mission's planned future CSP can contribute to improved environmental management and sustainability.

Environmental Requirements for Country Strategic Plans

(USAID/Kosovo is currently in the process of developing a new CSP. FAA 119 requires USAID missions worldwide to assess national needs for biodiversity, and potential USAID contributions to meet these needs, in developing all country strategy documents. Specifically, FAA 119 states that each country development strategy statement or other country plan, prepared by USAID, shall include an analysis of (1) the actions necessary in that country to conserve biological diversity, and (2) the extent to which the actions proposed for support by the Agency meet the needs thus identified.¹ This requirement is further articulated in USAID's Automated Directives System (ADS), Section 201.3.4.11.b, on mandatory environmental analysis for strategic plans.

Methodology

The Assessment was conducted over a three-week period, by an ARD Team comprised of two expatriates and one local specialist, with expertise in biodiversity conservation, natural resources management and governance, and environmental protection and compliance. The Team reviewed existing literature relevant to biodiversity conservation and environmental management in Kosovo. The Team Leader met with representatives from USAID's E&E Bureau and various regional biodiversity and environmental specialists from the World Bank. In Kosovo, the Team interviewed a diverse range of representatives from government agencies, donors, and civil society (see Annex F for the complete list of persons consulted), and took field trips to Sharr/Sara Mountain National Park and the proposed Bjeshket e Nemuna/Prokletije National Park. An additional trip was made to Prizren to attend a meeting of local environmental NGOs.

Status of Biodiversity and Conservation in Kosovo

Kosovo is exceptionally rich in plant and tree species considering its relatively small area. Thirteen plant species have been identified that grow only in Kosovo and approximately 200 species that grow only in the Balkans. Kosovo's plant diversity is the result of complex interaction of physical factors creating a wide variety of habitat conditions for plant growth. Kosovo's plant diversity is further enriched by the

¹ USG, FAA, Part I, Section 119(d), Country Analysis Requirements.

presence of species driven south during ice age periods. Forests cover about 40% of Kosovo but only about a third of this area is considered ecologically healthy and economically productive. Most of the remaining two-thirds consists of immature trees and bushy low forests that are cut periodically for firewood. The pace of firewood harvesting increased during and since the war, but Kosovo must still import more than half of its fuel wood and most of its construction timber. Mature oak forests are now highly threatened. Several species of plants are known to be on the verge of extinction in Kosovo or are already locally extinct—largely due to human actions.

The factors that create favorable conditions for plant diversity in Kosovo also explain the high level of animal diversity within this relatively small area. There are an estimated 46 mammal species in Kosovo, many with regional or global conservation significance. The mountainous borderlands of Kosovo provide habitats for a number of large mammalian species including brown bears, lynx, wild cats, wolves, foxes, wild goat, roebuck, and deer. It is anticipated that 225 species of birds are either resident in Kosovo or are seasonal migrants—including several species of birds of prey. Most of the animal species in the country are threatened by destruction of forest habitats. Some species of water birds have already been lost in Kosovo, probably as a result of wetland destruction. Hunting was allegedly heavy during the 1990s but is currently banned and there is reportedly little illegal hunting. The current status of game populations is unknown. The populations of two species of turtles have been seriously depleted by collection for the pet trade. Aquatic ecosystems in rivers are highly threatened as a result of water pollution from domestic and industrial sources as well as uncontrolled sand and gravel mining in riverbeds.

Much of the remaining diversity of land plants and animals is found in the higher mountains in the southern and western regions of Kosovo. The Sharr/Sara Mountain National Park to the south covers 39,000 ha and a proposed new park in the Albanian Alps west of Pejë/Peć will protect an additional 50,000 ha. Other protected areas include two protected landscapes and 38 natural monuments. When the new national park is formally declared, Kosovo will have protected almost 10% of its land area, which is the internationally accepted target. Sharr/Sara Mountain National Park is officially managed by a staff under the Ministry of Environment and Spatial Planning (MESP), but one-third of its area is actually managed by the former Serbian park staff who report directly to Belgrade.

Economic Value of Kosovo's Biodiversity

Kosovo's biodiversity resources can be managed sustainably to produce economic benefits while also conserving biodiversity. The forests are an economically important renewable natural resource with the potential to supply wood and non-wood products as well as environmental services such as watershed protection and carbon sequestration. Kosovo must currently import most of its construction timber and more than half of its fuel wood because forests were not properly managed in past decades up to the present time. Authors of a Food and Agriculture Organization (FAO) forest sector study estimate that after the state forest industries are privatized and the supply of wood from the forests is predictable, 4,800 people will be employed directly in forestry and wood processing, with a total of 30,000 people employed in forest sector-related activities when downstream and support jobs are included. Collection of medicinal and herbal plants from the forests is the basis of an industry in Kosovo and wild mushrooms and berries are also collected for sale. The monetary value of these products is believed to be significant but has not been evaluated. In the past, hunting was an important source of revenue for a state-owned enterprise and some communities. Efforts underway by the Wildlife Management Office could again make hunting an economically important activity. Tourism at Sharr/Sara Mountain National Park already generates jobs in the service sector and could potentially benefit from municipal taxes from hotels and restaurants. With improvements in the management of that park and opening of the new park, nature-based tourism could be an important source of income for local municipalities and a source of jobs for the rural population.

Legal and Institutional Aspects of Biodiversity Conservation

The Environmental Protection Law was passed by the Kosovo Assembly in January 2003 and provides the broad legal framework for environmental management and biodiversity conservation. The provisions of this law will be elaborated by secondary laws, including acts that will address nature conservation and spatial planning, both of relevance to biodiversity conservation. The Law on Forests was passed in March 2003 and builds a legal foundation for putting forest management on a more rational basis, including provisions to manage forests in a manner that will protect biodiversity. This law will be elaborated by supplemental legislation including one that will address wildlife management.

MESP has the primary mandate for conserving biodiversity. The Department of Environment within MESP has operational responsibility for national park management and other biodiversity management functions and the Institute for Nature and Environmental Protection (INEP) within the soon-to-be-formed Kosovo Environmental Protection Agency (KEPA) provides scientific support. The Kosovo Forest Agency (KFA) within the Ministry of Agriculture, Forestry, and Rural Development (MAFRD) is responsible for forest management on public and state lands including the collection of non-wood forest products. The Economy of Hunting under KFA will manage sport hunting when the hunting ban is lifted. The faculty of Biology at the University of Prishtinë/Priština, the Kosovo Academy of Sciences, and the Kosovo Museum each has a support role in the scientific aspects of biodiversity conservation.

Actions Required to Conserve Biodiversity

The following four areas require attention to bring biodiversity conservation in Kosovo up to acceptable international standards.

- The scientific basis for biodiversity conservation is very weak in terms of appropriately trained academic scientists and practitioners in government and civil society. Academic and in-service training is sorely needed as well as technical assistance to the government. A related problem is that the information on biodiversity resources is outdated and fragmented. In order to manage and conserve these resources, comprehensive field surveys of all plant and animal groups are needed and these data must be entered into a geographically referenced database.
- Protection of biodiversity is currently accomplished solely through setting aside protected areas. The management of the current national park is very weak and other protected areas are not actively managed. Technical assistance and funding is needed to make the protected area system perform its intended functions in terms of biodiversity conservation, education, and recreation. The government must continue to elaborate the legal basis of conservation and provide trained staff to enforce the laws. Steps must also be taken to protect ecosystems and species outside current protected areas by protecting rare plant habitats and protecting the rivers from pollution and sand mining.
- Biodiversity resources that have economic value deserve special management attention and efforts are required to understand the biological basis for managing these resources. Modern management systems based on a solid scientific foundation, that take into consideration the unique characteristics of these resources, are needed to ensure the sustainability of forest and wildlife resources and additional regulations are required to ensure that economic benefits are captured by society. For example, if the natural regeneration rate of a particularly rare or economically important tree species is too slow to yield desired stocks, or if the natural regeneration process requires an intermediary species or a set of environmental conditions that are increasingly rare, then those responsible for management may decide to actively manage this resource (e.g., develop a seed bank, establish nurseries, transplant seedlings, etc.).

- Improved environmental management will also enhance biodiversity conservation—especially efforts to reduce river pollution and sand and gravel mining in rivers, eliminate toxic pesticides from the market, and prepare spatial plans that reflect biodiversity values and environmental concerns.

International Donor and NGO Support for Biodiversity and Environmental Management

Given the pressing human needs facing post-conflict Kosovo, biodiversity conservation simply did not evolve as a priority programming area for most international donors or NGOs after the war. However, four years later, a small number of international donors and local NGOs have begun to focus on issues related to biodiversity conservation. Others donors and NGOs, addressing issues of environmental management (e.g., wastewater and solid waste management), have tangentially begun contributing to conservation efforts. Below we briefly describe those donor and NGO activities that are directly supportive of biodiversity conservation, and highlight some of the international donor activities that are indirectly contributing to biodiversity conservation through improving environmental management.

International Donors Directly, and Indirectly, Supporting Biodiversity Conservation in Kosovo

Currently the FAO, working with MAFRD, is the only international donor working in direct support of biodiversity conservation in Kosovo. Through two interrelated activities, the FAO is working to develop both a Forest Inventory and a Forest Sector Development Plan. The Forest Inventory will document the diversity, location, and relative abundance of Kosovo’s forest resources. This will be a vital first step in the conservation of these resources—and, by virtue of the habitats they provide—to many of Kosovo’s threatened and endangered animal species. Based upon this Forest Inventory, the FAO is also developing a Forest Sector Development Plan to establish a framework for managing forest resources over the short and medium term.

Numerous other international donors, including the European Union (EU), the European Agency for Reconstruction (EAR), the Swedish International Development Agency (SIDA), and Germany’s GTZ are actively supporting efforts to address pressing environmental problems. These areas of focus include industrial pollution, solid waste, water quality/wastewater management and treatment, and capacity building. Based upon this assessment, it appears that considerable progress is being made in addressing both industrial pollution and solid waste management. However, donor support for activities that target improving water quality, including the development of wastewater management and treatment systems, and building the capacity of both the MESP and municipal governments to effectively support the environmental management process, has been slow to develop.

NGOs Directly Supporting Biodiversity and Environmental Management in Kosovo

While none of the international conservation NGOs have developed or implemented activities in Kosovo, one regional and a small number of local NGOs have become increasingly involved in promoting conservation. Interest in biodiversity conservation and environmental management continues to grow within the NGO community, however, the basic capacity of these NGOs remains quite low. To enhance the role of NGOs and other civil society organizations in promoting biodiversity conservation and environmental management, considerable capacity-building efforts will need to be focused on these primarily nascent organizations.

Recommendations for Linking Improved Biodiversity Conservation and Environmental Management to USAID’s Projected Country Strategic Plan (FY 2004-FY 2008)

Although the need for assistance in environment, as well as health and education, was discussed during the strategy development review, USAID/Kosovo is not proposing to implement assistance programs in these areas. An expected decrease in USAID/Kosovo’s annual budget, coupled with the Mission’s

comparative programming advantage, and the leadership roles of European donors, provided the rationale and justification for this decision.

This being said, the Mission appears willing to look for ways to address environmental issues, including biodiversity conservation needs, through logical links with their projected future programs. Specific recommendations for linking both biodiversity conservation and improved environmental management, to projected Mission programs are provided in Section 8 of this Assessment Report. A summary of these linkage areas to projected Mission programs is presented below.

- ***Projected SO 1 Program Areas – Economic Policy and Institutions***

Given the focus of SO 1, there appear to be some good opportunities to improve both biodiversity conservation and environmental management through projected SO 1 programs. As described by Mission staff, among other activities, SO 1 will likely provide organizational development support to ministries to increase their operational efficiencies. Given the relative newness of the Ministry of Environment and Spatial Planning, coupled with its broad mandate, training and capacity building in organizational development could go a long way toward creating an enabling environment that would be increasingly supportive of biodiversity conservation and sound environmental management.

Recommendation

Provide organizational development training and capacity building to MESP to improve communication and collaboration, and to improve operational efficiencies.

- ***Projected SO 2 Programming Areas – Private Sector Development***

Some of the economic activities that may be focal areas of SO 2 have the potential to negatively or positively impact upon biodiversity conservation and environmental management in Kosovo. Ensuring sustainability in the management and use of the natural resource base will be critical steps in improving biodiversity conservation and environmental management. The potential exists to design and implement activities linked to the agriculture and forestry sectors, positively impacting on biodiversity conservation and environmental management.

Recommendations

- In promoting secondary wood processing industries, incorporate principles of sustainable forest management written into the new Forests Law into activities to simultaneously ensure the supply of wood and promote sound environmental management and biodiversity conservation.
- Assist growth of the valued-added wood products industry.
- In promoting specialty food products, especially those gathered in the wild (e.g., mushrooms, wild blueberries, etc.), incorporate principles of sustainable use to ensure the long-term economic potential of the resource base. Specifically, develop resource-specific management plans negotiated with government and resource-user support, that provide the framework for use (seasonality, harvest limits, etc.) in exchange for assistance with developing market linkages.
- Assist with the marketing of certified organic agricultural products, a growing market in western Europe.
- Discourage the use of agro-chemicals banned in western Europe, to maintain the potential exportability of agricultural products to western European markets.
- Given the strong potential for SO 2 activities to negatively impact on the environment, and pending the result of the SO-level IEE, it may be advisable for the Mission to conduct a programmatic environmental assessment (PEA) of this program area. A PEA differs from an environmental assessment (EA), in that a PEA covers multiple projects of a similar nature at multiple sites within a region or country, whereas an EA covers a specific project or activity at a specific site. This effort would increase the sustainability of SO 2 investments, while promoting sustainable economic growth.

- ***Projected SO 3 Programming Areas – Democratic Institutions***

Within the scope of the proposed SO 3, there appears to be one very important area where improved biodiversity conservation and environmental management could be linked to projected SO 3 focal areas: legal reform. As understood by the Biodiversity Assessment Team, the evolving legislative development process has generally proceeded rather slowly. One notable exception, however, has been the Environmental Protection Law (described in Section 4), which passed on January 16, 2003 and was signed into law exactly four months later. While this is certainly encouraging, it is worth noting that the legal structure to support biodiversity conservation and environmental management is still far from complete. Passing with more than 80 Amendments, the law will need to be carefully analyzed and revised in the near future if it is going to effectively serve as the guiding tool for environmental protection and conservation.

Potential Recommendations

Given the importance of the macro-level legal framework in promoting both biodiversity conservation and sound environmental management, coupled with the lack of other donor support in this arena, it is recommended that USAID provide assistance to review, and as necessary, revise and elaborate the Environmental Protection Law.

- ***Projected SO 4 Programming Areas – Local Governance and Civil Society Participation***

Within the scope of the proposed SO 4, there are numerous areas where improved biodiversity conservation and environmental management could logically be linked to proposed programs. As noted in the February 2003 Strategic Plan Concept Paper, Kosovo's 30 municipalities are more in the nature of counties than cities or towns, each being comprised of more than one urban settlement and greater or lesser amounts of rural and agricultural areas.² These urban and rural areas are where people live and work. It is at this level where the management decisions of government, the private sector, and individual citizens have the greatest direct impact on the environment. As a result, this is logically the level where the most can be done to stem the tide of poor environmental management.

Recommendations

- Build the capacities of municipalities to fulfill their mandate vis-à-vis spatial planning, as discussed in the local government assessment, which include considerable focus on environmental protection. Spatial planning, in the Kosovo context, provides the basis for both zoning and environmental screening, and quickly developing this capacity could make considerable gains in rationalizing municipal development.
- Build awareness of and capacity for environmental screening, including environmental impact assessments (EIAs), at the municipal level.
- Promote the capacity of civil society organizations, including NGOs (such as REC and Aquila, discussed in Section 6) and the private sector, to participate and serve as effective partners in the environmental management process. In this effort, NGOs should be supported in their efforts to advocate for improved environmental management, and the private sector should be supported in efforts to improve their environmental management (including decreasing wastes, waste management, and increasing operational efficiencies).

² USAID/Kosovo. February 2003.

