

## **GEF CONCEPT NOTE**

### **Albania Integrated Water and Ecosystems Management Project**

<b>GEF Implementing Agency:</b>	<b>World Bank</b>
<b>Country:</b>	<b>Albania</b>
<b>Country Eligibility:</b>	<b>Albania signed the Convention on Biological Diversity in January 1994. Signing Party of the Barcelona Mediterranean Convention for the Mediterranean Sea (1976); Participant of the Regional Program for Conservation of Wetland and Coastal Ecosystems in the Mediterranean Region (UNDP) (since 1997)</b>
<b>GEF Focal Area:</b>	<b>Multiple: Biodiversity/International Waters</b>
<b>Operational Programs:</b>	<b>OP-12 Integrated Ecosystem Management: a) conservation and sustainable use of waterbodies, including watersheds, river basins, and coastal zones; b) prevention of pollution of globally important aquatic ecosystems; and c) reduction of net emissions and increased storage of greenhouse gases in terrestrial and aquatic ecosystems</b>
<b>Focal Point Review Status</b>	<b>Letter of Endorsement received on 4/05/01</b>

### **Country Background**

Pollution from Albanian land-based sources presents a clear threat to the Adriatic Sea environment, biodiversity of the coastal zone and also to the public health. Currently, municipal and industrial wastewater is being discharged without any treatment or monitoring either directly to the Adriatic Sea or to coastal rivers and marshlands, thus polluting international waterbodies, coastal areas, beaches, and also areas of existing and potential resorts. Municipal and industrial wastewater have already destroyed many natural habitats of coastal wetlands and rivers, their deltas and nearby sea bays.

### **Sector Context**

Degradation of the quality of trans-boundary water resources, caused mainly by pollution from land-based activities (nutrients, pathogens, and oxygen-demanding wastes) is an important problem for Albania. Four coastal cities: Durrës, Lezhë, Saranda, and Shengjin (with the total population of about 350,000) do not have any wastewater treatment facilities and existing raw sewage outfalls are located either directly on the seacoast, on the bank of coastal rivers or on drainage ditches that after a short distance lead to the sea.

Water and wastewater services are the responsibility of the municipalities. Recently, the Government initiated the process of merging water and wastewater services. Water/wastewater companies have very low productivity. Operational revenues are in most cases insufficient to cover operation and maintenance costs due to very low tariffs, low levels of revenue collection,

insufficient metering, and a high number of illegal connections. Water supply is intermittent, e.g. two hours a day in Durres.

The water sector is one of the priorities of the National Government. Several lending operations from international financial institutions are supporting the rehabilitation of the water and wastewater systems in the country, including the cities of Durres, Lezhe, Saranda, and Shengjin.

The proposed GEF component will rely upon works that are already underway in the water and wastewater sector under the World Bank Water Supply Urgent Rehabilitation Project (US\$14.7 million, approved by the Board January 27, 2000). It is proposed as part of a World Bank Water Management Project, which is now under preparation and will be coordinated with the following other initiatives launched to support the wastewater and environment development sectors in Albania:

- IDA Credit: Water Supply Urgent Rehabilitation Project (P066491)
- IDA Credit: Social Services Delivery Project (P055383)
- Albania Biodiversity Enabling Activity (GEF, World Bank)
- Conservation of Wetland and Coastal Ecosystems in the Mediterranean Region (GEF, UNDP Regional Project)
- Strategic Action Program for the Mediterranean Sea (GEF, UNEP Regional Project)

### **Project Objectives**

The overall project objective is to improve water supply and sanitation services including the management of wastewater discharges to help preserve globally significant ecosystems. The GEF grant component will specifically address global benefits related to reducing impacts to international waters, conserving biodiversity in coastal and marine ecosystems, and potentially increasing the sequestration of greenhouse gases in terrestrial and aquatic ecosystems.

The main objective of the GEF component will be to capture global benefits by reducing land-based pollution from the four cities mentioned above and protect, restore and enlarge endangered coastal and marine habitats by introducing low cost ecologically based wastewater treatment technologies. The project will help promote and expand the use of man made wetlands for wastewater treatment in areas where existing pollution loads are threatening natural wetland systems critical for biodiversity.

