



USAID | KOSOVO
FROM THE AMERICAN PEOPLE

ENVIRONMENTAL THREATS AND OPPORTUNITIES ASSESSMENT (ETOA)



OCTOBER 2009

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Cover Photos: The three aspects of Kosovo ETOA, energy (KEK Plant B), water (Lepenci River tributary), and biodiversity (Scharr Mountain). Photo credits: S. Dennison

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ACRONYMS AND ABBREVIATIONS

AII	Adriatic-Ionian Initiative
AMCHAM	American Chamber of Commerce in Kosovo
AO	Assistance Objective
ASP	Adriatic Sea Partnership
BTEX	Benzene, toluene, ethyl benzene, xylenes
BTU	British Thermal Unit
CBD	Convention on Biological Diversity
CDF	Community Development Fund
CITES	Convention on International Trade in Endangered Species
CMS	Convention on Migratory Species
CO ₂	Carbon dioxide
ECENA	Environmental Compliance and Enforcement Network for Accession
EETF	Energy Efficiency Task Force
ECLO	European Commission in Liaison Office in Kosovo
E&E	USAID Europe and Eurasia Bureau
EEA	European Environmental Agency
EMS	Environmental Management Systems
EIA	Environmental Impact Assessment
EIONET	European Environment Information and Observation Network
EPBD	Energy Performance of Building Directive
ETOA	Environmental Threats and Opportunities Assessment
EU	European Union
FAA	Foreign Assistance Act
FSC	Forest Stewardship Council
GHG	Greenhouse Gases
GTZ	Gesellschaft für Technische Zusammenarbeit (German Technical Development Agency)
HDI	Human Development Index
ICLEI	International Council for Local Environmental Initiatives

ICMM	Independent Commission for Mines and Minerals
ICPDR	International Commission for the Protection of the Danube River
IMO	International Maritime Organization
IPH	National Institute of Public Health
IPPC	Integrated Prevention and Pollution Control
IQC	Indefinite Quantity Contract
IR	Intermediate Result
IRD	International Relief and Development
ISO	International Organization of Standards
IUCN	International Union for Conservation of Nature
K-WISER	Kosovo Water Institutional Sector Reform
KEAP	Kosovo Environmental Action Plan
KEK	Kosovo Energy Corporation
KEPA	Kosovo Environmental Protection Agency
KFA	Kosovo Forestry Agency
KPEP	Kosovo Private Enterprise Program
KPI	Kosovo Public Infrastructure
LDS	Local Development Strategies
MAFRD	Ministry of Agriculture, Forestry and Rural Development
MAP	Mediterranean Action Plan
MCL	Maximum Contaminant Levels
MESP	Ministry of Environment and Spatial Planning
MoU	Memorandum of Understanding
MRP	Municipality Rural Profile
NGO	Non-governmental Organization
NKPP	New Kosovo Power Plant
NO _x	Nitrogen oxides
NTFP	Non-timber forest products
OECD	Organization for Economic Co-operation and Development
PRG	Preliminary Remediation Goals
REC	Regional Environmental Center in Central and Eastern Europe
REReP	Regional Environmental Reconstruction Program
RWC	Regional Water Company
SIDA	Swedish International Development Cooperation Agency, Scanagri

SIWS	Small Infrastructure for Water and Sanitation Program
SNV	(Netherlands Development Organization)
SO ₂	Sulfur dioxide
STM	Stabilization and Association Process Tracking Mechanisms
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNFCCC	UN Framework Convention on Climate Change
UNMIK	United Nations Mission in Kosovo
USAID	United States Agency for International Development
USGS	United States Geological Survey
WHO	World Health Organization
WWRO	Water and Waste Regulatory Office

EXECUTIVE SUMMARY

This Environmental Threats and Opportunities Assessment (ETOA) report describes the current state of the environment in Kosovo, with an emphasis on the water and energy sectors, two sectors in which United States Agency for International Development (USAID)/Kosovo is currently providing assistance. It also provides a country-level analysis of biodiversity conservation needs and actions, updating the findings of the 2003 USAID Kosovo Biodiversity Assessment as required by the requirements of the US Foreign Assistance Act (FAA), Section 119(d).

Kosovo is a young nation, having declared its independence in February 2008. Urbanization, industrialization, agriculture, and economic development all affect the environment of Kosovo. Its birthrate of 2.5% is relatively high, and the population is young. Although many former state-owned enterprises have been acquired by the private sector, this transition has been slow and there is still a low level of economic development. Production has dropped in the former socially-owned industrial and mining sectors, and privately owned enterprises have increased only slowly. Qualified professionals are scarce in all sectors of the economy and within government institutions. Kosovo is adopting new environmental laws and policies, but government institutions are struggling to plan and implement programs and policies. There are some success stories, but in general awareness of environmental problems is low and environmental degradation is high.

WATER AND ENERGY SECTORS

Energy and water are two heavily intertwined sectors. They are essential to modernity, industry, agriculture, and commerce—wealth and life itself. Their interconnection is especially significant in Kosovo, as the country is blessed with enormous quantities of lignite or soft brown coal as a fuel source for electrical generation with high cooling-water demands, and perennial rivers with sustained water flows of high quality. Another commonality of the two sectors is that: 1) the total size, distribution, and quality of both its lignite and water resources are currently unknown; 2) national focus has been on the delivery of energy and water; 3) both energy and water sectors can be improved by efficiencies in its production for energy and distribution for water as well as efficiencies in energy and water demand management. In addition, large amounts of water are required for energy production in boilers and cooling, while large amounts of energy are required to operate pumps and engines. The ETOA provides the water and energy recommendations listed below for the Mission's consideration.

USAID has been extending drinking water networks to villages in Kosovo under the Small Infrastructure for Water and Sanitation (SIWS) Program and a new water project will be implemented in the near future. The five recommendations provided below involve activities that could be incorporated into existing and planned programs. The first two recommendations are very similar to existing and planned water programs. The Water Task Force recommendation complements the existing water programs. The other recommendations involve technical assistance, training, and monitoring equipment that could be implemented through expansions of these programs, or integration into other program activities. None of the recommendations involve large funding requirements that are beyond the capability of the overall mission program. The ETOA team recommends that USAID:

- Continue to strengthen, through the new Kosovo Water Institutional Sector Reform (K-WISER) water projects, the capacity of regional water companies (RWCs) and partnerships with municipalities to solve problems with identifying sources of water losses, especially illegal connections, leak detection and repair, and work to improve bill payment and revenue collection.

- Continue to extend the drinking water network to additional villages, building on Small Water Infrastructure and Sanitation (SIWS) Program experience, and, where appropriate, integrate investments in drinking water with wastewater sewerage networks including, where appropriate, village treatment using low-cost systems such as septic tanks with constructed wetlands.
- Continue to participate in the Water Task Force, and through K-WISER, assist the Government of Kosovo with water policy development, and assist RWCs to become well-managed, profitable, and attractive for private investments.
- Coordinate with other donors and the Ministry of Environment and Spatial Planning (MESP) on water policy development, including policies leading to effective permit writing and compliance inspection programs that contain realistic interim milestone targets toward meeting European Union (EU) standards.
- Assist RWCs with training in environmental monitoring and groundwater management, and encourage collaboration between RWCs and municipalities.

USAID's energy strategy is designed to help Kosovo meet EU environmental standards and reduce the negative impacts through the rehabilitation of Kosovo B power plant and development of a new power plant that is carbon capture ready, improved efficiency of lignite combustion, improved mining operations, increased revenue collections and cost recovery tariffs, energy efficiency and reduction of air and water emissions. The sector is complex and a number of activities that are ongoing and planned will affect USAID implementation efforts. USAID is currently assisting KEK and its privatization efforts. Subject to progress of the World Bank-assisted privatization of the New Kosovo Power Plant (NKPP) and Sibovc Mine and the outcome of the EC funded studies for the decommissioning of Kosovo A power plant, USAID may consider support for the privatization of the overall system of mining and power generation. These programs will also influence the development of a water storage facility and the potential for a cooling lake in the current mine as well as environmental monitoring programs. Recommendations include energy opportunities involving KEK privatization, and improved operation and maintenance of energy generation, water systems, lignite mining, renewable energy, training, and energy efficiency. USAID will tailor its programs and projects to help Kosovo manage its energy sector, address environmental and technology challenges, and ensure sound decisions and least-cost approaches. The ETOA team recommends that USAID:

- Continue assistance with Kosovo Energy Corporation (KEK) power generation plants and with privatization efforts for the distribution network as well as privatization of the overall system of mining and power generation. Provide design plan for water reservoir and treatment plant to utilize the potential of the old mine to design a closed loop water recycling system. Assist with improving performance of existing electrostatic precipitators using opacity monitors.
- Provide accurate measurement and mapping of lignite deposits to ensure sound decisions and least-cost approaches for improving efficiency of lignite use. Accurate characterization of lignite British Thermal Unit (BTU) profiles will ensure proper pricing for different lignite deposits and mine zones.
- Establish an energy efficiency unit in Ministry of Environment and Spatial Planning (MESP) (or appropriate counterpart ministry) to encourage adoption of new technologies, processes, and methods. Promote new energy efficiency opportunities such as appliance and equipment import standards and new efficient boiler designs and burners.
- Conduct feasibility studies for hydroelectric energy generation, solar, wind, geothermal energy production, low-cost in-ground home heating systems, and animal waste-to-energy gasification and methane-from-landfills technologies. (The level of support for these activities will be influenced by definitions in the Clean Energy earmark and related activities of other donors.)
- Support non-governmental organization (NGO) activities to provide outreach and training materials and websites with green building materials, energy efficiency equipment, green ideas,

and a green exchange for sharing success stories in Kosovo. This activity builds on and includes USAID's co-funding of the "Green School" planned in Pristina under the education infrastructure program.

BIODIVERSITY CONSERVATION

Biological diversity, or biodiversity, is the variability and variety of living systems at several levels, including the diversity of ecosystems, of species within ecosystems, of genes within species, and of the ecosystem services resulting from these other levels. The conservation of biodiversity is internationally recognized as essential for human livelihoods, wellbeing, development, and economic growth.

Forests cover approximately 47% of Kosovo, and are the major type of natural ecosystem, so their conservation and sustainable management is essential for conserving biodiversity. Approximately 20% of the remaining forests are considered degraded. Biodiversity information, both at the ecosystem and species level, is poor. Information about aquatic ecosystems and their species diversity seems to be especially poor. Kosovo's location in the Balkan Peninsula puts it within the most species-rich part of Europe, and in a region especially high in endemic species, those found nowhere else. Less than 5% of Kosovo's territory is included in a protected areas system, a rather low figure. Designation of the country's second national park in the mountains of Bjeshkët e Nemuna would double the area under protection, but this designation has been stalled by a conflict over management authority between two government ministries, one with responsibility for protected areas and the other with responsibility for forest management.

The Law on Nature Conservation was approved by the Assembly of Kosovo in March 2005, and it, together with the Law on Forestry (2003 and 2004) provide the main legal framework for biodiversity conservation and forest management in Kosovo. The Kosovo Environmental Action Plan, developed by the Ministry of Environment and Spatial Planning in 2006, considered the development of a Strategy and Action Plan for the Protection of Biological Diversity in Kosovo to be a high priority. The Law on Nature Conservation also called for this, but unfortunately such a Strategy and Action Plan still has not been developed. Kosovo has not yet developed a national Red List of Threatened Species, although this was also considered a priority activity in the Kosovo Environmental Action Plan.

Kosovo is not a party to any of the international environment or biodiversity treaties such as the Convention on Biological Diversity (CBD), Ramsar Convention on Wetlands, Convention on International Trade in Endangered Species (CITES), World Heritage Convention, and the Convention on Migratory Species (CMS), and the UN Framework Convention on Climate Change (UNFCCC).

Four types of direct threats to Kosovo's biodiversity were identified by this assessment: 1) habitat loss, conversion, or degradation; 2) overexploitation or overharvesting of valuable species; 3) pollution of water, air, and land; and 4) global climate change. The lack of good basic information about biodiversity in Kosovo makes it difficult to evaluate the seriousness of these direct threats in many cases. The 2006 Kosovo Environmental Action Plan (MESP, 2006) recognized that lack of biodiversity information is a priority problem for conserving biodiversity.

Kosovo's biodiversity resides largely in its natural forest ecosystems (because forests are the predominant ecosystems), and so the largest threat to biodiversity in the country is loss and degradation of all types of natural forest habitats. Forest degradation from wood extraction is the major threat to Kosovo's forests; this wood harvesting is mainly for construction material and fuel wood. Some is illegal and some is legal but poorly and managed and ecologically unsustainable.

Pollution from industry is clearly identified as a priority threat to biodiversity in the Kosovo Environmental Action Plan. Aquatic ecosystems and species are threatened both by loss of wetlands

and riparian habitats and by water pollution. Natural wetland and riparian habitats are being lost due to urban and industrial infrastructure development, and to sand and gravel extraction.

The main actions needed to address the causes of the threats to biodiversity summarized in the previous section were identified as required under the terms of FAA Section 119 (d). The following needs emerge from this analysis as the highest priorities:

1. Develop better biodiversity baseline information at both the ecosystem and species levels.
2. Become a party to relevant international conservation conventions and agreements.
3. Update the Law on National Parks in order to provide a foundation for modern practices in protected areas management and to resolve jurisdictional ambiguities between the MESP and the Ministry of Agriculture, Forestry, and Rural Development (MAFRD) with regard to managing forest lands in protected areas.
4. Complete a Strategy and Action Plan for the Protection of Biological Diversity in Kosovo, which provides mechanisms for integrating biodiversity concerns in relevant sectors including water, energy, agriculture, forestry, and transport.
5. Improve public awareness and understanding of biodiversity as a resource for sustainable development, so that citizens can participate actively in environmental decisions and take appropriate responsibility for environmental conservation, leading to greater participation of civil society in biodiversity conservation.
6. Increase economic incentives for biodiversity conservation through the development of sustainable forest products enterprises and ecotourism.
7. Develop the financial and human resources needed to enable the Kosovo Forestry Agency to implement and enforce the Law on Forestry.
8. Improve pollution prevention and monitoring, and promote clean production in the energy and industrial sectors, including air and water pollution.
9. Develop alternative heating energy sources that can reduce fuel wood demand for heating.

Although the legal and institutional foundation to carry out these actions exists, the Government of Kosovo at present has a relatively weak capacity to implement them. Other donors, including the European Union, Sweden, Norway, the Netherlands, and USAID are assisting the government to begin to do so in various ways.

This biodiversity analysis found that USAID Kosovo's current and planned activities are contributing to some of the actions needed to conserve biodiversity in that country. In many cases the contribution has been indirect, and not aimed explicitly at biodiversity conservation as an objective. Nevertheless, USAID's work has contributed indirectly to five of the nine priority "actions necessary" identified by this analysis:

- Increasing public awareness and citizen participation in environmental management and biodiversity conservation.
- Increasing economic incentives for sustainable environmental management.
- Developing a more sustainable and profitable forestry sector.
- Improving pollution prevention to benefit biodiversity as well as human health.
- Developing energy sources that are sustainable and which do not degrade forests or otherwise threaten biodiversity.

We conclude that USAID can continue and extend these activities, and thereby continue to make an indirect contribution to meeting some of the biodiversity conservation needs of Kosovo, and we recommend that it do so. If it chooses to do so, USAID/Kosovo also could take advantage of the opportunity to focus some of its current and planned activities related to building civil society, providing economic opportunities, and strengthening the water and energy sectors to meet needs for biodiversity conservation more explicitly. The assessment team also recommends that course of action.

BACKGROUND

The purpose of this Environmental Threats and Opportunities Assessment (ETOA) is: a) to conduct a country-wide assessment of environmental issues in Kosovo, with a particular emphasis on those related to USAID Kosovo's current support in the water and electrical energy sectors, and; b) to analyze the actions necessary to conserve biodiversity and possible USAID contributions to meeting any of these needs, in response to the requirement of the US Foreign Assistance Act (FAA), Section 119(d). Annex B outlines the specifics of this Congressional mandate.

The ETOA team was first briefed in Washington DC by USAID Europe and Eurasia (E&E) Bureau staff, and upon arrival in Kosovo had several informational sessions with the USAID Mission staff, including the Country Director. The overarching objective of USAID/Kosovo is to assist the country in becoming a member of the European Union. USAID-funded activities currently being implemented in Kosovo contribute to this objective.

The five-person team worked in Kosovo for three weeks in June 2009, gathering information from recent reports, studies, plans, and other documents; holding discussions and interviews with key stakeholders in government, civil society, the private sector, and other donor agencies; and reviewing and discussing USAID-Kosovo Assistance Objectives (AO) Results Frameworks with relevant USAID staff.

Field trips helped to validate the information being collected through observation and discussions with specialists and officials in on-the-ground situations. An initial draft report was prepared and left with the Mission for their review and comment. An oral presentation of the key findings was made and the final draft of the assessment was prepared once the comments on the initial draft were received.

The report has two main parts. Part I presents the State of the Environment, an assessment of environmental issues emphasizing the water and energy sectors. It first provides a general overview of sectors in the environment and identifies the fact that water plays a key role. Degradation of environmental resources and the reasons why these problems exist is discussed. Part I also examines climate change, general policies, and legislation that impacts environmental activities in Kosovo; discusses pertinent activities by government agencies, the private sector, civil society, and donors; and examines opportunities for improving the overall environmental condition in the country. Part I also contains some recommendations for USAID/Kosovo in the water and energy sectors.

Part II first presents an overview of Kosovo's biodiversity and its conservation and management. Threats to biodiversity then are reviewed, and actions needed to address and mitigate the causes of those threats are summarized. The capacity of the government and other Kosovo institutions to address threats to biodiversity is discussed, as well as contributions by other donors. This part of the report concludes with an analysis of how USAID's current portfolio is contributing to meeting some of the country's conservation needs, and reviews opportunities for additional contributions.

Part I and Part II are complemented by several annexes that support the overall assessment and provide additional information.



Clockwise from top left: Gjilan solid waste landfill (B. Popkin); walls of the Rugova Gorge (S. Dennison); KEK lignite power plants at Obilic polluting the air (B. Popkin)

PART I: STATE OF ENVIRONMENT

1.0 BRIEF OVERVIEW OF KOSOVO'S CURRENT ENVIRONMENTAL CONDITION

The Republic of Kosovo is a new country, established as a state on February 17, 2008. It lies in Southeast Europe in the central part of the Balkan Peninsula, bordered on the southwest with Albania, on the northwest with Montenegro, on the north and northeast with Serbia, and on the southeast with Macedonia (see Figure I-1). Its population is young (65% is under 30 years) and has the highest birthrate (2.5%) in Western Europe (Balkan Insight, 2009). It also has a literacy rate that exceeds 90% and an unemployment that is greater than 40%. Major industries are agriculture, energy, and mining. There is a low level of economic development, very slow development of privatization processes of government-owned enterprises, and an unclear vision for economic development. Industrial production and mining from the former socially-owned sectors has dropped and the increase of privately owned production enterprises is slow. There is a scarcity of qualified professionals in all sectors of the economy and within government institutions.



Figure I-1: Kosovo and its location in Europe.

The environment—including environmental issues, problems, and threats to the environment—in Kosovo receives very little attention and is a low priority in the government’s agenda. To its credit, Kosovo is adopting new environmental laws and policies, and government institutions are struggling to plan and implement programs. There are some success stories, but overall, environmental awareness is low and the implementation of programs to address threats and issues is small.

The remainder of this section provides a brief overview of current environmental conditions in Kosovo. Subsequent sections in Part I examine and discuss each of these conditions and how current activities, or the lack of activity, are eroding the overall health of Kosovo’s environment. Water and energy issues, especially those that threaten human health, figure most prominently in Part I of this report. Threats to biodiversity are addressed more directly in Part II.

1.1 Water – A Valuable and Abused Resource

Water resources in Kosovo, their protection, their use, and their treatment have a key role in the nation’s environmental picture. The country is a virtual water tower in the central Balkan region. Topographically, Kosovo is flat pond surrounded by mountains on all sides (see elevation model in Figure I-2). Elevations in the central part of the country range from 400 to 700 meters, while mountains on the borders, especially the west and south, range upwards of 2,500 meters. This also means that all surface water flows out of Kosovo; no water flows into the country from outside of its borders.

This has significant implications for Kosovo as it strives for membership in the EU. Transboundary agreements, treaties, and policies that reflect the protection of water resources (including aquatic ecosystems and species), the treatment of pollutants flowing into surface waters and being absorbed into groundwater, and access to water by citizens are key environmental issues that will need to be addressed.

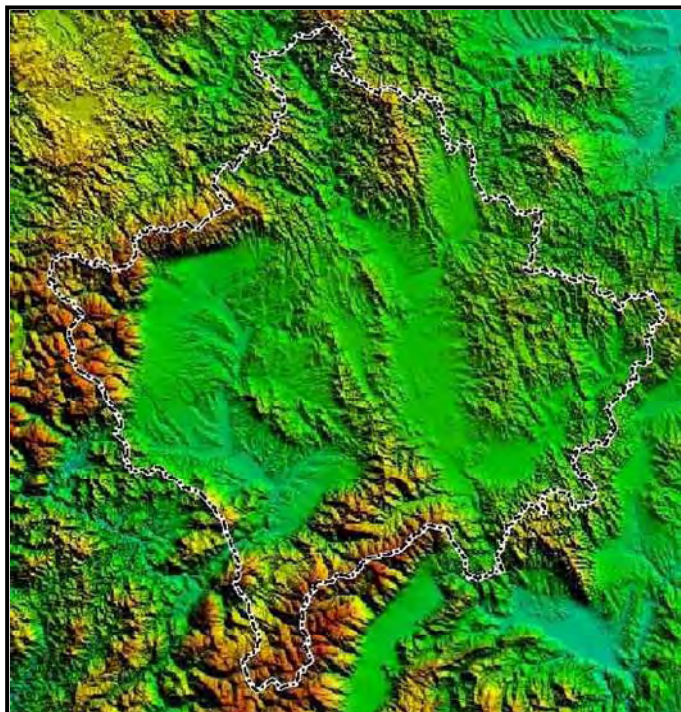


Figure I-2: Elevation model of Kosovo.