1.0 Introduction

1.1 Purpose and Objective

The purpose of the biodiversity assessment is to help inform Mission planning during the development of their new five-year Country Strategic Plan (CSP, FY 2004-FY 2008) and to ensure United States Agency for International Development (USAID) compliance with Section 119 of the US Foreign Assistance Act (FAA 119) and Agency guidance on Country Strategy Development. In meeting the FAA 119 requirements of USAID/Kosovo, the assessment had three main objectives:

1. Provide an overview of biodiversity status and threats.
2. Highlight actions needed to conserve biodiversity.
3. Analyze and assess how USAID/Kosovo's planned future CSP may impact on or contribute to biodiversity conservation.

Based on guidance from the Mission, the Biodiversity Assessment Team also briefly assessed ways in which the Mission's planned future CSP can contribute to improved environmental management and sustainability.

1.2 Methodology

The Assessment was conducted over a three-week period by an ARD Team of two expatriates and one local specialist, with expertise in biodiversity conservation, natural resources management and governance, and environmental protection and compliance. In conducting the Assessment, the Team began by conducting a literature review to identify sources of documentation relevant to biodiversity conservation and environmental management in Kosovo. The Team Leader then traveled to Washington, DC to meet with representatives from USAID's E&E Bureau. He also communicated with various regional biodiversity and environmental specialists from the World Bank. The Team Leader continued to Kosovo, where he and the local specialist conducted meetings with a diverse range of people from government agencies, donors, and civil society (see Annex F for the complete list of persons consulted). The third member of the Team arrived in Kosovo nine days later. Together the Team continued to interview stakeholders, and gather and review relevant documents. As part of the Assessment, field trips were taken to Sharr/Sara Mountain National Park and the proposed Bjeshket e Nemuna/Prokletije National Park to interview protected area staff, local government officials, private citizens, and NGOs. During the field assessment, three meetings were held with USAID/Kosovo staff: an in-briefing, to confirm the scope of the assignment and to arrange logistical support; a mid-term meeting, to better understand past and projected future Mission programs; and an exit briefing on April 25 to present preliminary findings of the assessment and recommendations.

The findings in this report are based on information gathered during interviews as well as through documents produced by a variety of sources, and reviewed by the Assessment Team (see Annex B for a full bibliography).

Additional time was allotted to revise the report in response to comments on the draft by USAID/Kosovo and the E&E Bureau.

1.3 Environmental Requirements for Country Strategic Plans

The USAID Mission in Prishtinë/Priština is currently in the process of developing a new CSP for Kosovo. FAA 119 requires USAID to assess national needs for biodiversity and potential USAID contributions to these needs in all country strategy documents. Specifically, FAA Section 119(d), Country Analysis Requirements, states: "Each country development strategy statement or other country plan prepared by the

Agency for International Development shall include an analysis of: (1) the actions necessary in that country to conserve biological diversity, and (2) the extent to which the actions proposed for support by the Agency meet the needs thus identified. (FAA, Sec. 119(d)).” This requirement is further articulated in USAID’s Automated Directives System (ADS), Section 201.3.4.11.b, on mandatory environmental analysis for strategic plans.

A copy of the Scope of Work (SOW) for this assignment can be found in Annex A of this report.

1.4 Acknowledgements

The Biodiversity Assessment Team would like to thank USAID/Kosovo for providing its input and support to this assignment, with special thanks to Program Officer Judith Schumacher, Perihan Ymeri, and Urim Ahmeti. Perihan Ymeri was an insightful companion during several days spent with the team visiting field sites. Alicia Grimes of USAID/EGAT provided invaluable guidance and facilitated the Team Leader’s in briefing in Washington. Lauren Russell, the Kosovo desk officer, provided very useful background documents and an update on the status of the Mission’s strategic planning process.

We are especially indebted to the many Kosovar scientists, government officials, and NGO leaders who enthusiastically shared their knowledge with us and provided most of the information upon which this report is based. Ismet Shukriu and his staff at Sharr/Sara Mountain National Park spent an entire day with the team and Faculty of Biology at the University of Prishtinë/Priština spent two long sessions with us explaining the state of knowledge of biodiversity in Kosovo.

The two American members of the team would like to give special thanks to Assessment Team member Zeqir Veselaj who took time out from his important duties as a government official to help us understand the complex situation in Kosovo and to meet all the right people.

2.0 Background on Kosovo

2.1 Socioeconomic Overview

Kosovo has a population of 1.9 million people, 88% of whom are ethnic Albanians, 6% are ethnic Serbs, and the rest are minorities. Most of the ethnic Albanians are Muslims while the Serbs are predominately Serbian Orthodox. The population is very young—approximately 50% are below the age of 25, but the population is increasing at above replacement rate. The average GDP per capita is below US\$1,000 and more than half of the population lives below the official poverty line. Unemployment is in excess of 50% and most families receive remittances from family members living and working abroad.

The economy is still affected by the socialist past. Prior to 1990, Kosovo’s economy was based primarily on mining and agriculture, with some manufacturing. Many of the factories and mines closed under pressure from international economic sanctions during the 1990s and few have reopened. Most factories and significant amounts of farmland are in the hands of the Kosovo Trust Agency (KTA) and are largely idle or working at a fraction of their capacity. Lead and zinc smelters that formerly operated in Mitrovicë/Mitrovica had an enormous environmental impact on both air and water quality. Environmental management was largely ignored during the socialist period.

2.2 Recent Political History and its Effects on Biodiversity Conservation

This section provides a very brief summary of political events in Kosovo during the recent past because this history is relevant to the current status of biodiversity conservation. Kosovo was a province within the

Federal Republic of Yugoslavia (FRY) that enjoyed considerable autonomy until the election of Milosevic in 1989. His regime withdrew most political and economic rights from the ethnic Albanian majority and replaced Albanians with Serbs in government agencies, including those responsible for natural resource management and conservation. Albanians were excluded from the universities, both as faculty and students, and children were not provided with Albanian-language education at the primary and secondary levels. Increasing human rights abuses by the Milosevic regime during the 1990s and perpetuated human suffering as a result of rising conflict and atrocities, lead to a NATO military humanitarian intervention in 1999. The United Nations Security Council subsequently established the United Nations Interim Administration Mission in Kosovo (UNMIK) and authorized it to oversee the development of Provisional Institutions of Self Government (PISG), and facilitate a political process to determine Kosovo's future status. Significant progress has been made toward accomplishing the first objective in terms of democratic elections at the municipal and central levels and the establishment of 10 ministries to provide government services.

The future political status of Kosovo remains uncertain. The parameters for resolving this issue changed somewhat in February 2003 when the FRY was officially dissolved and Serbia and Montenegro joined in a political association. Serbia is opposed to fully independent status for Kosovo, while Albanian Kosovars see this as the logical and desirable ending point of the current process. Kosovo's turbulent political history produced a chaotic governance situation in which environmental protection and biodiversity conservation issues were largely ignored for over a decade. The effectiveness of the rapidly evolving legal framework and government institutions described in Section 4 ultimately depends on creating a stable political climate in which scientists and government officials have the knowledge, resources, and public support to conserve biodiversity.

The academic community and civil service have barely begun to recover from the exclusion of Albanians from government and universities for a decade. Professors were excluded from participation in the international scientific community, most students were denied the opportunity to pursue higher education, and research largely stopped. A new generation of students is in the university, but the government agencies report difficulty in recruiting mid to upper level staff with appropriate academic training and experience. Foreign experts within the Environment Department of UNMIK are providing technical assistance and guidance to their counterparts, but biodiversity conservation has a low priority compared with pressing development-related needs and pollution control. Other than a few small grants, there are no funds available for biodiversity conservation, either through the government budget or from donor assistance. International conservation NGOs and foreign universities have not yet begun to provide significant technical assistance to biological scientists and conservation practitioners in Kosovo.

3.0 Kosovo's Biodiversity

3.1 Biodiversity Concepts

This section provides a very basic overview of concepts and terminology related to biological diversity and discusses several issues related to assessing the status of biodiversity in Kosovo.

Biodiversity is often construed to mean only species diversity, however, it also includes diversity at the ecosystem and genetic levels. Two examples of genetic diversity are traditionally grown varieties of an important food crop, and spatially discreet populations of a wild animal species. Entire ecosystems can be threatened, for example when wetlands are systematically drained. Flora refers to all groups of plants, including trees and flowering plants along with ferns, mosses, fungi, algae, and lichens. Fauna refers to all groups of animals, insects, and invertebrates including microscopic organisms. Biodiversity is preferably conserved in the wild, either within protected areas or in larger landscapes used for forestry and agriculture. Severely threatened species may require protection in zoos or botanical gardens. Biodiversity conservation

has been acknowledged as an important responsibility of society by most governments of the world, but there are also very practical reasons to conserve species and ecosystems upon which important physical and biological processes depend. Biodiversity yields important economic benefits in terms of wood and other products harvested from forests. These economic values are discussed in Section 3.7.

3.2 Constraints to Conserving Biodiversity in Kosovo

Kosovo faces a number of constraints with regard to the study, monitoring, and protection of biodiversity. The most important of these are:

- The almost total lack of investment in biodiversity conservation, either in the past or present;
- The lack of comprehensive surveys to establish baseline information;
- A dearth of appropriately trained scientists and technicians; and
- Very limited interaction with the scientific community in neighboring countries, elsewhere in Europe, or in North America.

Foremost among these constraints is the fact that Kosovo has a very small community of scientists with relevant biological training, especially in zoology. The leaders of this community are nearing retirement age and the generation of biologists that would normally replace them is largely absent as a result of the exclusion of Albanians from the university system for a decade. A new generation of botanists is being trained, but not zoologists, especially not field-oriented wildlife biologists with expertise in the major animal groups.

Most developed countries have conducted comprehensive surveys of flora and fauna according to internationally recognized scientific protocols and have identified rare and threatened species in accordance with national criteria and the globally applied criteria of the World Conservation Union (IUCN). Species that are globally endangered, threatened, or vulnerable are listed in the IUCN Red Book and governments usually provide legal protection to these species. A number of surveys of flora and fauna have been conducted in Kosovo in the past, but these were not comprehensive in taxonomic or spatial coverage, making it impossible to comprehensively assess the current status of biodiversity. A Serbia-wide assessment of biodiversity published in 1999 included Kosovo but the Assessment Team was unable to obtain a copy of this report, and the quality of the data it contains is not known to us. Biological scientists and government officials interviewed during the course of this assessment are eager to begin conducting comprehensive surveys of flora and fauna, but recognize that they cannot do so without external financial and technical assistance.³ They also recognize that these surveys provide the necessary basis for managing and protecting biodiversity as well as monitoring changes into the future. In order to be most effective for management and monitoring, the data should be spatially referenced, possibly in a geographic information system to enable scientists to track changes in populations or ecological conditions in specific locations over time. Annex C contains lists of protected or threatened plant and animal species in Kosovo.

3.3 Physical Characteristics

Kosovo, located in the Central Balkans, covers an area of 10,840 square kilometers,⁴ bounded by Serbia to the north and east, Macedonia to the southeast, Albania to the southwest, and Montenegro to the west. Topographically, it is an elevated basin enclosed by mountain ranges and hills. Most of the area of Kosovo consists of two plains divided by a hilly ridge running north to south. The capital, Prishtinë/Priština, is

³ Serbia has completed an inventory of its flora including Kosovo. Serbia's faunal survey is incomplete but in process. If the political situation permits in the future, cooperation between Kosovo and Serbia's biological scientists would be very useful in expediting the survey process.

⁴ This is approximately the area of the island of Jamaica or approximately 43% of the area of the US state of Vermont.

located in the Kosovo Plain in the east and the Dukagjin Plain is in the west. The Sharr/Sara Mountains are a major range that form the southern border and are shared with Serbia and Albania. The Albanian Alps form the western border and are shared with Montenegro and Albania.

Kosovo varies in elevation from 265 to 2656 meters above mean sea level (amsl), with approximately 77% of its area lying between 500 and 1,500 meters amsl. Higher altitude areas, above 1,500 meters, cover approximately 6% of the area and are significant from a biodiversity standpoint. Kosovo is very diverse geologically, with volcanic, metamorphic, and sedimentary rocks of varying ages and origins present. The soils are generally nutrient rich, providing a good growth medium for natural plants and agricultural crops. Limestone is located in several parts of Kosovo and has weathered to form a distinctive topography that includes numerous caves. Soils derived from limestone and ultra-basic serpentine rocks have chemical characteristics that restrict plant growth to specially adapted species that are often restricted to these soil types.

Kosovo's climate is influenced by its proximity to the Adriatic and Aegean Seas as well as the continental European landmass to the north. The overall climate is a modified continental type, with some elements of a sub-Mediterranean climate in the extreme south and an alpine regime in the higher mountains. Winters are cold with an average temperature in January and February of 0 degrees centigrade and with significant accumulation of snow, especially in the mountains. Summers are hot, with extremes of up to 40 degrees. The average annual rainfall in Kosovo is 720 mm but can reach more than 1,000 mm in the mountains. Summer droughts are not uncommon. The varied elevations, climatic influences, and soils within Kosovo provide a wide diversity of microhabitats to which plant and animal species are adapted.

Kosovo contains the upper watersheds of four rivers that flow into three different Seas: the Adriatic, Aegean, and Black. The Iber/Ibar River flows into the Danube River, making it part of one of Europe's major river systems. Kosovo provides a catchment for water flowing to neighboring countries, but because of its elevated topography, does not receive water from outside its borders. There is only one major dam in Kosovo that was constructed to generate hydroelectricity, but neighboring countries have constructed dams on rivers downstream of Kosovo. Many stretches of rivers have been severely disrupted by sand and gravel mining and attempts to control river flooding with artificial levees. There are a number of small to medium-sized lakes in Kosovo including some alpine lakes of glacial origin that are of scientific and scenic interest.

3.4 Flora

3.4.1 Species Diversity

Kosovo is exceptionally rich in plant and tree species considering its relatively small area. To date, approximately 1,800 species of vascular plant species⁵ have been confirmed through field collection, and botanical experts believe that the actual number is closer to 2,500.⁶ This hypothesis cannot be confirmed until a comprehensive floral survey has been conducted. A flora list recently compiled by the Kosovo and Albania Academy of Sciences lists a total of 4,141 vascular plant species found in the combined area of the two countries. About 150-200 plant species that grow in Kosovo are found only in the Balkans (Balkans endemics) and 13 are found only in Kosovo⁷ (Kosovo endemics). The last Kosovo endemic plant was found in 1985, and botanists believe that others will be found when field surveys begin again.

⁵ Lower plants, including mosses, fungi, lichens, and algae have not been systematically studied.

⁶ Much of the information on Kosovo flora obtained from Mustafa (1998) and from personal communication with Professor Mustafa of Prishtinë/Priština University as well as Professor Krasinci of the Kosovo Academy of Sciences.

⁷ Examples are *Aconitum pantheri* (Hay), *Saxifraga scardica* (Gris), and *Verbascum scardicolum* (Bornm).

Kosovo's plant diversity is the result of the complex interaction of physical factors creating a wide variety of habitat conditions for plant growth. Diverse combinations of soil type, elevation, and microclimate provide a wide range of plant habitats. Kosovo's plant diversity is further enriched by the presence of species driven south during ice age periods. Some of these relict northern European plant species are found nowhere else. Kosovo, along with neighboring parts of Albania, Montenegro, and Macedonia, are an important center of Balkan and European biodiversity, particularly the Sharr/Sara Mountains in the south and the Bjeshket e Nemuna/Prokletije Mountains in the west. The former is already protected as a national park and the latter is proposed for park status. Two additional areas of high plant endemism are the Pashtriku/Pastrik area in the south and the Koritniku/Koritnik area in the west. The Pashtriku/Pastrik hills are a limestone landscape in the valley of the Drini i bardhe/Beli drim River that is influenced by the Mediterranean climate of nearby Albania, and Koritniku/Koritnik Mountain supports over forty endemic plant species. Neither area is currently protected.

