

Government of Macedonia

United Nations Development Programme

Restoration of Golema Reka

Executive Summary

The main goal of the project is to formulate restoration plan for Golema Reka through: a) assessment of the present situation b) preparation of a main design for restoration of the river and c) physical measures for restoration of the riverbed and the watershed of Golema Reka. The project activities will be complementary to the UNDP-GEF Prespa Park project.

Part I. Situation Analysis

The Prespa Park region, situated in the Balkan Peninsula and encompassing parts of Albania, Macedonia and Greece, is a high altitude basin that includes the interlinked Macro Prespa and Micro Prespa Lakes and their surrounding mountains. It is considered to be an ecosystem of global significance and has been identified as one of Europe's 24 major trans-boundary "ecological bricks". The entire Prespa region hosts unique biotopes that are important from both a European and global conservation perspective. The lakes and wetlands are important over-wintering, breeding and feeding sites for numerous species of birds. The flora is composed of over 1,500 species, of which 19 are endemic. The aquatic ecosystems are also rich in endemic species and the avifauna is highly diverse, and includes the world's largest breeding colony of the globally vulnerable Dalmatian pelican and the endangered Pygmy cormorant. The lake area also hosts mammals, such as bear, wolf and lynx, that are endangered in Europe. In addition, the lake region is considered to be of great cultural and historical importance.

The governments of the three countries have recognized the importance of conserving the region's biodiversity through the establishment of five protected areas and a stated commitment to the development of a tripartite cooperative approach to its management as expressed through the Prime Ministerial Declaration on the creation of the Trans-boundary Prespa Park and the environmental protection and sustainable development of the Prespa Lakes and their surroundings, signed on the 2nd of February 2000.

The Macedonian part of Prespa region has a total population of approximately 18.000, spread between 40 village communities (4 of the villages are abandoned) and the town of Resen. Within the Prespa watershed, there are a total of 5 communities inside the national parks and other protected areas. Economically, the region is seriously depressed, resulting in increased migration, and high unemployment levels. Despite the rather low population density in the area and declining local and regional economies, the unique values of this ecosystem are being progressively eroded. Inappropriate management regimes and policies, changes in, or the intensification of specific human activities including unsustainable patterns of exploitation of natural resources, inappropriate land-use practices and solid waste solutions have led to progressive soil and water contamination, loss of forest cover, erosion and wildlife loss. Prolonged drought and tectonic activity over the past two decades have also contributed to a 7-8 meter decrease in the water level on the lake.

Prespa hydrological basin has ground waters (freatic and artesian); springs (mostly on Baba Mt., Bigla, Plakenska and a few on Galicica); surface water courses (intermittent and permanent: Brajcinska reka, Kranska reka, Golema reka, Bolnska reka, Istocna reka etc.).

Golema Reka is the largest and the most important river in the Prespa Lake watershed with total catchment area of 162 km². It covers wide range of different areas from mountainous to lowland wetlands in the delta area. Its spring is near the village of Krusje, and it passes through the villages Izbista, Jankovec, Gorna Bela Crkva, Dolna Bela Crkva and Ezerani, and the town of Resen. Its delta is placed in the strict nature reserve Ezerani.

The latest investigations show deteriorated water quality of Golema reka due to the pressures of settlements and human activities. About 30 years ago there was rich biodiversity in the river and streams. Nowadays the water is so polluted that no ichthyofauna exists. The main sources of pollution of the river are wastewaters produced by households, industries and agriculture. Local farmers having orchards near the river often are using the water from the river for washing the pesticide spraying equipment and disposing off pesticide bottles and boxes into the riverbed.

Another big problem of the river is the inappropriate solid waste management in the town of Resen and the rural communities of the Prespa Lake watershed. However, UNDP/SDC project

“Support to extension of the solid waste management service in the rural communities of the Prespa Lake watershed” will very much help in solving this serious problem. Namely the project will help in organizing the solid waste management in the villages around the lake and hence result in reduced disposal of solid waste into the river.

Although the forest cover dominates in the upper river catchment still erosion processes are present in some parts which results in sediment transport to the lake. A detailed study on the extent and intensity of the erosion hasn't been made so far, and there is a need of such assessment which will result in specific recommendations for measures that will mitigate erosion processes.

Often after heavy rainfall and snow melting agricultural land in the lower parts of the river catchment are flooded due to unmaintained and damaged riverbed.

Recently a KfW funded project for rehabilitation of the sewerage network in Resen and the villages of Jankovec, Carev Dvor and Ezerani solved a very big problem caused by communal wastewaters. Namely about 400 households that were disposing wastewaters directly to the river are now connected to the main collection system and are diverted to the existing wastewater treatment plant in Ezerani. However the problem with the industrial wastewaters remains unsolved.