(<http://www.kosovo-mining.org/kosovoweb/en/kosovo/geography.html>)

Water, clean water, can be the common focal point for Kosovo’s environmental causes. Adequate supplies, especially for economic development and high current use by the energy sector, are recognized as weak and shortages already occur in the drier summer months, especially in urban areas. Protection of watersheds by vegetative (tree) cover is poor, resulting in erosion into surface (storage) reservoirs and streams. Lack of forested cover on watershed areas needed for drinking and industrial uses also means that infiltration into underground aquifers is being impaired. And, finally, the complete lack of wastewater treatment facilities throughout the country means that all surface waters in the country function as disposal conduits for all manner of sewerage and pollutants from residential, municipal, and industrial sources.

As a result, human health along these water courses is being impacted along with any agricultural uses that may

rely on these for crop irrigation, as well as any flora and fauna inhabiting these water bodies and their adjacent landscapes. Kosovo's neighbors are also surely affected because all surface water flows out of the country. Transboundary issues and problems can only be expected to increase as long as Kosovo's most valuable environmental resource is neglected as it is today. If accession into the EU is truly a goal, then progress in remedying these threats to cleaner water will have to be addressed. Box I-1 provides a list of the water-related agreements endorsed by EU-member countries, and provides an indicator of the types of water issues that Kosovo will need to mitigate.

Box I-1: Water-related multilateral agreements facilitated by the United Nations Economic Commission for Europe.

Convention on Environmental Impact Assessment in a Transboundary Context (EIA, Espoco Convention, Espoco 1991)

Convention on the Transboundary Effects of Industrial Accidents (Helsinki 1991)

Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention, Helsinki 1992)

Convention on Access to Information, Public Participation in Decision-Making, and Access to Justice in Environmental matters (Aarhus Convention, Aarhus 1998)

Protocol on Water and Health (London 1999)

Protocol on Strategic Environmental Assessment (SEA Protocol, Kiev 2003)

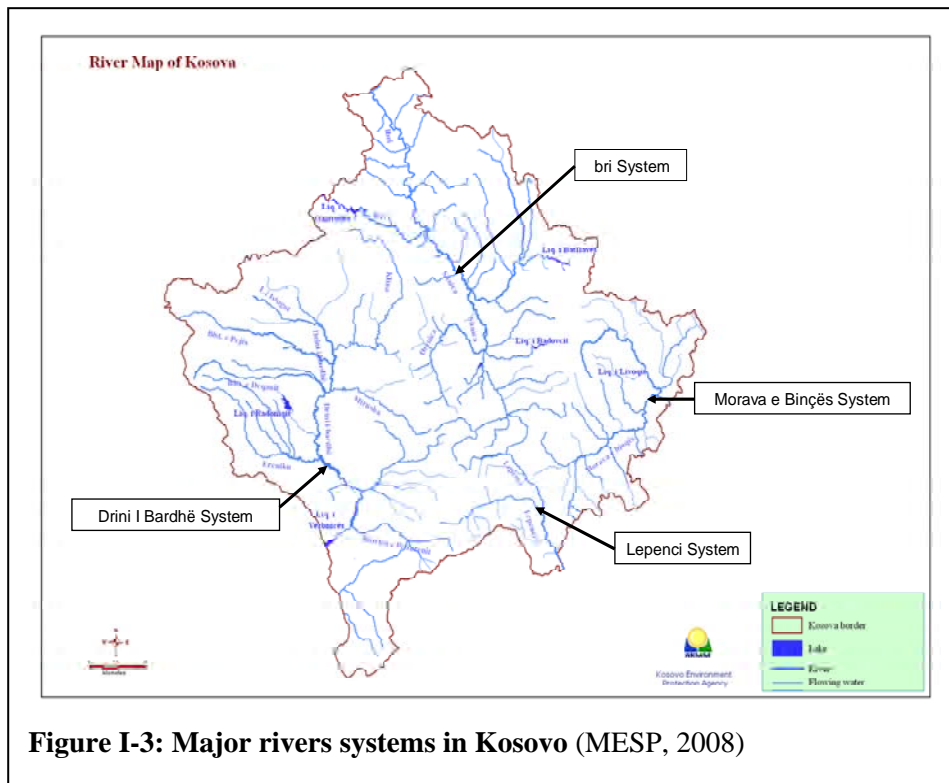
Protocol on Civil Liability and Compensation for Damage Caused by Transboundary Effects of Industrial Accidents on Transboundary Waters (Kiev 2003)

Protocol on Pollutant Release and Transfer Registers (PRTR Protocol, Kiev 2003)

Source: Rucevska et.al. 2007.

Figure I-3 shows that Kosovo is drained via four main watersheds. These are:

- The Drini I Bardhë, in the west, flows out of the country into Albania and into the Adriatic Sea.
- The Ibri, which is the largest watershed, flows north and out of the country into Serbia and the Danube Basin, emptying eventually into the Black Sea.
- The Morava e Binçës, in the southeast corner, flows out through Serbia and into Macedonia and eventually into the Aegean Sea.
- The Lepenci, in the south, flows into Macedonia, where it joins with the Morava e Binçës, and out through Greece and into the Aegean Sea. (It is also important to note that the Lepenci is also one of the world's rare bifurcated rivers (like the Orinoco River in South America). Waters near the source of this river system can also flow into the Ibri River system, hence the reason why some sources show only three watersheds in Kosovo.)



Average rainfall across the country ranges from 650 mm to 1515 mm. Average flow rates for each of the four rivers has been calculated, but there are no reliable/consistent data collected regarding surface or groundwater inventories.

About 44% of the population, mainly in urban areas, have access to public water supplies. In rural areas, the percentage of people connected to the water supply systems is lower and their main water supply is from wells and village water supplies. Only 28% of the population have access to sewage networks, mainly in urban areas. As noted above, there are no wastewater treatment facilities, although some areas have septic tanks without leach fields. Kosovo is a region with limited delivered water supplies. Industries like KEK in Oblic use large quantities of water and provide no wastewater treatment. Today, the entire water network from water supply to water use is only beginning to be properly managed.

1.2 Energy

Energy is a key sector of the Kosovo economy. KEK produces most of Kosovo's electricity. KEK is an integrated plant consisting of two power stations with nearby mines supplying lignite. KEK provides about 97% of Kosovo's electricity needs. There is no natural gas, and oil is imported. Hydroelectric power stations produce about 3-5% of Kosovo's electricity and additional hydroelectric power is possible. However, water data is limited and construction is uncertain. Solar, geothermal, wind, and biomass energy are not utilized in any formal manner. Mining lignite and operating lignite power generation plants is a major air pollution source. (Kosovo's proven lignite reserves are the fifth largest in the world and are significantly more abundant than any other lignite source in the Balkans.)

1.3 Air

Air quality in Kosovo is impacted by stationary and mobile sources. KEK is one of Kosovo's largest contributors to air pollution. Mining and old foundries in the north are mostly closed, but the remaining dust and particulate matter add to Kosovo's air pollution. Industrial facilities such as metallurgy factories, quarrying sites, and cement factories add to the problem. In addition, the

industrial sector has mainly outdated equipment. The agricultural sector contributes to air pollution by burning biomass such as excess grasslands. There is limited public transportation; most transportation is based on internal combustion engine private vehicles. There is a low level of awareness among businesses and the public with air quality issues.

1.4 Solid and Hazardous Waste

Current solid and hazardous waste management systems do not record data on waste generation, collection, treatment, or disposal in a comprehensive and structured way. Although about 90% of the urban population has garbage collection, there is a lack of appropriate equipment and disposal facilities. Only about 10% of rural areas are covered by garbage collection. The fee for waste collection is low, but payment collection is very low (30 to 40%). Old garbage dumps are being closed and seven new regional landfills have been constructed. However, low payment collection rates threaten the sustainability of these landfill sites. There are informal systems for recycling used oil, scrap metals, paper, plastic and glass, but overall solid waste management systems are inadequate. Programs dealing with chemical hazards and hazardous waste are incomplete or non-existent.

1.5 Industry and Mining

Previous industrial development focused on exploitation of minerals, surface mining, and metals processing. In 1988, energy, color metals, and metal processing made up to 63% of Kosovo's industrial production. These activities caused damage to the environment and their negative impacts have yet to be rehabilitated. More recently, private sector production activities such as Ferronikeli have started operation, but environmental management needs improvement. Processing industries have been slow to develop, oriented mostly in the food industry. There is little information about products and production processes. Industry and mining may provide Kosovo's future wealth.

1.6 Agriculture

About half of Kosovo is classified as agricultural land, and many people work in this sector. Most is cultivable land used for grains, with the rest woodlands and farmsteads. Kosovo's agricultural sector does not meet the needs of domestic food production. Major food commodities are imported. Agricultural land continues to be lost to urbanization, new settlements, and commercial activity. Kosovo has a variety of soils that vary according to their composition and physical and chemical characteristics. The types of soil are mainly humus, silicate humus, grey acidic, red soil, alluvial, diluvia, and blocky soil. There are three irrigation districts with very limited staff, equipment, and technologies.

1.7 Biodiversity

Forests cover almost 47% of the nation's territory and provide habitat for a significant fraction of the species found in Kosovo. Approximately 20% of the remaining forests are considered degraded. Biodiversity information, both at the ecosystem and species level, is poor. Information about aquatic ecosystems and their species diversity seems to be especially poor. Less than 5% of Kosovo's territory is included in a protected areas system, a rather low figure. Although the legal and institutional foundation for biodiversity conservation and sustainable forest management exists, the Government of Kosovo at present has a relatively weak capacity to implement them. Kosovo is not yet a party to any of the international environmental or biodiversity conservation conventions that would support its national actions. A more complete summary of the status of biodiversity in Kosovo, the threats to it, and the actions needed to conserve it can be found in Part II of this report.

2.0 DEGRADATION OF KOSOVO'S ENVIRONMENT

This section identifies factors within a variety of sectors that are contributing to the degradation of Kosovo's environment. Most of the discussion focuses on specific economic activities and their general effects on the environment as a whole and on their potential impacts on human health. The risks of continued action, e.g., maintaining the *status quo*, as well as the risks of inaction, are also pointed out.

2.1 Water

Kosovo's population has limited access to clean drinking water, threatening those without access to disease, illness, and even death during severe threats. A few drinking water systems like Klina's are impacted with manganese and others are contaminated with fecal coliform bacteria. Hani I Elezit is seeking a new water supply because of biological contamination. Seven RWCs provide drinking water to about half of Kosovo's population. Surface waters used for drinking includes rivers, lakes, and springs; protection of these sources is incomplete. Most cities are connected to drinking water distribution networks while the percentage connected in rural areas and villages is small.

In the majority of instances, domestic wastewater is discharged to surface waters or groundwater without treatment. There are no operating treatment plants in Kosovo. Many municipalities have either no treatment or septic tanks that are not very effective. Industrial wastewater is also discharged to surface waters without treatment. Acid mine drainage and storm water runoff from mining operations is also discharged without treatment. These discharges cause environmental degradation in the nation's water resources. Pollutants of concern include organic and inorganic pollutants, nitrogen and phosphorus compounds, heavy metals, and pathogenic bacteria and viruses. Heavy metals include cadmium, copper, chromium, lead, zinc, and mercury. Organic pollutants include organic solvents, cleaners and degreasers, and other toxic organics such as biphenyl, a chemical that was manufactured many years ago and dumped into waste pits near the KEK plant. That facility also discharges its wastewater untreated.

Water monitoring throughout Kosovo is poor and incomplete. Accurate and regular data for specific pollutants with pollutant concentrations and discharge information is not available.

Despite laws to the contrary, rivers and riverbanks are under pressure from gravel extraction, especially in the Drini I Bardhë and Lumbardhi I Pejës rivers. These threats add to flood damage. Groundwater is also threatened from septic tank releases, mining, and agriculture. Shallow wells are often contaminated and even some deeper wells are experiencing water quantity and water quality threats. Relative water quality for surface water (ranging from no pollution/Category I/blue to extremely polluted/Category IV/red) in Kosovo is illustrated in Figure I-4. Note that the major watercourses of the three main river systems are all Category III (very polluted) as they flow out of the country.

The typical situation with drinking water supply in urban areas is old water supply networks, high water losses in the network, misuse of water and illegal connections, provision of potable but not necessarily drinkable water, non-payment of water bills, and low level of customer awareness. Table I-2 provides comparisons for the seven RWCs relative to population served in 2007, the percent of water billing relative to bill collection and the percent of water lost, i.e., non-revenue water relative to total water production.

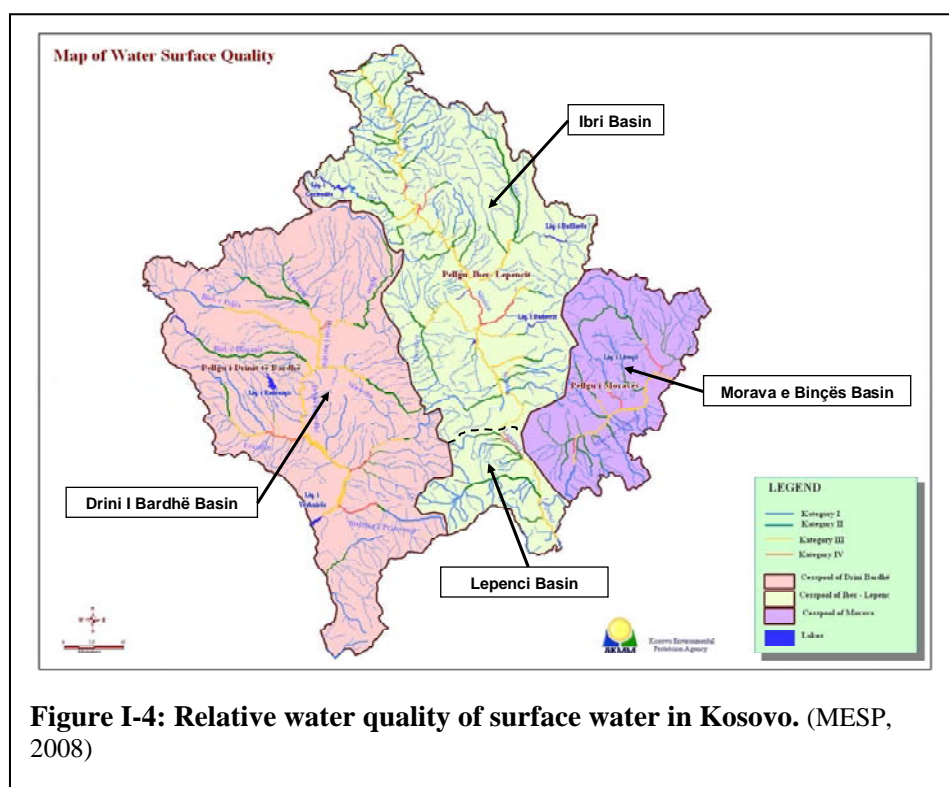


Figure I-4: Relative water quality of surface water in Kosovo. (MESP, 2008)

Table I-2: Regional water company comparisons for percent water collection relative to billing and water losses, 2007

Regional Water Company	Population served (Percent)	Water billing collected (Percent)	In-system water loss (Percent)
RWC Pristina	77	74	51
RWC Pejë	60	56	77
RWC Gjiilan	88	60	46
RWC Ferizaj	45	77	54
RWC Prizren	62	75	39
RWC Miteovica	80	73	48
RWC Gjakove	82	75	62
Average	71	61	58

Source: WWRO, 2007. Annual Performance Report of Public Water and Waste Companies

This information was published by the Water and Waste Regulatory Office (WWRO) in June 2008 and covers the 2007 performance of RWCs. Overall, the RWCs serve about 71% of the their population served, RWCs collect on average 61% of water bills distributed, and they lose on average 58% of the produced water in the system.

Threats to the overall health of the nation's water resources identified in the 2006 Kosovo Environmental Action Plan 2006 – 2010 come from a number of causes. Some of these include:

- Low number of public water supply connections, particularly in rural areas;
- Low rate of construction and connection to wastewater sewage networks;
- Lack of infrastructure for treating waste water;
- Low scale of protection of surface waters and groundwater from dangerous activities;
- Low scale of maintenance for water infrastructure;

- Lack of water monitoring systems;
- Plan for protection of water reserves is missing;
- Allocation of responsibilities has not been done according to the water regime; and
- Lack of strategy and financial means for maintenance of water infrastructure.

In addition there are other significant issues and problems that if addressed would help alleviate some of the problems now confronted by the sector. These include:

- Drinking water networks, especially to villages are not available;
- Many villages do not have access to clean drinking water;
- Villages need water transmission lines, pumping stations, and rural distribution networks;
- Many villages do not have sewerage systems to protect children and residents from illness;
- Investments are lacking in collection networks, pipelines, and pumping stations;
- RWCs need better skills/training to solve problems with water losses;
- RWCs need help to address problems like poor bill payment and revenue collection;
- Water needs to be a higher priority at the highest levels of the Government of Kosovo;
- National leaders, RWCs, and municipalities need stronger partnerships to solve problems;
- Ministry of Environment and Spatial Planning needs training and program strengthening;
- Inspectors need training on proper industrial and municipal inspection procedures;
- MESP needs assistance with issuing effective environmental permits;
- Additional environmental monitoring equipment and training are needed;
- Equipment is needed to measure/profile Kosovo's water resources and water uses; and
- Environmental outreach and training programs are lacking.

2.2 Energy

KEK burns lignite to produce electricity in two power plants with old and older equipment. The production of this energy threatens the environment in Kosovo through the direct emissions from the two plants. These emissions have high concentrations of Sulfur dioxides (SO₂), Nitrogen oxides (NO_x), particulate matter, carbon dioxide (CO₂), and radioactivity. Specific concentration data is not available but emissions are clearly visible. Environmental degradation from lignite mining adjacent to the plants includes particulate matter and contaminated storm water runoff.

Industries such as Ferronikel and Sharr Cement use large quantities of electricity for industrial production. Electricity prices are low, discouraging use of efficient lighting, motors, heating systems and production equipment. Payment of electricity bills is low, reducing the financial viability of KEK.



Plant A, one of KEK's two plants.

PHOTO CREDIT: S. DENNISON

Information on energy billing and collections provided by the Kosovo Energy Corporation (KEC, 2008) is given in the table below:

Table I-3 Energy billing and collection by customer category, 2008.

Customer category	Energy billed (1,000€)	Energy billing <u>not</u> collected (Percent)
Household	100,536	38
Commercial	42,178	11
Industrial & Other	18,339	8
Direct customers	17,384	9
Total Energy Billed	178,437	26

Source: KEC, 2008. Full year distribution energy, billing and collections

Twenty-six (26) percent of all energy use that is billed is not collected, and households are the largest category (38%) of non-payers. Across the energy sector, threats to the environment as identified in the Kosovo Environmental Action Plan (MESP, 2006) come from numerous sources that include:

- Energy production that is mainly based on use of non-renewable natural resources (lignite);
- Contamination of waters, soil, and air by KEC electric generation facilities;
- Outdated energy technologies and obsolete equipment;
- High energy intensity in industry, as well as domestic and public sectors;
- Insufficient investments in new technologies or energy efficiency programs;
- No enforcement of transboundary emission programs; and
- Lack of environmental monitoring and no greenhouse gas emission inventory.

There are additional issues and problems that need to be addressed to lessen the threats to environmental degradation caused by energy sector activities. Some of these include:

- A restructuring of government's management of KEC operations at the plants, of the mines and the energy distribution network;
- Improved planning and utilization of the nation's significant lignite reserves;
- A more accurate accounting and mapping of the lignite reserves in the new mining areas;
- A more efficient use of the large amount of Kosovo's limited water resources by KEC;
- An improvement of the operation and maintenance of KEC's electrostatic precipitators;
- A more accurate assessment of the potential for hydroelectric energy generation in Kosovo as well as the feasibility of solar, wind, and geothermal energy production in Kosovo;
- An examination of the feasibility of using sustainable technologies for animal manure and landfill methane capture and use;
- Incentives that will encourage the adoption of energy efficient technologies, processes, and methods; and
- Greater efforts at energy efficiency outreach and the development of useful training materials.

2.3 Air

Solid, liquid, and gaseous substances threaten Kosovo's air. The atmosphere disperses pollutants which can either directly or indirectly threaten citizen's health and well-being. Air pollutants released

into Kosovo's atmosphere include SO₂, NO_x, particulate matter, and CO₂ from power plants. Industrial emissions include carbon monoxide, volatile organic compounds, lead and other heavy metals, and ammonia. Old mining sites have contaminated soils and winds deposit heavy metals and other pollutants into the atmosphere. Industrial facilities such as metallurgy factories, quarrying sites, and cement factories add particulate matter and other pollutants. Agriculture also contributes to air pollution with ammonia emissions and by burning biomass such as excess grasslands.

Air pollution causes asthma, respiratory illness, cancer, and sometimes death. Emissions need to be reduced to protect citizens, especially in densely populated areas. Air monitoring is poor and incomplete. Some new air monitoring stations are planned, but data for specific pollutants and pollutant concentrations are lacking. Facility specific monitoring data is not available. It is needed to inform the public about direct threats. Sources need to be identified, emissions measured, transmission of pollutants modeled in the atmosphere, and pollutant concentrations and distributions identified over wide ranges of timelines and locations.

There is significant interaction between water, energy, and air quality. For example, if water is not readily available to cool KEK energy plants, or if the plant output is limited or closed due to equipment or other failures, industries like Sharr Cement in Hani I Elezit cannot operate their air pollution control technologies.

Kosovo Environmental Action Plan (2006) identified numerous causes of threats to Kosovo's airshed. These include:

- Lack of a list of polluters with information about emissions;
- Lack of national and local air pollution control programs with control measures;
- Lack of air pollution monitoring laboratories (including an air pollution control test lab);
- Industries with old equipment and old technologies; and
- Lack of economic instruments that promote air pollution control.

Additional actions that would help to raise awareness about air pollution and contribute to improving its condition include developing an oversight program within the MESP using internationally recognized standards aimed at controlling vehicle emissions. This would mean developing a trained cadre of professionals within the MESP that have special skills with air pollution control procedures, knowledge about drafting and implementing air pollution monitoring procedures, and also training in inspections techniques and overall periodic reporting on air pollution. Procedures also need to be in place to litigate control measures for polluters who exceed MESP-established parameters and standards.