3.4.2 Plant Associations

Natural scientists use a number of methods to categorize and map areas that share characteristic plant and animal species or are linked through ecological processes. Among these categorization methods are vegetation types, ecosystems, and habitat types. Examples found in Kosovo include alpine meadows, montane forests, wetlands, limestone and ultrabasic-associated plant communities, etc. It does not appear from our limited investigation that comprehensive analysis and mapping of vegetation at this scale has been undertaken in Kosovo, although this may have been done in the past by Serbian scientists. Local vegetation ecologists have, however, identified and categorized plant associations, which are groups of plants that typically grow together due to their similar growth requirements. The Kosovar vegetation ecologist Rexhepi (1994) identified 139 plant associations in Kosovo, including 68 forest plant associations, 38 found in alpine and sub-alpine zones, 28 found in hill and mountain meadows, five in lowland meadows, one in wetlands, and one in running water. Dr. Feriz Krasnici of the Kosovo Academy of Scientists believes that there are actually a lower number of plant associations if strict criteria are applied, but this hypothesis must be confirmed through further field investigation.

A number of plant associations are now threatened as a result of human action. The most threatened are the oak forests (*Quercus* spp.) at an altitude of between 600 and 800 meters that are being unsustainably harvested for firewood and cleared for agriculture. Two rare sub-alpine pine species (*Pinus Peuce* and *P. Heldreichii*) are limited to small areas on the upper slopes of high mountains and are vulnerable to wild fires. Rare montane communities restricted to soils derived from serpentine ultrabasic rocks contain high levels of endemic plants and are also potentially threatened because of their limited distribution. *Forsythia europa* is a relict endemic and the most commonly recognized plant of these associations. Wetlands are relatively rare in Kosovo, occurring primarily in river flood plains. Seasonally wet meadows have distinctive plant associations that are threatened by conversion to agriculture.

3.4.3 Human Impact

Humans for millennia have inhabited Kosovo. Current natural plant distribution reflects human actions in the recent or more distant past, particularly land clearance for agriculture, recurrent burning, and grazing by domestic animals. Kosovo's plains were once covered by oak-dominated forests, but have been almost entirely cleared for agriculture. Remnants of these forests remain in hilly areas. Since the beginning of the twentieth century, particularly since the 1960s, remaining forest areas have been seriously degraded through firewood harvesting, grazing, and clearing for agriculture. Forests cover about 40% of Kosovo but only about a third of this area is considered to be ecologically healthy and productive for forestry production.⁸ Most of

⁸ A comprehensive inventory of Kosovo's forests is currently being done by the FAO and the complete results are expected to be published by the end of 2003.

the remaining two-thirds of the forest area consists of immature trees and bushy low forest that is cut periodically to produce firewood. The pace of firewood harvesting increased during and since the war because rural people have been physically and/or financially restricted from using other forms of energy for cooking and heating (especially during the winter of 1999/2000) and because of a lack of appropriate laws and law enforcement. The cost of firewood in Kosovo is currently 40 Euros per cubic meter, which is among the highest in Europe. Alpine meadow vegetation has been modified through centuries of use for summer grazing and adjacent sub-alpine vegetation has been repeatedly burned to expand the size of the pastures. Since the war, grazing of alpine pastures has actually decreased because people fear being in these remote border areas and the number of livestock is less than in the pre-war period. Some meadows are reportedly being naturally revegetated with trees as grazing is stopped. Alpine and sub-alpine ecosystems are fragile and usually contain rare plant species. Lowland meadow species associations have been adversely affected since the war by illegal construction of homes in these habitats. Some oak forests are dying but it is not known if this is due to disease or environmental factors. The impact of air pollution on vegetation cannot be determined without research.

Several species are known to be on the verge of extinction in Kosovo or are already locally extinct, largely due to human actions, including intensive collection of species⁹ used by the pharmaceutical industry of Kosovo and neighboring countries. The Institute of Nature and Environmental Protection (INEP) is currently working on a Red List of threatened plants and animals for Kosovo. Annex C contains a list of plants known to be on Kosovo that are known to be listed either at the global or European levels or are protected with Kosovo.

3.5 Fauna

3.5.1 Species Diversity

The factors that create favorable conditions for plant diversity in Kosovo also explain the high level of faunal diversity within this relatively small area. There are believed to be 46 mammal species in Kosovo, many with regional or global conservation importance. The mountainous borderlands of Kosovo provide habitat for a number of large mammal species including brown bears (*Ursus arctos*), lynx (*Lynx lynx*), wild cat (*Felis silvestris*), wolves (*Canis lupis*), foxes (*Canis vulpes*), wild goat (*Rupicapra rupicapra*), roebuck (*Capreolus capreolus*), and deer (*Cervus elaphus*). Aside from deer, populations of these species are small and are scattered in remote mountain areas. Small mammals are well represented in Kosovo, including many rodent species and members of the weasel family, such as the endangered river otter (*Lutra lutra*). Several bat species live in Kosovo's caves, either as seasonal or year-round residents. Bats have received very little scientific attention in Kosovo, but based on information from neighboring countries, it is likely that one or more of these species is threatened.

It is anticipated that 225 species of birds are either resident in Kosovo or seasonal migrants. Two eagle species (*Aquila heliaca* and *A. chrysaetos*) and a falcon (*Falco naumanni*) are large birds of prey living primarily in the mountains. The griffin vulture (*Gyps fulvus*) is now very rare if not locally extinct. Waterbirds that used to be seen regularly have become rare or absent in recent decades, including the Eurasian Spoonbill (*Platalea leucorodia*). Waterfowl used to stop to rest and feed in Kosovo's rivers during their annual migrations but reportedly no longer do so. Drainage of wetlands and human disturbance are thought to be the causes. Some conspicuous bird species native to steppes or plains have also disappeared in recent decades, thought to be the result of agricultural intensification and the spread of human settlements. Birds of prey are said to be increasingly rare.

⁹ Most sought after among these are *Gentiana leutea*, *Galium matteji*, and *Mallus florentina*.

Amphibians and reptiles have received less scientific attention than other groups, but common species of frogs, salamanders, lizards, snakes, turtles, and tortoises are known. A salamander (*Niphargus* sp.) is endemic to Kosovo and found in only a few high elevation lakes. The diversity and numbers of fish in rivers is believed to be drastically reduced in most rivers as the result of sand and gravel mining¹⁰ and pollution from domestic waste, mine tailings, and industrial pollution. Trout are the most well-known river fish. They are very intolerant of riverbed disturbance and pollution and now exist primarily in stretches of rivers above population centers and industrial sites. The Danube Salmon (*Hucho hucho*) used to migrate up the Iber/Ibar River, but these migrations stopped in the late 1980s. This could be the result of damming the rivers downstream of Kosovo or destroying spawning beds in the rivers. Fish species in the carp and perch families are also present in rivers. The insects and aquatic invertebrates have received some scientific attention, but considerable fieldwork is still required. Kosovo's numerous limestone caves have not been systematically surveyed for fauna. Individual caves elsewhere in the world commonly have their own endemic insect species and in some cases, fish species.

3.5.2 Human Impact

The human impact on vegetation described above has also dramatically affected the wildlife of Kosovo because animals are directly or indirectly dependent on plants for food and shelter. The ancient clearance of the plains forests no doubt led to a major decline in the absolute number of animals in Kosovo and probably to the loss of some species. The rapid degradation of remaining accessible forests is probably having a negative effect on associated animal populations. Many terrestrial species continue to exist only if they are able to live in the more remote mountains. A number of bird species that live in wetlands and on the plains are no longer seen in Kosovo.

A state-owned company reportedly carefully controlled hunting prior to the Serb occupation. During the Serb occupation, Albanians were not permitted to own firearms or hunt but the Serb army and police reportedly hunted without control during the 1990s. Since the war there has generally been less hunting because there is a total ban on hunting enforced by NATO's Kosovo Force (KFOR) and the civil police. The Hunting Economy of Kosovo, formerly a state-owned company, is now part of the Kosovo Forestry Agency (KFA). This body will control hunting in the future and its director is currently drafting a new wildlife law. He anticipates following the Croatian model in which private concessionaires are given management authority over designated hunting reserves in return for being able to charge a fee to hunt. The Hunting Economy will also enforce hunting regulations to include preventing hunters from taking protected species. Wild pigs (*Sus scrofa*), which can breed rapidly and are often destructive agricultural pests, have not been heavily hunted recently as a result of the ban and because pork is not widely eaten in this Muslim-dominated society. In the past, hunters took wild pigs for the purpose of exporting their meat to neighboring countries.

During the war in Bosnia, large mammals were reported to have fled across the border into Kosovo and many in turn fled from Kosovo during the war in 1999. There was little if any combat in the mountainous areas during the 1999 war, so the direct physical effect of the war on animals was probably small. No systematic field surveys have been conducted since the war to determine the current status of large mammal populations or any other groups for that matter. Pesticides are not heavily used in agriculture because farmers cannot afford to buy them in large quantities. Those that are used are said to be compounds banned in western Europe because of their high toxicity. Studies would be needed to determine the impact of these chemicals on insects, birds, and aquatic life.

The populations of a tortoise (*Testudo hermannii*) and a turtle (*Careta careta*) are seriously depleted and reportedly close to extinction in Kosovo as the result of exporting live animals for the western European pet trade over a period of decades. Some stretches of Kosovo's rivers have been seriously polluted by industrial

¹⁰ Johnson, R.C. 2003.

effluents as well as run off from mine tailings and the fly ash dumps of power plants. One stretch of river downstream from a coal-fired power plant on the Sitnica River near Prishtinë/Priština is biologically dead as a result of phenols that have run off into the river. The overall level of pollution in the rivers declined during the 1990s when the FRY was economically isolated and many factories were forced to close. Sewage treatment plants do not exist in Kosovo, so untreated sewage is dumped into the rivers, creating high biological oxygen demand that eliminates some fish species, such as trout, that require highly oxygenated water. Invertebrates are also effected by pollution and are being used in a current study by a university graduate student as indicators of pollution levels. Gravel and sand extraction from rivers is a serious problem, especially in the Drini i bardhe/Beli drim and Lumbardhi Rivers. Use of heavy equipment to mine these materials destroys habitat for fish and invertebrates and fills the river with suspended sediment that is also detrimental to fish and other forms of aquatic life. On a positive note, sport fishermen have voluntarily stopped fishing for trout in order to allow their populations to recover from overfishing in the past.

3.6 Protected Area System

The current Protected Area System (PAS) covers slightly less than 5% of Kosovo's area, including one national park, 38 natural monuments, and two protected landscapes, classified according to IUCN protected area designation criteria. The bulk of this area is in Sharr/Sara Mountain National Park. A proposed new national park would more than double the PAS area, almost reaching the internationally accepted norm of 10% of land area protected.

Sharr/Sara Mountain National Park is Kosovo's only declared national park and covers approximately 39,000 ha in the Sharr/Sara Mountains on the border with Macedonia, encompassing lands from four municipalities. The park was legally created in 1986 by the Provincial Assembly of the Autonomous Province of Kosovo within the FRY. The park was nominated by the FRY government to be a World Heritage Site, but this nomination is in limbo because of the uncertainty over Kosovo's political status. The former administration also proposed expanding the park by 80,000 ha into the mountains to the south. Macedonia has been reluctant to discuss coordinating management with its adjacent national park because of the political uncertainty over Kosovo's status.

Sharr/Sara Mountains National Park was created to protect the outstanding plant and animal biodiversity in these mountains as well as the physical beauty of its forests, mountain peaks, rivers, and alpine lakes. It is intended to be accessible for scientific study, education, and summer and winter tourism. The biodiversity of the Sharr/Sara Mountains has both Balkan and Mediterranean characteristics making it exceptionally rich in flora and fauna, including endemics and rare species. There are four small, strictly protected areas within the park that contains rare plant associations. The park is considered to have high conservation value within Europe according to a preliminary Swedish International Development Agency (SIDA)-financed assessment conducted in 2001.¹¹ The park's main ski area attracted skiers from other parts of the FRY in the past and is still popular for winter recreation with Kosovars. A road cuts through the park parallel to the mountain ridge, making the backcountry accessible for hiking and picnics. Traditional uses such as summer grazing and collection of wild plants, mushrooms, and berries are permitted in the park.

Management of the park is currently split. Approximately two-thirds of its area is managed by a Park Director who reports to the Environment Department of MESP and one-third of the area is managed by an ethnic Serb management team that reports to the Serbian government in Belgrade. The Serbian management group has a staff of more than thirty people, originally assigned to manage the entire park. The MESP staff has been in place for about a year and consists of 17 people including a park director, a biologist, a forester, technicians, and guards. The MESP Park Director has good relations with surrounding municipal governments and has their support in dealing with threats to the park. The park staff receives technical

¹¹ Hertzman and Gladh. 2001.

support in biological matters from INEP. During the hiatus in management after the war, illegal activities took place in the park including building vacation homes, quarrying gravel, harvesting timber, and dumping trash. These problems are now being addressed with the help of municipal governments and KFOR.

Scientific information about the park is generally based on surveys done in the 1980s and early 1990s and is oriented toward scientific study rather than conservation management. There is a clear need to assess species and habitats within an internationally recognized system. During the time that Kosovo was part of the FRY, five-year management plans were written for Sharr/Sara Mountains National Park by the Institute for the Protection of Nature of Serbia, but there is currently no plan applicable to the whole park. The park's borders are not marked on the ground and it has been suggested that the park boundaries should be reevaluated in the light of biodiversity distribution, management efficiency, and input from surrounding communities. The 2001 SIDA assessment proposed a process for creating a park management plan including boundary review, development of a zonation system, and establishment of a management structure.

The proposed **Bjeshket e Nemuna/Prokletije National Park** is in the Albanian Alps in the west area of Kosovo, adjoining Montenegro, within the municipalities of Pejë/Peć, Deçan/Dečani, Gjakovë/Đakovica, and Istog/Istok. The park's name means "Cursed Mountains" in English. The area's most prominent geological feature is the spectacular six km-long Rugova Canyon of the Mbushtria River, which links the lowlands up to the sub-alpine area via a winding road along the river. The canyon was originally proposed for protected status in 1985 by the Executive Council of Pejë/Peć and research was done by the INEP of Kosovo to assess the biodiversity value of the area. The Rugova Canyon was declared a Protected National Monument in 1988 by the Pejë/Peć Municipal Assembly, but has not been managed or protected in a systematic way. The MESP has proposed that the Bjeshket e Nemuna/Prokletije National Park cover 50,000 ha including the Rugova Canyon and the surrounding mountains to the border of Montenegro and Albania. This proposal was conditionally approved by resolution of the Kosovo Parliament in mid-April 2003. The MESP must now propose park boundaries and zones as well as compile relevant scientific data on the park's biodiversity prior to requesting formal establishment of the park. When the park is formally declared, it will require a MESP management staff similar in structure and size to the one managing Sharr/Sara Mountain National Park. The MESP anticipates that donor funding will be required to staff and manage the new park. The Pejë/Peć-based NGO, Aquila, has been providing public information regarding the Rugova Gorge since 2000 and has submitted a proposal to the REC in Hungary in collaboration with NGOs in Montenegro and Albania to work collaboratively on a tri-national transboundary Peace Park that includes the proposed Bjeshket e Nemuna/Prokletije National Park. They have also arranged a trek through all three protected areas by foreign volunteers in July 2003.



The park's mountainous landscape includes many peaks in excess of 2,000 meters and several that are in the 2,500-meter range, as well as nine scenic alpine lakes at 1,900 meters. Like the Sharr/Sara Mountains, this mountainous area is rich in plant and animal biodiversity, with some elements not found in Sharr/Sara. The proposed park contains the headwaters of two of Kosovo's major rivers, the Lumbardhi and Drini/Drim. The recreational potential of the proposed park is very high in terms of downhill skiing, driving through the scenic canyon, hiking in the mountains, mountain and rock climbing, and whitewater kayaking in the river.

The park was formerly inhabited by farming families that grazed livestock in mountainside meadows but many of the former inhabitants were forced to move to the lowlands in the period after the Second World War. The remaining families were forcibly driven out in the 1999 war and most of their homes were destroyed. There are still officially 30 villages within the park's boundaries but most have been partially or

totally abandoned at the present time. Small-scale logging is done in the high elevation conifer forests of the proposed national park and deciduous forests at lower elevation are a potentially valuable source of timber. The KFA is requesting that these values be considered before a final decision is made to declare the park or set its boundaries. Hunting in the area of the proposed park was reportedly heavy in the pre-war period, but has been light since then. Several restaurants were or are being illegally built along the river to serve tourists.