Intensive agriculture in the region is also one of the main polluters of the river due to the agricultural run off and uncontrolled use of the water for irrigation purposes. Currently in Prespa there is significant overuse of pesticides and fertilizers due to the lack of information on nutrients level in the soil as well as sufficient meteorological information that will help in forecast of different pests and diseases in apple production in Prespa.

At the moment UNDP implements a project called “Reducing environmental impacts of agriculture in the Prespa region” whose main focus is to optimize the use of pesticides and fertilizers in apple production in Prespa. That will be achieved by developing the capacity of local agricultural associations and extension service to monitor basic information needed for giving recommendations on correct use of agrochemicals.

Part II. Strategy

The Government of Macedonia is committed to address the country's environmental issues as part of an overall strategy for economic and social development. Since independence, the government has taken significant strides toward developing its environmental protection capacities, sometimes along multi-sectoral lines or with a lateral approach.

It is apparent that certain progress in the field of environmental protection is made and that some key steps have been taken in recent years with preparation of new environmental legislature that is expected to be adopted in the Parliament very soon. However, many challenges remain, particularly in terms of investment, implementation and enforcement. The international community can provide crucial technical and financial assistance for the country's priority environmental initiatives.

The Government should articulate a strong strategic vision regarding environmental management issues. Among other things, this will require further streamlining of environmental legislation and policies. Environmental strategies and policies will need to be communicated to donors to increase their interest in environmental development assistance.

1. Links to the Full Size Prespa Project:

This project is complementing to the activities of the full sized UNDP GEF project which overall objective is to promote integrated ecosystem management of the Trans-boundary Prespa Park region with the participation of all stakeholders, and by enhancing cooperation among the three participating countries. The full project will significantly strengthen the institutional capacity of national, regional and local authorities to adopt an integrated approach to the conservation and sustainable use of the Trans-boundary Prespa Park, while ensuring the optimization of ecological, economic and social benefits arising from the use of its natural resources. It will foster the development and implementation of transboundary, inter-sectoral and participatory approaches to land-use planning, rural development, water management, and natural resource utilization. In so doing, it will encourage synergy between efforts aimed at the conservation of the region's globally significant biodiversity and important ecosystem functions, and strengthen the capacity to conserve, sustainably use, and effectively manage international water bodies on an ecosystem basis. It will also strengthen the management capacity of existing protected areas in the region

The project is also in line with the regional initiative on environmentally friendly rural development in and around cross-border protected areas. This initiative will be managed by RBEC's regional environmental governance programme, and will seek to promote sustainable environmental practices in local communities, by building the capacity of agricultural extension services and farmer's associations on sustainable agriculture techniques. The long-term objective of the program is to reduce agricultural run-off and pollution of the Lake while at the same time helping to preserve the unique flora and fauna of the area.

2. Other Links:

Tourism: the Municipality of Resen has adopted a strategy for alternative tourism development in the Prespa region. According to this strategy one of the main priorities for securing future tourism development is restoration and revitalization of Golema Reka as the biggest river in Prespa. The Municipality is willing to support any activity related to this issue as it is recognized by them as a big opportunity for economic development.

3. Goals and Objectives:

The main goal of the project is improved the environmental status of Golema Reka

The project specific objectives are:

- Improvement of the watershed 's natural ability for self purification;
- Removal of solid waste from the riverbed and riparian corridor
- Restoration of habitats and riverbed morphology
- Augmentation of riparian cover
- Protection of river substrate and enabling of re-colonization by native aquatic community

4. Planned activities:

1) Assessment of the Golema Reka catchment

The analysis will involve preliminary assessment of the overall status of the river catchment including: forest cover and other vegetation, geomorphology, land use, erosion, riverbed condition, riparian cover, wetland elements (meanders, wetlands, riparian corridors), socio – economic conditions of local population and their impact to the river.

The assessment will identify the main environmental concerns which will be addressed and analyzed in detail in the main design of the restoration measures.

2) Preparation of a main design for restoration of Golema Reka

Having in mind the complexity of riverbed restoration activities, there is a need for complex investigations in different relevant areas. Based on the recommendation of the preliminary assessment this activity will include, but not restrict to the following:

- Geomorphological and hydrogeological investigations including analysis of the erosion status in the catchment.
- Detailed phytological analysis of the riparian and riverbed vegetation
- Analysis of the condition of the forest cover and agricultural areas
- Review of climatological and hydrological investigations
- Hydraulic investigations
- Morphological investigations and analysis of the riverbed and suspended sediment load in the river
- Technical and economic analysis for the areas prone to floods
- Identification and quantification of pollution sources and loads
- Urban Planning of the riverbed with special emphasis on the environmental issues
- Detailed geodetic survey of the riverbed
- Stocktaking of current and future projects in the Prespa region and development of cooperation and synergy effects
- Elaboration of the restoration plan
- Establishment of the monitoring system for the water quality and quantity of Golema Reka

NOTE: all these topics need to be addressed in the main design, but the level of detail for each of them will be determined in the preliminary assessment.

