



CURRENT STATUS OF TOURISM AND WATER QUALITY IN THE ALBANIAN PART OF LAKES PRESPA

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SYNOPSIS

Key words:

Lakes Prespa,
tourism,
pollution,
wastewater treatment.

The present study describes the current tourism level in the Lake Prespa region and the estimated tourism impacts on the lakes water quality. Survey has been found by us to be almost the only practical means of collecting data. This study is built also on the collection of secondary data pertaining to the study area.

INTRODUCTION

The three major natural lakes (Prespa, Ohrid and Shkodra) that lie in the territory of Albania are all shared with other countries, and all are of tectonic origin. These water bodies and their watersheds along with Drin River comprise an interconnected groundwater and surface hydrological system, because there is a channel, which links the Micro and the Macro Prespa lakes between them. Then, the water flows from the Macro Prespa Lake to the lower Ohrid Lake, through underground ways of the Mali i Thatë Mountain, feeding two springs in Ohrid Lake, i.e. at Drilon (Albania) and Sveti Naum (FYR Macedonia). From Lake Ohrid springs the Drin River which enters in Lake Shkodra. Lakes Macro and Micro Prespa (~ 41°N, and ~ 21°E), connected between them, actually forming one wetland, are one of the largest water body of the Balkans (Crivelli & Catsdaorakis, 1997) (Figure 1). Lake Macro Prespa (surface area 253.6 km²) belongs to three countries: Albania, Greece and the Former Yugoslavian Republic of Macedonia (FYR Macedonia), while Lake Micro Prespa (47 km²) is shared between Albania and Greece. They are of Tertiary origin and have only underground outlets. The lakes are at 850 metres a.s.l. amidst mountains rising to over 2500 m a.s.l. (Crivelli & Catsdaorakis, 1997). There has been considerable human modification of the local hydrology with the diversion of the Aghios Germanos stream from Micro Prespa to Macro Prespa on the Greek side and of the River Devoll into Micro Prespa on the Albanian side. The region is internationally recognized as one of Europe's most ecologically important areas or biodiversity "hot spots" (Albrecht et al., 2008; Schultheiss et al., 2008), as well as an

ecosystem of global significance on account of the concentration of many rare and important ecological values. In addition to that, versatile cultural and traditional elements, valuable ecological sites, good food, picturesque villages and historical layers spread across the basin. The region hosts populations of numerous rare, relict, endemic, endangered or threatened species. The rate of endemism and sub-endemism among species in the region, which is partly due to the great habitat diversity concentrated in a small area, makes it unique and extremely important from a biodiversity conservation perspective at any scale, be that European or global. Prespa Lakes belong to the “Southeast Adriatic Drainages” freshwater ecoregion (Abell et al., 2008). In addition to its natural values, the lake region is considered to be of great cultural/historic importance with high potential for tourism. The region has been inhabited for several centuries. Numerous archaeological sites prove that in ancient times an important trade route of the Western Roman Empire – the Via Egnatia – passed close to the region. The Byzantine and meta-Byzantine monuments of the Prespa basin are numerous and an evidence of the rich cultural and historic heritage of the whole area.



Figure 1. Prespa Lakes Region. Source KfW, 2005.

Unsustainable agricultural, fisheries, water and forest management practices as well as unsustainable use of non-timber forest products is causing stresses on the ecosystem health of the Prespa Basin. Presently, tourism does not have a particularly severe impact on resources/biodiversity except for the inadequate

management of solid waste and uncontrolled wastewater discharge. The stresses on the environmental health have started to take their toll on tourism too, like the challenged appeal of the lakes as swimming resort due to eutrophication and increased pollution.

No wonder then that the promotion of tourism seems to be essential for the economic development of the area and the preservation of its historical, cultural and ecological identity. However, uncontrolled tourism may aggravate stress on ecosystems and unequal distribution of income opportunities, so a planned basin-wide approach is required. This refers both to many sectors supporting tourism activities, like roads, water supply and sewage, as well as coordinated, nature-based planning and marketing. Tourism is expected to increase over the next 20 years, calling for the development of communal and traffic infrastructure, and regional planning to encourage increased tourism. This, in turn, requires the improvement of the wastewater and solid waste treatment which currently do not suffice even for the needs of the inhabitants.