Natural Monuments and Protected Landscapes are declared by municipal assemblies and managed by municipal governments. There are currently 38 natural monuments covering a total of 4,867 ha and two protected landscapes covering 1,681 ha. Most of the existing monuments are caves, water features, or individual trees that have local significance because of their size, odd shape, or history. The two protected landscapes are the Mirusha River Gorge and the Germia Mountains. The Mirusha Gorge was protected because of its scenic string of pools and waterfalls as well as high plant diversity. The Germia Mountains near Prishtinë/Priština were protected because of their floral diversity (610 higher plant species and 83 species of fungi) and many species of rare plants.¹² Municipalities, apparently motivated by local pride and the hope of attracting tourists, have submitted 150 new proposals for natural monuments. Most of the existing natural monuments were declared in the 1980s.

3.7 Economic Significance

Wood-based forest products played an important role in Kosovo's economy in the past and could again in the future.¹³ Kosovo currently imports a large proportion of the construction timber and fuel wood that it requires. A large-scale forest industry was established in Kosovo after the Second World War and was hampered by weak forest management and inefficient production. Forest cover is believed to have decreased by 50% over the past fifty years, with deforestation accelerating over the past two decades. About 40% of Kosovo's land is currently forested, but less than a third of the forests are ecologically healthy, and many of these are in remote higher elevation areas.

The socialist-era wood products industry was built around vertically integrated firms that included production forests, sawmills, wood processing plants, and marketing networks within one firm. These state-owned firms, now under the Kosovo Trust Agency (KTA), are working at very low capacity because they have been cut off from their sources of raw material and marketing networks. A new Forest Law, designed to support a market-oriented forest sector, was approved by the Kosovo Assembly in March 2003. A comprehensive inventory of forest resources is underway to facilitate the development of a forest sector management plan and 10-year management plans for individual forest blocks. This will allow foresters to calculate how much timber can be sustainably cut each year for fuel wood, construction timber, and higher value wood. Authors of the FAO forest sector study estimate that after the state forest industries are privatized and the supply of wood from the forests is predictable, 4,800 people will be employed directly in forestry and wood processing, with a total of 30,000 people employed in the forest-related sector when downstream and support jobs are included.

The total annual demand for fuel wood in Kosovo is estimated to be 400,000 cubic meters per year, with an average high per capita consumption because rural households generally cook and heat with wood. Due to unreliable electricity supply in cities, many urban households also heat with wood. Less than half the fuel wood demand is met from Kosovo's forest resources, with the rest imported from Serbia and Montenegro at a cost of 40 Euros per cubic meter. Many forested areas remain in a constant state of degradation due to continual firewood harvesting. If forest management were rationalized, fuel wood production could be made more economically efficient and less environmentally damaging.

¹² Mustafa, et al. 2002.

¹³ Much of the information for this section was taken from the Forest Sector Development Plan for Kosovo (2002), conducted under the auspices of the FAO.

Non-timber forest products, including medicinal plants, mushrooms, wild berries, and mushrooms have traditionally been collected from forests for personal use and sale. Prishtinë/Priština has a state-owned traditional medicine factory that depends on collection of plants from the wild. The factory operated at full capacity before the war, but is now said to be down to 20% capacity, awaiting privatization. Some medicinal species have been or are currently being overharvested, while others are harvested sustainably. Several wild herbal species, including oregano, chamomile and mint, are being harvested and processed sustainably for tea. Wild mushrooms are collected from the forest, dried, and large quantities are exported.¹⁴ Wild berries are also collected for sale. Oil is also extracted from juniper plants. During this assessment, interviewees held different views on the status of mushroom and berry collection. Some felt that these wild plants were being overharvested, while others felt that collection has dropped off considerably since the war because marketing networks have been disrupted. One municipal official told us that several people in his town had built homes in the past with money earned from collecting these wild products. Bee-keeping is popular in Kosovo and keepers often move their hives from place to place to allow their bees to feed on specific types of wild flowers as they come into bloom.

Wildlife produced revenue for the state during the FRY period through controlled hunting managed by a state-owned company. Large mammal game species were hunted more heavily during the 1990s by the military and police, but the current status of their populations is not known. A new Wildlife Law is under development by the former state-owned hunting firm that is now part of the MAFRD. The new law may be built around a system of hunting reserves that are leased to private firms. The government would earn money from the concession fee as well as by issuing hunting licenses. Local hotels, restaurants, and municipal governments would also benefit. If foreign hunters could be attracted as in the past, foreign exchange could be earned. Trout are raised in two places in Kosovo for sale in local restaurants. This successful business model could be duplicated in other places where rivers are still relatively clean.

Tourist visits to the two national parks could produce significant revenues for nearby municipalities. Both areas are visited frequently, with many skiers visiting Sharr/Sara Mountain ski slopes each winter. The Assessment Team was told by the mayor of the municipality with a hotel adjacent to the ski slope that, in his opinion, tourism-related hotels and restaurants have the potential to generate considerable tax revenues. The national parks may also be able to obtain revenues from these facilities by charging a concessionary fee to those entrepreneurs operating within the Park. Entrance and parking fees are also potential sources of revenue that could flow to the national parks. In the long run, tourism could generate even greater revenue streams, and could be a source of greater direct employment if facilities at the two parks were improved.

Environmental Services are provided by the forests on the steep mountains to the south, west, and north of Kosovo. The forests stabilize slopes in these important watersheds, and the trees sequester carbon that would otherwise contribute to greenhouse gases in the atmosphere. The forests also provide habitats for important biodiversity. The first two of these services can be evaluated and expressed as a monetary value.

Agricultural biodiversity at the genetic level is said to exist in Kosovo in the form of local grape cultivars used to make wine and raki. There are two breeds of domestic cows known to exist only in Kosovo that were apparently bred long ago to thrive in the local climate and live without supplemental feeding in winter. This genetic-level diversity is in danger of being lost as individuals of these breeds are now rare.

¹⁴ The Kosovo Business Support Program (KBS) estimates that 750 tonnes of dried mushrooms are exported annually from Kosovo.

4.0 Laws and Institutions for Conserving Biodiversity

4.1 Legal and Policy Framework

4.1.1 Global and Regional Conventions

Kosovo's uncertain political status prevents it from signing global or European conventions related to biodiversity conservation such as the Convention on Biological Diversity, The Ramsar Convention on Wetlands of International Importance, and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). It is possible that the current Kosovo government could accept as applicable those conventions signed by the FRY prior to 1989, but this is likely not a high priority for the very new government.

4.1.2 Laws

The legal system in Kosovo is currently a mixture of three types of laws:

- Laws passed before 1989 by the Kosovo Assembly and the FRY and accepted as applicable by the current government,
- UNMIK regulations, and
- Laws passed by the current Kosovo Assembly.

Kosovo's framework of major laws is in the process of being constructed under the Assembly of the Provisional Institutions of Self-Government (PISG). The Environmental Protection Law, passed by the Kosovo Assembly in January 2003, was signed while this assessment was in progress. Considerable work lies ahead in terms of writing implementing regulations and educating government officials and the public regarding the provisions of these laws. Kosovo has the opportunity to avoid mistakes made in other countries by harmonizing the provisions of various environment and biodiversity-related laws to begin with to avoid overlaps and inconsistencies. The following overviews of the two existing laws most relevant to this assessment address only those provisions that relate to this assessment and are not intended to be comprehensive. The PISG is currently drafting and passing a framework of major **laws** under which more specific **acts** will later be written. It is anticipated that in some cases the provisions of the acts will be further elaborated in government-promulgated **regulations**.

The Environmental Protection Law, passed on January 16, 2003 and signed into law on April 16, provides the legal framework for environmental protection and biodiversity conservation in Kosovo. The law sets the goal of raising environmental management capability to EU standards within 15 years and establishes the principle that the polluter pays. The law requires that the Ministry of Environment and Spatial Planning (MESP) develop the following documents to guide environmental management:

- A ten-year Kosovo Environmental Protection and Sustainable Economic Development Strategy, and
- A five-year Kosovo Environmental Protection Program.

The MESP must also submit a Report on the State of the Environment to the Kosovo Assembly every two years, which includes the effectiveness of nature conservation measures and their effect on economic development. The law gives the MESP authority to develop regulations specifically directed at biodiversity conservation as well as mandating that protected areas be classified and managed according to international standards and that rare and threatened species and ecosystems be listed. This information will be part of an Environmental Protection Information System to be developed by KEPA. The law sets forth the requirements for EIAs and requires the Ministry to develop implementing regulations. The law addresses spatial planning

at an overview level (see discussion below) and mandates that spatial plans at all levels take into account biodiversity conservation and environmental concerns. The law establishes an Environmental Protection Advisory Board and an Environmental Fund to be financed by environmental taxes, fees, and fines in addition to normal budgetary allocations.

The Law on Forests, passed on March 20, 2003, replaces the 1987 Forest Law that was written to support forestry within a socialist society and centralized economic system. The new law, written with the assistance of FAO forest experts, is built on the principles of sustainability, biodiversity protection, and intergenerational equity and is intended for implementation within a democratic society with a free market economic system. In order to halt the poor management practices of the past, the law requires that management plans be developed for public and private forests and that permission must be obtained to harvest trees or transport logs. The Law creates the Kosovo Forest Agency within the Ministry of Agriculture, Forestry and Rural Development (MAFRD) and establishes the Forest Service to enforce the provisions of the law. The law authorizes a system of licensing for collection of non-wood products in the forests and establishes a Forest Fund to provide funding for forest restoration and scientific research related to forests. The Law on Forests currently gives the KFA the responsibility to manage national parks but this task is actually being done by the MESP and it is expected that the Nature Protection Act will resolve this inconsistency.

A **Nature Protection Act** will be developed under the Environmental Protection Law to provide detailed guidance on biodiversity conservation and management of the protected area system, including moving responsibility for national park management to the MESP from the MAFRD.

A **Wildlife Management Act** is being drafted by the head of the Wildlife Management Office of the KFA. This law is expected to be passed in November and will provide a legal framework for hunting, including a system for ensuring that the government will benefit economically.

A **Spatial Planning Act** is being drafted by the Department of Spatial Planning in the MESP and is expected to be passed within six months. The act will provide the procedures and guidelines for spatial planning at three levels: national, municipal, and urban. Criteria related to biodiversity conservation and environmental management will be included.

A **Water Protection Act**, authorized under the Environmental Protection Law, will establish permissible levels for pollutant discharge and other guidelines relevant to cleaning up Kosovo's rivers.

The UNMIK **Regulation on Self-Government of Municipalities in Kosovo** was adopted in August 2000 and remains in effect. This regulation specifically gives municipal governments responsibility and authority for land use planning and local environmental protection.

4.1.3 Policies

MESP is currently developing the ten-year Kosovo Environmental Protection and Sustainable Economic Development Strategy required by the Environmental Protection Law. The first draft of the strategy is due to be released at the end of April 2003. It is expected that the five-year Environmental Protection Program will be developed in parallel with or subsequent to the 10-year strategy. The strategy will present an overall picture of Kosovo's natural environment, identify problems, develop priorities for action, and propose priority programs to be implemented. Priority actions will be addressed more fully in the Environmental Protection Program. It is generally agreed by UNMIK and government officials that water pollution is, and will remain, the number one priority for environmental investment, but biodiversity conservation is also seen as a priority issue among government policymakers.

4.2 Institutional Structure

The legal foundation for Kosovo's institutional structure was laid down in May 2001 in the constitutional framework for self-government. Ministries were subsequently established, with a total of 10 at the current time. UNMIK foreign experts in sectoral departments are progressively handing over duties and responsibilities to their Kosovar Ministry counterparts. The two ministries most relevant to biodiversity conservation are the Ministry of Environment and Spatial Planning and the Ministry of Agriculture, Forestry, and Rural Development.

4.2.1 Ministry of Environment and Spatial Planning

MESP, which is only a little over a year old, is directly responsible for biodiversity conservation and most aspects of environmental protection. The Ministry is divided into four departments and an administrative services branch (see Annex D for the MESP organizational structure). Each department is divided into divisions and there are scientific support organizations such as the Kosovo Environmental Protection Agency (KEPA) that support the departments. Separate Inspectorates related to the major functional areas of the Ministry will provide law enforcement capability. Three departments are relevant to this assessment: Environment, Spatial Planning, and Water Management. The Environment Department has divisions responsible for policy, environmental protection, and nature protection. The Policy Division has units for planning and strategy, economic incentives for modern technology, and education and awareness. The Nature Protection Division has units for biodiversity conservation, conservation of natural values, soil protection, and consistent use of natural resources. The management of national parks is the responsibility of the Nature Protection Division, specifically the Conservation of Natural Values Unit.

The Nature Protection Division currently has a staff of 20, with five in the central headquarters and the rest stationed at Sharr/Sara Mountain National Park. Three of the four unit heads are currently being recruited, including those for biodiversity and conservation of natural values. More staff will be added to manage the proposed Bjeshket e Nemuna/Prokletije National Park when it is formally declared. The Nature Protection Inspectorate is not yet staffed, but will enforce regulations inside national parks. The new Environmental Protection Law gives MESP a legal enforcement mandate that it lacked in the past. This law also establishes an Environmental Protection Advisory Board appointed by the Kosovo Assembly to provide advice and oversight to the Ministry. There is currently one MESP coordinator in each of the five regional offices to facilitate communication with municipal environment staff. The Ministry hopes to increase this number to four until municipal governments are fully capable of discharging their environmental responsibilities. At that point, the Ministry will coordinate directly with the municipalities. The following bodies within the MESP are most relevant to this assessment.

- The **Kosovo Environmental Protection Agency** will provide scientific and administrative support to the MESP in the areas of environmental and biodiversity protection and hydrometeorology. KEPA's structure is currently being developed and is expected to be finalized in May 2003. It will be formed by joining two formerly independent institutions, the Institutes for Nature and Environmental Protection and for Hydrology and Meteorology, described below. KEPA's responsibilities that are most relevant to this assessment are:
 - Issuing opinions on EIAs,
 - Issuing opinions on proposed nature protection areas,
 - Supervising the implementation of the Kosovo Environmental Protection and Sustainable Development Strategy,
 - Assessing spatial plans, and
 - Preparing reports on the state of the environment.

- The **Institute for Nature and Environmental Protection**, formed in 1974, has a staff of 16 and provides scientific and research support to MESP in the areas of biodiversity and nature protection. INEP staff members are generally young and would benefit from both academic and practical training. The Institute is dramatically underfunded if it is to accomplish its mandate related to field survey of biodiversity. INEP advises the government on biodiversity conservation needs, specifically:
 - Designing and prescribing criteria and conditions for keeping an inventory of threatened species of flora and fauna as well as ecosystems,
 - Identifying problems and priorities for protection and sustainable exploitation of biodiversity,
 - Assessing biodiversity in order to establish a program of measures and activities for its protection, and
 - Researching biodiversity-related issues.
- The **Institute for Hydrology and Meteorology** also dates to the FRY period and was responsible for monitoring surface water flows and recording meteorological data. A new network of hydrological monitoring stations is being installed with EAR funding to replace those destroyed during the war. This system will allow some pollution parameters to be monitored along with flow levels and sediment loads. Under the new environment law, the Institute will also be responsible for monitoring the quality of ground water.
- The **Spatial Planning Department** of MESP is charged with developing the national spatial plan within two years. A Spatial Planning Act to guide this process is to be completed within six months. This act will contain environmental criteria that will require planners to consider biodiversity conservation and environmental protection when they develop spatial plans at national and municipal levels. Spatial planning can have a major impact on biodiversity and the environment through its ability to concentrate industrial and residential development in certain areas. Municipal governments must have their spatial plans completed within 18 months of passage of the Act and the municipal assembly must approve these plans after clearance at the central level. There are currently 20 people in the department, most of who are architects. Salaries are poor, making it difficult to attract qualified people. The Institute for Spatial Planning will be formed under the Department to do planning-related research and develop policy papers. Major obstacles include the probable construction of at least 15,000 illegal buildings in Kosovo since the war and the fact that all state property is controlled by KTA. This makes planning difficult because it is very hard to use this property for public purposes.