3) Removal of solid waste from the riparian corridor

This activity will include cleaning of the waste dumps (construction waste, pesticide packages, waste apples etc.) in the riparian corridor along the river and in river bed.

4) Implementation of the Restoration plan

The restoration plan will concentrate on restoration of 10 km of stream corridor and wetland elements in the Golema Reka watershed. Under this activity a pilot restoration initiative on the Golema Reka will demonstrate "proof-of-concept" in regard to stream corridor and wetland restoration. Beside this measures for improvement of the environmental status in the wider catchments will be undertaken.

Monitoring plan for Golema Reka will be complementary to the environmental monitoring plan for Prespa Lake watershed proposed in the full size Prespa Park project.

5) Public Awareness Activities

Series of public meetings in the local communities will be organized in order to explain the importance of restoration of the pristine environmental values of the river and the catchments. These meetings with the local stakeholders will also be used to increase awareness of the negative impact of the human activities to river and lake ecosystem and to discuss appropriate measures that could be taken on community level to prevent further deterioration.

Public awareness activities will include preparation of leaflets and their broad dissemination among the local stakeholders. These materials could be also distributed to wider public because the activities that will be carried within the project could be easily replicated and the lessons learned could be shared with other rural communities in the country.

Part III: Management Arrangements

The project will be implemented under Direct Execution modality (DEX) with full responsibility of the UNDP Country Office in Skopje. UNDP Country Office will take full responsibility for the administration of the financial and human resources.

The Country Office will hold the overall responsibility for the production of outputs/implementation of activities envisaged. The management of project funds will be carried out according to UNDP financial rules and regulations, based on a work plan with a detailed budget.

The Project Implementation Unit (PIU) in Resen will be established in Resen. It will consist of a Project manager and a Project Assistant. The Project Manager will be responsible for the management of the project on day-to-day basis, and preparation of workplans and progress reports. The Project Assistant will support the PM in the day to day work

The project will be subject of regular UNDP monitoring and evaluation practices, including annual programme review. The purpose of the review is to identify in the early stages of the project the potential gaps, overlaps and other risks of successful implementation, as well as to identify potential partners and sources of information from which the project could benefit.

After the every six (6) months of project implementation, UNDP will prepare and submit to SDC a mid term reports, and at the end of the project, final narrative and financial report will be submitted to SDC according to the Agreement between UNDP and SDC.

Part IV: Monitoring and Evaluation

Standard UNDP reporting procedures for monitoring and evaluation will apply. These include:

- 1) A project review to be held once a year, to bring together UNDP and SDC in order to take stock of project progress vis-à-vis objectives, and to propose decisions to be taken on behalf of either UNDP or SDC;
- 2) An annual project report (APR) to be prepared once a year by the project, with the participation of all stakeholders;

The project will be subject to an audit, at least once during its duration.

Part V. Legal Context

This project document shall be the instrument referred to as such in the Article 1 of the Standard Basic Assistance Agreement (SBAA) between the Government of the Republic of Macedonia and the United Nations Development Programme, signed by both parties on 30 October 1995. The host country implementing agency shall for the purpose of the SBAA, refer to the Government co-operating agency described in the Agreement.

The following types of revisions can be made to this project document by the UNDP Resident Representative only, provided that other signatories of the project document have no objections to the proposed changes:

- 1) Revisions in, or addition to, any of the annexes of the project document;
- 2) Revisions which do not involve significant changes in the immediate objectives, outputs, or activities of the project, but are caused by the rearrangement of inputs already agreed to or by cost increase due to inflation.
- 3) Mandatory annual revisions, which rephrase the delivery of agreed project inputs or increased expert or other costs.