2.4 Waste

Solid and hazardous waste and chemical exposure threatens human health and the environment in Kosovo. Environmental degradation results when solid wastes are disposed improperly. The list of materials in the Kosovo solid waste stream includes: industrial residuals, mining wastes, medical waste, construction and demolition debris, plastics, rubber, chemical and pesticide residues (and their containers), paints and solvents, electronic waste, wood, and other municipal and residential solid waste. Many of these materials contain organic and inorganic pollutants, heavy metals, and other toxic and hazardous chemicals. Their improper disposal pollutes groundwater and surface waters and burning them may result in toxic chemicals being released into the atmosphere. There are no consistent, reliable monitoring data for these wastes, pollutant constituents, or levels in water or air.

Solid waste classification and recycling of plastic, paper, and organic waste is only beginning without a formal program development. Landfill waste management practices at Kosovo's seven regional landfills are inadequate. Without soil covers, wastes are blown out of the landfill into communities and surface waters. Uncontrolled burning at these facilities was also observed by the assessment team, a practice that releases toxic substances into the air. Hazardous waste is not regulated with only some special wastes marked as "environmental hot spots." Chemicals are often not controlled and workers and the



public are not aware of the potential dangers associated with solvents, paints, cleaners, and hazardous products used in the workplace or in the home. The citizenry is not protected from accidents and spills of chemicals and dangerous wastes, nor is there a standardized protocol in place to deal with these accidents. The general population, especially children, may experience illness, disease, or cancer. The environment is threatened from a number of waste and chemical-related causes that include:

- Lack of a strategic plan for management of special hazardous wastes;
- Lack of classification, authorization, and tracking of dangerous chemicals;
- Illegal waste disposal and lack of regulation of household waste;
- Lack of programs that prevent or minimize waste generation;
- Lack of certified recycling industries;
- Low collection of fees by companies providing waste collection and disposal services;
- Lack of a plan for storage of hazardous waste;
- Lack of accident and spill response programs; and
- Lack of public information systems for waste and chemicals.

Additional actions that would begin to mitigate the degradation and environmental harm from wastes materials include:

- An more accurate accounting and inventory of Kosovo's sources of residential, municipal, and industrial solid wastes;
- A list that is updated periodically of the country's hazardous waste generators;
- An accounting of current hazardous waste disposal methods;
- Direct management assistance to the seven regional landfills in Kosovo;
- Waste management training to the MESP to improve inspection of industry and mining waste disposal and to provide a cadre of staff knowledgeable in the monitoring of hazardous waste monitoring;

- A greater capability in the MESP to measure volatile organics and specific hazardous pollutants; and
- Programs that provide municipalities and villages with greater awareness and training about solid wastes and hazardous materials.

2.5 Industry and Mining

Mining has contributed to environmental degradation in many parts of Kosovo. Mining wastes are released into surface waters with storm water runoff. Pollutants pass through the mine area into groundwater. Old mining sites have contaminated soils and winds deposit particulates with heavy metals and other pollutants into the atmosphere. Industrial facilities such as metallurgy factories, quarrying sites, and cement factories add particulate matter and other pollutants. Specific pollutants from mining include manganese, chromium, lead, zinc, nickel, magnesium, and copper. The Ferronickeli Company in Glllogovc releases heavy metals into surface waters, groundwater, and the atmosphere.

Industry and mining often require high volumes of water and the fact that much of this leaves the facilities untreated after it is used poses serious threats to downstream waters, groundwater, and the soils through which it filters. In addition, untreated air emissions and generation of solid and hazardous wastes and legacy wastes at many of these sites, now closed or still operational present additional threats. Industries typically use outdated equipment and polluting processes. The team found that there are few incentives for production efficiency and preventing pollution. Some of the industry and mining threats to the environment are reflected in the discussions above for Water, Air, and Waste. Additional causes include:

- Contamination of waters, soil, and air by KEK mining operations;
- Lack of treatment and control technologies;
- Lack of detailed operation and maintenance practices;
- Lack of environmental management systems and International Organization of Standards (ISO) 14000 certifications;
- Lack of complete environmental permits, compliance or enforcement; and
- Lack of environmental monitoring.



Decreasing the environmental degradation caused by the industry and mining sector could also be achieved by addressing other issues and problems. Some of these include:

- An industry program aimed at pollution prevention and cleaner production;
- Waste minimization and energy efficiency incentives and activities for the mining industry;
- An increased capacity (additional manpower) for MESP environmental inspectors;
- Industrial pollution control and monitoring training for MESP staff;
- A registry of industry and mining chemicals, sources, and releases;

- The development of a protocol and training in its use for municipalities enabling them to respond to industrial accidents, spills, and emergencies;
- Greater effort to inform citizens and municipalities about industrial and mining pollution control; and
- Provision for low-cost pollutant test kits, training assistance for their use, and establishment of procedures for their use in monitoring industry and mining wastes.

2.6 Agriculture

Agricultural activities directly threaten the environment in rural areas of Kosovo and indirectly threaten urban areas. Farms are small and production is not as efficient as needed. Livestock and poultry operations are also small and manure is often poorly managed. The distribution and use of fertilizers is not uniform. Farms often use more pesticides and fertilizers than needed. Pesticides can enter groundwater and surface waters as well as the food chain, causing human ecotoxicological problems. Excess runoff contributes to eutrophication of reservoirs and lakes. Fertilizers can enter water bodies with high nitrate contamination, causing blue baby syndrome, a cyanotic condition in newborns. Burning biomass such as grasslands and agricultural wastes releases particulate matter contributing to air pollution. The Kosovo Environmental Action Plan (MESP, 2006) identified threats to the environment emanating from agriculture activities, including from:

- Lack of proper control and monitoring over import and use of fertilizers and pesticides;
- Poor management of wastes from agriculture, slaughterhouses, and food processing;
- Neglected irrigation systems;
- Agricultural land used for new construction and commercial uses;
- Land fragmentation and property rights;
- Lack of training programs for use of fertilizers and pesticides; and
- Lack of development of environmental friendly agriculture programs.

In addition to the causes just listed, additional actions and activities that would improve conditions in the agricultural sector and help mitigate environmental degradation include:

- Improvement to irrigation networks such as lined irrigation channels and more efficient pumping stations;
- Trained and informed agricultural extension agents to advise and train farmers about crop selection and growing improved growing methods, water and fertilizer applications, and specific assistance with pesticides: their use, application, and timing;
- Rural education programs on sustainable environmental management practices; and
- School programs to raise awareness about environmental threats, the management of what causes them and Kosovo-specific programs aimed at improving environmental quality.

3.0 POTENTIAL EFFECTS OF CLIMATE CHANGE IN KOSOVO

Energy uses of all types in Kosovo lead to emissions of approximately 3.3 tons of CO₂ per person per year (Mauring, 2007), a level similar to the per capita emissions of China or Turkey, twice as high as Brazil, and three times as high as Albania. With lignite as the main energy resource in Kosovo, energy generation and economic development is expected to generally increase the emission rate of gases that

contribute to the greenhouse effect. Agriculture and waste dumps will release methane, ammonia, and nitrogen oxides. The use of biomass, renewable energy sources, and introduction of cleaner technologies will likely be implemented towards the reduction of the emissions in Kosovo. However, these programs will not be implemented for some time as they will need clear policy targets and introduction of comprehensive monitoring network and the collection of reliable data.

Kosovo does not actively participate in implementing the United Nations (UN) Framework Convention on Climate Change. Little data is available on climate change in Kosovo or emissions of greenhouse gases (GHG). In the future, Kosovo may start with the preparation of developing an Action Plan for GHG abatement, but its implementation will be a difficult institutional and financial challenge. Hindrances to implementing actions to mitigate climate change in Kosovo include:

- Lack of a Coordination Unit dealing with climate change problems;
- Lack of a program of coordination that conforms with the Kyoto Protocol and other international agreements;
- No register of sources and emissions of GHGs;
- No regular standardized monitoring and evaluation of air emissions in accordance with the Kyoto Protocol; and
- Overall lack of policies and financial incentives for trading GHGs.

3.1 Climate Change Opportunities

The recent signing of a Memorandum of Understanding (MoU) between the UNDP and MESP (<http://www.ks.undp.org>) followed the successful co-organization of the Climate Change Conference and Environment Workshop in April–May 2009. The signing of the MoU is expected to further strengthen the MESP–UNDP partnership and the joint action required to tackle Kosovo’s ever increasing environmental challenges. This includes plans for a gradual reduction of climate change in harmony with the general principles of international climate change frameworks, accepting obligations side by side with realistic economic development under their plan of sustainable development. Sometime in the future, Kosovo will establish a system for setting, evaluating, and developing suitable measures for reduction of GHG emissions. Opportunities for addressing climate change in Kosovo include:

- Conduct regional surveys and a nationwide assessment of GHG emissions. Perform program analysis needed to estimate Kosovo’s impact on climate change. Implement Kosovo’s GHG treaties and conventions with a National GHG Abatement Action Plan.
- Promote energy efficiency by finding opportunities to showcase new green buildings. Promote awareness of the EU’s 2002 Energy Performance of Buildings Directive (EPBD) and encourage use of energy and water conservation retrofits and new construction. Partner with a hotel to demonstrate cost savings with water/energy retrofits, new lighting, green kitchen and laundry services and in-room heating, air conditioning, hot water, and lighting. Partner with a new apartment and office building to demonstrate opportunities.
- Encourage Kosovo cities to participate in the Sister Cities Program and International Council of Local Environmental Initiatives (ICLEI) to reduce GHG emissions. Promote electric vehicles and electrified public transportation systems in Kosovo cities.
- Conduct policy dialogue and develop options for reducing GHG emissions from existing and new lignite mines and power plants burning lignite for electricity generation. Use carbon-capture-ready opportunities with baseline GHG emissions for carbon trading plan.

Within the past year there have been several conferences and colloquia sponsored jointly between the MESP, the Ministry of Industry and Mines, the Association of Kosovo Municipalities, and others

which have focused on climate change impacts and roles that Kosovo can play in mitigating them. A GTZ-funded project with the Association of Kosovo Municipalities is developing municipal action plans that aim to reduce GHG emissions through energy efficiency. And, in discussions with the head of the Kosovo Environmental Protection Agency (KEPA), KEK managers, and others, the ETOA team learned that the country is looking to the World Bank for funding that will help clean up KEK's energy plant facilities, reduce pollutants and GHGs, and also open up other avenues for reducing GHGs.

4.0 ENVIRONMENTAL AND OTHER POLICIES AFFECTING NATURAL RESOURCES AND ECOSYSTEMS

Kosovo is adopting laws that are harmonized with EU environmental standards. However, these laws do not have the needed sub-laws, regulations, and policies needed for implementation. Also, there are no interim limits, only the relatively stringent (and currently unachievable) EU standards. Interim targets or instruments like compliance consent orders with interim standards and deadlines would provide Kosovo municipal and industrial discharges with achievable milestones to begin conformance with EU standards. Key environmental policy documents include the Environmental Strategy for Kosovo 2005-2015, adopted by Government of Kosovo in July 2004 (MESP, 2004), and the Kosovo Environmental Action Plan 2006-2010 (MESP, 2006), the midterm roadmap for implementation of the Environmental Strategy. Many of the 52 priority projects listed in the Strategy's annex are being implemented.

The EU established the Stabilization and Association Process Tracking Mechanism (STM) for the Western Balkans in November, 2002. The European Partnership establishes standards aimed at harmonization with EU Standards, aiming to assist with core elements of the process, policy advice, monitoring of EU standards, and trade concessions. The European Partnership (June 2004) formulated the implementation of the Standards and Kosovo adopted its implementation Action Plan in January 2005. Progress reports on the implementation of the European Partnership Priorities were provided in April, June, and September 2005. The EU encourages Kosovo's participation in existing environmental regional initiatives such as the Regional Environmental Reconstruction Program (REReP) for South East Europe and the Environmental Compliance and Enforcement Network for Accession (ECENA). As such, the association with the EU is a government high priority and Kosovo continues to harmonization legislation with EU environmental legislation, institutions, and standards.

The MESP is the lead environmental institution. MESP is responsible for the preparation and implementation of environmental laws. They are supported by the 30 municipalities. A municipality may exercise responsibility for those environmental matters originating, or likely to originate, within their municipality, if programs can be handled, controlled, prevented, financed, or managed. Municipal responsibilities include establishing standards and ensuring compliance with standards, protection of the environment within the municipality, and establishing measures consistent with sustainable economic development. The Kosovo Assembly has adopted several laws related to the environment, all of which include use of different economic instruments. However, attempts have ceased to implement economic instruments through separate regulations. Overall, the environment and the management of environmental problems are not perceived as a priority by the people. Practically all environmental laws include sanctions for non-compliance. However, they are often broad and general requirements that make it difficult to implement sanctions. It is almost impossible to process violators in the courts. An additional implementation problem for sanctions is the present lack of emission standards. Without threshold values (with allowable emission levels), it is not possible to determine whether an emission is above or below the accepted level. While viewed as illegal from an environmental view, courts only act on a nationally adopted and officially recognized standard. Better monitoring of the overall fines and penalty system is needed.

The State of Environment Report in Kosovo is published every two years by KEPA. KEPA collects the environmental data from monitoring institutions, companies, operators; and different

establishments, publications, reports and other sources. The Report establishes a firm foundation for cooperation and coordination with the European Environmental Agency (EEA) and European Environment Information and Observation Network (EIONET)². The European Partnership priorities provide the basic framework for harmonization with EU environmental legislation. Kosovo has made advances in legislation concerning air quality and water quality and the new environmental laws are an important step. However, there has been limited progress with other European environmental standards. Future attention needs to focus on implementation and enforcement, adoption of implementation strategies, institutional capacity building, increased funding, and improved public awareness about environmental problems.

The Fund for Environmental Protection was established in Article 77 of the Law for Environmental Protection. The draft Eco Fund requirement was drafted in 2005 to support financial investments financed by the Kosovo Assembly through revenues from environmental taxes and be used for waste collection and disposal, utilization of biomass, energy efficiency and reduction of CO₂ emissions, wastewater treatment plants, monitoring systems and equipment for inspectors, and more. Revenues from the taxes to be imposed are estimated to be at least 20 million Euros per year

4.1 Water

The Law on Waters (2004/24) was adopted on October 14, 2004. In the future, 20 additional sub-legal acts deriving from the Water Law are needed. The Kosovo Water Law envisages the establishment of two river basin authorities: River Basin Authority for Drini I Bardhë and River Basin Authority for Ibër, Moravë e Binqës and Lepenc. In this regard, the Water Department has established a Working Group for developing the sub-legal acts on the establishment of the river basin authorities. The first draft is undergoing public discussions. In addition, the Kosovo Water Law (2004/24) Article 22 (Water Strategic Plan) and Article 23 (Water Management Plan) sets provisions for the development of the Water Management Strategy and Action Plan. The sub-legal act for drafting of the Water Resources Management Plan has been issued.

Kosovo's national policy includes the process of EU integration. One of the challenges is the fulfillment of EU environmental standards and harmonization of national legislation with EU legislation. Kosovo is working to harmonize with EU directives through Frame Directive for Waters (2006/12/EC), Directive for Urban Contaminated Waters (91/271/EEC), Directive for Potable Water (98/83/EC), and Directive for Nitrates (91/676/EEC). The WWRO reviews the economic aspects of regulations as well as assisting RWCs to set fees and tariffs for water use.

4.2 Energy

Three main energy laws have been approved: Law on Energy, Law on Electricity, and Law on Energy Regulator. Law enforcement is not very effective and the conditions for application of the Integrated Prevention and Pollution Control (IPPC) Directive, while adopted by Parliament in 2008, have not been established. The application of the Directive will seriously affect the energy sector in terms of the implementation cost. Despite the existence of laws and a strategy, currently there is no defined approach for cooperation at the governmental level to establish procedures and standards in the energy sector. Involvement of industry in energy policies has been discussed, but so far there have not been specific projects. In 2005, the Kosovo Assembly adopted the Kosovo Energy Strategy 2005-2015, reconfirming the development of new lignite-based energy capacities, and still promoting renewable resources such as hydroelectric, wind, and solar energy. Demands for electricity and other forms of energy will continue to grow.

4.3 Air

Apart from the Law on Environmental Protection (2003), the Law on Air Protection (2004) was drafted in accordance with certain EU Directives. The Law categorizes main pollution sources, sets

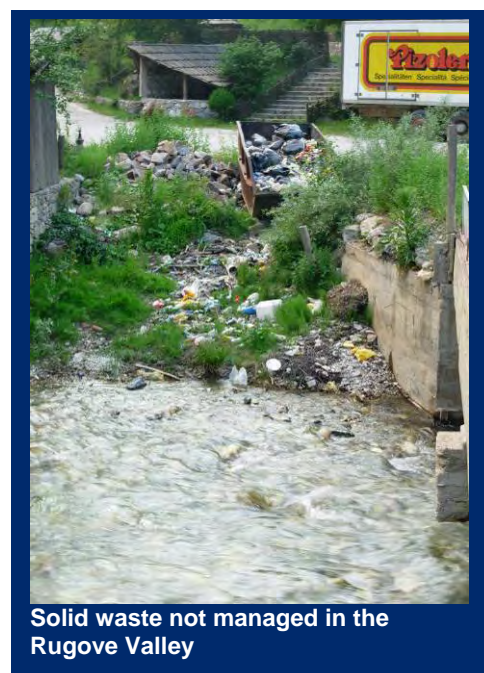
basic air pollution indicators and obligations, and recommends adoption of limits for air discharge according to EU and World Health Organization (WHO) standards. As a part of the general program for environmental protection, the Law stipulates the obligation for drafting Kosovo air protection program and local air protection programs in accordance with the general program. According to the Law, the air monitoring program shall be organized by the MESP. Cities and settlements with assumed Level II and Level III pollution must be given special attention with respect to air quality protection, both by the number and method of monitoring the critical indicators and by a better control of stationary and mobile emission sources. The Law on Air Protection lacks many of the needed sub-acts, especially the need to consider obligations deriving from a number of other Directives on air protection. These activities will need to be prioritized. In the short-term, other relevant directives should be transposed, and work should be directed towards gradual application of the IPPC Directive adopted by Parliament in 2008.

In its harmonization efforts EU directives, Kosovo is working through the Frame Directive for Environmental Air Quality (2006/62/EC), Directive for Value Limits of SO₂, NO_x, particulate matter) and lead in Environmental Air (99/30/EC), Directive for Benzene and Carbon Monoxide (2000/3/EC), and Directive for Ozone (2002/3/EC) to reach harmonization with EU standards.

4.4 Waste

The Waste Law was approved by the Assembly on July 22, 2005. This Law was prepared according to relevant EU Directives and the experiences of neighboring countries. The most important document which will need to be approved and enforced is the National and Municipal Waste Management Strategy with Action Plan, where main directions for waste management will be defined and long-term needs in local and national level will be assessed.

In trying to harmonize with EU standards, Kosovo is working through Directive for Waste (2006/12/EC), Directive for Hazardous Waste (91/689/EC), Directive for Waste Dumping Sites (99/31/EC), Directive for Waste Incineration (2000/76/EC), and Directive for Hazardous Substances (67/548/EEC).



Solid waste not managed in the Rugove Valley

PHOTO CREDIT: S. DENNISON

4.5 Industry and Mining

The Regulation for Mines and Minerals approved on January 21, 2005 envisioned the development of a Management Plan for Mineral Resources, which will be drafted by the Independent Commission for Mines and Minerals (ICMM) and presented to the Ministry of Energy and Mining. The Law for Environmental Impact Assessment (EIA) was developed in harmony with the EU EIA Directive, but the Kosovo EIA processes have not been adequately implemented. Environmental Management Systems (EMS) and ISO 9000 and ISO 14000 have only rarely been applied and practices of cleaner production do not exist. No administrative steps have been taken in order to prepare for applying obligations arising from the IPPC Directive. One of the most important aims of the Environmental Protection Law is sustainable use of natural resources. The Law of Energy promotes the use of renewable energy sources.

EU harmonization efforts are linked with the Directive for Integrated Control of Contamination (96/61/EC) and Directive for Plants with Large Incinerators (2001/80/EC).

4.6 Agriculture

The legal framework for agriculture consists of a number of laws including the Law on Nature Protection, Law on Seeds (United Nations Mission in Kosovo (UNMIK)/REG/2003/10), Law on Farmer Cooperatives, Law on Artificial Fertilizers (UNMIK/REG/2003/22), Law on Spatial Planning (UNMIK 2003/30), Law on Pesticides (UNMIK/REG/2003/35), Law on Planting Material, Veterinary Law (UNMIK/REG/2004/28), Water Law (UNMIK 2004/24), Air Protection Law (UNMIK 2004/37), and Law on Livestock Production (UNMIK/2004/33). Installations for intensive rearing of poultry, pigs or livestock with more than 10,000 poultry, 500 pigs, 100 cattle, and 1,000 small livestock must undergo the full EIA process. Projects for the restructuring of rural land holdings, projects for the use of uncultivated land or semi natural areas for intensive agricultural purposes, water management projects for agriculture (irrigation, land drainage), intensive deforestation (for the purposes of conversion to another type of land use), intensive fish farming, installations for the slaughter of animals, sludge deposition sites, and sites for disposal of dead and unwanted animals must undergo simplified EIA process.

5.0 INSTITUTIONS IN THE ENVIRONMENTAL SECTOR AND AFFECTING ENVIRONMENTAL STATUS

In May 2000 the Department for Environmental Protection was founded, including the incorporation of the existing Kosovo Hydrometeorological Institute and the Institute of Kosovo for Nature Protection which later became a part of the Kosovo Environmental Protection Agency (KEPA). In 2002, the Kosovo Assembly established the Ministry for Environment and Spatial Planning (MESP). MESP is responsible for developing policies, implementing laws, and supervising activities for environmental protection of water resources, air, and land. It sets norms and standards as well as supervising their implementation, monitoring, and determining of the state of environment. MESP promotes environmental education campaigns, public awareness, and new technologies; and manages infrastructure. KEPA, founded in 2003, is responsible for coordination of monitoring of the environment and they issue periodic State of the Environment reports. MESP also includes the Environmental Inspectorate, which performs field based inspections of implementation of environmental laws and policies.

Other Ministries which are directly involved with the environment include: Ministry of Health (impact of pollution on public health); Ministry of Trade and Industry (industrial pollution); Ministry of Economy and Finance (financial implications for reducing pollution); Ministry of Public Services (utilities); Ministry of Agriculture, Forestry, and Rural Development (agriculture, irrigation, forestry); and Ministry of Energy and Mines (limitation of pollution by KEK and fuel stations).