4.2.2 Ministry of Agriculture, Forestry, and Rural Development

There are only two bodies under MAFRD that are relevant to this assessment:

- The **Kosovo Forest Agency**, within MAFRD, manages all public forestland and is responsible for overseeing forest management on private land.
- The **Hunting Economy of Kosovo** under KFA will manage and control wild game hunting in Kosovo.

4.2.3 Other Institutions

- The **Kosovo Academy of Arts and Sciences** was formed in 1975 and is divided into four sections including one for Natural Sciences. The foremost Kosovar botanist is the head of this section. It currently has minimal funding but hopes to become part of the Ministry of Science, giving it more funding and stature.

- **The Museum of Kosovo - Nature Section**, currently has only one staff member and he is trained in anthropology rather than a biological discipline. He is enthusiastic and knowledgeable about natural history, but lacks funding and support of museum management. The museum is under the Ministry of Culture, Youth, Sports, and Non-Residential Affairs. They have an extensive collection of stuffed birds and mammals (also some amphibians, reptiles, and fish) preserved for the most part during the 1950s to 1970s when the natural history section had a staff of 12, including five taxidermists. Some of these animals no longer exist in the wild in Kosovo. These specimens are currently stored in crates in the basement with no climate control because there is no place to display them. The museum hopes to build a display building at the proposed botanical gardens outside Kosovo. Natural history is subordinate to culture at the museum and is no longer able to serve environmental education function that it did in the past. The section head believes that a separate natural history museum is needed.
- The **Faculty of Biology from the University of Prishtinë/Priština** is a small faculty of several members, most of whom specialize in botanical rather than zoological sciences. They are the repository of much of the knowledge of biodiversity in Kosovo, but are hampered by the fact that they were kept out of the university for over a decade, are not well connected to the international scientific community, and have few resources at their disposal.
- **Municipal Governments** have legal authority to take responsibility for environmental management within the municipality including environmental planning, nature conservation, and enforcement of provisions of the Environmental Protection Law. The Spatial Planning Law will specify requirements for municipal spatial plans and zoning.

5.0 Threats to Biodiversity

Kosovo's biodiversity is threatened by a number of direct causes at the species and ecosystem/habitat levels. These direct threats are driven by a number of socioeconomic and governance-related forces. There are important opportunities to reduce these threats, but significant constraints must be overcome.



5.1 Direct Threats

Most of the direct threats listed below are clear to Kosovar biologists although none has been studied systematically to document the extent of the threat. The extent and potential impact of hunting, wildlife trade, and toxic pesticide use is certainly not clear and would require scientific study to determine the level of threat.

- Oak-dominated forests below 800 meters in elevation are threatened by over-harvesting of fuel wood.
- Some rare medicinal plants are threatened by overharvesting.
- Rare montane pine forests are threatened by fire, especially in areas that are readily accessible to tourists.
- Illegal hunting is not a threat to rare game species at the moment, but could become so when the hunting ban is lifted.
- If there is illegal trade in wildlife (e.g., possibly birds to Italy and turtles to Germany), this could be a threat to the species involved.
- Wetlands and plains habitats are threatened by urban/peri-urban sprawl—largely due to illegal construction.

- The aquatic ecosystems of rivers are gravely threatened by physical and biological impacts to rivers from sand and gravel mining, domestic and industrial water pollution, and solid waste dumping.
- Use of pesticides banned in western Europe may be a threat to some species of birds, small mammals, and insects.

5.2 Underlying Causes of Threats

- The unemployment rate in Kosovo is very high, especially in rural areas where people rely more on natural resources in difficult economic times.
- Both a high birth rate and a high population density result in increased pressure on the natural resource base.
- There is a total lack of domestic wastewater treatment in Kosovo. Industrial pollution abatement is being addressed by donors but was a serious problem in the past.
- The natural resource laws are inadequately enforced.
- There are a lack of economic incentives and disincentives to encourage individuals and businesses to make environmentally responsible decisions.

5.3 Constraints to Reducing or Mitigating Threats

- New environmental and natural resource management laws and institutions are in the process of development and are not yet effective. It will take time to develop regulations and harmonize them with the evolving institutional framework. Enforcement staff will have to be trained.
- There is a serious lack of scientists and practitioners with appropriate training. Kosovo biological scientists are on the margin of the international scientific community and are not receiving technical support from foreign universities and international conservation NGOs.
- There is an almost total lack of investment in biodiversity conservation by government and donors.
- There is no database/monitoring system for biodiversity resources.
- The public and government officials, especially at the municipal level, are not aware of the value of biodiversity and the benefits of its conservation.
- There is a scarcity of civil society groups in the area of biodiversity conservation.

6.0 Biodiversity Conservation Priorities and Actions by Donors and NGOs

6.1 Priority Actions to Conserve Biodiversity

The actions discussed below cover all the needs identified by the Assessment Team and are not limited to those which appear to be feasible within current donor priorities. Strengthening the scientific basis for conservation is very important for Kosovo, but is unlikely to attract support within normal assistance channels.

6.1.1 Scientific Basis for Biodiversity Assessment, Management, and Conservation

The scientific basis for analyzing and managing biodiversity resources in Kosovo is very weak by international and even Balkan standards. Human resources development and field surveys/database establishment require urgent attention:

- There are very few biological Kosovar scientists with appropriate training and field experience, especially with respect to animal ecology and analysis at the habitat or ecosystem level. Mid-level

scientists who would normally provide leadership over the next decade are almost entirely absent from universities and government service. Priority actions include:

- Train students at the undergraduate level in relevant disciplines;
 - Send junior professionals abroad for graduate degrees or in-service training;
 - Establish collaborative research programs and long-term partnerships with universities in western Europe and North America;
 - Solicit technical assistance from international conservation NGOs; and
 - Provide opportunities for Kosovar university faculty to connect with international scientific networks.
- Existing data about plant and animal species distributions and populations is fragmented, outdated, and not organized to support biodiversity analysis and conservation. A major scientific effort is required to conduct systematic surveys of both plants and animals and enter the resulting data into a geographically referenced database. This data can then be used to revise endangered species Red Lists and to monitor and manage species, habitats, and ecosystems. This data is needed to effectively manage the protected area system and identify additional areas deserving protection. This effort will require significant international technical and financial support and require several years to complete. This should be a collaborative effort of the University of Prishtinë/Priština Department of Biology, The Kosovo Academy of Sciences, and INEP.

6.1.2 Protecting and Conserving Biodiversity



Kosovo's present and past governments have taken important steps to establish protected areas, but management of the protected area system must be strengthened before it can effectively protect biodiversity. Some additional areas should be protected.

- Sharr/Sara Mountain National Park and the proposed Bjeshket e Nemuna/Prokletije National Park together contain the bulk of the remaining natural habitats and terrestrial species in Kosovo. Lower elevation habitats that have not been protected include two plant associations rich in endemics, examples of oak forests below 800 meters, wetlands, and seasonally wet meadows. Examples of these habitat types must also be protected.
 - Badly degraded river aquatic ecosystems can and should be restored over time through significant reductions in water pollution and halting of sand and gravel mining in rivers.
- National parks must provide opportunities for tourism and education along with biodiversity protection, and should also contribute to local economies while producing income for municipalities and the central government. National park management is starting almost from scratch in Kosovo after the hiatus caused by the war and must be rebuilt on the basis of reliable conservation information and monitoring, rational borders and management zones, well trained staff, adequate management resources, law enforcement, community participation, and support from municipal government and civil society. The Sharr/Sara Mountain National Park staff lacks the technical skills, equipment, and funding to effectively manage the park's resources. When Bjeshket e Nemuna/Prokletije becomes a national park, its newly appointed staff will initially require even more technical and financial support. Support for both parks can best be provided within the context of a comprehensive, donor-funded protected area development project.
 - Both of Kosovo's national parks are on international borders, providing important opportunities for transboundary cooperation in park management. Such cooperation can often form the basis of broader

international cooperation in other spheres. The Pejë/Peć-based NGO, Aquila, deserves support in its efforts to forge transboundary linkages with Montenegro and Albania.

6.1.3 Management of Marketed Biodiversity Resources

Natural biological resources have long provided food, fuel, shelter, and a source of income for Kosovars. Even though these resources have been diminished and mismanaged in recent decades, they can continue to provide monetary and non-monetary benefits on a sustainable basis.

- The forests have a clear potential to contribute to job creation and to reduce imports of building materials and fuel wood. Efforts by the MAFRD and FAO to make forest management sustainable and to encourage the growth of the wood products industry deserves support from government, civil society, and other donors.
- Collection of medicinal plants, mushrooms, and berries can provide significant seasonal employment in rural areas and provides raw materials for the pharmaceutical industry in the case of medicinal plants. The government and the private sector should work with donor support to understand the management and business aspects of collecting these products and to strengthen the system of marketing. Collection of plants that are endangered must be stopped.
- Controlled hunting formerly provided the central government with revenues from licensing and the economy in general benefited from money spent by hunters, including those who came from elsewhere in Europe to participate. The MAFRD is considering establishing a system of hunting concessions that could be economically attractive and sustainable if management of game populations were done scientifically.

6.1.4 Environmental Management in Support of Biodiversity Conservation

- Water pollution and sand and gravel mining from riverbeds are clearly very serious threats to aquatic biodiversity in Kosovo. Water pollution is also the most serious environmental concern related to human health. Reduction of water pollution through domestic wastewater treatment, industrial pollution abatement, and control of toxic run-off is a very high priority recognized by the government, UNMIK, the donor community, and environmental NGOs. Sand and gravel mining has less donor visibility, but should be halted due to its devastating impact on the physical and biological characteristics of rivers.
- Uncontrolled and unplanned development in peri-urban and rural areas is a potential threat to important biodiversity resources. The spatial planning and zoning processes that will start soon must include criteria to ensure that these values are recognized and protected from development. The Department of Spatial Planning, its Spatial Planning Institute, and municipal governments will require technical assistance and training to ensure they can apply environmental safeguards in the planning process.
- The sale of pesticides in Kosovo must be regulated to ensure that those sold meet international safety standards. Banned chemicals often have very negative effects on birds, small mammals, and insects and may adversely affect human health.
- Ensure that laws in all sectors are written to support the provisions of the Environmental Protection Law.

6.2 International Donor and NGO Support for Biodiversity Conservation

Given the pressing human needs facing post-conflict Kosovo, biodiversity conservation simply did not evolve as a priority programming area for most international donors or NGOs after the war. However, four years later, a small number of international donors and local NGOs have begun to focus on issues related to biodiversity conservation. Others donors and NGOs, addressing issues of environmental management (e.g., wastewater management), have also tangentially begun to contribute to conservation efforts. This section of the report is intended to briefly describe those donor and NGO activities that are directly supportive of

biodiversity conservation, and to highlight some of the international donor activities that are indirectly contributing to biodiversity conservation.

6.2.1 International Donors Directly Supporting Biodiversity Conservation in Kosovo

Currently the Food and Agriculture Organization (FAO), working with MAFRD, is the only international donor working in direct support of biodiversity conservation in Kosovo. Through two interrelated activities, the FAO is working to develop both a Forest Inventory and a Forest Sector Development Plan. The Forest Inventory will document the diversity, location, and relative abundance of Kosovo's forest resources. This will be a vital first step in the conservation of these resources—and, by virtue of the habitats they provide—and to many of Kosovo's threatened and endangered animal species. Based upon this Forest Inventory, the FAO is also developing a Forest Sector Development Plan, to establish a framework for management of forest resources over the short and medium term.

6.2.2 Directly Supporting Biodiversity Conservation in Kosovo

While none of the international conservation NGOs have developed or implemented activities in Kosovo, one regional and a small number of local NGOs have become increasingly involved in promoting conservation and sound environmental management.¹⁵

The Regional Environmental Center for Central and Eastern Europe (REC), Kosovo Field Office

REC was established in Hungary, in 1990, with the support of the US government and the European Commission. REC's goal has been to assist in solving the environmental problems of central and eastern Europe, by promoting cooperation between public, private and NGO sectors, and by promoting public participation in the environmental decision-making process. Both through its Regional Office and through its Field Office in Kosovo, REC has been actively involved in promoting awareness on the need for biodiversity conservation in Kosovo. REC Kosovo both directly implements activities (e.g., journalist training), and issues small grants to other, local NGOs.

Aquila

Based in Peje, Aquila focuses efforts on advocating for both biodiversity conservation and sustainable environmental management. Most recently, Aquila is trying to work with municipalities to promote sustainable environmental management. Simultaneously, Aquila, together with NGOs in Montenegro and Albania, recently submitted a grant proposal to the REC to contribute to "Sustainable Development in the Western Balkans." The focus of the grant proposal is to raise local, regional, and international awareness of the biodiversity of the western Balkans, in the hope of one day establishing a transboundary national park.

Eko-Klina

Eko-Klina is an NGO based in Klinë/Klina, interested in both conservation, and environmental protection. To date, the NGO has completed two projects, each resulting in a document designed to promote public awareness and outreach. The first, developed in conjunction with INEP, highlighted the rare plant and animal species of Kosovo. The second documented the pollution problems impacting Mirusha Canyon.

Kosovo Association of Ecologists (KAE)

An NGO comprised primarily by members of academia with interests in ecology, KAE has chapters in many cities, with a membership of more than 200 individual members. KAE has limited experience implementing and managing activities (e.g., they conducted an assessment of threatened plant species along Kosovo's

¹⁵ While the growth in the number of local NGOs interested in conservation and environmental issues is promising, the basic capacity of these NGOs is, in general, still quite low.

borders, commissioned by REC with Stability Pact funding). KAE is a member of the Environmental Network of Southeast Europe.

6.2.3 International Donor Activities Indirectly Contributing to Biodiversity Conservation in Kosovo

In developing this report, the Biodiversity Assessment Team recognizes that, while very few biodiversity conservation-specific activities have been developed in Kosovo, many ongoing and planned environmental management activities (such as those targeting improved management of wastewater or solid waste) may improve the quality of Kosovo’s terrestrial and aquatic ecosystems. This in turn could positively impact biodiversity conservation. In this section we highlight those international donor-funded activities designed to address industrial pollution abatement, solid waste management, water quality/wastewater management and treatment, and institutional capacity building. Given the tremendous level of donor involvement in Kosovo over the past three years, developing an inclusive list of donor activities in these areas was simply beyond the scope of this assignment. Instead, under each subheading, we highlight relevant current and/or planned donor-funded activities in each area.

Industrial Pollution

Industrial pollution, depending upon the source, can impact air, soil and water quality—all of which can impact human (as well as other animal and plant) health. Currently there are a fair number of donors focused on the problem of industrial pollution. Some are primarily mitigating the effects of no-longer operational industries, while others are focusing on increasing the capacity of Kosovar institutions to reduce pollution stemming from still functional industries. Current and planned future activities that address industrial pollution are shown below.

Donor	
EAR	This short-term (2-month) activity was designed to assess the environmental impacts associated with Kosovo’s two thermal plants (Kosovo A & Kosovo B), and to develop recommendations for mitigation
SIDA	In the area of Gračanica, SIDA recently cleared two tailing dams in a mining area contaminated by an old processing plant that had been polluting both air and water.
SIDA	Currently assisting the MESP Division of Industrial Pollution to develop and implement its program. As part of this effort, SIDA is conducting an assessment of the coal mining and KEK facilities.

Solid Waste Management

Solid waste, a major problem throughout Kosovo, impacts both soil and water quality. As with industrial pollution, the potential environmental impacts on human health and the health of other organisms can be quite severe. EAR, joined by GTZ, have taken the lead in addressing problems of solid waste. Over the medium term, Kosovo hopes to have a fully operational solid waste management system, complete with the necessary equipment (trash bins and trucks), and seven regional sanitary landfills. Current and planned future activities that address industrial pollution are presented below

EAR	In order to begin managing solid waste more effectively, EAR furnished municipalities with necessary equipment (trucks, bins, etc.), and rehabilitated Kosovo’s existing landfills.
GTZ	To approve the management of solid waste, GTZ is assisting with the construction of new sanitary landfills.
JSF & REC	In an effort to promote recycling and reduce solid waste, REC (funded by JSF) recently provided waste separation containers in the Kodra e Diellit neighborhood of Prishtinë/Priština.