Section II: Results and Resources Framework

<p>Intended Outcome: as stated in the Country Results Framework: Improved capacity of national/sectoral authorities to plan and implement integrated approaches to environmental management and energy development that respond to the needs of the poor</p> <p>Outcome indicator: as stated in the Country Programme Results and Resources Framework: None</p> <p>Applicable Strategic Area of Support (SAS) (from SRF): G3 Environment SAS: G3-SQNT-SASN2 Institutional Framework</p> <p>Partnership Strategy: Ensure that the principles of sustainable development are incorporated in the national development agenda and that there is a synergy between environment protection and socio-economic development. Partnerships will allow many actors, each with their unique capacity, to join activities that promote ability to bring about change and social transformation. The partnership will support participatory process and provide technical inputs for developing a coherent vision to progress towards the MDGs and EU accession...</p> <p>Project Number and Title: Restoration of Golema Reka</p>	
	<p>Intended Output</p>
1.1.	<p>Assessment of the Golema Reka catchment</p>
2.1.	<p>Preparation of a main design for restoration of Golema Reka</p>
3.1.	<p>Removal of the solid waste from the riparian corridor</p>
4.1.	<p>Implementation of the restoration plan</p>
5.1.	<p>Public awareness activities</p>
	<p>Indicative Activities</p>
	<p>Inputs</p>
1.1.1	<p>Selection of consultants</p>
1.1.2	<p>Carrying out of the assessment</p>
1.1.3	<p>Submission of the assessment final report with recommendations for the main design of the restoration measures</p>
2.1.1	<p>Selection of consultants</p>
2.1.2	<p>Preparation of the main design for restoration of Golema Reka including all necessary investigations</p>
2.1.3	<p>Stakeholder consultation during main design preparation and presentation of the final main design</p>
2.1.4	<p>Submission of the final main design for restoration of Golema Reka</p>
3.1.1	<p>Cleaning of the waste dumps in the riparian corridor along the river and riverbed identified in the assessment process</p>
4.1.1	<p>Selection of contractors for implementation of the restoration plan</p>
4.1.2	<p>Implementation of selected restoration and measures</p>
4.1.3	<p>Establishment of water quality and quantity monitoring system for Golema Reka</p>
5.1.1	<p>Organizing public meetings</p>
5.1.2	<p>Preparation of leaflets and brochures and other promotional material</p>
	<p>PIU Consultants</p>
	<p>PIU Consultants Local Self Government</p>
	<p>PIU Contractor</p>
	<p>PIU Consultants Contractors Local Self Government</p>
	<p>PIU Local stakeholders</p>

Section III: Workplan and budget

Expected Outputs & Monitoring Activities	Key Activities	Timeframe				Responsible Partner	Planned Budget		
		1Q	2Q	3Q	4Q		Source of Funds	Budget Description	Amount (US\$)
Assessment of the Golema Reka catchment	1.1.1. Selection of consultants 1.1.2. Carrying out of the assessment 1.1.3. Submission of the assessment final report with recommendations for the main design of the restoration measures	X				UNDP	30000	71300	25,000
Preparation of a main design for restoration of Golema Reka	2.1.1. Selection of consultants 2.1.2 Preparation of the main design for restoration of Golema Reka including all necessary investigations 2.1.3. Stakeholder consultation during main design preparation and presentation of the final main design 2.1.4. Submission of the final main design for restoration of Golema Reka		X	X		UNDP	30000	71300	95,000
Removal of the solid waste from the riparian corridor	3.1.1. Cleaning of the waste dumps in the riparian corridor along the river and riverbed identified in the assessment proces		X			UNDP	30000	72100	39,000
Implementation of the restoration plan	4.1.1. Selection of contractors for implementation of the restoration plan 4.1.2 Implementation of selected restoration and measures 4.1.3. Establishment of water quality and quantity monitoring system for Golema Reka			X	X	UNDP	30000	72100	496,000
								72300	25,000
Public awareness activities	5.1.1. Organizing public meetings 5.1.2. Preparation of leaflets and brochures and other promotional material		X	X	X	UNDP	30000	72700	3,000
								74200	1,000
Project Management, Monitoring and Reporting		X	X	X	X	UNDP	30000	71400	40,000
								75100	15,000
								74500	5,000

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Country: Macedonia

UNDAF Outcome(s)/Indicator(s):

Improved national capacities for sustainable development, environmental protection and management of natural resources

Expected Outcome(s)/Indicator (s):

Good environmental governance on national and local level achieved

Indicators:

- 4.1.1. Policy, regulatory, institutional, financial, monitoring frameworks improved;
- 4.1.2. Local Agenda 21 and Vision 2015 developed and implemented;
- 4.1.5. Status and trends of environment monitored and reported upon;
- 4.1.6. Skills and knowledge to undertake new environmental competencies strengthened.

Expected Output(s)/Indicator(s):

Policy, institutional, regulatory and financial capacities in place for environmental management and energy efficiency

Indicators:

- Availability of trusted, reliable data;
- Capacities of relevant stakeholders enhanced

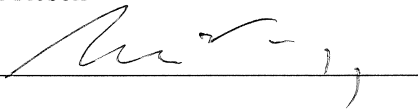
Implementing partner: Municipality of Resen

Programme Period: 2001 -2004
Programme Component:
Project Title: Restoration of Golema Reka
Project ID: _____
Project Duration: September 2005 – December 2006
Management Arrangement: DEX

Budget	744,000 \$US
General Management	
Support Fee	56,000 (7%)
Total budget:	800,000 \$US
Allocated resources:	_____

Agreed by: Municipality of Resen

Dimitar Buzlevski
Mayor of Resen



Agreed by UNDP:

Frode Muring
UNDP Resident Representative