Municipalities are also involved. Municipal inspectors and environmental officials report to their municipal governments. Throughout these national and local environmental institutions, program implementation is in its early stages. As MESP begins program implementation, and permit issuance and enforcement, there will be struggles with other ministries like the Ministry of Trade and Industry and the Ministry of Energy and Mines. Industry and mining interests will argue that new investments cannot comply. Technical assistance and training will be important to building MESP skills and helping to implement effective environmental programs for sustainable development. Additional information is presented below for water, air, and waste programs as well as institutions involved with energy, industry, mining, and agriculture.

5.1 Water

The national organizational structure assigns responsibility for water quality to MESP's Water Department and the Hydrometeorological Institute. The Water Department is responsible for policy and regulations affecting water management. Both these institutions are in urgent need of capacity building and training, especially work involving the EU justice system. One of the most important

elements of Kosovo environmental policy is completion and conformity of the legal regulations with EU regulations, and signing and ratification of relevant international agreements. Recently, the Water Task Force was established in the Prime Minister's office with the goal of improving donor and policy coordination. The National Institute of Public Health (IPH) and the WWRO are also important. The IPH monitors the quality of water supplies and drinking water throughout Kosovo. The WWRO is responsible for the economic aspects of water management policies and regulations.

5.2 Energy

The Ministry of Energy and Mining is the key policy institution in the field of energy. There are three main laws that have been approved, the Law on Energy, Law on Electricity and Law on Energy Regulator. Law enforcement is not very effective and the conditions for application of the IPPC Directive have not been established. The application of the Directive will seriously affect the energy sector in terms of the implementation cost. Despite the existence of laws and a strategy, currently there is no defined approach for horizontal cooperation at the governmental level in order to establish procedures and standards in the energy sector. To the present, cooperation with industry has not been formalized and rests almost exclusively on verbal agreements. No concrete projects for solving environmental problems have been implemented. Demands for energy, especially electrical energy, are going to grow continuously. The Energy Regulatory Office is responsible for the economic aspects of energy policies and regulations.

5.3 Air

Responsibilities at the national level for air quality reside at MESP's Air Protection Unit within the Environment Protection Department and the Hydrometeorological Institute. Both these institutions are in urgent need of capacity building training, especially in the function of taking up more responsibilities from the EU justice system. One of the most important elements of the Kosovo environmental policy is completion and conformity of the legal regulations with EU regulations, and signing and ratification of relevant international agreements. Also, IPH is conducting air monitoring, including air emission testing at two locations in Pristina.

5.4 Waste

The organizational structure at the national level provides responsibility for waste management to MESP's Waste Management Division within the Environment Protection Department and to KEPA. The first report on the waste sector in Kosovo was issued in 2005. Both of these institutions are in urgent need of capacity building training, especially in the function of taking up more responsibilities from the EU justice system. One of most important elements of the Kosovo environmental policy is completion and conformity of the legal regulations with EU regulations, and the signing and ratification of relevant international agreements. The Government is responsible for overall management of municipal waste, coordinates donor support, and works on construction and management of landfill sites. The Government is also tasked with licensing and supervision of enterprises for public services. There are seven regional enterprises for public services operating in seven regions. The Kosovo Landfill Management Company was established to manage the new regional landfills constructed with EC funds. The Waste Water Regulatory Office is involved in economic and operational aspects of waste management regulations and tariffs.

5.5 Industry and Mining

Key institutions in the industry sector include the Ministry of Trade and Industry, and the Department of Industry. For mining, the important government institution is the Department of Mines in the Ministry of Mines and Energy. While some heavy processing activities such as Ferronickeli, Llamkos, Sharr Cement, Fabrika, and Energoinvest are (re)started, most old industrial and mining operations

remain closed. Institutions are having a difficult time increasing industrial activity and mining operations. The level of industry in Kosovo is low and current industries are mainly focused in the food processing industry. The Independent Commission of Mines and Minerals is responsible for licensing all mine activities (following EIA consent from MESP).

5.6 Agriculture



The main institution in the agriculture sector is the Ministry of Agriculture, Forestry, and Rural Development. Agriculture in Kosovo is poorly organized and Ministry activities are dispersed throughout Kosovo's many villages and rural areas. Big success stories are difficult to find. The government agency controlling irrigation waters, for example, is not funded well and irrigation channels lose significant quantities of water and pumping is limited. The ability of these government programs to collect revenues from farmers and those that benefit from irrigation is not very successful. The agricultural sector government agencies have a difficult time implementing successful agricultural programs.

6.0 APPROACHES AND INTERVENTIONS USED BY DONORS, GOVERNMENT, NGOS, AND THE PRIVATE SECTOR AND RESULTS OBTAINED

This section provides interventions being used by donors and others in Kosovo. The European Commission has divided Kosovo for water interventions into three parts. The EU is working in the central and northern regions of Kosovo; Switzerland is working in the southeast; and Germany in the west. USAID has water and other programs in areas throughout Kosovo. The Government of Kosovo is funding projects in all regions in Kosovo and in all sectors, rural and urban. Donor activities are described first, followed by approaches and interventions by NGOs and the private sector.

6.1 European Union

The European Commission Liaison Office in Kosovo (ECLO) is providing support for a wide range of activities, from infrastructure investments to technical assistance in MESP. Environmental infrastructure includes investments in new drinking water treatment plants, storage reservoirs, pumping stations, water transmission lines, and distribution networks in urban areas. ECLO has also supported investments to extend clean drinking water to villages. These investment programs have been complemented with technical assistance and institution building in the RWCs.

An important part of this assistance has been providing monitoring equipment and technical assistance. They helped establish water testing and monitoring capabilities in the regional government-owned water companies. They helped provide testing and monitoring equipment to the Institute for Public Health, the primary institution that determines whether drinking water is safe to drink. They are now building a network of ambient air monitoring stations that will continuously monitor air pollutants in key parts of Kosovo. The ECLO approach in the water sector has included capital investments, equipment, and technical assistance.

ECLO has also helped build seven regional landfills and supported the closure of open dumps throughout Kosovo. The landfills were constructed and private contractors were selected to operate and maintain the landfills. While designed well, these private companies have not been able to get trash companies to pay for disposal, leaving these companies with no funds to properly manage the landfills. Solid waste is deposited but not properly covered because diesel fuel is not available to operate equipment.

In the wastewater treatment sector, the EU has worked with villages, demonstrating the use of septic tanks and constructed wetlands with reed plants. They have also funded a complete wastewater treatment plant including primary treatment and trickling filter biological secondary treatment. However, for several years a property issue has prevented the connecting the sewage pipe to the treatment plant. No additional EU wastewater treatment will be done until this constructed plant is operational. There are signals that the issue is near resolution, opening the way for more investment in wastewater treatment plants. Feasibility studies continue to be developed, outlining sewage piping plans, pumping stations, and siting of treatment units. It is likely that new treatment plant investments may begin in the next year or two.

6.2 Swiss Cooperation Office

The Swiss assistance program in Kosovo includes public infrastructure in water and energy, help with the economy, and employment and work under the rule of law and democracy. Their environmental assistance includes institution building within the Regional Water Companies, MESP, and the Ministry of Economy and Finance. The Swiss have constructed drinking water treatment plants in urban and rural areas and power substations to improve energy supply.

Institution building has been successful but the Swiss are planning a new approach. A Water Task Force led by the Prime Minister has been established to raise the awareness and commitment of the Government of Kosovo in water issues. A consultant is identifying activities and interests of stakeholders and the first meeting is planned for September 2009. This Task Force offers an approach to raise important water-sector issues to the highest level of government and reach consensus and raise the Government of Kosovo commitment to address water constraints and key problem areas.

6.3 *Gesellschaft für Technische Zusammenarbeit (GTZ)*

Gesellschaft für Technische Zusammenarbeit (GTZ) is implementing projects in Kosovo in four areas: Sustainable economic development and employment promotion; Land use planning and modernization of municipal services; Reform of vocational education and training of youth; and Improving water supply and sanitation. Forty municipal projects have been funded through the Modernization of Municipal Services project through the Association of Municipalities in Kosovo. GTZ has co-financed new windows, building insulation, and new boilers and heating systems in schools and municipal buildings for saving energy and improving energy efficiency. The project raises awareness and encourages municipalities to comply with higher energy efficiency standards.

6.4 USAID

The USAID program covers building democracy and improving governance, providing the institutional, policy, and legal support for productive investment, expanding the private sector and fostering community development. Two key program areas in the environment include water and energy.

The SIWS Program is constructing water systems, pumping stations, pipelines and distribution networks to villages in five parts of Kosovo. Designs are nearly complete and construction is almost ready to begin. The Regional Water Companies, municipalities and villages are very supportive of this assistance. A new USAID water initiative (K-WISER) will focus on reducing water losses

through rehabilitation and repair and improving management in Regional Water Companies in Pejë and Prizren. These companies are ready to collaborate with this program.

USAID's energy strategy is designed to help Kosovo meet EU environmental standards and reduce the negative impacts in a number of ways including: 1) rehabilitating Kosovo B power plant to meet EU standards, improve efficiency of lignite combustion, and reduce harmful air and water emissions; 2) reducing contaminants through introduction of improved mining technology and management as well as improved and expanded land reclamation; 3) developing an efficient new power plant that is carbon capture ready and would permit closure of Kosovo A power plant by 2017; 4) increasing collections and introducing cost recovery tariffs so consumers will have greater incentives to conserve energy through privatization of the distribution function; and 5) promoting end-use energy efficiency once these reforms move ahead. The USAID Results Framework for Assistance Objective 4.3 (Intermediate Results 4.3.3) provides plans to support preparation and adoption of Kosovo's 20-year lignite development strategy. USAID assistance will seek to increase human and institutional capacities to better manage the sector and address the environmental and technology challenges. The transaction process should ensure that competent environmental assessments are made on the key issues, e.g., supply and demand of water for power and other sectors, to ensure sound decisions and least-cost approaches to improving efficiency of resource use.

6.5 Government of Kosovo, NGOs, and the Private Sector

The Government of Kosovo is spending money in water, air, and waste management. Current funding is committed to projects involving air quality monitoring, hazardous waste storage and rehabilitation of old dump sites, hospital waste sterilization centers, and river bed renovations for flood control. In 2010, funding is planned for over 30 additional environmental projects including groundwater and surface water monitoring stations, several wastewater treatment plant feasibility studies, identification of environmental hotspots, and more.

SHUKOS, the Water and Wastewater Association of Kosovo, provides information sharing and program assessment and planning for the seven RWCs in Kosovo. They provide for monthly workshops and meetings and larger conferences aimed at sharing information about problems and solutions, business plans, and success stories in the water and wastewater sector.

The Regional Environmental Center (REC) is a non-partisan, non-advocacy, not-for-profit organization that promotes cooperation among NGOs and other environmental stakeholders, provides environmental information and assists with solving environmental problems. Among current projects, REC is preparing local environmental action plans with Swiss funding, providing Kosovo NGOs with training and capacity building with UNDP funding, compiling a list of water polluters with Norwegian funding, and supporting civil society organizations with Swedish funding. They have a public information campaign and the Dutch are funding a multi-medium Green Pack of environmental education kit covering 22 environmental topics from environmental protection to global climate to ethics and values.

Within the private sector, approaches and interventions are still being designed. The American Chamber of Commerce in Kosovo (AMCHAM) designed a program to promote Corporate Responsibility, but it has been placed on hold as other program areas are viewed as higher priorities at this time.

7.0 OPPORTUNITIES AND CONSTRAINTS ASSOCIATED WITH ALL ENVIRONMENTAL ELEMENTS

This State of the Environment Report has utilized an approach that has emphasized the underlying causes of environmental degradation in Kosovo and sought to develop an understanding of the enabling conditions. Opportunities for donors to address some of these issues are identified in this

section with a special emphasis on those for water and energy given USAID/Kosovo's current portfolio in these priority areas. Specific recommendations for USAID/Kosovo as they pertain to these two sectors are made in the final section of Part I of this report.

7.1 Water

This section includes opportunities in the drinking water sector as well as opportunities associated with wastewater treatment and water resources management. There are investment opportunities as well as training and institutional strengthening opportunities.

- Strengthen the capacity of RWCs to solve problems with identifying sources of water losses, especially illegal connections and small/medium leak detection and repair, and improving bill payment and revenue collection.
 - Support partnerships between RWCs and municipalities by providing direct support to municipalities for improving inspections and joint programs that stop illegal connections, increase bill payment rates, and improve customer service.
 - Support to municipalities for improving environmental protection at new construction sites. Provide technical assistance that promotes properly designed and operated septic tanks with leach fields for further treatment. These systems should be aimed at protecting waters until collection systems reach these new hotels, businesses, and other sources near municipalities.
- Extend the drinking water network to additional villages. While donors are working to provide clean water sources and distribution networks in the major cities covered by the seven RWCs, additional investment is needed in transmission lines, pumping stations, and rural distribution networks to provide more villages with access to clean drinking water.
- Where possible, integrate investments in drinking water with wastewater sewerage networks. In most cases, villages need water from municipalities and their village sewerage systems will need to be connected to the same municipal wastewater treatment plant. This will require investments in collection networks, transmission pipelines, and pumping stations.
 - Where appropriate, construct village wastewater treatment systems using simple and effective systems such as septic tanks with constructed wetlands.
 - Provide septic tank cleanup equipment to ensure these treatment facilities are properly operated and maintained.
- Participate in new Water Task Force to raise the priority of water issues inside the Government of Kosovo. Use the Task Force to promote better partnerships between RWCs and municipalities, including municipal officials on the RWC Board of Directors, joint efforts to address water quality/quantity problems and wastewater treatment needs, and programs to help improve effectiveness and timeliness of judges and legal (court) procedures for actions involving illegal connections or delinquent payment of water bills. Encourage partnerships that will result in stronger financial commitments by municipalities in RWC investments.
- Provide specific institution building in MESP on training inspectors on proper industrial and municipal inspection procedures, on methods to issue effective environmental permits including compliance instruments such as consent orders that contain interim standards and deadlines that provide municipal and industrial/mining discharges with realistic interim milestone targets toward implementation of EU environmental standards.
- Support environmental outreach and training programs that promote industrial pollution prevention and cleaner production, energy efficiency, solid waste recycling, and resource conservation. Provide for school programs to encourage water savings at home, collection of

rainwater for watering gardens, proper disposal of trash, reduce littering, and benefits of a green home, green school, and green business practices.

- Provide additional environmental monitoring equipment and training, focusing on additional biological contamination methods and testing equipment for organic solvents and toxic pollutants. Use new monitoring equipment to encourage more collaboration between RWCs and municipalities.

Provide hydrologic water monitoring equipment to develop a nationwide network of continuous surface water (and groundwater) measurements of flow rates, reservoir storage, rainfall, and groundwater levels to establish water-resources conditions, supplies, demand, and use data for all sectors (including village, municipal, industrial, mining, irrigation, and power generation). Include available water quality and pollution data.

7.2 Energy

There are significant opportunities in Kosovo's energy sector. The sector is complex and a number of activities that are ongoing and planned will affect USAID implementation efforts. Assistance to KEK and privatization efforts for the distribution network are ongoing under the existing KEK Network and Supply Project at USAID. In October 2009, a new USAID activity will begin on Regulatory and Market Privatization Support for distribution privatization along with support in privatizing the Kosovo B power plant (including transaction advisory services, feasibility studies and environmental assessments). Subject to progress of the World Bank-assisted privatization of the New Kosovo Power Plant (NKPP) and Sibovc Mine and the outcome of the EC funded studies for the decommissioning of Kosovo A power plant, USAID may consider support for the privatization of the overall system of mining and power generation. These programs will also influence the development of a water storage facility and the potential for a cooling lake in the current mine as well as environmental monitoring programs.

- This section includes energy opportunities involving KEK investments plus other energy opportunities. KEK privatization, improved operation and maintenance of energy generation, water systems, and lignite mining are addressed along with waste to energy and energy efficiency. Current privatization efforts are focused on the KEK distribution network. The successful operation and maintenance of KEK power generation Units A and B is essential to privatization of distribution, as is effective operation of the mines providing lignite fuel. Technical assistance to KEK has provided USAID with unique opportunities to provide assistance, advice, and policy dialogue on all KEK operations and privatization efforts.
 - Provide advice to support and accelerate privatization efforts for KEK Units A and B, the lignite mine, and additional power generation. Kosovo's energy sector needs privatization for successful operation of distribution networks, mining operations and power generation units. Helping KEK implement these difficult privatizations will likely result in new tariffs and proper electricity pricing.
 - Water is critical to KEK. A water reservoir design plan that utilizes the old mine has the potential to reward KEK and Kosovo with large water savings and reduced water treatment costs. With a closed loop water recycling system, KEK would not be affected by national water shortages. The design would result in redirecting current overburden deposits, reducing overall reservoir cost.
 - Water treatment must be designed to protect KEK energy generation equipment. Treatment design can be an integral part of the closed loop water system.
- Provide technical assistance to KEK on improving operation and maintenance of electrostatic precipitators at KEK power generation Units A and B. Establish operating procedures, use camera opacity monitoring to signal short-term or longer-term maintenance measures, and identify a range of management actions to improve treatment performance.

- Provide accurate measurement and mapping of lignite deposits to ensure sound decisions and least-cost approaches for improving efficiency of lignite use. Accurate characterization of lignite BTU profiles will ensure proper pricing for different lignite deposits and mine zones.
- Establish an energy efficiency unit in MESP (or appropriate counterpart ministry) to encourage adoption of new energy efficient technologies, processes, and methods. As energy prices increase, promote energy efficiency opportunities such as energy standards for importing appliances, motors, and process equipment; and demonstrations of new boiler designs and burners that have short, two year or less, cost payback periods.
- Conduct feasibility studies for hydroelectric energy generation including identifying annual and monthly river volumes and velocities. Estimate energy generation opportunities and project capital cost and annual operation and maintenance cost.
- Determine the feasibility of solar, wind, and geothermal energy production in Kosovo. Estimate capital and annual cost and expected energy revenue. Demonstrate energy savings with low-cost, shallow in-ground home piping systems for heat. (The level of support for these activities will be influenced by definitions for the Clean Energy earmark and related activities of other donors.)
- Demonstrate opportunities for animal waste-to-energy gasification and methane-from-landfills technologies. Identify feedlot or medium/large animal owner and demonstrate technology that converts manure wastes to energy. Identify landfill for methane production demonstration. Provide villages with low-cost and dependable electricity. (The level of support will be influenced by earmark definitions and related activities of other donors.)
- Support NGO activities to provide outreach and training materials and websites with green building materials, energy efficiency equipment, green ideas, and a green exchange for sharing success stories in Kosovo. This activity builds on and includes USAID's co-funding of the "Green School" planned for construction in Pristina under the education infrastructure program.

7.3 Air

This section lists opportunities in the air environmental element. Opportunities address air pollution sources, control strategies, monitoring, training, and education.

- Identification of a list of Kosovo's air pollution sources, what they discharge and how much of each pollutant. This is an initial step toward identifying the scope of the problem and designing a control strategy.
- Establish an air pollution control test laboratory. Establish demonstration-scale air pollution control technologies such as SO₂, NO_x, and NO₂ scrubbers; electrostatic precipitators and baghouses for removal of particulate matter; sorbents for heavy metal removal; catalytic combustion for volatile organics; and other toxic pollutants. Use other appropriate technologies for additional air pollution sources.
- Provide specific air pollution control training in MESP. Provide training for inspectors on proper air pollution procedures for industrial and mining sources.
 - Provide technical assistance in two key air pollution sectors (such as dry cleaners and machine shops) to develop action plans for implementation of process improvements, chemical handling measures, chemical substitutions, and low-cost control methods for small sources.
 - Provide training and technical assistance to MESP to improve technical capabilities to permit and enforce EU standards that require new air pollution control technologies.
 - Provide air pollution monitoring capability for industrial sources. Provide capability to measure volatile organics and specific hazardous air pollutants.

- Design program to reduce emissions from vehicles, buses, and trucks in Pristina. Consider emission reductions at gasoline service stations as well as vehicle tune-ups and inspections. Provide incentives to replace old polluting vehicles with cleaner vehicles.
- Support air pollution prevention and control outreach and training programs that promote new technologies and cleaner production, energy efficiency, and resource conservation. Provide for school programs to encourage clean air practices such as replacing trash burning, proper use of household solvents and cleaners, etc.

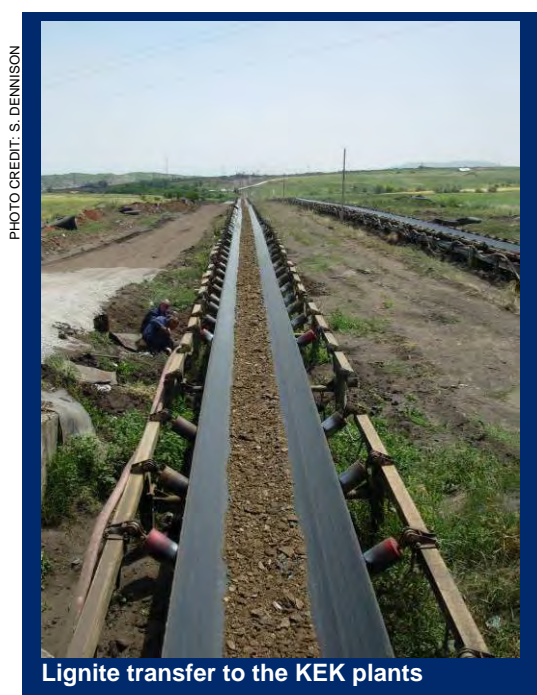
7.4 Waste

This section includes opportunities in environmental element that includes solid and hazardous waste management and chemicals. Opportunities address recycling and solid waste, hazardous waste, control strategies, monitoring, training, and education.