Water Quality/Wastewater Management and Treatment

Poor (and likely, decreasing) water quality, limited wastewater management and a complete lack of wastewater treatment, are very likely the most pressing environmental health problems facing Kosovo's population. It is estimated that approximately 30% of the population are connected to waste management (sewerage) systems, primarily located in urban areas.¹⁶ Given that there are currently no wastewater treatment facilities in Kosovo, raw sewerage from these waste management systems is returned to rivers untreated. As surface water serves as the source of drinking water (for those connected to a water supply system), the threats to human health are very real. These problems also effect river ecosystems, and could have a dramatic effect on the redevelopment of Kosovo's agricultural sector—especially in terms of export potential. Current and planned activities to improve water quality and wastewater management and treatment are presented below.

Donor	
Italian MFA	This activity is designed to rehabilitate main laboratory of the Hydrometeorological Institute of Kosovo. Assistance is being provided to develop and equip a central laboratory, and to train technicians in the use of the equipment.
EAR	This 1M Euro activity will focus on reestablishing 25 field stations to measure and test selected water quantity and quality parameters along Kosovo's four major rivers.
EAR	Currently working with the Water Department of MESP, this ongoing activity focuses on assessing and monitoring river abstractions (sand and gravel).

Institutional Capacity Building

Efforts to build the institutional capability of Kosovar institutions to improve environmental management, while still not a major focus of the international donor and NGO community, has been receiving increasing amounts attention over the past few years. Much of this attention has been focused on building MESP's capacity. In addition, various other donors are currently implementing or planning to implement capacity-building activities with the MESP. REC and various donors (including USAID), have been supporting the capacity of environmental NGOs to participate effectively as civil society partners in environmental management and protection. Current and planned future activities in this arena are presented below.

EAR	Currently in the tendering process, this 1.5-year (1.5M Euro) activity will focus on strengthening the capacity of MESP to manage water and wastewater more effectively. This will focus on policy, regulation and strategy development, and will provide technical staff training.
EU	Also in the tendering process, this activity will assist MESP in the establishment of secondary level environmental legislation, and provide support to MESP and municipalities to ensure implementation.
REC	Recently provided training to NGO members to build their capacity to participate more effectively in the environmental decision-making process. This effort has largely been financed through the Regional Environmental Reconstruction Program (REReP). In separate activities REC has also recently trained environmental NGOs to use the Internet as an effective networking tool, and has trained journalists to cover environmental issues.

¹⁶ Ministry of Environment and Spatial Planning. April 16, 2003.

7.0 USAID/Kosovo's Assistance Program

7.1 Current Strategic Plan (FY 2001-FY 2003)

USAID/Kosovo is currently in the final six months of its Transitional Strategic Plan (TSP), FY 2001-FY 2003. This TSP was designed to help move the USAID assistance program for Kosovo beyond crisis response and recovery to building economic and political systems that afford choices, opportunity, and responsibility. This strategy was developed to work effectively within the framework of the UNMIK-led, multi-donor program for Kosovo. The pressing needs of post-conflict Kosovo were numerous, and included physical reconstruction, creation of basic governance capacity, provision of a wide range of public services, the building of democratic institutions, enablement of participation through electoral processes and civil society, and support of private sector development. Given these vast needs and bearing in mind that USAID's financial commitment, while sizeable in itself—was but a fraction of the overall international donor commitment—the new Mission took steps to assess its comparative advantage in meeting these needs, and developed programs based upon the result of this assessment. Subsequently, USAID/Kosovo developed its FY 2001-FY 2003 Strategy to focus on three Strategic Objectives:¹⁷

1. SO 1.3 – Establishment of an Economic Policy and Institutional Framework
2. SO 2.1 – Accountable and Transparent Governance
3. SO 3.1 – Restored Normalcy in Living Standards and Opportunities

In developing this strategy the Mission sought to build synergies across these three, interdependent SOs to maximize the potential for long-term impact. Now, two-and-a-half years into its three-year strategy, it is clear that the Mission has taken significant strides on all three fronts, making significant contributions toward the development of Kosovo.

7.1.1 Relationship of the FY 2001-FY 2003 TSP to Biodiversity Conservation

Given the pressing needs of the population, and the focal areas of the Mission at the time the TSP was developed, USAID/Kosovo's support for environmental activities was limited (e.g., setting standards for the restoration of housing and municipal services, training journalists to cover environmental issues, etc.). Also, over this period of time, no USAID-funded activities were designed that directly supported biodiversity conservation needs. However, all USAID/Kosovo programs with the potential for negative environmental impacts (e.g., small-scale grants for community-based infrastructure construction/reconstruction, road reconstruction, etc.), were required to follow the Agency's standard requirements for environmental examination and mitigation.

7.2 Proposed Strategic Plan (FY 2004-FY 2008)

USAID/Kosovo is currently in the process of developing a new Strategic Plan (SP) for the five-year period, FY 2004-FY 2008. Efforts to develop this SP have been highly collaborative, involving both with USAID/Washington and local development partners. While the final direction of the new SP had not been finalized at the time of preparing this assessment, the Mission does not anticipate any radical departures from its primary areas of focus over the past three years. Rather, the new SP is seen as second-generation support to meet the political and economic development needs of Kosovo and its citizens.¹⁸ The Concept Paper identifies four likely areas of strategic focus. USAID/Kosovo staff, while noting that the SP had yet to be

¹⁷ USAID/Kosovo. 2000. As an adjunct to these three primary program areas, the Mission also provided some assistance in the areas of education, health and environment.

¹⁸ USAID/Kosovo. February 2003.

finalized, and no activities had yet been developed, further elaborated on each of these likely Strategic Objectives. A brief overview of each of these likely SOs is provided below.¹⁹

7.2.1 SO 1 – Economic Policy and Institutions

The initial three-year focus of donor-supported economic recovery and growth programs focused on implementation of crucial reforms in fiscal and monetary policy management, financial market development, commercial law, privatization and trade and investment policies. In this process, USAID has been active in policy and institutional development, placing considerable focus on human capacity development. Under the likely Economic Policy and Institutions SO, USAID/Kosovo will focus on strengthening the policy, legal, and regulatory environment for economic growth and good governance. Specifically, the program will focus on macroeconomic policy, fiscal decentralization, legal environment improvement, and trade integration improvement.

7.2.2 SO 2 – Private Sector Development

Over the past three years donor assistance to the private sector has largely focused on the direct provision of business development and training programs, strengthening the basic capacity of entrepreneurs previously deprived of formal business training opportunities. The focus of the likely Private Sector Development SO will be on building a competitive, job-producing, business environment. Given the potential for employment generation and economic growth, the SO will focus in part on the agriculture sector. In this effort, the Mission would focus on linking producers (in the vegetable, fruit, animal feed, dairy, and specialty food subsectors) with processors and markets. Other productive sectors that are potential focal areas for this program include both construction (materials) and woodworking (furniture).

7.2.3 SO 3 – Democratic Institutions

Over the past three years considerable progress has been made in establishing a solid foundation for democracy. During this time donor assistance has focused on strengthening governmental institutions, supporting political parties, and promoting an open and transparent electoral process. Basic elements of the rule of law, including a judicial system and a police force, have been put in place. Proposed efforts to further support democratic institutions will likely provide further support to strengthen the electoral process, improve judicial administration, continue efforts on legal reform, and develop a system of checks and balances, primarily in the judicial branch of government.

7.2.4 SO 4 – Local Governance and Civil Society Participation

A newer focus of the international donor community has been on building capacity for local governance—involving both formal government structures and civil society stakeholders in a participatory process. The goal is to ensure the ability of Kosovo's 30 municipal governments to fulfill their mandate in a responsive, accountable, and effective manner—a fundamental step in the development of a democratic society in Kosovo. Simultaneously, the participation of civil society organizations and a well-informed citizenry is recognized as essential in transparent and accountable governance. Under the proposed Local Governance and Civil Society Participation SO, USAID is looking to strengthen the capacity of municipal government to fulfill its mandate (e.g., the provision of basic social services) and through improved services, to promote economic development. In this process USAID will continue to build the capacity of civil society organizations (NGOs, media, and private sector organizations) to effectively feed into the municipal development process.

¹⁹ These have been developed through discussions with Mission staff and a review of the Concept Paper.

7.2.5 Cross-Cutting Areas

In addition to the four strategic focal areas outlined above, the Concept Paper identifies seven cross-cutting themes for consideration in the strategic planning process, and for subsequent development of programs and projects. These are:

- Unemployment,
- Reconciliation,
- Youth,
- Gender,
- Trafficking,
- Corruption, and
- Regional Integration.

With the exception of trafficking, the Mission does not anticipate allocating resources to develop specific projects devoted to any of these topics. Rather, to maximize the impact of Mission programs, the findings and deliberations associated with each of the seven cross-cutting themes will be applied across the Mission's portfolio, both during activity design and implementation.

7.2.6 Relationship of the Projected FY 2004-FY 2008 Strategic Plan to Biodiversity Conservation

Although the need for assistance in environment, as well as health and education, was discussed during the strategy development review, USAID/Kosovo is not proposing to implement assistance programs in these areas. An expected decrease in USAID/Kosovo's annual budget, coupled with the Mission's comparative programming advantage and the leadership roles of European donors, provided the rationale and justification for this decision.

This being said, the Mission seems very willing to look for ways to address environmental issues, including biodiversity conservation needs, through logical links with their projected future programs. Specific recommendations for linking both biodiversity conservation and improved environmental management, to future Mission programs are provided in Section 8.

As was the case in the past, all USAID/Kosovo programs with the potential for negative environmental impacts will be required to follow the Agency's standard requirements for environmental examination and mitigation.

8.0 Opportunities for USAID/Kosovo to Support Biodiversity Conservation and, in general, Improved Environmental Management, Within the Proposed Strategic Plan

While the projected FY 2004-FY 2008 Strategic Plan does not specifically target biodiversity conservation, or more generally, environmental management—there appear to be ample opportunities to improve both biodiversity conservation and environmental management through the projected future programming areas of USAID/Kosovo. The section below briefly identifies areas where the Assessment Team feels the opportunities for creating these linkages are greatest.

8.1 Opportunities to Improve Biodiversity Conservation and Environmental Management

The Assessment Team, in developing these recommendations, attempted to build upon the experience of USAID and other donors, from within the region, and from around the world. Foremost in our thinking, were the direct links between environmental sustainability and economic potential, and between environmental sustainability and human health and well-being. The following recommendations, tied to likely programming areas within USAID/Kosovo's FY 2004-FY 2008 Strategic Plan, are made in an attempt to increase the sustainability in the development and use of the natural resource base, as a means of promoting sustainable economic growth and human well-being in Kosovo.

8.1.1 Projected SO 1 Program Areas – Economic Policy and Institutions

The expected focus of SO 1 appears to provide some good opportunities to improve both biodiversity conservation and environmental management, through projected SO 1 programs. As described by Mission staff, among other activities, SO 1 will likely provide organizational development support to ministries geared toward increasing their operational efficiencies. Given the relative newness of MESP, coupled with its complex structure and broad mandate, training and capacity building in organizational development could go a long way toward creating an enabling environment that would be increasingly supportive of biodiversity conservation and sound environmental management. As described in Section 4.2, MESP, divided into four technical departments and an administrative services branch, is only a little over one year old. Establishing an effective, shared vision of the roles and responsibilities of the various departments—and individuals within those departments—is an important need that must be addressed, if the Ministry is to realize its full potential. As documented in Section 6, EAR, the EU, and other donors are developing and implementing some capacity-building activities with MESP Departments. However, no donor is currently focused on the “big picture” of promoting a functional and operationally efficient Ministry. Assistance by USAID at this level of institutional strengthening, would positively impact the human environment and biodiversity conservation in Kosovo.

Recommendation

Provide organizational development training and capacity building to MESP to improve communication and collaboration, and to improve operational efficiencies.

8.1.2 Projected SO 2 Programming Areas – Private Sector Development

Projected programming focal areas under this SO—especially those tied to the agriculture and forestry sectors—if improperly managed, have the potential to negatively impact on Kosovo's ecosystems. Conversely, if properly managed, these activities have the potential to significantly contribute toward improved environmental management and conservation. Ensuring sustainability in the management and use of the natural resource base will be a critical first step in mitigating negative impacts/improving environmental management. Contributing to the health and well being of Kosovo's forest, agricultural and river ecosystems—which provide the habitats for much of Kosovo's endemic flora and fauna, will go a long way toward improving biodiversity conservation in Kosovo. For example, if the Mission decides to pursue activities that target secondary wood processing—in particular the furniture-making industry, ensuring a sustainable supply of wood will be a vital economic consideration. Encouraging MAFRD to adopt the sustainable forest management principles written into the new Forests Law, as part of the design of wood processing development activities, could serve to both ensure the supply of wood and support the health of forest ecosystems. Going one step further, if the wood is certified as recommended by FAO experts, furniture makers may be able to market their value-added products through niche markets, allowing them to retain greater margins.

Recommendations

- In promoting secondary wood processing industries, incorporate principles of sustainable forest management, written into the new Forests Law, into activities to simultaneously ensure the supply of wood and promote sound environmental management and biodiversity conservation.
- Assist growth of the valued-added wood products industry.
- In promoting specialty food products, especially those gathered in the wild (e.g., mushrooms, wild blueberries, etc.), incorporate principles of sustainable use to ensure the long-term economic potential of the resource base. Specifically, develop resource-specific management plans negotiated with government and resource-user support, that provide the framework for use (seasonality, harvest limits, etc.) in exchange for assistance with developing market linkages.
- Assist with the marketing of certified organic agricultural products, a growing market in western Europe.
- Discourage the use of agro-chemicals banned in western Europe, to maintain the potential exportability of agricultural products to western European markets.
- Given the strong potential for SO 2 activities to negatively impact on the environment, and pending the result of the SO-level IEE, it may be advisable for the Mission to conduct a programmatic environmental assessment (PEA) of this program area. A PEA differs from an environmental assessment (EA), in that a PEA covers multiple projects of a similar nature at multiple sites within a region or country, whereas an EA covers a specific project or activity at a specific site. This effort would increase the sustainability of SO 2 investments, while promoting sustainable economic growth.

8.1.3 Projected SO 3 Programming Areas – Democratic Institutions

Within the scope of the proposed SO 3, there appears to be one very important area where improved biodiversity conservation and environmental management could be linked to projected SO 3 focal areas, namely, legal reform. As understood by the Biodiversity Assessment Team, the evolving legislative development process has tended to proceed rather slowly. One notable exception however, has been the Environmental Protection Law (described in Section 4), which passed on January 16, 2003 and was signed into law exactly four months later. While its signing into law is certainly encouraging, it is worth noting that the legal structure to support biodiversity conservation and environmental management is still far from complete. Passing with more than 80 Amendments, the law will need to be carefully analyzed and potentially revised in the near future if it is going to effectively serve as the guiding tool for environmental protection and conservation. While secondary legislation and regulations are currently lacking, as mentioned in Section 6.2, the EU is currently developing an activity to assist MESP in this arena. As part of this effort, the EU will also provide support to MESP and municipalities, to build capacity for implementation, regulation, and enforcement.

Recommendations

Given the importance of the macro-level legal framework in promoting both biodiversity conservation and sound environmental management, coupled with the lack of other donor support in this arena, it is recommended that USAID provide assistance to review, and as necessary revise and elaborate, the Environmental Protection Law.

8.1.4 Projected SO 4 Programming Areas – Local Governance and Civil Society Participation

Within the scope of the proposed SO 4, there are numerous areas where improved biodiversity conservation and environmental management could logically be linked to proposed programs. As noted in the February

2003 Strategic Plan Concept Paper, Kosovo's 30 municipalities are more in the nature of communities than cities or towns, each being comprised of more than one urban settlement and greater or lesser amounts of rural and agricultural areas.²⁰ These urban and rural areas are where people live and work. It is at this level where the development decisions of government, the private sector, and individual citizens have the greatest direct impact on the environment. As a result, this is logically the level where the most can be done to stem the tide of poor environmental management.