Tourism has been given a prominent role in Albania's development strategy, and Macro Prespa is considered one of the most important areas regarding the potential for tourism. However, this potential is unexploited due to the generally unfavorable economic situation and the lack of basic tourist infrastructure. Nevertheless, certain initiatives are directed to the Micro Prespa region in Albania.

In view of the character and the particularities of the region, large-scale or intensive development initiatives in any sector (intensive agriculture, mass tourism etc.) are often incompatible with the preservation of the values of the area. On the other hand, sustainable tourism respects ecological limits within which human activities should remain, and recognizes the interdependence of economic and environmental systems to provide for long-term socio-economic benefits. It refers to a variety of activities supporting tourism, and entails ecotourism as an environmentally responsible travel to relatively undisturbed natural areas, in order to enjoy and appreciate nature (and any accompanying cultural features - both past and present). Ecotourism promotes conservation, has low negative visitor impact, and provides for beneficially active socio-economic involvement of local populations, according to the International Union for the Conservation of Nature (Goldwin, 1996).

The preparation of tourism development plans should take full advantage of the valuable features of the entirety of Prespa Park, and should deal with each national section separately, while at the same time treating the region as a unitary tourism resource. This can be achieved by combining the advantages of each part while undermining any disadvantages with a view at a balanced distribution of the benefits.

MATERIALS AND METHODS

Survey has been found by us to be almost the only practical means of collecting data. The purpose of the survey was to collect general information regarding the impact of tourism on the Prespa Lake from the people who are most immediately affected by changes in the condition of the lake. Our survey was based on samples, which were taken following the strategy to meet statistical reliability objectives. A sample of 200 farm households was randomly drawn from the villages. Samples were selected using a table of random numbers. The head of each household was interviewed during September-October, 2009. However, some of selected farmers were not available and the next number in the random table was selected as a substitute.

The questions of questionnaire were separated into three categories. The first category consisted of questions on socio-economic characteristics of the household. The second category consisted of questions on water use and sewage treatment questions. The third category consisted of questions on value of water quality maintenance in the lake.

This study is built also on the collection of secondary data pertaining to the study area. This includes local and international published materials (i.e. UNDP/GEF Reports, 2004; KfW's Report, 2005), local and international reports and unpublished local information.

RESULTS AND DISCUSSION

CURRENT STATUS OF TOURISM IN LAKES PRESPA

This section of the study identifies the size and characteristics of available tourism markets for Prespa study area. Tourism in the lakes area is small-scale rural and family tourism, based on a few small hotels, private accommodation and restaurants (Grazhdani, 2008). Features of the lake area appreciated by visitors are especially the lake, clean air, quite and peaceful environment and historical sights. The region is known for the traditional and high quality food and its hospitable people. Today, tourism plays an important role, as access to rural areas has improved, and more and more people are traveling.

At present, tourism to the area is mostly limited to seasonal visits by tourists. The numbers and origin of visitors indicate that the Prespa area is more demanded by domestic and in particular by regional tourists from neighbouring countries. The rate of development of this tourism potential has been slow due to the lack of proper planning and financial constraints.

According to the data collected by us in Lakes Prespa area, the capacities for overnight stays in hotels are 34 beds, for private accommodation 440 beds and there are 11 restaurants with 375 seats (Table 1). The occupancy rate for the hotels

ranges from 10-20% (average 11.6%) and for private accommodation between 0.4 and 8% (average 3%). Restaurants are reported to have about 1 000 visitors per day at the weekends during the main summer season (July and August), resulting in approximately about 11520 visitors a year.

Table 1. Annual income of tourism in National Park Prespa.