- Identification of Kosovo's sources of solid waste, what materials they generate, current recycling methods, and how much of each material is generated. This is an initial step toward identifying the scope of the current problem, estimating the percent of the current solid waste that is already controlled and designing a control strategy for additional solid waste problems. Consider smart shopper and 3R (Reduce-Reuse-Recycle) campaigns.
- Provide an assessment of operation and maintenance practices at the seven regional landfills in Kosovo. Identify problems and design technical and management changes aimed at improving the long-term sustainability of these landfills.
- Identification of Kosovo's generators of hazardous waste, what wastes they generate, current hazardous waste minimization methods used (including recycling), and how much of each type of hazardous waste is generated. This is an initial step toward identifying the scope of the current problem, estimating the percent of the current hazardous waste that is already controlled, and designing a control strategy for additional hazardous waste problems. Include used oils, solvents, metal cleaning wastes, and metal sludges.
- Promote management practices and technologies to minimize environmental impacts associated with quarries and aggregate production/storage operations. Reduce erosion, siltation, dust and particulates, and flooding potential.
- Provide specific waste management training in MESP. Provide training for inspectors on proper waste management procedures for industrial and mining sources.
 - Provide technical assistance in two key sectors (such as bus depots and machine shops) to develop action plans for implementation of process improvements, chemical and waste handling measures, chemical substitutions, and low-cost control methods for small sources.
 - Provide training and technical assistance to MESP to improve technical capabilities to permit and enforce EU standards that require new hazardous waste management technologies.
 - Provide assistance with monitoring and controlling leaks from underground storage tanks at gasoline stations, fuel terminals, and other transportation sources.
 - Provide hazardous waste monitoring capability for industrial and mining sources. Provide the capability to measure volatile organics, BTEX (benzene, toluene, ethylbenzene, and xylene), and specific toxic/hazardous pollutants.
- Support solid waste and hazardous chemical outreach and training programs that promote new technologies, cleaner production, and resource conservation. Provide for school programs to encourage good trash collection and disposal practices, proper use of hazardous paints and household solvents and cleaners, etc.

7.5 Industry and Mining

- Promote development in an organization like the industry or mining association, university, or NGO aimed at providing pollution prevention, waste minimization, energy efficiency, and cleaner production technical assistance and training.
- Conduct comprehensive human health assessments to identify clusters of adverse human health impacts including diseases, illness, reproductive problems, and cancer that are associated with industrial and mining materials, wastes, and products.
- Provide specific training in MESP to improve their capability to help industries identify solutions to environmental problems. Provide specific training for special industries like furniture manufacturing and food processing. Provide specific industry training for inspectors on industry pollution problems, typical solutions, and sources of information about processes and control technologies.



Include training for truck accidents and fires involving solvents or gasoline and control systems for air or water discharges of concentrated pollutants such as trichloroethylene or chlorine gas.

- Support industrial pollution control and mining management information, outreach, and training programs that promote new technologies, cleaner production, and resource conservation. Provide for industry-specific programs to encourage good housekeeping measures and proper waste handling and disposal practices. Provide assistance with monitoring methods and low-cost pollutant measurement kits.

- Provide similar specific MESP training for mining. Identify environmental problems associated with different types of mining, typical solutions, and sources of information about mining methods and control technologies.
- Provide technical assistance in a key sector (such as vegetable oil processing) to develop action plans for implementation of process improvements, equipment modifications, housekeeping and management practices, and low-cost control methods for small sources.
- Promote development of a registry of chemicals, which sources use and release which chemicals, amounts used and stored, amounts released, and the relative danger/toxicity of each chemical.

- Develop program at municipalities to respond to industrial accidents, spills, and emergencies.

7.6 Agriculture

- Construct new irrigation networks including lined irrigation channels and pumping stations. Establish payment structure to pay for the operation and maintenance costs of providing irrigation water.
- Improve irrigation, crop, and soil management infrastructure. Improve irrigation districts like Drini I Bardhë Regional Irrigation Company with new skills, equipment, and training.

- Conduct comprehensive human health assessments to identify clusters of adverse human health impacts including diseases, illness, reproductive problems, and cancer that are associated with industrial and mining materials, wastes, and products.
- Establish and provide training for a network of agricultural extension agents who would advise and train farmers.
 - Agents advise farmers on selection of crops and crop varieties, proper growing methods, and frequency/amount for application of water and fertilizer.
 - Agents advise farmers on pesticides options, which pesticides to use and when, how to apply the pesticide, mixing recipes, and disposal of containers.
- Support rural outreach and training programs that promote sustainable environmental management practices for rural households, proper water use methods, sewage and wastewater discharge, solid waste management, handling dangerous chemicals, and energy use. Provide for rural school programs to encourage water management and water savings at home, collection of rainwater for watering gardens, proper disposal of trash and replacing trash burning, proper use of household solvents and cleaners, etc.

8.0 INDICATORS OF ENVIRONMENTAL DAMAGE/HEALTH AND POTENTIAL MONITORING SYSTEMS

Monitoring of the environmental effects from urbanization, industrialization, mining, and agriculture is needed to determine the damage and potential impacts of pollution on human health and the environment. These monitoring systems provide the overall framework for establishing proper indicators so the potential for significant impacts can be reduced. These monitoring results need to be able to provide data to determine whether there are violations of threshold standards such as Maximum Contaminant Levels (MCL) or pollutant concentrations over water quality criteria or air pollution thresholds. Preliminary Remediation Goals (PRG) and Adverse Health Effects Clusters may violate action levels raising risks associated with health protection standards.

Often indicators are simply the comparison of monitoring parameters agreed upon for maximum contaminant levels, drinking water standards, irrigation criteria, action levels, preliminary remediation goals, and/or negotiated agreements, treaties, or commitments. Such an approach depends heavily on the quality of sampling and analysis, including sample blanks, sampling spikes, duplicate samples, laboratory validation procedures, and other quality assessment and control activities. In addition, more pragmatic indicators result from multiple aquatic or other media tests. These more sophisticated tests expose specifically selected aquatic species and nutrient dishes exposed to representative water under several dilutions and timelines to demonstrate and simulate actual impacts of samples on species and growth media. In either case, comparisons of sample results to agreed-upon numbers, or evaluation of aquatic or media tests, requires well equipped laboratories, laboratory supplies, well-trained staff, and other resources.

Potential water, air, and waste monitoring systems need to collect ambient data and this information needs to be integrated with industry and other point source discharge and emission data to provide a full picture of the region and locality. These monitoring systems and specialized indicators protect the environment and public health.

9.0 KEY LINKS BETWEEN ECONOMIC GROWTH, HEALTH AND GOVERNANCE ACTIVITIES, AND ENVIRONMENTAL THREATS AND OPPORTUNITIES

Urbanization, industrialization, mining, and agriculture promote economic growth and often impact and threaten ecosystems. Environmental degradation is caused by cleaning raw materials, using processes that release polluting chemicals and waste materials, burning fuels and wastes, and disposing of spent solvents and sludge. These activities cause threats and produce opportunities. This Part I: State of the Environment Report describes the links between these economic growth activities and water pollution, contaminated drinking water, air pollution, and solid and hazardous waste disposal. There are worker health problems from exposure to dangerous chemicals and people become sick when exposed to chemicals and fecal coliform bacteria.

When flooding, erosion, or canal damage precludes delivery of the distant-reservoir water to the KEK power plants, cooling water is not provided for the cooling towers, the plants shut down or produce less power, and there are country-wide brown-outs which preclude industrial and commercial activities. Such disruptions to supplied electricity may dissuade potential foreign and in-country investors and encourage them to invest elsewhere.

Even when electrical energy is available, its uneven distribution throughout the day may affect industrial operations from start-and-stop operations which damage industrial operations and sensitive machines, including analytical laboratory testing equipment. Moreover, as there is a reportedly wide range of electrical current, some machinery, equipment, and auxiliary resources may not operate efficiently with too low or too high current loads, leading to shorter operation life and more frequent down-time and early burn out (e.g., burn out of electrical engines, pumps, computers, lights, and other narrow-range requiring electrical equipment).

There are also links between different parts of the economy. When there are problems at the power and electricity is interrupted, electrostatic precipitators at Sharr Cement must be turned off, resulting in particulate pollution in Han I Elejit. When solid waste is dumped in villages, storm water carries wastes to local streams and rivers, polluting water quality and halting production at food and beverage processors. Problems are also influenced by governance activities. Failure to issue proper permits requiring appropriate pollution control and plant inspections may result in facilities not finding leaks and discharging toxic chemicals.

This report shows the links between economic growth and government regulations, policy and program implementation, and environmental threats and degradation. These causes of the problems result in the opportunities to provide new technologies, encourage better operation and maintenance, and provide technical assistance, information, outreach, and training.

In the next few years, Kosovo will need to consider adopting international conventions and commissions involved with water and environment in the region. One example is the International Commission for the Protection of the Danube River. Several rivers in Kosovo ultimately flow into the Danube. Kosovo may wish to join other conventions such as the Adriatic Sea Partnership, the Adriatic-Ionian Initiative, and the Barcelona Convention for Protection against Pollution in the Mediterranean Sea. Kosovo is not a member of any of these commissions or conventions. Box II-1 in Section 1.1 listed several others and Annex E describes the goals and member states of several commissions and conventions of interest the water sector in Kosovo.

10.0 RECOMMENDATIONS

Part I, Section 7 of this report contains opportunities for USAID and other donors in six environmental areas: water, energy, air, waste, industry and mining, and agriculture. Two of these areas contain specific recommendations for USAID: water and energy. Water and energy are critical needs for Kosovo and areas where USAID is presently committed and has operational programs.

Water and energy also represent two heavily intertwined sectors. They are essential to modernity, industry, agriculture, commerce—wealth and life itself. Their interconnection is especially significant in Kosovo, as the country is blessed with enormous quantities of lignite (soft brown coal) as a fuel source for electrical generation with high cooling-water demands, and perennial rivers with sustained water flows of high quality. Other points in common within the two sectors are:

- a) The fact that the total size, distribution, and quality of both its lignite and water resources are currently unknown;
- b) At present the national focus has been on the delivery of energy and water; and
- c) Both energy and water sectors can be improved with greater efficiencies in its production for energy and distribution for water as well as efficiencies in energy and water demand management.

In addition, large amounts of water are required for energy production in boilers and cooling, while large amounts of energy are required to operate pumps and engines.

The ETOA team provides the following water and energy recommendations for the Mission's consideration.

10.1 Water Recommendations

USAID has been extending drinking water networks to villages in Kosovo under the Small Infrastructure for Water and Sanitation (SIWS) Program and a new water project will be implemented in the near future. The five recommendations provided below involve activities that could be incorporated into existing and planned programs. The first two recommendations are very similar to existing and planned water programs. The Water Task Force recommendation complements the existing water programs. The other recommendations involve technical assistance, training, and monitoring equipment that could be implemented through expansions of these programs, or integration into other program activities. None of the recommendations involve large funding requirements that are beyond the capability of the overall mission program. However, USAID is in the best position to tailor their programs and projects to most effectively help Kosovo. The ETOA team recommends that USAID:

- Continue to strengthen, through K-WISER water projects, the capacity of RWCs and partnerships with municipalities to solve problems with identifying sources of water losses—especially illegal connections, leak detection and repair—and work to improve bill payment and revenue collection;
- Continue to extend the drinking water network to additional villages, building on SIWS Program experience, and, where appropriate, integrate investments in drinking water with wastewater sewerage networks including, where appropriate, village treatment using low-cost systems such as septic tanks with constructed wetlands;
- Continue to participate in the Water Task Force, and through K-WISER, assist the Government of Kosovo with water policy development, and assist RWCs to become well-managed, profitable, and attractive for private investments;
- Coordinate with other donors and MESP on water policy development, including policies leading to effective permit writing and compliance inspection programs that contain realistic interim milestone targets toward meeting EU standards; and
- Assist RWCs with training in environmental monitoring and groundwater management, and encourage collaboration between RWCs and municipalities.

10.2 Energy Recommendations

USAID's energy strategy is designed to help Kosovo meet EU environmental standards and reduce the negative impacts through rehabilitation of Kosovo B power plant and development of a new

power plant that is carbon capture ready, improved efficiency of lignite combustion, improved mining operations, increased revenue collections and cost recovery tariffs, energy efficiency and reduction of air and water emissions. The sector is complex and a number of activities that are ongoing and planned will affect USAID implementation efforts. USAID is currently assisting KEK and its privatization efforts. Subject to progress of the World Bank-assisted privatization of the NKPP and Sibovc Mine and the outcome of the EC funded studies for the decommissioning of Kosovo A power plant, USAID may consider support for the privatization of the overall system of mining and power generation. These programs will also influence the development of a water storage facility and the potential for a cooling lake in the current mine as well as environmental monitoring programs. Recommendations include energy opportunities involving KEK privatization, improved operation and maintenance of energy generation, water systems, and lignite mining, renewable energy, training and energy efficiency. USAID will tailor its programs and projects to help Kosovo manage its energy sector, address environmental and technology challenges, and ensure sound decisions and least-cost approaches. The ETOA team recommends that USAID:

- Continue assistance with KEK power generation plants and with privatization efforts for the distribution network as well as privatization of the overall system of mining and power generation. Provide design plan for water reservoir and treatment plant to utilize the potential of the old mine to design a closed loop water recycling system. Assist with improving the performance of existing electrostatic precipitators using opacity monitors.
- Provide accurate measurement and mapping of lignite deposits to ensure sound decisions and least-cost approaches for improving efficiency of lignite use. Accurate characterization of lignite BTU profiles will ensure proper pricing for different lignite deposits and mine zones.
- Establish an energy efficiency unit in MESP (or appropriate counterpart ministry) to encourage adoption of new technologies, processes, and methods. Promote new energy efficiency opportunities such as appliance and equipment import standards and new efficient boiler designs and burners.
- Conduct feasibility studies for hydroelectric energy generation, solar, wind, geothermal energy production, low-cost in-ground home heating systems, and animal waste-to-energy gasification and methane-from-landfills technologies. (The level of support for these activities will be influenced by definitions in the Clean Energy earmark and related activities of other donors.)
- Support NGO activities to provide outreach and training materials and websites with green building materials, energy efficiency equipment, green ideas, and a green exchange for sharing success stories in Kosovo. This activity builds on and includes USAID's co-funding of the "Green School" planned in Pristina under the education infrastructure program.

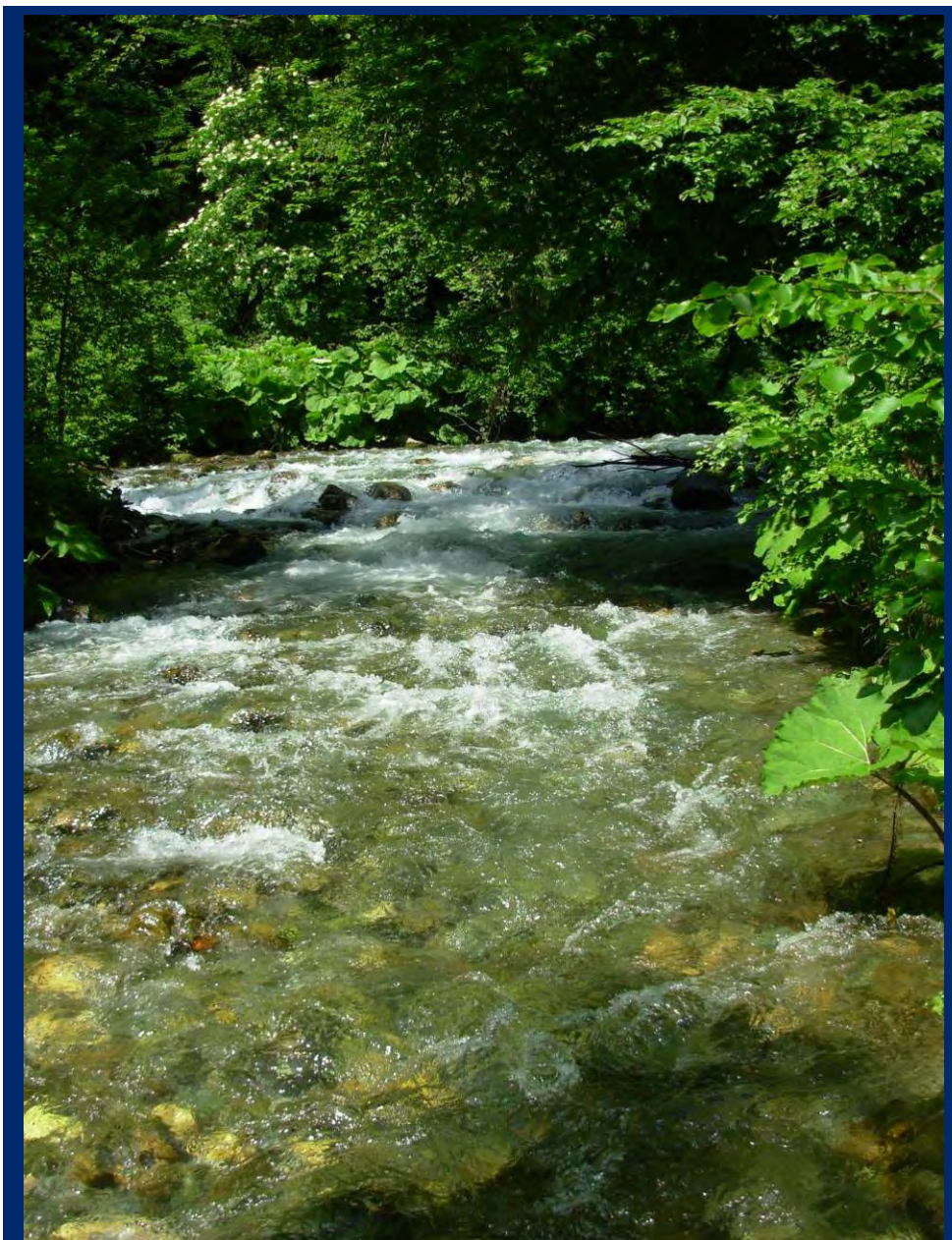


PHOTO CREDIT: S. DENNISON

Clear waters of the Deçen River below the outfall of a hydropower facility

PART II: ACTIONS NECESSARY AND PLANNED TO CONSERVE BIODIVERSITY

Biological diversity, or biodiversity for short, is the variability and variety of living systems at several levels, including the diversity of ecosystems, of species within ecosystems, of genes within species, and of the ecosystem services resulting from these other levels. The conservation of biodiversity is internationally recognized as essential for human livelihoods, health, well-being, development, and economic growth. If biodiversity is not conserved, the foundation of human societies will be threatened. Biological diversity provides three general categories of benefits to humans: ecosystem products; ecosystem services; and non-material benefits, such as cultural, recreational, educational, and spiritual benefits (USAID 2005). Biological diversity in Kosovo provides its citizens with all of these types of benefits. Especially common still are traditional uses of ecological resources to meet subsistence and livelihood needs, such as for fuel wood, building materials, and wild foods and medicines.

Kosovo is a new nation. Its immediate national priorities are not focused on long-term environmental protection and biodiversity conservation. Most national decision-makers in Pristina are not yet aware of, or focused on, these long-term concerns. There is legislation in place, and policies and strategies are being developed, however, to address the conservation of biodiversity, and some concerned citizens, government workers, and donors are beginning to raise the national consciousness about environmental conservation. Budgets for addressing environmental concerns are very low, and there is serious debate and even conflict among institutions regarding who will be responsible for various aspects of environmental management.

This section of the report updates the findings of the 2003 Kosovo Biodiversity Assessment (ARD, 2003) in response to the requirements of the FAA, Section 119(d) (see Annex B), which states that: "... each country development strategy statement or other country plan prepared by the Agency of International Development shall include:

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."

To comply with these requirements this section first identifies the actions that need to be taken to address and mitigate the causes of the threats to biodiversity in Kosovo. Secondly, the capacity of USAID to support any of these necessary actions within its current and planned portfolio is assessed. We also discuss the capacity of other actors (Government of Kosovo institutions, NGOs, other donors, and private sector partners) to contribute to the actions needed. Finally, some specific opportunities for USAID to contribute further to biodiversity conservation in Kosovo are discussed.

Information for this assessment was drawn primarily from the following sources:

- Interviews and discussions with specialists and administrators in the MESP and MAFRD;
- Review of key documents, including the Kosovo Environmental Action Plan, 2006-2010 (MESP, 2006), the Kosovo State of Environment Report, 2006-2007 (MESP, 2008); and the Environmental Strategy for Kosovo (MESP, 2004).
- Reviews and discussions of USAID/Kosovo Assistance Objectives (AO) Results Frameworks with relevant USAID staff.

1.0 OVERVIEW OF CURRENT BIODIVERSITY AND CONSERVATION MANAGEMENT IN KOSOVO

1.1 Biodiversity

Vegetation in Kosovo is classified into 139 plant associations. Forests ecosystems cover about 47% of the country's territory, or about 464,800 ha, according to the State of Environment Report (MESP, 2008). Deciduous forests, primarily composed of oak and beech species, make up about 90% of these forests, while coniferous forests (spruce and pine) cover approximately seven percent.

Comprehensive inventories of species have not been carried out in Kosovo. Based on the information that does exist, however, Kosovo has about 1,800 plant species that have been described scientifically, and it is assumed that the number could be as high as 2,500 species. For the flowering plants, the Balkan Peninsula is the most species-rich part of Europe. According to the World Conservation Union/ International Union for Conservation of Nature (IUCN), the territory of the former Serbia and Montenegro, including Kosovo, together with the mountainous area of Bulgaria, make up one of six European centers and 153 world centers of plant diversity (REC, 2002).

It is estimated that the country has about 230 vertebrate species, about 150 species of butterflies, and an estimated 400 species of large, bottom-dwelling aquatic invertebrates. The greatest faunal diversity in Kosovo are believed to be in two of the most heavily forested regions of the country: the Sharr Mountains in the south, which shares a border with Macedonia, and the Bjeshkët e Nemuna ("Accursed Mountains") along the western border shared with Albania and Montenegro. These areas are thought to be the habitat of 154 species of birds, 147 species of butterflies, 37 different kinds of mammals, 13 species of amphibians, 12 species of reptiles, and eight species of fish. More than 100 species of mushrooms have been recorded.

The Balkan Peninsula in general is known for its high level of "endemism"—that is, of unique species found only in this region and nowhere else. An analysis of the flora of the Balkans found that about 27% of the species were endemic to the region. The mountains of the region, including those in Kosovo, are one of the most important Ice Age refuge regions of Europe, in which species that were found at lower elevations and were much more widely distributed during periods of colder climate can still find a suitable habitat. The isolation of many relict species on mountain ranges during the last several million years of changing climate is the main reason for the relatively high proportion of endemic species in the mountains of Kosovo and in the Balkan Peninsula in general.