The GEF component would specifically help protect and increase the habitat for endangered waterbirds, halophyte plants and other species of coastal marshes; restore tidal marshland that is currently polluted at unsustainable levels by untreated sewage; prevent destruction of the tidal marsh from sewage and avoid difficult and costly restoration in the future; create a buffer zone (constructed wetland) for the globally important tidal marshes; improve the habitat value of wetlands by creating connecting corridors between them; enhance protection of the Adriatic marine environment; improve environmental monitoring capacity in the participating areas; and replicate the results in other cities in the region and in neighboring countries.

## GEF Component Description

The GEF component of the project includes the following activities:

- (1) **(US\$3.75 million) Wetland and Habitat improvement subcomponent:** GEF funds would help finance redirection of existing wastewater flows to newly constructed wetlands for wastewater treatment in the areas of Durres and Lezhe/Shegjin. It will also finance creation of a habitat connection corridor between new and existing wetland areas;
- (2) **(US\$250,000) Saranda water quality and marine ecosystem improvement subcomponent:** Construction of the grit and oil removal unit and rehabilitation of sea outfall;
- (3) **(US\$100,000) Replication component.** This component will fund the dissemination of the project's findings in other cities of the region.
- (4) **(US\$100,000) Strengthening of the monitoring and enforcement capacity** in wetland and coastal area protection for the participating municipalities.
- (5) **(US\$85,000) Project management and monitoring.** The existing personnel of the World Bank's Water Projects PIU will conduct the project management and monitoring. This unit has experience in implementation of World Bank projects, including financial management and procurement. Only about one-third of the PIU costs (two staff persons per year, or US\$85,000) would be funded by the GEF.

## Project Linkage to National Priorities

The project is linked to the Albania – Biodiversity Strategy and Action Plan that was adopted by the Government in 1999 (sponsored by GEF). The World Bank/METAP is currently assisting the Government of Albania in updating the National Environmental Action Plan (FY01/02), which will prioritize environmental issues and identify measures for immediate action. Coastal zone management has already been discussed within this process as a high priority for Albania.

Currently, the United Nations Environmental Program (UNEP) is developing the Strategic Action Program to address pollution from land-based activities in the Mediterranean Region (SAP MED). The project would complement the SAP MED and the Regional Program for Conservation of Wetland and Coastal Ecosystems in the Mediterranean Region (UNDP), and assist the Government in meeting its international obligations under the Barcelona Mediterranean Convention (1976).

The reconstruction and rehabilitation of the wastewater systems is a prerequisite for environmentally sound development of Albania's coastal areas. Reduction of the untreated wastewater discharges and rehabilitation of the tourist attractive areas are among the primary priorities of the Albanian Government. Rehabilitation and clean-up of the Adriatic Sea coastal areas will be a substantial factor in further development of tourism business in the region and attraction of new investment in this part of the national economy.

With the gradual adoption of European Structures under the Stabilization and Association Agreement with the EU, the Government plans to place an increasing emphasis on environmental protection in the nearest future.

## Detailed Project Description / Global and Local Benefits

Durres (population 300,000): The IDA component will finance the management fee for the private operator who will be in charge of operating the sewerage and water supply system. For the sewerage system the following investment is anticipated under the IDA component: Rehabilitation or replacement of the main sewer trunk in the Durres beach area, to stop direct and

indirect discharge into the beach area. The sewage from the beach will then be discharged through the existing outfall located on a drainage ditch that leads to the sea, in an area away from the developed beach, but close to an undeveloped beach. This will improve the water quality at the developed beach. However, the water quality at the undeveloped beach and the drainage ditch would be further impaired. The drainage ditch joins other drainage ditches before the water is pumped into the sea. The pumping station is part of an existing drainage system, that was constructed in 1961 to drain a lowland marsh and use it for agriculture. Due to the poor quality of the saline soil, agricultural productions almost eased, but drainage continues to (i) avoid flooding of settlements and roads, (ii) protect small remaining agriculture plots, and (iii) discharge sewerage into the sea.