USAID realizes that both the long-term economic potential of the natural resource base and human well being and health are predicated upon the sustainable management of the natural environment. If soil or irrigation water become too contaminated to yield agricultural products that meet export standards, then the potential for economic growth will decrease. If drinking water is contaminated, human health will become compromised. Ensuring the sustainable management of the natural environment, and protecting the health and economic potential of its citizens should be a primary focus of local government. As a result, ensuring that environmental concerns are integrated into the local planning process is a priority in improving conservation and environmental management. To address this priority need, the Assessment Team sees four, interrelated activities that could be integrated into SO 4 activities at the local government level to improve biodiversity conservation and environmental management.

Recommendations

- Build the capacities of municipalities to fulfill their mandate vis-à-vis spatial planning, as discussed in the local government assessment, which includes considerable focus on environmental protection. Spatial planning, in the Kosovo context, provides the basis for both zoning and environmental screening, and quickly developing this capacity could make considerable gains in rationalizing municipal development, which will positively impact human health and the economy.
- Build awareness of and capacity for environmental screening, including EIAs, at the municipal level.
- Build the capacity of civil society organizations, including NGOs (such as REC and Aquila, discussed in Section 6) and the private sector to participate and serve as effective partners in the environmental management process. In this effort, NGOs should be supported in their efforts to advocate for improved environmental management, and the private sector should be supported in efforts to improve their environmental management (including decreasing wastes, waste management, and increasing operational efficiencies).

²⁰ Concept Paper.

ANNEXES

Annex A. Scope of Work

BIODIVERSITY Assessment FOR KOSOVO

Scope of Work

Objective

The objective of this task order is to conduct country-wide assessment of bio-diversity resources and their status for the purposes of complying with sections 117 and 119 of the Foreign Assistance of 1961, Agency guidance on country strategy development, and USAID Environmental procedures described in Title 22 CFR, Section 216.

Background

A. Policies Governing Environmental Procedures

USAID's environmental compliance is directed by U.S. policy and law; The Foreign Assistance Act (FAA) of 1961, Section 117, requires that the President take fully into account the impact of foreign assistance programs and projects on environment and natural resources (Sec. 117 © (1)). Current USAID Legislation which guides environmental impact and monitoring is Title 22 of the Code of Federal Regulations, Part 216 ("Reg. 216"). In complying with the law, USAID provides its environmental Procedures under ADS 204.5 to ensure accordance with the requirements of Title 22 CFR 216.

Section 119 of the FAA related to Endangered Species states that "the preservation of animal and plant species through the regulation of the hunting and trade in endangered species, through limitations on the pollution of natural ecosystems and through the protection of wildlife habits should be an important objective of the United States development assistance (FAA, Sec. 119 (a))." - Furthermore, it states that "Each country development strategy statement or other country plan prepared by the Agency for International Development shall include an analysis of (1) the actions necessary in that country to conserve biological diversity and (2) the extent to which the actions proposed for support by the Agency meet the needs thus identified (FAA, Sec. 119(d))."

For USAID Missions to be in compliance with the above, and for USAID Missions to effectively determine impact on natural resources and endangered species and incorporate mitigation measures in their programs, a biodiversity assessment is needed to inform Mission planning. The purpose of this Task Order is to provide USAID/Kosovo with this information.

B. USAID's Program in Kosovo

The USAID/Kosovo Mission has been providing assistance to Kosovo since 1999. The Mission is currently operating under a three-year transition strategy that will end in September 2003. Under this strategy the Mission has had three major strategic objectives:

- Establishment of an Economic Policy and Institutional Framework that Facilitates the Recovery and Expansion of a Private Sector-Led Economy
- Accountable and Transparent Governance
- Restored Normalcy in Living Standards & Opportunities

A new Mission strategy is currently being developed. It will be submitted to AID/Washington in June 2003 and will cover a five-year period from October 2003-September 2008. Substantial progress has

been made over the last three years of USAID assistance, and under the proposed strategy the character of US assistance will likely shift from one of relief/reconstruction and development of a legal and policy framework to more targeted development efforts and institution building.

In October 2002, the Mission sponsored a one-week conference attended by a wide audience of partners. Working groups identified seven potential strategic objectives that distilled into three major areas impacting Kosovo's economic, political and social development. In the selection of activities to achieve these objectives, a better understanding of the potential impact of these interventions on biodiversity was determined to be a key aspect of development that must be considered in the new strategic plan and its associated programs of assistance.

Scope of Work

The Contractor shall perform the following activities:

- a) Pre-travel informational meetings and information gathering prior to travelling to the field, contractor is expected to :
 - 1) Hold meetings with Bureau Environmental Officers (BEO) of E&E Bureau in Washington, to ensure full understanding of USAID environmental procedures and the purpose of this assignment.
 - 2) Gather existing relevant background information on Kosovo's natural resources base and begin identifying organizations and donors involved in the sector. Relevant background information shall include a recent summary of biodiversity status in the Former Yugoslav Republic completed by the Regional Environment Center; and relevant sections of the 119 analysis for Serbia/Montenegro.
 - 3) Meet or speak with key stakeholders or managers at the World Bank, NGOs or other organizations involved in biodiversity conservation in Kosovo or relevant regional efforts in the Balkan area.
- b) Field a team to conduct an overview and general analysis of the country's bio-diversity and its current status. Upon arriving in Kosovo the Contractor will:
 - 1) Meet with USAID/Kosovo to get a solid understanding of Mission program goals and objectives under its updated strategy; perspectives of this assignment and specific interests for the team, including advice and protocol on approaching USAID partners and host country organizations with respect to this assignment. The team will discuss organizations to be contacted and any planned site visits with the Mission and coordinate as required.
 - 2) Hold meeting with Donors, NGOs, relevant government agencies, and other organizations knowledgeable about biodiversity conservation, and gather information locally.
 - 3) If necessary conduct one or two priority site visits that would help supplement understanding of interviews and literature.
- c) Prepare a report on the status of bio-diversity review and conservation efforts in Kosovo and implications for USAID or other donor programming and environmental monitoring which shall define the actions necessary for conservation. The report must clearly answer the two questions stipulated in FAA Section 119 (d) and shall include summary descriptions of:

Overview of Biodiversity status and Threats:

- Major ecosystem types highlighting important, unique aspects of the country's biodiversity, including important endemic species and their habitat.
- Natural areas of particular importance to bio-diversity conservation, such as forests and wetlands, critical for species reproduction, feeding or mitigation, of relevant.
- Plant and animal species which are endangered or threatened with extinction... Endangered species of particular social, economic or environmental importance should be highlighted and described, as should their habitats.
- Recent, current and potential future primary threats to bio-diversity whether they are ecological (i.e. fire), related to human use (mining, clear cutting, hunting), or institutional (i.e. failed policy) or trans-boundary issues as appropriate.
- Impact of the war on biodiversity

Actions Necessary to Conserve Biodiversity

- Conservation efforts including their scope and effectiveness. This should include relevant activities by donor organizations NGOs, universities and/or other local organizations involved in conservation, and identification of responsible government agencies.
- Highlight of key institutional and policy constraints
- Identification of priority actions to meet outstanding conservation needs

USAID's Program Strategy and Biodiversity

- USAID's program strategy particularly: 1) the extent to which it is contributing to conservation needs; , 2) any potential opportunities for USAID to support bio-diversity conservation consistent with Mission program goals and objectives.
- 3) if relevant, any perceived potential areas of concern related to bio-diversity impact with current or planned program activities, or
- d) Prepare a one to two page summary or overview on the status of bio-diversity and conservation efforts in Kosovo and implications for USAID or other donor programming and environmental monitoring which shall define the actions necessary for conservation. The summary will be based on the assessment conclusions. This overview will be included in the bio-diversity section of the USAID/Kosovo Strategy.

Methodology

The Contractor shall field a two-person team for this assignment. One team member should be a bio-diversity specialist or practitioner with international, regional or in country experience. The team leader should be an Expatriate senior-level professional with USAID experience and significant experience in international conservation programs and environmental impact assessments. Experience in the region or in-country is preferred. The second team member shall be a qualified Cooperating Country National (CCN) natural resources or bio-diversity professional, interpretation services should be procured separately by the Contractor.

Deliverables

The first deliverable under this purchase order is a report addressing the points specified in the statement of work, not to exceed 30 pages. The report will contain at a minimum one map which provides a broad picture of key eco-systems, habitats and protected areas, one annex containing IUCN lists for endangered and threatened species, and one annex containing Sections 117 and 119 of the Foreign Assistance Act. A draft report is due to USAID/Kosovo for comments no later than April 15, 2003. Comment will be provided to the Expert within 5 working days of

receipt. The final report is due in Kosovo no later than April 30, 2003. Two hard copies and one electronic copy in Word format of this assessment shall be provided to the USAID/Kosovo Mission control officer as well as the E&E Bureau Environmental Officer.

The second deliverable is a one to two-page “overview” of the sector based on assessment conclusions. This overview will be included in the bio-diversity section of USAID/Kosovo Strategy. This overview is due no later than April 30, 2003.

The third deliverable is an in-country Mission exit briefing.

Reporting Requirements

The Contractor will report to Judy Schumacher, Program Officer, USAID/ Kosovo for the overall assignment, and copy Cynthia Gill, Environmental Advisor, and Alicia Grimes, E&E Natural Resources Specialist in EGAT on all correspondence.

Anticipated Level of Effort

The LOE for this assignment is 30 workdays for U.S. specialist and 18 workdays for Cooperating Country national as follows:

- Information gathering and meetings in Washington with USAID BEO, WB, NGOs and other as relevant. (US Specialist 2 days)
- Field assessment, analysis and Mission debriefing (18 workdays).
- Report preparation (including incorporating USAID comments (10 days) in Washington.

Schedule: Work under this task order shall start immediately after its signing. Upon signing this , the contractor shall coordinate with the Task Order CTO in Kosovo to establish a window for the field assessment with the USAID Mission. A final schedule shall be developed for this task order and delivered to the CTO as soon as possible after the signing of the PO.

Logistics: The Expert will coordinate logistics with the Mission control officer or its designee. USAID/Kosovo will provide transportation for all field visits within Kosovo. All other logistical support should be provided by the Contractor, The Mission will assist the Expert by providing key references, documents and contacts available in country as well as protocol in interacting with host country institutions and partners.

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Annex C. Lists of Protected Plants and Animal Species in Kosovo

Some of the most directly threatened species in Kosovo

1. *Ulpiana doerfleri*
2. *Malus florentina*
3. *Genista hassertiana*
4. *Dioscorea balcanica*
5. *Polygala doerfleri*
6. *Allium pendulinum*
7. *Centaurea kosanini*
8. *Pinus peuce*
9. *Pinus heildreichi*
10. *Acer heildreichi*
11. *Dianthus scardicus*
12. *Lilium albanicum*
13. *Pancicia serbica*
14. *Narthecium scardicum*

The most characteristic endemic species in Kosovo

1. *Malus florentina* Zuc.
2. *Pinus peuce* Gris.
3. *Acer heildreichii* Orph
4. *Forsythia europaea* Deg. Et. Bald.
5. *Dioscorae balcanica* Kos.
6. *Genista hassertiana* Bald.
7. *Draba korabensis* Kumm. Et. Jav.
8. *Silene schmukeri* Wetst.
9. *Verbascum scardicum dulinum* Ten.
10. *Pancicia serbica* Viis.
11. *Ramonda serbica* Panc.
12. *Crocus kosanini* Pulevic
13. *Narthecium scardicum* Kos
14. *Lilium albanicum* Gris.
15. *Hesperis dinarica* Beck.
16. *Viola grisbachiana* Vis.
17. *Soldanella dimonie* Vier
18. *Cephalaria pastriciensis* Dorf. et Hay.
19. *Amphorocarpus neumayeri* Vis.
20. *Armeria canescens* Host.
21. *Halascya sendetneri* (Boiss) Dorf.
22. *Veronica thesalica* Benth.
23. *Stachys serbica* Panc.
24. *Draba doerfleri* Wettst.
25. *Dianthus pancicii* Vel.
26. *Anthylis aurea* Weld.
27. *Geum bulgaricum* Panc.
28. *Asperula doerfleri* Wettst.
29. *Potentilla visiani* Panc.
30. *Ranunculus incomparabilis* Janka.
31. *Cardamina cornosa* Wettst.
32. *Crepis bertiscea* Jav.
33. *Festuca koritnicensis* Wettst.
34. *Eryngium palmatum* Vis. Et. Panc.
35. *Euphorbia glabriflora* Vis.
36. *Silene sendetneri* Boiss.

From the 900 endemic taxa of the vascular flora of former Yugoslavia it is supposed that about 200 are distributed in Kosovo

Source: **KRASNIQI Feriz** "Characteristics of flora and vegetation in Kosova and problem of their protection" Academy of Sciences and Arts of Kosova 1998 Pristina.

List of endemic plant species in Bjeshket e Nemuna –National Park

1. *Achillea abrotanoides*
2. *Achillea clavatae*
3. *Achillea frassii*
4. *Amphoricarpus austriacus*
5. *Erigeron epiroticus*
6. *Hieracium gymnocephalum*
7. *H. waldsteinii*
8. *Omalotheca pihcleri*
9. *Senecio othonae*
10. *Senecio wagneri*
11. *Alcanna scardica*
12. *Arabis constricta*
13. *Barbarea balcana*
14. *Draba compacta*
15. *Draba scardica*
16. *Draba parnassica*
17. *Draba corabiensis*
18. *Erysmium pectinatum*
19. *Thsalpi bellidifolium*
20. *Campanula foliosa*
21. *Phyteuma psedoorbicylare*
22. *Cerastium decalvans*
23. *Cerastium dinaricum*
24. *Dianthus gracilis*
25. *Dianthus integer*
26. *Sempervivum macedonicum*
27. *Knautia dinaricum*
28. *Euphorbia montenegrina*
29. *Onobrychis scardica*
30. *Gentianella albanica*
31. *Gentianella crispata*
32. *Lamium pictum*
33. *Stachys reinertii*
34. *Thymus albanus*
35. *Pinguicula balcanica*
36. *Narthecium scardicum*
37. *Pinus peuce*
38. *Plantago reniformis*
39. *Festuca corithniciensis*
40. *Rumex balcanicus*
41. *Aquilegia blecici*
42. *Ranunculus concinnatus*
43. *Geum bulgaricum*
44. *Potentilla montenegrina*
45. *Asperula doerfleri*
46. *Saxifraga sempervivum*
47. *Saxifraga taygetae*
48. *Linaria peloponesiaca*

49. *Melampyrum doerflerii*
50. *M. scardicum*
51. *Pedicularis grisebachii*
52. *Valeriana bertiscae*
53. *Valeriana pancicii*
54. *Viola elegantula*
55. *Viola speciosa*
56. *Viola zoysii*
57. *Crepis albanica*
58. *Crepis bertiscae*
59. *Campanula albanica*
60. *Forsythia europea*
61. *Ranunculus scutatus*
62. *Cephalaria pastriciensis*
63. *Thymus reinertii*
64. *Lilium albanicum*
65. *Saxifraga scardica*
66. *Rhinantus asperulus*
67. *Sempervivum kosanini*
68. *Astragalus fialae*
69. *Aconitum pentheri*
70. *Rubus ipecensis*
71. *Wulfenia blecicii*

From those, 5 species lives just in area of Bjeshket e Nemuna national parc.

List of protected plant species on basis of the decision no. 239/86 of Institute for Nature Protection of Kosovo

1. *Taxus baccata* L.
2. *Quercus trojana* Web.
3. *Ulmus campestris* L.
4. *Acer heildreichi* Orph.
5. *Forsythia Europea* Deg.et. Bald.
6. *Wulfenia carinthiaca* Jack.
7. *Tulipa scardica* Bornm.
8. *Trollius europeus* L.
9. *Lilium albanicum* Gris.
10. *Dianthus scardicus* Wetst.
11. *Fritillaria graeca* Boiss. Et. Sprun.
12. *Narcissus poeticus* L.
13. *Rumex balcanicus* Rech.
14. *Ilex aquifolium* L.
15. *Daphne blagayana* Freyer.
16. *Ramonda serbica* Panc.
17. *Paeonia decora* Anders.
18. *Paeonia corallina* Retz.
19. *Waldsteinia geoides* Wild.
20. *Polygala doerfleri* Hayek.
21. *Dioscorea balcanica* Koan.
22. *Moltkea doerfleri* Wetst.
23. *Rhododendron ferrugineum* L.
24. *Gentiana lutea* L.
25. *Draba corabiensis* Kum. et Deg.
26. *Leontopodium alpinum* Cas. Var. nivale Ten.
27. *Aster albanicus* Deg.