The extent of agricultural biodiversity in Kosovo is unknown. An inventory has not been conducted, but the increased use of modern genetic varieties of the main agricultural crops and livestock breeds has undoubtedly led to the loss of much of the genetic diversity represented by the traditional breeds and varieties.

1.2 Protected Areas and Forest Management

Protected areas are an important mechanism for conserving biodiversity. Approximately 46,000 ha, or 4.27% of Kosovo's national territory, has been given protected area status of some type or other (see

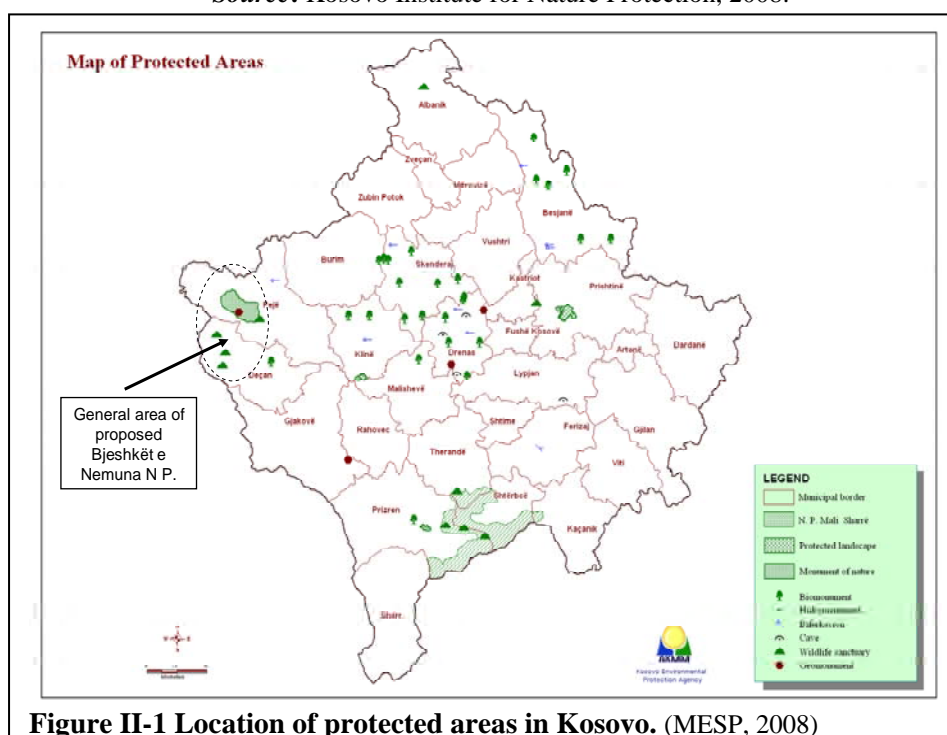
Table II-1). The distribution of these protected areas is shown in Figure II-1. Plans to designate Bjeshkët e Nemuna as Kosovo's second national park would double the total area in protected areas to approximately 10% of the nation's territory. This initiative has been in the planning stages for more than seven years. Lack of awareness of the conservation value of the area, and of the local economic benefits that could result from its designation as a national park, have slowed the designation process. A conflict between the MESP and MAFRD over management responsibilities for forested areas has also politicized its designation as a national park. Lack of coordination and trust between protected area authorities and local municipalities undermines the sustainable management of many protected areas, including Sharr Mountain National Park.

Nature conservation in Kosovo is very often understood in very narrow terms and based on prohibitions of uses, rather than on principles of sustainable use of biodiversity as a resource for development. This reduces the support of local residents living and working in protected areas. Modernizing strategies and plans for the management of protected areas is therefore a high priority.

Table II-1: Network of Protected Areas in Kosovo.

TYPE	IUCN CATEGORY	NO.	AREA (HA)
Nature reserve	I	11	847
Plant		7	
Animal		2	
Special		2	
National park	II	1	39,000
Natural monuments	III	59	4,909
Speleological		4	
Hydrological		10	
Geomorphological		5	
Botanical		36	
Memorial		3	
Forest park		2	
Natural museum		1	
Protected landscape	V	2	1,681
Total		72	46,437

Source: Kosovo Institute for Nature Protection, 2008.



The majority of Kosovo's forests are less than 60 years old (MESP, 2008). Because the older forests are likely to harbor the most significant species diversity and represent the most intact forest ecosystems, it is important from a biodiversity conservation point-of-view that the remaining older forests be identified and protected if possible.

Of the approximately 465,000 ha of forested land in Kosovo, approximately 60% is state owned and 40% privately owned. Approximately 20% of all forests are considered degraded, according to the latest State of the Environment report (MESP, 2008). Kosovo Forestry Agency (KFA) officials stated in interviews that they would like to have a better understanding of the status and use of forest lands in small private holdings.

Information on the freshwater ecosystems of Kosovo is extremely limited. If such information was collected when Kosovo was a part of Serbia and the former Yugoslavia, it is not available now as far as the assessment team could ascertain. Although watersheds, rivers, lakes, reservoirs, estuaries and wetlands are mapped, there is very little information about the status of the ecological communities they support. Rivers flowing from the mountains of Kosovo cross neighboring countries to enter the Black Sea, to the Aegean Sea and to the Adriatic Sea. Transboundary issues are potentially important, not only in the conservation of aquatic biodiversity, but also in terms of water use and mitigating the effects of pollution. Part I of this document discussed the role of aquatic pollution prevention and its potential role in EU accession.

1.3 Environmental Legislation, Plans, Programs and Strategies

The Law on Nature Conservation was approved by the Assembly of Kosovo in March 2005, and it provides the main framework for biodiversity conservation. Two key EU Directives (Birds and Habitat Directives) as well as other international agreements were taken into account while preparing this law, indicating the high priority placed on this theme as part of preparations for joining the EU.

Since 2003 the Assembly of Kosovo also has approved a number of other laws and directives that may help protect the environment and promote biodiversity conservation. Implementation and enforcement of these laws and directives is not necessarily strong, however.

In most cases sub-legal acts are still missing, but more importantly, an appropriate organizational structure does not exist to monitor and actively enforce the laws and directives. A lack of qualified technical staff and low budgets in relevant agencies also hinders conservation and environmental management.

The Kosovo Environmental Action Plan (KEAP) (MESP, 2006) considered the development of a Strategy and Action Plan for the Protection of Biological Diversity in Kosovo to be a high priority. The Law on Nature Conservation passed in 2005 also called for this, but unfortunately such a Strategy and Action Plan still has not been developed.

The Kosovo Environmental Action Plan also recognized that public awareness and education is an integral part of biodiversity conservation, and that an informed and engaged citizenry is needed for the "active public involvement in all decision making processes relating to the future of environment."

The KEAP identifies the need for a new version of the Law on National Parks, or a review with changes to the existing Law on the Sharr Mountain National Park. It also recommends a review of the status of protected areas in light of the new 2005 Law on Nature Conservation, and the adoption of new regulations and guidelines as necessary. Resolving the ambiguity of management responsibility (between MESP and MAFRD) for forest land inside protected areas is a clear need. As noted above, this dispute has delayed the designation of the Bjeshkët e Nemuna as Kosovo's second national park,

and complicated management planning for forest blocks within the well-established Sharr Mountain National Park (Dana, 2009).

As noted above in Table II-1, the protected areas system of Kosovo includes a number of nature reserves (IUCN Category I classification) designed to protect specific single species of plants and animals. At present these Nature Reserves are only a paper designation, with no agency responsible for their management or plans for their maintenance and development.

The Law on Forestry (2003/6, 2004/9) provides the legal framework for forest management in Kosovo. It defines forests as a national resource, and provides the basis for promoting sustainable forest management and more efficient use of forest land. The Ministry of Agriculture, Forestry, and Rural Development is responsible for implementing this law. The Kosovo Forest Agency, established in 2003 by the Law on Forests, is responsible for the management of forests on public land and also for management oversight of forests on private forest land.

Kosovo has not yet developed a national Red List of Threatened Species, which requires working with the appropriate Red List Authority and Species Specialist Groups of the IUCN. This is a priority activity identified in the Kosovo Environmental Action Plan (MESP, 2006), and Kosovar and international specialists are still discussing the process for developing the list for Kosovo. According to the Strategic Environmental Analysis of Kosovo (REC, 2000), 27 species included in the Serbian Red List were found in the mountainous area of Kosovo that is now part of the Sharr Mountain National Park, and 26 species in that area were included in the 1991 European Red List of Globally Threatened Animals and Plants. Currently, the IUCN and the European Commission are working together on an initiative to assess around 6,000 European species according to IUCN regional Red Listing Guidelines. Groups to be covered include all mammals, amphibians, reptiles, freshwater fishes, butterflies, and dragonflies and damselflies, plus selected vascular plants, molluscs, and beetles. To date, European regional assessments have been completed for mammals, reptiles, and amphibians. This assessment also provides a rough guide to the regionally threatened species in Kosovo.

1.4 International Conventions and Treaties

Kosovo is not a party to any of the international environment or biodiversity treaties. Scientists and environment officials inside and outside of Kosovo recognize that it is critical for the country to join the Convention on Biological Diversity (CBD), Ramsar Convention on Wetlands, Convention on International Trade in Endangered Species (CITES), World Heritage Convention, and the Convention on Migratory Species (CMS), and the UN Framework Convention on Climate Change (UNFCCC). (In Part 1 a similar list of conventions and treaties related just to water resources was also presented.) The Kosovo Environmental Action Plan (KEAP) (MESP, 2006) places a high priority on Kosovo becoming a member of international biodiversity conventions, protocols, and agreements. This is also recognized in Kosovo as an important step toward joining the EU: “In regard to international biodiversity conventions and agreements, high priorities should be placed by the Kosovo authorities in starting the aforementioned process. This should be done regardless of waiting for Kosovo’s final status [of membership in the EU].” (MESP, 2006, p. 38)

2.0 THREATS TO BIODIVERSITY IN KOSOVO

Direct threats to biodiversity worldwide are of five general types (USAID, 2005):

- Habitat loss, conversion, or degradation;
- Overexploitation or overharvesting of valuable species;
- Pollution of water, air, and land;

- Invasive non-native species; and
- Macro-environmental change (e.g., global climate change).

This assessment found that in Kosovo, habitat loss, water pollution, overexploitation of certain species, and possibly climate change are the most important types of threats.

The lack of certain basic information about biodiversity in Kosovo makes it difficult to evaluate the seriousness of these direct threats in many cases. Species and vegetation inventories and other baseline information are either lacking or out-of-date. The Kosovo Environmental Action Plan (MESP, 2006) recognized that “lack of complete inventory and cartography of species, habitats and ecosystems” is a priority problem for conserving biodiversity.

Kosovo’s biodiversity resides largely in its natural forest ecosystems (because forests are the predominant ecosystems), and so the largest threat to biodiversity in the country is loss and degradation of all types of natural forest habitats. Clearing of forest for agriculture, pastures, and industrial and urban infrastructure is occurring, although these causes of forest loss are not identified as a major cause of forest loss in the Kosovo Environmental Action Plan. One cause of forest loss listed in that plan is “degradation of forest land due to exploitation of stones and gravel.” This does not seem likely to affect large areas of forest, however.

Forest degradation from wood extraction is identified as a major threat to Kosovo’s forests, and according to the Kosovo Environmental Action Plan “as a consequence of inappropriate management of forest in the past, the result is heavy degradation of forests.” Both illegal and legal but poorly managed timber extraction are contributing to the threat of forest degradation. Most wood products removed from Kosovo’s forests are used for fuel wood and construction (MESP, 2006). According to statistics from the Kosovo Forestry Agency (KFA), approximately 222,000 m³/year of wood is cut for construction and fuel wood. According to the Food and Agricultural Organization inventory project, the average annual growth of forests in Kosovo is about 3 m³ per hectare (Luma, 2009). If this estimate of the forest growth rate is accurate, Kosovo’s 465,000 ha of forests should produce about 1.4 million m³ of wood per year, suggesting that sustainable forest management should be able to sustain the country’s need for wood products. However, at the present time the KFA reported to the assessment team that more wood is imported than is produced (Luma, 2009).

In addition to forest loss from clearing and harvesting, wildfires are a threat to rare montane pine forests, and fire protection strategies are needed to protect them against this threat. Air pollution is known to damage forests, both directly and through the acidification of precipitation. Although this is likely to be occurring in Kosovo, this was not identified as a threat in the Kosovo Environmental Action Plan (MESP, 2006).

Overharvesting of species of high value, such as certain traditional medicinal plants collected by rural residents, is a threat to some species in Kosovo. Illegal hunting and fishing also threatens some species, according to the Environmental Action Plan.

Pollution from industry is clearly identified as a priority threat to biodiversity in the Kosovo Environmental Action Plan (MESP, 2006). Aquatic ecosystems and species are threatened both by loss of wetlands and riparian habitats and by water pollution, which threatens aquatic species and communities. The plan notes that wetland conservation is an aspect of nature protection that has been neglected in Kosovo. Natural wetland and riparian habitats are being lost due to urban and industrial infrastructure development, and to sand and gravel extraction. Rivers, streams, and aquifers are regularly tapped to irrigate lands, especially in the agriculturally rich zones bordering the Drini I Bardhë and the Lepenci river systems. As pointed out in Part 1, Section 2.1, many of these river systems are extremely polluted. As for terrestrial ecosystems, information about aquatic species and communities is rudimentary, out-of-date, or not accessible.

Water is an undervalued and poorly understood resource in the national economy of Kosovo, as was pointed out in Part I of this assessment report. The recent decision to form a Water Task Force in the

MESP may help the government, civil society, and the private sector gain important perspectives about water, and develop a strategy and action plan that will help to protect water supplies and prevent water pollution. This would be a significant step in the conservation of aquatic biodiversity.

The species composition of aquatic ecosystems, in particular large, bottom-dwelling invertebrates (macro-benthic invertebrates) such as insects, worms, and snails, have been used as indicators of water pollution. Species are differentially sensitive to pollution of many types, so some species are lost before others in polluted waters, and the composition of the community changes from its natural state. Using internationally recognized techniques and procedures, the natural biodiversity of Kosovo's aquatic ecosystems could be used to monitor pollutants and provide clues about pollution sources.

The effects of global climate change on the terrestrial, aquatic, and agricultural ecosystems of Kosovo are likely to be due to both changes in precipitation and temperatures. Regional climate change models are not yet able to provide accurate predictions of these changes, however. A warmer, drier scenario would exacerbate the already significant water shortages that now exist during the summer months in Kosovo. Forest species composition and distribution would probably change, responding to these climatic factors. Montane ecosystems at the highest altitudes may be at risk from warming temperatures, threatening some of the endemic, Ice Age relict species found disproportionately in these mountain habitats.

3.0 ACTIONS NEEDED TO CONSERVE BIODIVERSITY IN KOSOVO

3.1 Actions Needed

This section identifies the main actions that are needed to address the causes of the threats to biodiversity summarized in the previous section. This analysis of "actions necessary" is the first requirement for a country Biodiversity Assessment under the terms of FAA Section 119 (d). In this section we also review briefly the capacity of the Government of Kosovo to undertake the necessary actions to conserve biodiversity. The following needs emerge from this analysis as the highest priorities:

1. Develop better biodiversity baseline information at both ecosystem (e.g., vegetation/habitat types) and species levels. A "Red List" for Kosovo that indicates the conservation status of threatened species is needed, as is training for the managers of forests and other natural resources in the monitoring of biodiversity.
2. Become a party to international conservation conventions and treaties including the CBD, Ramsar Convention on Wetlands, CITES, World Heritage Convention, CMS, and UNFCCC.
3. Update the Law on National Parks in order to provide a foundation for modern practices in protected areas management and to resolve jurisdictional ambiguities between the MESP and MAFRD with regard to managing forest lands in protected areas.
4. Complete a Strategy and Action Plan for the Protection of Biological Diversity in Kosovo, which provides mechanisms for integrating biodiversity concerns in relevant sectors including water, energy, agriculture, forestry, and transportation.
5. Improve public awareness and understanding of biodiversity as a resource for sustainable development, so that citizens can participate actively in environmental decisions and take appropriate responsibility for environmental conservation, leading to greater participation of civil society in biodiversity conservation.
6. Increase economic incentives for biodiversity conservation through the development of sustainable forest products enterprises and ecotourism.

7. Develop the financial and human resources are needed to enable the KFA to implement and enforce the Law on Forestry, in support of sustainable forest management, and incorporate the conservation of forest biodiversity as a fundamental principle for such management.
8. Improve pollution prevention and monitoring, and promote clean production in the energy and industrial sectors, including air and water pollution.
9. Develop alternative heating energy sources that can reduce fuel wood demand for heating.

3.2 Capacity of Government of Kosovo Institutions to Address Threats

The main ministries concerned with the environment and biodiversity in Kosovo, the Ministry of Environment and Spatial Planning and the Ministry of Agriculture, Forestry and Rural Development, are relatively weak ministries. The Government of Kosovo currently does not see environmental protection and management, including biodiversity conservation, as a high priority. As a consequence, the relationships of the Government of Kosovo both with its own citizens and with international donors lack a vision of how the country's biodiversity and environment can contribute to economic development.

The low priority given to environmental issues by the Kosovo government leads directly to meager budgets for the MESP and MAFRD. As a result, these two ministries struggle within the government just to maintain themselves, rather than furthering their missions.

Since the 2003 USAID Kosovo Biodiversity Assessment, significant legislation has been enacted, including the Law on Nature Conservation and the Law on Forestry, as discussed in Section 1.3 above. Kosovo now needs to develop the human resources, invest the needed financial resources, and enable the full participation of its citizenry to fully implement this legislation. Activities aimed at enabling Kosovo to join the EU will contribute to some of the needed actions.

3.3 Other Donor and Partner Activities

The actions needed to conserve biodiversity and protect the natural environment of Kosovo present excellent opportunities for donors to work together to support the Government of Kosovo in carrying them out. A number of European Union countries are supporting activities that contribute to improved environmental management and biodiversity conservation in Kosovo, including forestry, water and sanitation, cleaner energy, and environmental planning. Part I of this document discussed some of these, and Annex E lists some of the current donor and NGO projects and programs identified by the assessment team. Opportunities are available for USAID to work in partnerships with other donors and NGOs, and to learn from and replicate successful activities that assist Kosovo in protecting its environment and conserving its biodiversity.

The Swedish International Development Cooperation Agency (SIDA) has supported sustainable forestry development in Kosovo through several activities, including the Forestry Emergency and Rehabilitation Project, Institutional Support for Forest Institutions, Forestry Inventory Project, and support of trainings in forestry. SIDA also has supported a number of environmental strategy development activities, including the draft Forest Strategy. Norway is supporting capacity building in the Kosovo Forestry Agency. Several donors, including USAID with its Kosovo Private Enterprise Program (KPEP), are instituting measures that seek to bring international standards, monitoring and transparency to logging contracts, and chain of custody regulations for the transport of forest products. The European Agency for Reconstruction of the EU is funding the Kosovo Sustainable Forest Management, which is assisting the Government of Kosovo to identify sites for inclusion in the Natura 2000 ecological network of protected areas as well as with other activities to improve sustainable forest management and biodiversity conservation. Its aim is to optimize the management of forests in Kosovo as a resource for the economic, social, and environmental well-being of the people of Kosovo.

4.0 POTENTIAL CONTRIBUTION OF USAID KOSOVO TO ACTIONS NEEDED

The second element of a country Biodiversity Analysis, under the terms of FAA Section 119 (d), is to examine possible USAID contributions, if any, to addressing the actions required to mitigate threats to biodiversity. Links to USAID Kosovo's current portfolio and possible activities within its AO Results Frameworks are described below and in the Summary Matrix, Table II-2.

The USAID Mission in Kosovo is currently involved in several projects that can be broadly classified as environmental activities. Each of these USAID activities, as is most of USAID's portfolio in Kosovo, is aimed at helping this new nation move toward membership in the EU. Two current USAID-funded projects have direct links to the health and integrity of Kosovo's environment, one aimed at water delivery to residential users, and the other focused on privatization of power transmission by Kosovo's parastatal electric utility, KEK.

The SIWS Program works to improve delivery of clean water to residences in villages, and has taken appropriate environmental mitigation measures for the installation of the piping and pumping equipment. The energy sector Network and Supply project's assistance also affects the environment. The assessment team observed efforts to encourage KEK to undertake additional measures that would conserve and improve water use at the production plants. If implemented this would also reduce threats to biodiversity downstream from the energy plants. USAID's K-WISER water project, scheduled to begin in late 2009, will improve water conservation and water delivery, and reduce leakage from Regional Water Company delivery systems.

The Government of Kosovo and donors have recently signaled their interest in forming a Water Task Force that would report directly to the prime minister to help raise the awareness of the importance of water within the government and public. USAID anticipates participating as a donor observer in the Task Force, and it should use the opportunity to raise awareness of the issue of water pollution as a threat not only to human health, but also to aquatic biodiversity.

KPEP, managed by USAID Kosovo's private sector team, has been engaged in activities that will help reduce some of the identified threats to biodiversity in Kosovo. Several of its activities, when implemented, will contribute to improving forest management and biodiversity conservation in Kosovo. For example, through KPEP, a forest specialist is helping the forest industry achieve accreditation under the Forest Stewardship Council (FSC) so that it can audit and certify specific forest harvesting enterprises and ensure that internationally recognized practices and standards for sustainable forestry are being applied. When coupled with a value chain accreditation program, FSC certification provides assurance that forest products are harvested from sustainably managed forests. FSC certification will make wood products, including non-timber forest products (NTFPs), more marketable and valuable in Europe and throughout the world. FSC standards and value chain principles are also planned to be applied to NTFPs, which will also ensure that valuable wild species are sustainably managed and not overharvested. KPEP has received an environmental compliance certification.

The KPEP is also engaged in improving the forest concession process, which is necessary to control logging. Project staff are working to improve a draft law on public-private partnerships that will provide incentives for long-term investment to forest concession holders. This should improve forest stewardship and reduce forest degradation, a major threat to biodiversity.

Finally, KPEP is working with the tourism industry in Kosovo to build the capacity of small tourism enterprises, as well as the hotel industry in general through the Kosovo Tourism Association. These activities may serve as a platform for raising awareness of the need to conserve forests and natural scenery as tourism resources, although they are not part of any national program to promote nature-based tourism. Tourism opportunities are abundant in areas near Sharr Mountain National Park and the mountains along the western border; around Pejë, at the mouth of the Rugova Gorge; and the Decani Monastery, a World Heritage site. These destinations have a high potential for tourism, combining natural, cultural, and historical values (Municipality of Pejë-Pec, 2008). Tourism that is at

least in part nature-based would help to raise national and international awareness of Kosovo's biodiversity and natural environment.