To improve the situation substantially, the following additional investment is proposed under the GEF component: Improvement of the eight kilometer long open drainage channel into which the sewage is discharged. The channel needs to be dredged to stop flooding of nearby houses, agricultural areas and meadows. A settlement basin with two chambers for sludge collection and removal is proposed near the point where the sewage is discharged into the ditch. This will prevent clogging of the ditch and reduce the load of the wastewater. It is further proposed to build a constructed wetland close to the drainage pumping station. The constructed wetland will be adjacent to a small remaining part of undisturbed wetland. Special attempts should be made to integrate the original wetland with the constructed wetland and to restore the original water regime of the area so that not only hygrophyte but also endangered halophyte vegetation can thrive. Attempts will be made to create a “Protected zone of managed resources” or an “habitat connecting corridor” between the combined constructed/natural wetland and the nearby (about 3 km) proposed Managed Nature Reserve “Rrushkull-Erzeni River Outlet” (According to the Government’s Biodiversity Strategy and Action Plan). This proposed Reserve has been identified as an Important Bird Area (IBA) for over 10,000 waterbirds and wetland birds. The proposed Managed Nature Reserve covers an area of 2,700 ha of which 1,400 is water surface.

The IDA component would cover the baseline cost that will generate local benefits by diverting the pollution away from the developed beach in Durrës. At present the Durrës Water and Wastewater Utility is not able to implement an environmental sound wastewater disposal practice. Should they become able to do so in the future, they would most likely prefer a conventional wastewater treatment method. Protection and enlargement of wetlands do not create the local benefits the utility is looking for. Instead the measures proposed for GEF funding would address global benefits by (i) saving the remaining undisturbed wetland habitat from destruction, (ii) conduct important habitat restoration by constructing a wetland in an area of a former wetland and thereby increase biodiversity, (iii) increase wetland habitats in the area, (iv) protection and enlargement of the habitat for endangered hygrophyte and halophyte vegetation and related species, (v) protection of biodiversity in nearby marine environment, (vi) saving of restoration cost by preventing the destruction of wetlands, and (vii) improving the habitat value of wetlands by creating an “habitat connecting corridor” between them.

Lezhe (population 30,000)<sup>1</sup> and Shengjin (population 12,000): The IDA component will finance the management fee for the private operator who will be in charge of operating the sewerage and water supply system. For the sewerage system the following investment is anticipated under the IDA component: Provision of heavy duty equipment for cleaning sewers and surface water drains and rehabilitation and replacement of critical sewers in Lezhe and Shengjin. This is expected to end the frequent (up to three months in a year) flooding with sewage that occurs in several settlement areas, including the area where a school is located.

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<sup>1</sup> The towns of Lezhe and Shengjin are served by one utility that serves the entire area around the town of Lezhe.

The following activities are proposed to be funded under the GEF component: Rehabilitation of the wastewater collector main and establishment of a constructed wetland near the existing wetland and connecting it to the existing sewerage system, protected by State. It will naturally process the collected wastewater prior to the final discharge into the Drinit River that runs through the Kune and Vaine tidal marshland. This will stop the current practice of discharging untreated sewage into the Drinit River, just approximately one kilometer before the river reaches the Kune and Vaine tidal marshland and is polluting the marshland at an unsustainable level. This will also increase the storage of greenhouse gases in terrestrial and aquatic ecosystems. According to the Government's Biodiversity Strategy and Action Plan, the Kune and Vaine tidal marshland, which covers an area of 1,700 ha, is proposed to become a Managed Nature Reserve. It is an area of very well developed aquatic (brackish and freshwater) vegetation and important area for waterbirds. Inside the marsh is a small typical Mediterranean forest and the Drinit river outlet is of particular importance for migratory fish species. Endangered species living in the proposed Managed Nature Reserve are e.g.: a) the globally threatened *Phalacrocorax pygmaeus* (Pygmy cormorant); b) *Myotis-myotis* (Mouse-ear bat); c) *Rana balcanica* and *Rana lecsone* (Frogs); and d) - *Lutra-lutra* (Eurasian river otter).