Name	No of beds	Overnigh capacity	Overnights	Employees (per./seas.)	Income (€)
Accommodation					
Hotels	34	12 410	1 438	10/12	14 380
Private accommodation	440	160 600	4 824		24 120
Sub-total	4 744	173 010	6 262	10/12	38 500
Food					
	Seats	Capacity	Visitors	Employees (per./seas.)	Income
Restaurants	375	136 875	11 520	28/32	57 600
Total				38/44	96 100

The current state of tourist infrastructure presents an obstacle, in combination with the problems of other services in the area (telecommunications, drinking water etc.). The quality of the services offered calls for improvements too: boat trips, swimming, guided tours of historical monuments, insufficient number of nature observation points, small-scale conference facilities. The lack of public investment in the conservation and restoration of tourist attractions - archaeological, historical, cultural and ecological – is aggravated by the insufficient information and promotion. The stresses on the environmental health take their toll on tourism too, like the challenged appeal of the lakes as swimming resort due to eutrophication and increased pollution. The waste disposal problem in Prespa is important. The foreseen increase of visitors and changes in consumption patterns, request for good planning and the development of necessary infrastructure to accommodate future needs.

IMPACT OF TOURISM ON LAKE WATER QUALITY

Now that it has been established that the local economy and the businesses it supports are dependent on tourism it is only reasonable to ask: “*What is the tourism dependent on?*” This question, however, was not asked in the survey because it has long been understood that the lake is what draws people up here.

This section will be used to explore the community’s awareness of the impact on lake of water quality problems and its implications on the tourism industry. There is no single feature of lake which affects people’s enjoyment of the resource more than water quality.

For residents, the reason for choosing the location to live included water clarity (87%), quality of swimming (76%) and scenic beauty (83%). Over 80% of residents had specifically considered water clarity prior to constructing or buying their property. This illustrates the importance of water quality to the long term investment in a property.

Visitors and residents were asked if they would be more or less likely to chose the lake if water clarity was increased or reduced significantly (i.e. by one half). Respondents indicated that changes in water quality would substantially affect their choice, with 60 – 70 % indicating they would have been less likely to chose the lake if water clarity was degraded.

As was discussed previously, the water quality problem facing the lake is a matter of great concern to the community. This is a problem that not only affected those who lived on the lake, but also those visitors who came to enjoy the lake. So, water quality not only affects tourism but has the potential for significant economic impact throughout the local economy.

According the data collected by us may draw the following conclusions (Table 2). The concentration of dissolved oxygen was relatively high, an indication that the water is good for supporting aquatic life. The concentration of nutrients – nitrates, nitrites and phosphates are within the requirements of EC Directive for Cyprinid waters. The trace elements and metals in the Albanian side of the lake show that their concentrations are lower than the EC standard.

Table 2. Data on water quality for Lakes Prespa (June – September 2009).

Lake	Disolved O ₂ (mg/l)	BOD ₅ (mgO ₂ /l)	N-total (µg/l)	N-NO ₂ (µg/l)	N-NO ₃ (µg/l)	N-NH ₄ (µg/l)	P-total (µg/l)
Micro Prespa	7.05	3.48	258.4	6.2	174.3	49.5	27.0
Macro Prespa	7.66	3.45	265.3	8.91	181.1	46.6	26.8

To determine the reasons for the lake pollution and means for its clearing, the survey included a few questions. The first of such questions was: *“What are the reasons for the lake pollution in your opinion? Which is the most important reason?”* 66% of the total respondents rated their answer at “urban wastewater”, 18% “agricultural runoff”, 12% “hotels and restaurants”, and 4% “others”. However, in looking at the response to this question it is important to keep in mind a number of factors.

The second question intended to gauge the community’s opinion on who should take the responsibility of lake cleaning was: *“In your opinion, who should pay for the cleaning of the lake?” Who should pay the most?”* This is an important question to ask, because the respondents represent a large portion of the funding provided for the treatment, and therefore has a vested interest in the success of lake

clearing. 93% of them said “central and local government”, 5% “local people” and only 2% “tourists”. These responses were not surprising considering the experience of many of local residents and business owners.