USAID has significant regional experience with activities that have helped reduce threats to biodiversity and improve its management and long-term conservation, and USAID Kosovo can draw lessons from this experience for the design of future activities that would contribute to biodiversity conservation. In Macedonia, for example, a USAID-funded project has assisted small NTFP entrepreneurs learn about and implement packaging, handling, and marketing standards to meet or exceed European protocols. In Albania, Albanian foresters were trained in forest management planning and implementation of international standards of forest zoning. In Bulgaria, USAID worked with the Ministry of Environment to build capacity in developing and implementing management plans for three national parks and one nature reserve. The Bulgaria Biodiversity and Economic Growth program also supported the development of the first national ecotourism strategy and action plan in Europe, which involved more than 30 municipalities and drew cooperation from dozens of small entrepreneurs and civil society organizations. In Bosnia, USAID supported a private sector cluster activity that helped identify and inventory forest industry processing capabilities (including for NTFPs), and also developed a national ecotourism strategy.

5.0 CONCLUSIONS AND RECOMMENDATIONS

USAID/Kosovo's current and planned activities are making a contribution to meeting some of the actions needed to conserve biodiversity in that country. In many cases the contribution has been indirect, and not aimed explicitly at biodiversity conservation as an objective. Nevertheless, USAID's work has contributed indirectly to five of the nine priority "actions necessary" identified by this analysis (see Table II-2). USAID can continue and extend these activities, and thereby continue to make an indirect contribution to meeting some of the biodiversity conservation needs of Kosovo. If it chooses to do so, USAID Kosovo could take advantage of the opportunity to focus some of its current and planned activities related to building civil society, providing economic opportunities, and strengthening the water and energy sectors more explicitly to meet needs for biodiversity conservation. Finally, if it chooses to do so, and if funding is available, USAID could contribute more to assisting Kosovo with biodiversity conservation in a number of ways. These opportunities are summarized in Table II-2 below.

Table II-2: Biodiversity Analysis Summary Matrix: Threats, Actions Needed, Contributing USAID Activities, and Recommendations

Threats to Biodiversity	Actions Needed	Contributing USAID Activities (current and/or planned)	Opportunities and Recommendations for USAID
<ul style="list-style-type: none"> Habitat loss and degradation Overexploitation of species Pollution Climate change 	1. Develop better biodiversity baseline information at both ecosystem (e.g., vegetation/habitat types) and species levels for terrestrial and aquatic ecosystems. A “Red List” for Kosovo that indicates the conservation status of threatened species is needed, as is training for the managers of forests and other natural resources in the monitoring of biodiversity.	None existing or planned	USAID could support Kosovo to acquire and make use of regional databases (or from the former Serbia and Montenegro) as a baseline for its own inventories and database.
<ul style="list-style-type: none"> Habitat loss and degradation Overexploitation of species Climate change 	2. Become a party to international conservation conventions and treaties including the CBD, Ramsar Convention on Wetlands, CITES, World Heritage Convention, CMS, and UNFCCC.	None existing or planned	USAID could tailor the implementation of its public participation and civil society building activities (AO 2.1 and AO2.2) to raise public and governmental awareness of these international conventions and the benefits of becoming a party to them.
<ul style="list-style-type: none"> Habitat loss and degradation Overexploitation of species 	3. Update the Law on National Parks in order to provide a foundation for modern practices in protected areas management and to resolve jurisdictional ambiguities between the MESP and MAFRD with regard to managing forest lands in protected areas.	None existing or planned	USAID could tailor the implementation of its public participation and civil society building activities to ensure adequate citizen participation in updating this legislation (especially in support of intermediate result (IR) 2.1.1 and IR 2.2.1).
<ul style="list-style-type: none"> Habitat loss and degradation Overexploitation of species Pollution Climate change 	4. Complete a Strategy and Action Plan for the Protection of Biological Diversity in Kosovo, which provides mechanisms for integrating biodiversity concerns in relevant sectors including water, energy, agriculture, forestry, and transport.	None existing or planned	<p>USAID could tailor the implementation of its public participation and civil society building activities (especially in support of IR 2.1.1 and IR 2.2.1 to ensure citizen and civil society/NGO participation in developing a national Biodiversity Strategy and Action Plan.</p> <p>USAID’s activities in the water, energy (in support of AO 4.3), and forestry (in support of AO 4.2) sectors provide opportunities to inform these sectors of their role in biodiversity conservation and USAID could tailor the implementation of these projects to do so.</p>

Threat to Biodiversity	Actions Needed	Contributing USAID Activities (current and/or planned)	Opportunities and Recommendations for USAID
<ul style="list-style-type: none"> Habitat loss and degradation Overexploitation of species Pollution Climate change 	5. Improve public awareness and understanding of biodiversity as a resource for sustainable development, so that citizens can participate actively in environmental decisions and take appropriate responsibility for environmental conservation, leading to greater participation of civil society in biodiversity conservation.	<p>AO 2.1 is linked to this need, especially IR 2.1.3, "National and municipal assemblies more open to citizen input." AO 2.2 also is clearly and strongly linked with this "action necessary." Under AO 2.2 USAID is seeking "Strengthened mechanisms for citizens to represent their interests and hold government accountable."</p> <p>Under IR 2.2.1 USAID is seeking "Increased professionalism of citizen groups and journalists to monitor government activities and influence policy."</p>	USAID could identify some promising environmental and conservation NGOs for support through its activities to strengthen civil society (see Annex H). Under IR 2.1.3 or IR 2.2.1 these NGO's might be strengthened as more effective environmental advocates or as watchdog groups.
<ul style="list-style-type: none"> Habitat loss and degradation Overexploitation of species 	6. Increase economic incentives for biodiversity conservation through the development of sustainable forest products enterprises and ecotourism.	<p>USAID is supporting both forestry and ecotourism and activities that support IR 4.2.2, "Targeted sectors increase their ability to compete in domestic and international markets."</p> <p>KPEP is supporting the application of internationally recognized practices and standards for sustainable forestry and value chain accreditation for forest products. Both KPEP and the Effective Municipalities Initiative provide a framework for the development of a national ecotourism strategy. USAID currently works with the Kosovo Tourism Association under the KPEP to promote the country's tourism potential. Municipalities such as Prizren and Peja where USAID has an active presence could be leaders in developing a national ecotourism strategy to benefit communities, municipalities and private enterprises.</p>	USAID has the opportunity to continue supporting a number of activities, such as KPEP, which will contribute to increasing the economic incentives for sustainable forest management and biodiversity conservation.

Threat to Biodiversity	Actions Needed	Contributing USAID Activities (current and/or planned)	Opportunities and Recommendations for USAID
<ul style="list-style-type: none"> Habitat loss and degradation Overexploitation of species 	7. Develop the financial and human resources needed to enable the KFA to implement and enforce the Law on Forestry, in support of sustainable forest management and incorporating the conservation of forest biodiversity as a fundamental principle for such management.	KPEP is helping to develop the FSC's Standards Development Group in Kosovo, to establish chain of custody certification, and to increase community awareness and involvement to reduce illegal logging.	USAID/Kosovo should continue these actions in support of the FSC standards that will ultimately improve marketability and value of Kosovo forest products in Europe and throughout the world.
<ul style="list-style-type: none"> Pollution 	8. Improve pollution prevention and monitoring, and promote clean production in the energy and industrial sectors, including air and water pollution.	In support of AO 4.3, USAID/Kosovo's support for energy sector reform is contributing to meeting this need. Water sector activities that protect watersheds and water sources from pollution and conserve water area contributing to meeting this need.	As an observing member of the Water Task Force, USAID has an opportunity to call attention to water pollution as a serious threat to aquatic ecosystems and species. USAID has the opportunity to focus more explicitly on water pollution in its water sector programs.
<ul style="list-style-type: none"> Habitat loss and degradation Overexploitation of species 	9. Develop alternative heating energy sources that can reduce fuel wood demand for heating.	In support of IR 4.3.4, "Improved efficiency of energy used," including the sub-IR of "Development of enabling environment for residential energy efficiency," USAID may be contributing to a shift in fuel sources.	USAID could more explicitly link its work in the energy sector, especially under IR 4.3.4, with developing fuel sources to replace wood fuel for heating and cooking.

ANNEX A: REFERENCES CITED

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ANNEX B: UNITED STATES FOREIGN ASSISTANCE ACT (FAA)

PART I, SECTION 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).

(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.

(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).

(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.

ANNEX C: SCOPE OF WORK

ATTACHMENT I

STATEMENT OF WORK

Environmental Threats and Opportunities Assessment (ETOA)

I. Objectives of the Assessment

The objective of this task order is two-fold:

- To conduct a country-wide assessment of environment issues in Kosovo, with particular emphasis on those related to the Mission's current work in the electricity and water sectors; and
- To update the country biodiversity analysis that was completed in 2003 by Associates in Rural Development (ARD) in response to the requirements of Section 119(d) of the Foreign Assistance Act (FAA) of 1961 (as amended) and ADS 201.3.9.2 (rev 2008).

II. Background

The USAID/Kosovo Mission has been providing assistance to Kosovo since 1999. The Mission is currently operating under the 2004-2008 Strategic Plan for Kosovo, as updated and amended by the annual Operating Plan. Under this strategy the Mission has four major strategic objectives:

- Improved Policy and Institutional Climate for Productive Investment
- Accelerated Growth of the Private Sector
- Civil Society and Government are More Effective Partners in Achieving Good Governance
- More Open and Responsive Government Acting According to the Rule of Law

The Mission also implements a Special Objective (Energy) to support Kosovo's transformation toward self-government and a market economy by assisting in the process of transforming the publicly-owned enterprise, Kosovo Electric Corporation, into a commercialized profitable company. Cross-cutting programs in conflict mitigation have directed assistance at the minority communities within Kosovo.

A new Mission strategy is currently being developed, one which will most likely continue to emphasize assistance in the areas of democracy and governance and economic growth. This assessment is being undertaken to better inform that strategy and to identify possible new interventions and ensure that environmental issues and priorities are incorporated where needed and practical. The Biodiversity section of the report is intended to meet the requirements of FAA 119. Upon completion of the assessment, the Mission will submit the report to the Bureau's Environmental Officer for final approval.

The Contractor should build on work done to date, including but not limited to, USAID/Kosovo's 2003 Biodiversity Assessment and the European Commission's recently completed report, "Environment and Biodiversity: Local Action Plans for Kosovo's Municipalities".

USAID Policies Governing Environmental Procedures

The U. S. Foreign Assistance Act of 1961 Section 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 requires 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, Section 119(d)."

This requirement is also articulated in USAID's Automated Directives System (ADS), Section 201.3.8.2 on, mandatory environmental analysis for strategic plans. The ADS regulations also indicate that while not required, an Operating Unit "can save time and be more efficient by including all aspects of environment when undertaking the mandatory biodiversity and tropical forestry work." For example, these environmental aspects may include topics such as water resources, urban environmental issues and private sector concerns.

III. Statement of Work

Task Number 1: State of the Environment Report

The Contractor shall make use of the Report Outline delineated in Attachment 1 of this Statement of Work as a basis for the development of the report. In conducting the assessment the Contractor shall use the following three-pronged approach that emphasizes the description of underlying root cause issues and understanding the enabling conditions rather than extensive descriptions of specific environmental problems:

- 1) Identify the underlying causes of environmental degradation and suggest strategic options to address them.
- 2) Identify and describe approaches and interventions by all levels of institutions (e.g., Government of Kosovo, donors, NGOs, private sector) and results obtained.
- 3) Analyze opportunities and constraints associated with all environmental elements.

The Contractor shall provide information on each of the environmental elements listed in the Report Outline using this approach as a means to focus their collection of data. As an attachment to the written report, the Contractor shall develop an information matrix for each primary environmental element identified (e.g., urban and rural environmental degradation, forests and biodiversity, watershed management, water resources management, energy sector issues including green and brown environmental issues). For example, under forest management the matrix will contain information on forestry sector constraints, underlying causes of constraints, the identification of field interventions, if any, by USAID and other institutions (past and present as appropriate), the enabling conditions necessary to achieve success, lessons learned from any successes or failures, and suggestions for accelerating success.

The Contractor shall identify opportunities to integrate and address environmental concerns within and related to the Mission's current and planned programs, especially as they relate to the Mission's current work in energy (*KEK Network and Supply Project and the Economic Management for Stability and Growth Project*) and water (*Small Infrastructure for Water and Sanitation*). The Contractor shall also examine other current and planned activities under the infrastructure, economic growth, local government, and health and education programs. The Contractor shall identify opportunities for the Mission to address environmental issues in the course of developing new activities and strategies. Finally, the Contractor shall provide recommendations about how the Mission can best integrate special political targets of opportunity (e.g., biodiversity, global climate change, and water earmarks) into its strategy.

Task Number 2: Biodiversity Report (FAA Section 119)

There are special legal requirements under the Foreign Assistance Act (Section 119) to obtain specific information on biodiversity as part of the development of a strategic plan. Task 2 is included for this reason. Specifically the following FAA Section 119 (d) country analysis requirements must be met: *Each country development strategy statement or other country plan prepared by the Agency for International Development shall include an analysis of the actions necessary in that country to conserve biological diversity, and the extent to which the actions proposed for support by the Agency meet the needs thus identified.*

Information gathered for the development of Part I (State of the Environment) should be used to feed into the Part 2 Biodiversity Report. This part of the assessment must include:

- A concise evaluation of the country-wide status of biodiversity, focusing on management issues, current and changing threats and required actions for conservation; and
- Identification of the extent to which these required actions for conservation can be satisfied by current or proposed Mission programs.

This section of the report should update the Mission's 2004 Biodiversity Report and include:

- Identification/Overview of Biodiversity Status and Threats, including
 - An overview of changes to the status of biodiversity in Kosovo since 2003¹
 - An overview of changes in the social, economic, and political context for sustainable resources management and the conservation of biodiversity, including the institutions, policies, and laws affecting conservation and endangered species; the national protected area system including all IUCN² categories of protected areas; and participation in international treaties.³
- Actions needed to conserve biodiversity, including
 - The scope and effectiveness of conservation efforts, including relevant activities by donor organizations, NGOs, universities, and/or other local organizations involved in conservation, and identification of responsible government agencies
 - Highlights of key institutional and policy constraints
 - Identification of priority actions to meet outstanding conservation needs
- USAID's program strategy as it relates to Biodiversity, particularly
 - The extent to which it is contributing to conservation needs
 - Any potential opportunities for USAID to support biodiversity impact consistent with Mission program goals and objectives
 - If relevant, any perceived potential areas of concern related to biodiversity impact with current or planned program activities

¹ Including ecosystem diversity, species diversity, threatened and endangered species, genetic diversity, agricultural biodiversity, ecological processes and ecosystem services, and values and economic of biodiversity and forests.

² International Union for Conservation of Nature

³ An updated map of the protected areas system should be provided if available.

Methodology for Completing Tasks 1 and 2

In completing the above outlined tasks, the Contractor shall perform the following activities:

- 1) Hold pre-travel informal meetings and information gathering prior to traveling to the field.
 - Hold meetings with the Europe and Eurasia Bureau Environmental Officer and other pertinent AID/Washington staff to ensure full understanding of USAID environmental regulations/procedures and gather relevant information on regional programs.
 - Gather and review existing relevant background information of Kosovo's natural resources base and begin identifying organizations and key stakeholders involved in the sector. (The Mission will assist in providing an initial list of stakeholders and reference documents.)
 - Hold a planning and mobilization session to ensure that the team has agreed upon an approach and a division of labor to carry out the tasks once in the field.
- 2) Field a team to conduct the needed analysis in Kosovo.
 - Hold meetings with the Europe and Eurasia Bureau Environmental Officer and other pertinent AID/Washington staff to ensure full understanding of USAID environmental regulations/procedures and gather relevant information on regional programs.
 - Meet with USAID/Kosovo to get a solid understanding of Mission program objectives under its current and planned strategy.
 - Hold meetings with relevant government agencies, donors, and other organizations knowledgeable about environmental issues in Kosovo. The Contractor shall gather information, recommendations and experiences about past and planned activities for the local officials and persons directly involved in biodiversity.

- Continue to perform a literature review on each of the topics listed in the Report Outline. It is especially important to document and analyze any other environmental assessments or large sector assessments that could provide insights on potential impacts on the environment. In consultation with the Mission identify appropriate sites for field work and conduct targeted field visits in order to collect the necessary information for the report and information matrices.
- 3) Prepare the report, which should generally follow the outline provided in Attachment 1.

IV. Team Composition

The Contractor shall field a five-person team for this assignment. The Contractor is free to propose the mix of personnel that is deemed most appropriate, ensuring that the team proposed can competently cover all of the required areas within the time set for the consultancy.

International Technical Assistance (3 persons): Senior-level Natural Resource Management specialists with expertise to meet the requirements of both the FAA 119 and FAA 117 analyses and have combined experience in the following areas: biology, zoology, forestry, environmental science, or a field closely related to natural resource management or conservation; environmental management and environmental compliance; energy, renewable energy, energy efficiency; water resources, water supply, waste management.

Significant experience in international conservation programs and environmental impact assessments is also required. Knowledge of USAID programming and strategic planning, as well as experience in the region, is highly desirable. The Team Leader should have experience in conducting evaluations and/or assessments USAID or other international organizations and proven organizational skills. Both technical experts should have excellent communication skills and proven ability to write clear and well-reasoned analytical reports.

Local Technical Assistance (2 persons): Senior-level Natural Resource Management Specialist with demonstrated experience in Kosovo environmental law, regulations, and policies governing environmental management in Kosovo; Senior-level Technical Specialist in natural resource management and/or one of the technical areas noted above. Good contacts within the Kosovo government agencies, NGOs, international donors, and the private sector is preferred.

Translation/Logistic Services: It may be necessary to hire a translator to conduct required interviews and meetings as well as a driver for site visits outside of Pristina.

V. Deliverables and Reporting Requirements

The primary deliverable under this Award is a report addressing the two main sections specified in this Statement of Work. This report should not exceed 50 pages (30 pages for Part I and 20 pages for Part II), excluding annexes. The report and associated annexes must conform to the requirements of Section 117 and 119 of the Foreign Assistance Act where applicable.

The team is required to provide two in-country Mission briefings: one briefing midway through the field work and an exit briefing before departure from Kosovo. A draft report is due to USAID/Kosovo for comments before the team's departure from Kosovo. Comments will be provided to the team within 5 working days of receipt of the draft. The final report is due no later than 30 days after the team receives the Mission's comments. Two hard copies and one electronic copy in Word Format shall be provided to the USAID/Kosovo Mission control officer as well as the E&E Bureau Environmental Officer.

VI. Anticipated Level of Effort

The Level of Effort (LOE) for this assignment is 106 person days for the 5 technical experts, to be allocated as follows:

- Information gathering and meetings in Washington (6 days total)
- Travel, field assessment, analysis, and preparation of the draft report (5-person team, 18 workdays each)
- Final report preparation (10 days total)

Schedule: Work under this Award shall start immediately after its signing. The Contractor is expected to propose a schedule that will initiate field work with two weeks of signing. The Contractor shall coordinate logistical arrangements with the USAID/Kosovo Mission Environment Officer or his/her designate, and prepare a draft schedule of meetings and site visits acceptable to Mission staff.

Logistics: The Contractor is responsible for providing transportation, office space, and other logistical arrangements. The Mission will assist the team by providing key references, documents, and contacts available in country. The Mission will help facilitate meetings with donors, host government agencies, and NGOs to the extent possible. The team shall coordinate logistical arrangements, site visits, and meetings with the Mission Environment Officer.

ATTACHMENT 1
REPORT OUTLINE
for
Environmental Threats and Opportunities Assessment (ETOA)

Table of Contents
List of Acronyms
Executive Summary
Background
Findings

PART 1: State of the Environment

- Brief overview of current environmental condition and issues in Kosovo
- Threats to identified ecosystems
- Potential effects of climate change on Kosovo's ecosystems
- Environmental and natural resource hazards and degradation (urban and rural)
- Environmental and other policies impacting natural resources and ecosystems
- Institutions in the environment sector and affecting environmental status
- Underlying causes of environmental degradation
- Approaches and interventions used by all institutions (e.g., NGOs, government, private sector and donors) and results obtained.
- Opportunities and constraints associated with all environmental elements
- Indicators of environmental damage/health and potential monitoring systems
- Key links between economic growth, health and governance activities and environmental threats and opportunities

PART 2: Actions Necessary and Planned to Conserve Biodiversity

- Brief overview of current biodiversity and of conservation management in Kosovo
- Threats to biodiversity
- Capacity of Government of Kosovo institutions to address threats
- Capacity of USAID to address threats within existing portfolio
- Current IUCN Red List
- Environment-related Legislation and Concepts, Plans, Programs and Strategies (highlight changes since 2003)
- International Conventions and Treaties (highlight changes since 2003)
- Other donor and partner activities
- Recommendations
- Strategic options for addressing underlying threats to biodiversity, forests and ecosystems
- Integration of environment into USAID/Kosovo activities
- Opportunities for partnerships
- Potential for carbon and climate projects (e.g., REDD)
- Opportunities for policy development and economic growth activities that have the potential to contribute to better management of natural resources
- Conclusion

List of Contacts
References

- END OF ATTACHMENT I -

ANNEX D: PERSONS CONSULTED/INTERVIEWED 2 – 26 JUNE 2009

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ANNEX E: DONOR AND NON-GOVERNMENTAL ORGANIZATION FUNDED PROJECTS IN KOSOVO

Project	Donor (Implementer)	Duration	Budget (USD or Euros)	Project Description/ Issues Addressed
Biodiversity, Forestry & General Environment Projects in Kosovo				
Support to private forest sector in Kosovo	Netherlands Development Organization (SNV)	2009-2012		Strengthening private forests.
Institutional Support to Ministry of Agriculture, Forestry and Rural Development	EC funded Implemented by: AGRIFOR Consult SA	2006-2008	1.8 M EUR	Strengthening capacities of Ministry of Agriculture, Forestry and Rural Development.
Kosovo Sustainable Forest Management Project	EC funded Implemented by: PM Group Ltd.	2007-2009	1.2 M EUR	Supporting sustainable forest management in Kosovo with focus in national parks, help identification of areas matching criteria of Natura 2000.
Local Development Strategies (LDS) Project	EC funded Implemented by: BDPA, HCL, and Arcadis Euro	2006-2008	1.7 M EUR	The LDS project has produced (in close cooperation and agreement with the municipalities) a Municipality Rural Profile (MRP). This profile is a synthesis of available information at municipal, regional, and national levels. The aim of the MRPs is to have a standardized profile to be used as the basis for planning and rural development.
Public Information Campaign	UNDP funded Implemented by REC	2008-2009	Unknown	Project will inform public and civil society groups in the Mitrovica region about the environmental abuses of past mining and industry activities and their impacts today on human and environmental health. Project will educate focus groups on preventative measures for lead poisoning; roles they can undertake to monitor; encourage public involvement in decision-making.