Source: Veselaj Z., Sherifi Y. "Rare plant and animal species of Kosova " 2001 Pristina

Animal wild species threatened in Kosova, with international significance

Species	IUCN	WR RL	EU RL	LHK
1. <i>Muscardinus avellanarius</i> L.	LR		V	1
2. <i>Sciurus vulgaris</i> L.	LR			2
3. <i>Felis silvestris</i> Schreber.	LR			2
4. <i>Lynx lynx</i> L.	VU	E	R	1
5. <i>Ursus arcyos</i> L.	VU		R	2
6. <i>Capreolus capreolus</i> L.	LR			2
7. <i>Cervus elaphus</i> L.	VU	E	E	2
8. <i>Rupicapra rupicapra</i> L.	VU		R	2
9. <i>Aquila chrysaethos</i> L.	LR			1
10. <i>Aquila heliaca</i> Savigni.	EN	VU	R	1
11. <i>Falco Naumani</i> Fleicher	CR	VU	K	1
12. <i>Crex crex</i> L.	VU	VU	R	1
13. <i>Bubo bubo</i> L.	VU			1
14. <i>Tetraou urogalus</i> L.	EN			2
15. <i>Otis tarda</i> L.	VU	VU	R	1
16. <i>Ciconia ciconia</i> L.	LR			1

IUCN - World Conservation Union

WR RL - World Red List

EU RL- European Red List

LHK -Low on Hunting of Kosovo

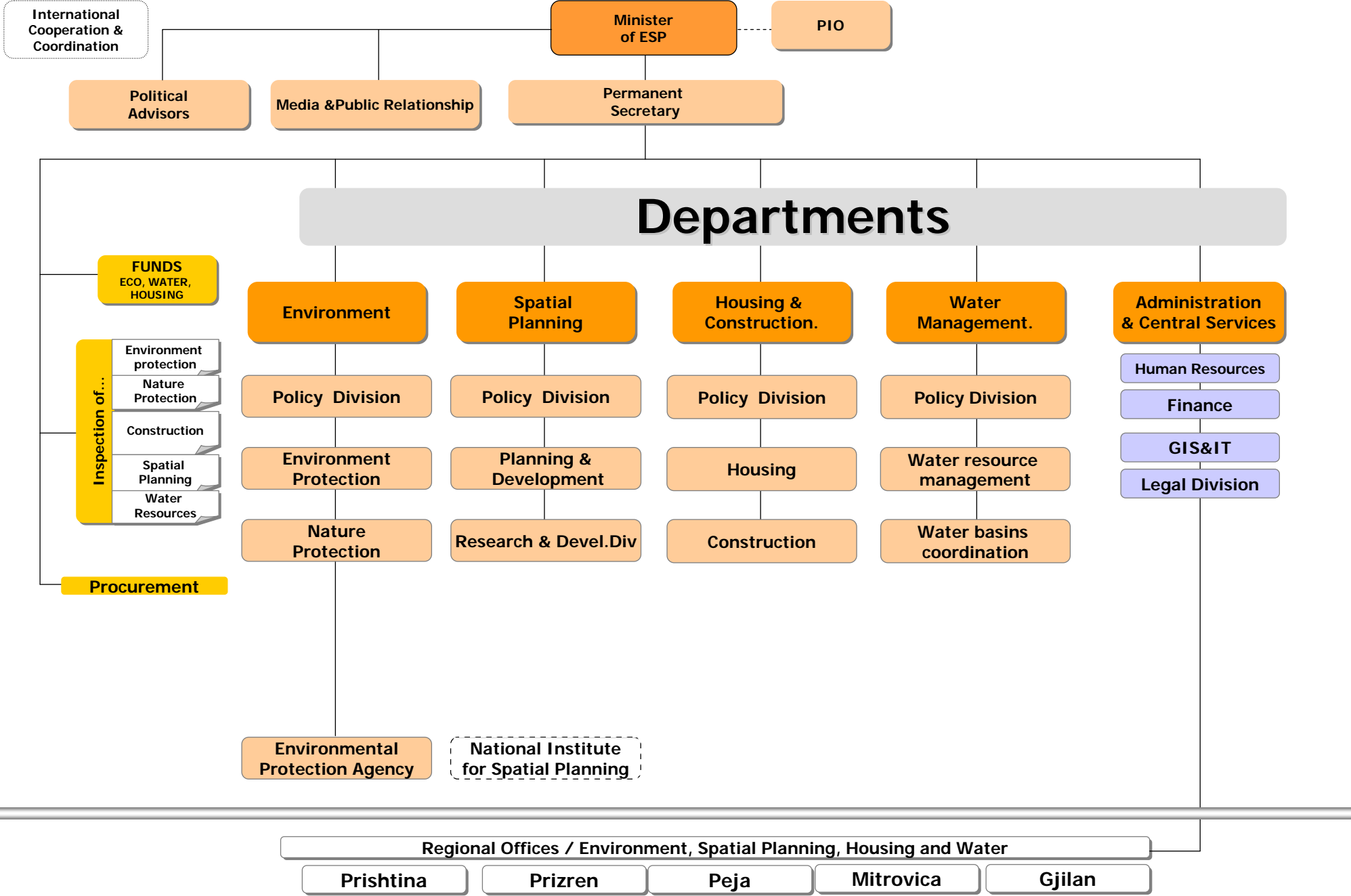
1- Permanent protection

2. Temporary protection

VESELAJ Z., SHERIFI Y. "Rare plant and animal species of Kosova" 2001 Prishtina

**Annex D. Ministry of Environment and Spatial Planning
Organizational Chart**

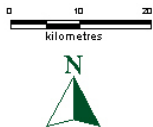
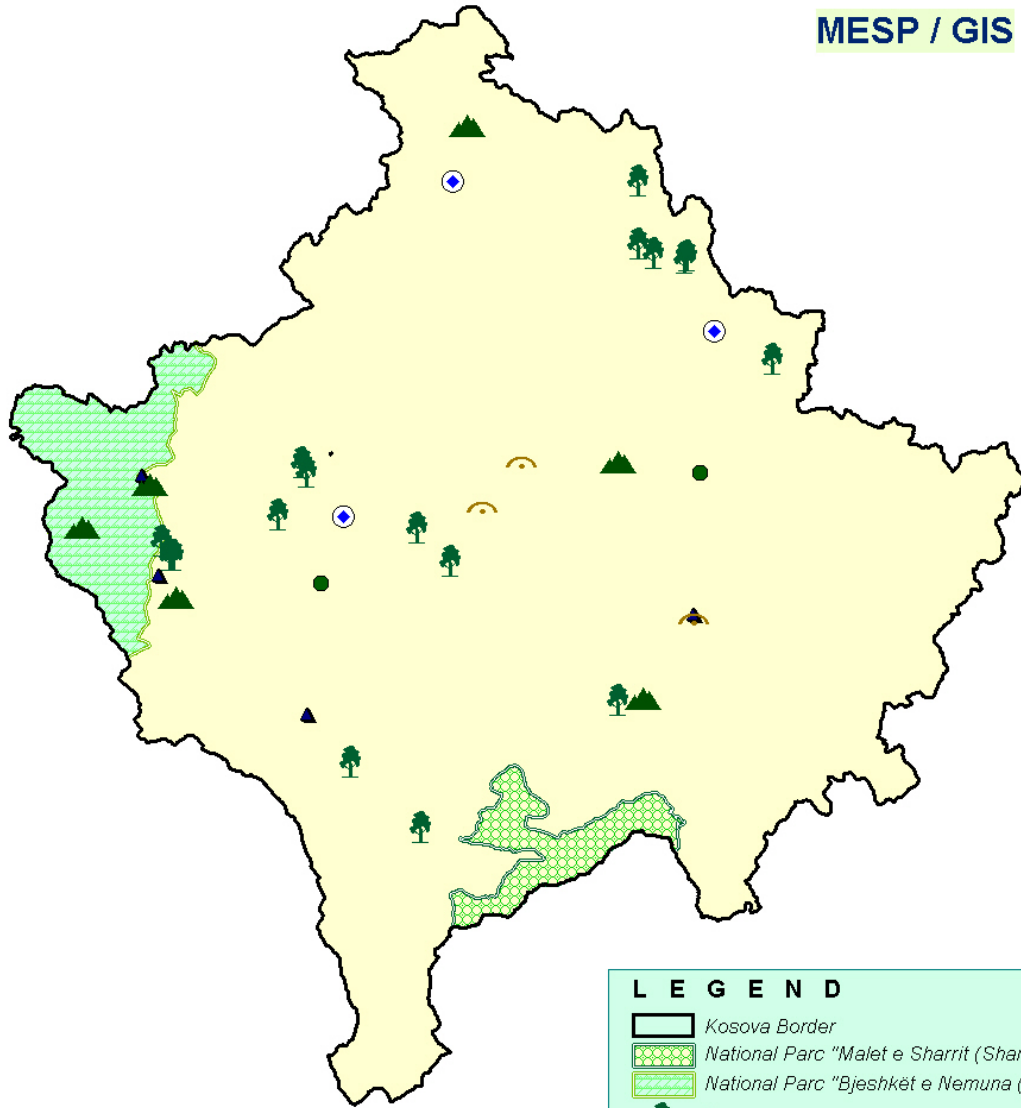
Ministry of Environment & Spatial Planning



Annex E. Map of Protected Areas in Kosovo

MAP OF PROTECTED AREA IN KOSOVA

MESP / GIS



LEGEND	
	Kosova Border
	National Parc "Malet e Sharrit (Sharri Mo)
	National Parc "Bjeshkët e Nemuna (Cours
	Trung
	Cave
	Nature reserve
	Natural Parc
	Natural Monuments
	Mineral water resource

Annex F. Persons Consulted

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22	Tush Markaj	Dep. of Environmnetal Protection, Policy Division		
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26	Stein M. Tomter	FAO Forest Inventory Project		stein.tomter@uijos.no

Annex G. Biodiversity

Kosovo is home to a rich ecosystem and biodiversity. 46.000 ha or 4,27% of its territory is under protection. Protected areas include one National park, 11 wildlife sanctuaries, 37 natural monuments and two protected landscapes.

The Kosovo Assembly created the national park “Sharr” situated south of Kosovo on the border with FYROM in 1986. The national park is linked through forested areas to the Curst Mountains , Durmitor as well as Dinarik forest . These areas along with the national park can be considered the center of Balkanic endemic biodiversity. There are more than 2.000 types of endemics species in the Sharr forest area. This makes up to around 25% of Balkans flora and around 18% European flora. Analyses show that many of them are endemics around 29% and sub endemics (around 10%). Among the endemic species, 86 were declared internationally important and 26 have been included on the Red List of threaten plants of IUCN .

Curst Mountain is also an important part of European and Balkan biodiversity and this area is known its flora with around 750 types of endemic, alpine flora. The Ministry of Environment and Spatial Planning has began the procedure in order to put the area under protection.**

Table 1. Total protect areas in Kosovo and classification of protected areas according to the IUCN

Type of area	Rank IUCN	No. of areas	Surface /ha	%
Wildlife sanctuary	I	11	698,4	1,52
National park	II	1	39.000	84,55
Natural monuments	III	38	4.867,9	10,55
Protected landscape	V	2	1.681	3,17
Total:		52	46.247,3	100,00

Annex H. USG Foreign Assistance Act, Section 119

Foreign Assistance Act, Part I, Section 119 - Endangered Species

Sec. 119.\75\ Endangered Species.--

- (a) The Congress finds the survival of many animal and plant species is endangered by overhunting, by the presence of toxic chemicals in water, air and soil, and by the destruction of habitats. The Congress further finds that the extinction of animal and plant species is an irreparable loss with potentially serious environmental and economic consequences for developing and developed countries alike. Accordingly, the preservation of animal and plant species through the regulation of the hunting and trade in endangered species, through limitations on the pollution of natural ecosystems, and through the protection of wildlife habitats should be an important objective of the United States development assistance.

\75\ 22 U.S.C. 2151q. Sec. 119, pars. (a) and (b) were added by sec. 702 of the International Environment Protection Act of 1983 (title VII of the Department of State Authorization Act, Fiscal Years 1984 and 1985, Public Law 98-164; 97 Stat. 1045).

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- (b) \75\ In order to preserve biological diversity, the President is authorized to furnish assistance under this part, notwithstanding section 660,\76\ to assist countries in protecting and maintaining wildlife habitats and in developing sound wildlife management and plant conservation programs. Special efforts should be made to establish and maintain wildlife sanctuaries, reserves, and parks; to enact and enforce anti-poaching measures; and to identify, study, and catalog animal and plant species, especially in tropical environments.

\76\ Section 533(d)(4)(A) of the Foreign Operations, Export Financing, and Related Programs Appropriations Act, 1990 (Public Law 101-167; 103 Stat. 1227), added ``notwithstanding section 660" at this point.

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- (c) \77\ Funding Level.--For fiscal year 1987, not less than \$2,500,000 of the funds available to carry out this part (excluding funds made available to carry out section 104(c)(2), relating to the Child Survival Fund) shall be allocated for assistance pursuant to subsection (b) for activities which were not funded prior to fiscal year 1987. In addition, the Agency for International Development shall, to the fullest extent possible, continue and increase assistance pursuant to subsection (b) for activities for which assistance was provided in fiscal years prior to fiscal year 1987.

\77\ Pars. (c) through (h) were added by sec. 302 of Public Law 99- 529 (100 Stat. 3017).

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- (d) \77\ Country Analysis Requirements.--Each country development strategy statement or other country plan prepared by the Agency for International Development shall include an analysis of-

- (1) the actions necessary in that country to conserve biological diversity, and
- (2) the extent to which the actions proposed for support by the Agency meet the needs thus identified.
- (e) \77\ Local Involvement.--To the fullest extent possible, projects supported under this section shall include close consultation with and involvement of local people at all stages of design and implementation.
- (f) \77\ PVOs and Other Nongovernmental Organizations.-- Whenever feasible, the objectives of this section shall be accomplished through projects managed by appropriate private and voluntary organizations, or international, regional, or national nongovernmental organizations, which are active in the region or country where the project is located.
- (g) \77\ Actions by AID.--The Administrator of the Agency for International Development shall-
 - (1) cooperate with appropriate international organizations, both governmental and nongovernmental;
 - (2) look to the World Conservation Strategy as an overall guide for actions to conserve biological diversity;
 - (3) engage in dialogues and exchanges of information with recipient countries which stress the importance of conserving biological diversity for the long-term economic benefit of those countries and which identify and focus on policies of those countries which directly or indirectly contribute to loss of biological diversity;
 - (4) support training and education efforts which improve the capacity of recipient countries to prevent loss of biological diversity;
 - (5) whenever possible, enter into long-term agreements in which the recipient country agrees to protect ecosystems or other wildlife habitats recommended for protection by relevant governmental or nongovernmental organizations or as a result of activities undertaken pursuant to paragraph (6), and the United States agrees to provide, subject to obtaining the necessary appropriations, additional assistance necessary for the establishment and maintenance of such protected areas;
 - (6) support, as necessary and in cooperation with the appropriate governmental and nongovernmental organizations, efforts to identify and survey ecosystems in recipient countries worthy of protection;
 - (7) cooperate with and support the relevant efforts of other agencies of the United States Government, including the United States Fish and Wildlife Service, the National Park Service, the Forest Service, and the Peace Corps;
 - (8) review the Agency's environmental regulations and revise them as necessary to ensure that ongoing and proposed actions by the Agency do not inadvertently endanger wildlife species or their critical habitats, harm protected areas, or have other adverse impacts on biological diversity (and shall report to the Congress within a year after the date of enactment of this paragraph on the actions taken pursuant to this paragraph);
 - (9) ensure that environmental profiles sponsored by the Agency include information needed for conservation of biological diversity; and

- (10) deny any direct or indirect assistance under this chapter for actions which significantly degrade national parks or similar protected areas or introduce exotic plants or animals into such areas.
- (h) \77\ Annual Reports.--Each annual report required by section 634(a) of this Act shall include, in a separate volume, a report on the implementation of this section.