Next question closely relates to the last, and again asks respondents to offer their perception was: “*How do you think they should pay (fee/tax) that could be used for cleaning the lake?*” Majority of those surveyed (61%) felt the pay should be in form of an annual fixed fee/tax, 39% in form of a variable fee/tax depending for people living in Park Prespa on how much they pollute and for tourist on days they stay there.

In preparing the survey to explore the tourism impact on lake water quality, it was necessary to ask a variety of question in an effort to determine the perceptions of the local community concerning to the level of sewage treatment. The first of two questions regarding the sewage treatment was: “*Are you connected to the sewage treatment system?*” The reply of the respondents was “no” with over 75% and no one pay for sewage treatment. To determine how satisfied the local people community was with their investment in the lake water quality, survey included the question regarding: “*What is the maximum you/your household would be willing to pay “in a one-time fee” if it guarantees better water quality in the lake Prespa?*” The response was fairly mixed, yet the majority answered positively with 86% of respondents answering “yes”, stating that they felt a special fee of € (15 – 40) per year is a reasonable price to pay for maintenance of the lake. In light of the potential losses that lakefront property owners faced, the cost of € 40 appears to be a reasonable price to pay for them.

The survey also was addressed to effective actions which will be taken to control lake quality. To touch upon this matter those surveyed were asked: “*Do you think the following action would be effective in controlling the lake quality? Which is more effective?*” The response to this question was undoubtedly mixed with 73% of respondents answering “development and implementation of strict environmental laws and regulations”, 13% “stakeholder participation/awareness campaigns”, 8% “intersectors and transboundry cooperation” and 6% “a fixed environmental fee/tax”.

CONCLUSIONS

Tourism is now limited to mainly local people, but the area has the potential to become an international destination. Economic growth will allow in time the development of a tourism infrastructure and the rehabilitation of historic sites and buildings. If the tourist facilities and attractions are set up in an ecologically sustainable way, negative impacts on flora and fauna may be limited. Impacts can even be positive if tourism earnings are invested in nature protection and development.

The lake is “the economic engine that drives the whole community of Prespa lake area”. The local economy of Prespa lake area is dependent on tourism to the area. Yearly visitor numbers in the lake region are relatively small and occupancy rates in hotels and especially in private accommodation are low. The estimated income of restaurants and hotels corresponds to the average household income in the area or is even higher.

In general, the quality of the lake water appears to be within the acceptable limits. Prespa lake areas face problems in wastewater treatment and solid waste management facilities. Pollution is likely to increase with growing economies, increasing prosperity, and a steady population growth. A majority of the local economy is directly connected to the lake water quality. Water quality in the lake directly affects the health of the tourism industry and thus the health of the overall local economy. Presently, tourism does not have a particularly severe impact on resources/biodiversity except for the inadequate management of solid waste and uncontrolled wastewater discharge. Commercial property would significantly drop if there were problems with the water quality of the lake. Lake front property values represent huge personal investments and a substantial public interest. What people are willing to pay for lakefront property reflects several factors including amenities such as house size, type of water supply and proximity to town center. It also reflects the perceived quality of the resource which draws the owner there: the lake itself.

An awareness campaign could be executed in some communities and at schools, combined with cleaning activities regarding the impact of tourism on the lake. Most of those who responded to pay for the improvement of the environment/water quality in the Lake Prespa feel that it is a reasonable price for the maintenance of the lake.

The tourism development in the future require, among others: protection of the waterbodies against pollution; restoration of historical monuments and traditional architecture; increase in the accommodation facilities; adequate road and transport facilities, reliable power and drinking water supply; cleaner environment & infrastructure (solid waste, waste water treatment); provision and management of beaches (cleaning).

For the Lakes Prespa, for the future of the tourism, a major goal is to promote development of a balanced and diverse regional economy that wisely uses the region’s natural, man-made and human resources, while respecting the limitations of the environment.

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Original research article

Received: 05 July 2010