In the foreseeable future, the Lezhe water and wastewater utility will only be able to deal with the problems of flooding of sewage in the city. At the time the utility might become capable to implement sound sewage disposal, the fragile habitat of the tidal marshland will already be destroyed. The construction of a wetland does not generate any local benefits, therefore it can be expected that the utility would choose a conventional treatment system as soon as they can effort it. The GEF component instead would address global benefits that would otherwise not been achieved by (i) restoring tidal marshland that is currently polluted at unsustainable levels by untreated sewage, (ii) preventing reduction of biodiversity in the tidal marshland due to increasing inflow of sewage, (iii) avoiding difficult and costly restoration of the marshland later on, (iv) creating a buffer zone (constructed wetland) for the globally important tidal marshland, and (v) protecting and increasing the habitat for endangered waterbirds and other species of the marshland by adding a constructed wetland.

Saranda (population 30,000): The IDA component will finance the management fee for the private operator who will be in charge of operating the sewerage and water supply system. For the sewerage system the following investment is anticipated under the IDA component: Construction of a main sewer trunk to connect Saran, the new coastal settlement area south-east of the city, to the sewerage system. This, together with investment currently undertaken by EU PHARE, would reduce wastewater discharge directly along the beach area of the bay by directing it into the main collector. However, pollution from the existing sea-outfall directly at the shore-line in Saranda city would still impair the bay and beach area. The outfall in Saranda city is approximately 400 mm in diameter and extends about 80 meters into the sea. However, the outfall has leaks near the beach so that sewage is flowing directly onto the beach.

To improve the water quality and the marine ecosystem in Saranada bay, the following activities are proposed to be financed under the GEF component: Construction of grit removal and oil-trap units at the existing sea outfall and rehabilitation of the sea-outfall to prevent leakage near the beach. Saranda bay is adjacent to Ksamili bay, a site of 1,000 ha that is proposed to become a "Protected Landscape and Seascape Area", and 400 ha out of the 1,000 ha should be designated as Strict Nature Reserve (According to the Government's Biodiversity Strategy and Action Plan). Saranda bay acts as a buffer zone that reduces the transport of pollution into Ksamili bay and it is assumed that Saranda bay itself has a stressed, but still fairly intact globally important marine ecosystem .

At present the Saranda water and wastewater utility is not able to implement an environmentally sound sewage disposal practice. The GEF component will address global benefits by reducing pollution at the beach and protecting the marine ecosystem from destruction. Even if the Saranda water and wastewater utility should implement environmental sound disposal practice later, by then the marine environment would have been destroyed without the GEF component and very difficult and costly to restore.

### Cost Estimates

	US\$
Wetland and habitat improvement subcomponent	3,750,000
Saranda water quality and marine ecosystem improvement subcomponent	250,000
Replication component	100,000
Strengthening of the monitoring and enforcement capacity	100,000
Project management and monitoring	85,000
<b>Total GEF</b>	<b>4,285,000</b>
<b>IDA component</b>	<b>15,000,000</b>
<b>Municipalities' and Government contribution</b>	<b>8,000,000</b>
<b>TOTAL</b>	<b>27,285,000</b>

The total project cost is estimated at about US\$ 27.3 million, of which approximately \$4.3 million (or 16%) would be requested from GEF. IDA financing would be in the order of \$15 million. Co-financing from Government and municipalities is estimated at US\$ 8 million. The project is also complementing and will be closely linked to the World Bank's ongoing Albania - Water Supply Urgent Rehabilitation Project (\$14.7 million).

### Replicability

This project design will have a high potential for replication in Albania and other developing countries of the Mediterranean region. Natural wastewater treatment using constructed wetlands may become a demonstration area for the similar projects in Croatia, Bosnia and Montenegro, and other countries. A project component to help enhance replication within the region has been included in the design.

### Implementing Agency

The engaged municipalities assisted by the international private operator will implement the project. Project monitoring will be conducted by the World Bank's Water Projects PIU.

### Timetable

Activity	Period
Preparation work	June 2001
Pre-Appraisal	August 2002
Appraisal	October 2001
Board	March 2002
Start Implementation	June 2002
Completion	June 2007

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