Project	Donor (Implementer)	Duration	Budget (USD or Euros)	Project Description/ Issues Addressed
Sustainable Kosovo: Capacity Building for Environmental NGOs	Netherlands DEGIS funded Implemented by the REC	2007-2009	Unknown	Project will provide relevant and adequate training to environmental NGOs to will contribute to their being leaders in developing sound socio-economic activities with a strong environmental consciousness.
Local Environmental Action Plan (LEAP)	Swedish SIDA funded Implemented by the REC	2007-2011	Unknown	Part of a regional, Southeastern Europe project designed to break the loop of resource depletion/environmental degradation linked to failing economies and poverty.
Green Pack	Netherlands DEGIS funded Implemented by the REC	2007-2010	Unknown	The aim of this project is to build capacities, transfer know-how, and establish the basis for further developments in education for sustainable development in the environment sector in Central and Eastern Europe.
Supporting Environmental Civil Society Organizations in South eastern Europe	Swedish SIDA funded Implemented by the REC	2006-2010	Unknown	A sector framework program to help environmental civil society organizations perform roles as drivers of community development in the area of environmental protection.
Water Projects in Kosovo				
Kosovo Piped Water Loss Repairs and Distribution Extension	USAID (IRD with CDF)	2008-2010	Unknown	Find and repair/ replace water-leaking potable water pipes and extend potable water distribution.
Kosovo Water Institutional Sector Reform	USAID (TBD)	Unknown	Unknown	Task Order to Indefinite Quantity Contract (IQC) to improve Water Institutional Sector Reform (K-WISER).
Institutional support to municipalities for implementation of the laws and regulations through MESP	ECLO (EU) Implementing EPTISA (CARDS)	Unknown	Unknown	Support municipalities to implement environmental laws and regulations.
Creation of river basing Authority for four river bases in Kosovo through MESP	ECLO (EU) Implementing GEF (CARDS); World Bank; SIDA	Unknown	Unknown	Capacity building of the Department of Water to create of river basin authorities and creation of basin-wide water management plans.
Compiling a water polluters cadastre in Kosovo	Norwegian Ministry for Foreign Affairs funded. Implemented by the REC	2009-2010	Unknown	The development of a water polluters cadastre will be an integral part a future water management information system and contribute towards an integrated water resources management policy.

Project	Donor (Implementer)	Duration	Budget (USD or Euros)	Project Description/ Issues Addressed
Closing the old land fields through MESP	ECLO (EU) Implementing COWA (CARDS)	Unknown	Unknown	Recover and close old land fields.
Kosovo Public Infrastructure (KPI – Water)	SCK, ADA, (CDI)	Unknown	Unknown	Supply rural and water areas in South-Eastern Kosovo with drinking water; technical support to MESP to improve water-resources management.
Kosovo National Water Management Plan project	World Bank & SIDA	2010	2,000,000 euros	Updating Jan David Mueller's 2005 Water Master Plan
Kosovo Water Task Force Project Partners Office of Prime Minister	Swiss Embassy	2008-2011	1,000,000 CHF	Develop national water master plan, improve donor coordination, advise the Prime Minister on water issues; develop long-term water sector management structure and relationships between corporate entities, municipalities, and central government.
National water-quality Assessment - MIPH	ECLO	Unknown	Unknown	Gather information and perform national water-quality assessment.
Rural Water Supply and Sanitation Programme	Swiss Development Cooperation & Austrian Development Agency funded. Implemented by Consultant Community Development Initiatives	2007-2009	SDC: 2,070,000 CHF ADA: 850,000 CHF	Project provides assistance in providing good drinking water to 15 rural villages within seven municipalities. Project is planned and coordinated with full participation and partnerships of the villages, municipalities and the RWCs. The RWCs will be responsible for the operation and maintenance of the systems at the project's completion.
Water Management-Operational and Financial Monitoring Project	Swiss Development Cooperation funded. Implemented by V. Muhaxhiri (local consultant)	2008-2009	125,000 CHF	Working with seven RWCs and the Kosovo trust Agency project aims to enhance transparency of operations, finances and services quality with standardized periodic monitoring reports. Staff capacity of the Water and Waste Regulatory Office responsible for implementing the monitoring instrument will also be enhanced.
South-Eastern Kosovo Water Supply and Sanitation Project, Phase 3	Swiss Development Cooperation funded. Implemented by Perreten & Milleret, SA	2007-2009	1,680,000 CHF	Using pilot demonstration zones this project supports RWCs and Water and Waste Regulatory Offices in Gjilan and Ferizai Municipalities in reducing water losses, increasing collection of fees, improving customer relations and work planning, and making operation and maintenance more efficient

Project	Donor (Implementer)	Duration	Budget (USD or Euros)	Project Description/ Issues Addressed
Rehabilitation and analyzing the old mine sites in Kishnica through MESP	UNDP	Unknown	Unknown	Reuse the minerals and rehabilitate, remediate, and restore the area.
Rehabilitation of leaking potable piped water	Oxfam, TIKA	Unknown	Unknown	
Skenderaj Wastewater Treatment Plant	Finland, EU	Unknown	Unknown	Construct/ operate pilot wastewater treatment plant.
Energy Projects in Kosovo				
American University in Kosovo: Center for Energy and Natural Resources (ENR)	German AID	Unknown	Unknown	Carbon-neutral energy initiative, integrated solid waste management, ground-heat recovery and heating.
GTZ-NALAS Partnership Supporting Regional Cooperation	GTZ	Unknown	Unknown	Supports GTZ-NALAS coordination and Energy Efficiency Task Force (EETF).
KEK Energy Distribution	USAID	Unknown	Unknown	Improve distribution of KEK electrical energy.
KEK New Power Plant	World Bank	Unknown	Unknown	Build new KEK power plant.
KEK Technical Assistance	USAID	Unknown	Unknown	Improve operations at KEK mining and electrical generation.
Improving Municipal Energy Efficiency	GTZ	Unknown	Unknown	Assist and support municipalities in improving energy efficiency and security.
Kosovo Public Infrastructure (KPI – Energy)	SECO	2007-2010	8,640,000 CHF	Increase supply of energy through construction of new power substation in Gjlani.
Modernization of Municipal Services (MMS)	GTZ (AMK)	2006-2010	Ph1 50,000 euro; ph2 \$80,000 euro; ph3 40,000 euro	Reduce grid-energy demand by improving energy-use efficiency in municipal buildings through co-financing upgrades.
Mititviva Street lighting project	GTZ	new	Ph1 75,000 euro; ph2 150,000 euro: ph 3 TBD	Use solar energy run street lighting.
Public buildings energy survey – MEM	GTZ, ECLO	new		

Key:

ADA	Austrian Development Agency	EU	European Union	SNV	Dutch donor
AMK	Association of Municipalities in Kosovo	GEF	Global Environment Fund	TIKA	Turkish International Cooperation and Development Agency
AUK	American University in Kosovo	IRD	International Relief and Development, Inc.	TBD	To-be-determined
CARDS	Community Assistance for Reconstruction, Development, and Stabilization	KEK	Kosovo Energy Corporation	UNDP	United Nations Development Program
CDF	Community Development Fund (NGO)	KPI	Kosovo Public Infrastructure	USAID	United States Agency for International Development
CDI	Community Development Initiative	MEM	Kosovo Ministry of Energy and Mining	USD	United States dollars

COWA	Companionship of Works Association (NGO)	MESP	Kosovo Ministry of Environment and Spatial Planning	
ECLO	European Commission Liaison Office	MMS	Ministry of Municipal Services	
EETF	Energy Efficiency Task Force	NALAS	Network of Association of Local Authorities of South Eastern Europe	
ENR	Center for Energy and Natural Resources	SCK	Swiss Cooperation in Kosovo	
EPTISA	Eptisa Internacional (Spanish NGO)	SIDA	Swedish International Development Cooperation Agency, Scanagri	

ANNEX F: REGIONAL INTERNATIONAL COMMISSIONS AND CONVENTIONS PERTINENT TO THE WATER SECTOR

The **International Commission for the Protection of the Danube River (ICPDR)** is an international organization consisting of 13 cooperating states (Germany, Austria, Czech Republic, Slovakia, Slovenia, Hungary, Croatia, Bosnia and Herzegovina, Serbia, Bulgaria, Romania, Moldova, Ukraine) and the European Union. Since its establishment in 1998, the ICPDR has grown into one of the largest and most active international bodies of river basin management experts in Europe. ICPDR deals not only with the Danube itself, but with the whole Danube River Basin, which includes also its tributaries and the ground water resources.

The ultimate goal of the ICPDR is to implement the Danube River Protection Convention: the ICPDR has also been nominated as the platform for the implementation of the EU Water Framework Directive. Its ambitious mission is to promote and coordinate sustainable and equitable water management, including conservation, improvement, and rational use of waters for the benefit of the Danube River Basin countries and their people. The ICPDR pursues its mission by making recommendations for the improvement of water quality, developing mechanisms for flood and accident control, agreeing on standards for emissions, assuring that these are reflected in the Contracting Parties' national legislations and applied in their policies.

The **Adriatic Sea Partnership (ASP)** was originally a Slovenian initiative in cooperation with the Regional Environmental Center. The ASP was launched at the Mediterranean Action Plan (MAP) sub-regional conference on the Sustainable Development Strategy for the Adriatic in Portoroz, Slovenia on June 5-6, 2006. The Adriatic Sea is the most endangered region in the Mediterranean Sea—a highly sensitive marine area facing serious environmental challenges. Home to some of the most significant treasures of world heritage, it is expected to be placed on the International Maritime Organization (IMO)'s list of particularly sensitive sea areas. The Adriatic region is economically significant for tourism and recreation, a major transport hub for energy resources, and one of Europe's most highly developed industrial areas.

The six states on the Adriatic (Albania, Bosnia and Herzegovina, Croatia, Italy, Slovenia, and Montenegro) include European Union member states, candidate countries, and others. Their recent history has been marked by intensive and diverse development with increasing adverse impacts on the Adriatic Sea. Protection and joint management of this region require a new approach to reach stability and sustainable development; protect resources; meet existing commitments (e.g. requirements of the Mediterranean Strategy for Sustainable Development and the EU); and coordinate action on future priorities.

The **Adriatic-Ionian Initiative (AII)** was formally established in May 2000. The countries that cooperate in the framework include Albania, Bosnia and Herzegovina, Croatia, Greece, Italy, Slovenia, Serbia, and Montenegro. The aim of AII is to link together coastal countries to cooperate and protect the entire region. Meetings are used to combat illegal activities and promote

environmental protection and sustainable development. Small and medium enterprises are encouraged to cooperate and there are also cultural, educational, and inter-university collaborations. The AII is part of the Framework of the Stability Pact, which makes explicit reference to the Initiative. The Framework on Environmental Protection and Sustainable Development (called the Adriatic Action Plan) was adopted in June 2003. The Adriatic Action Plan links together the AII Countries in efforts to reduce the negative impacts of human activities in the Adriatic-Ionian basin.

The **Barcelona Convention for Protection against Pollution in the Mediterranean Sea** is a regional convention to prevent and abate pollution from ships, aircraft, and land based sources in the Mediterranean Sea. This includes, but is not limited to, dumping, runoff, and discharges. Signers agreed to cooperate and assist in dealing with pollution emergencies, monitoring, and scientific research. The key goal of the convention is to reduce pollution in the Mediterranean Sea and protect and improve the marine environment in the area, thereby contributing to its sustainable development.

In 1976, 14 states (contracting parties) and the European Union signed the convention. During the review in 1995, all parties signed again. It came into effect on February 12, 1978. Members are all countries with a Mediterranean shoreline as well as the European Union. NGOs with a stated interest and third party governments are observers. The convention is applicable to the Mediterranean Sea including its gulfs and tributary seas, bounded to the west by the Strait of Gibraltar and to the east by the Dardanelle Strait. Members are encouraged to extend the application of the convention to the coastal areas within their own territory.

The 1976 Barcelona Convention covers dumping, storm water runoff, and industrial and municipal discharges. Signers agreed to cooperate and assist in dealing with pollution emergencies, monitoring and scientific research. The Barcelona Convention and its protocols, together with the Mediterranean Action Plan, are a part of the United Nations Environmental Programme (UNEP) Regional Seas Program.

The **Athens Energy Community Treaty** is an agreement between the EU and South Eastern Europe (SEE) countries to integrate their energy markets into the EU energy market. Kosovo has signed the agreement along with Albania, Bulgaria, Bosnia and Herzegovina, Croatia, Macadonia, Romania, Serbia and Montenegro. Members are committed to creating a Regional Energy Market and to introducing EU Standards such as the EU Large Combustion Plant Directive 2017 into their National Energy Sectors, including the establishment of independent electricity regulatory agencies. Integrated markets in natural gas and electricity will create a stable regulatory and market framework capable of attracting investments in gas networks, and power generation and transmission networks providing stable and continuous gas and electricity supply needed for economic development and social stability. SEE countries have about half the per capita primary energy consumption of EU countries but consumption per output is two to three times more than the Organization for Economic Co-operation and Development (OECD) average. This illustrates inefficient supply and use of energy that results in economic and environmental liabilities. The Treaty commits members to improve the environmental situation in relation to gas and electricity, related energy efficiency and renewable energy sources. It is expected that this treaty and commitments in the EU Large Combustion Plant Directive 2017 will significantly change the future application of best available clean coal technology for mining and power generation in Kosovo.

ANNEX G: PROTECTION OF THE ENVIRONMENT IN KOSOVO'S ENERGY STRATEGY



REPUBLIKA E KOSOVËS/REPUBLIKA KOSOVA/ REPUBLIC OF KOSOVA

QEVERIA E KOSOVËS / VLADA KOSOVA /GOVERNMENT OF KOSOVA

MINISTRIA E ENERGJISË DHE MINIERAVE/ MINISTARSTVO ENERGIJE I RUDARSTVA/ MINISTRY OF ENERGY AND MINING

Program for the Implementation of the Kosovo Energy Strategy for the Period 2006-2008

Sub-Program IV: Protection of the Environment

		Monitoring the schedule of implementation		Monitoring effectiveness			Data source	Proposed steps for improvement of the situation
No.	Measures/Activity/ Project	Planned completion date	Actual completion date	Outcomes expected	Outcomes achieved	Achieved results / Progress		
Segment IV.1: Compliance with the Environment provisions of the Energy Community Treaty								
1	IV.1.a(i) Fulfilment of obligations deriving from the Energy	ongoing		Implementation of the Environmental Directive-definition	EAR (Eptisa) Preparation of a	A document was drawn up for discussion on	Obligations that come from Energy	Compliance with requirements for Environment in Energy

		Monitoring the schedule of implementation		Monitoring effectiveness			Data source	Proposed steps for improvement of the situation
No.	Measures/Activity/Project	Planned completion date	Actual completion date	Outcomes expected	Outcomes achieved	Achieved results / Progress		
	Community Treaty, Environmental Acquis		31.12 2017	and classification of large combustion plants(LCP) to comply to EC Directive 2001/80, and presentation of reduction Plan, as per directive Envisaged for 2007/80	realistic plan for implementation of the acquis communautaire for environment with specific references to energy sector	Implementing Plan of the Directive on Large Combustion Plant 2001/80/EC On 07.12.06, Memorandum for cooperation between MEM and MESP was signed	Community Treaty MEM, MESP, and KEK	Community Treaty, particularly the Acquis Communautaire on Environment, , works ongoing in compiling an emission reduction plan.
2	IV.1.a(ii) Preparation of Position Letter on the Kyoto protocol and its implications for the energy sector of Kosovo	ongoing		Clear attitude of Kosovo in Position Letter toward Kyoto Protocol	Preparation of Position Letter	A document for discussion on preparation of Position Letter was prepared which anticipates some recommended actions for Kosovo	MEM, MESP, UNFCCC Kyoto Protocol	To finish discussions about preparation of Position Letter
Segment IV.2: Mitigation of damages to the environment done in the past								
1	IV.2.a(i) Reshaping and recultivation of the TPP Kosova A ash deposit and external overburden areas south of mines and west of Bardh	2013		Re-cultivation, re-designation of measures to stop the spreading of ash by means of the wind. Project design and environmental impact assessment.	Reduction of ash spreading from ash dumps	KEK has prepared and started to implement a project for protection from ash spreading or from water pollution from leakages, in existing ash dump.	Department of Environment-KEK)	To implement the project according to the time schedule

[illegible]

		Monitoring the schedule of implementation		Monitoring effectiveness			Data source	Proposed steps for improvement of the situation
No.	Measures/Activity/Project	Planned completion date	Actual completion date	Outcomes expected	Outcomes achieved	Achieved results / Progress		
1	IV.3 a(i) Rehabilitation of the dust control equipment and the electrostatic filters	2008		Fulfillment of requests by EU Directives 2001/80, in existing TPP	Announcement of a tender for doing rehabilitation work	In July 2006 rehabilitation of B1 electro-static filters was completed	KEK, Study of a 'Working Plan in Environment'- Carl Bro/2003	Electricity generating units should be provided with electro-static filters.
Segment IV.4: Prevention of pollution in the future								
1	IV.4.a(i) Establishment of Environmental Management System (EMS) within Energy Enterprises	2007		To create a clear picture of pollution sources, their extent and their effects on the environment			KEK	KEK to present a realistic environmental report including preparations for the establishment of EMS
2	IV.4.a(ii) Initiation of implementation of Environmental Monitoring at KEK facilities according to EU practices and standards	2007		To establish a monitoring system consistent with international standards	Designation of a monitoring system according to international standards		KEK, Study of a 'Working Plan in Environment'- Carl Bro/2003	KEK needs to establish a monitoring system

Protection of the environment

An Environmental Management System (EMS) defining settings for energy buildings has not yet been established. This EMS will support the initiation of Environmental Monitoring Implementation in KEK buildings, in accordance with EU standards and practices. Also, no actions were taken on phenol and phenol water avoidance, or measures for detailed studies on the former buildings for Gasification. In the meantime, MEM has signed a Memorandum of Understanding with MESP on the treatment of environmental issues in the energy sector.

Preparation of the Letter for the Kyoto Protocol has started even though a big question mark remains over this issue until the final political status of Kosovo is resolved.

a. Generation

A modest step was taken on environmental improvement in the generation sector where 2,087,117 euro was invested in electro-static filters for Unit B1

The following should be done in order to solve environmental problems:

- Maintain continuous contact between the active players, particularly between the sections responsible for environmental issues.
- Strengthen implementation of Law on Environment
- Provide financial resources from BKK (Kosovo Consolidated Budget) or donors
- Complete data and necessary documentation
- Accelerate resolution of actual problems in KEK, in coordination with their priorities:
 - Establishment of a Monitoring System in KEK Buildings,
 - Treatment of physical-chemical water (big challenge and expensive)
 - Gasification, (measures for phenol and phenol water avoidance and detailed studies about the former buildings for Gasification)

Conclusions and Recommendations

It is recommended:

- Maintain continuous contact between active players responsible for environmental issues
- Increase the enforcement of Law on Environment
- Ensure secure financial resources from BKK or donors
- Complete data and necessary documentation
- Consider solutions to the present coordination problems between with KEK and MESP in order to:
 - Establish a monitoring system in energy buildings
 - Treat the Physical-chemical water (very big and expensive challenge)
 - Gasification, (measures for avoidance of phenol, phenol water, and detailed studies on former buildings for Gasification)

General recommendation

- To establish an office for monitoring realization of the projects within KEK.
- To support strengthening of KEK management.
- To increase financing of energy sector, with electrical energy as the priority.

ANNEX H: NON-GOVERNMENTAL ORGANIZATIONS ACTIVE IN THE ENVIRONMENT SECTOR IN KOSOVO

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ERA Group Str. Eliot Engel 108/2; 30000 Peja, Kosovo	Fatos Lajçi, Coordinator fatoslajci@yahoo.com Web: www.eradirect.org ;www.era-group.net	Protection of natural resources, forestry especially development of Balkan's Peace Park
Shoqata Ekologjike/Ecological Association Str. Rugova, No 27, 20000 Prizren, Kosovo	Naser Bresa, Coordinator n_bresa@yahoo.com	Raising local environmental awareness through lobbying and advocacy campaigns, etc; capacity building for LNGOs
Kosovo Association of Ecologists Str. "Nene Tereza", Faculty of Mathematics & Natural Sciences, Prishtina, Kosovo	Behxhet Mustafa, Coordinator behxhetm@yahoo.com	Environmental awareness raising campaigns, environmental protection activities
Shoqata Ekologjike Eko Klina/Ecological Association ECO Klina Drini i Bardhe, Kline, Kosovo	Tafe Veselaj, Coordinator Tel: +381 39 70 533	Raising local environmental awareness
Shoqata Ekologjike EKO Trepça/Ecological Association ECO Trepça Str "2 Korriku", Parku Industrial Mitrovica, Kosovo	Ramadan S. Uka, Head of Office Uka_ramadan@yahoo.com	Recycling, awareness rising, advocacy, and researches
Development and Education Association DEA Str. Nena Tereze, 2-15 Prishtina, Kosovo	Valentina Berisha, Executive Director	Capacity building for environmental groups and NGOS, awareness raising activities , school activities (cleaning the school yards), etc
Shoqata e Intelektualeve te Pavarur/Association of Independent Intellectuals (SHIP/AII) Pallati i Kultures "Jusuf Gervalla" Deçan, Kosovo	Adem Lushaj, Executive Director Ademlushaj@hotmail.com	Raising local environmental awareness; main focus is on waste management activities.

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