

Analyze of Socio Economic Status and Market Trends in Prespa National Park

Dorina Grazhdani
Agricultural University of Tiranam, Tirana, Albania
e-mail: d.grazhdani@yahoo.com

Abstract

There are a number of different stakeholders and resource users in the National Park Prespa (NPP), Albania. The most important consumptive resource use with regard to extend and potential conflicts with NPP is livestock breeding (grazing of animals and looping of fodder) and the extraction of firewood. Non-consumptive resource users (tourism, honey production, owners/users of gardens alongside lake, private landowners and settlements) do currently not exercise any particular severe pressure on Park resources except for general problems of communities (solid waste, waste water discharge). The overall income generated from resources use within the NPP is estimated of about 1 507 220 € at household level (excluding employment through the NPP itself). Dividing the above estimated amount by the number of the people in the NPP (about 5 325) corresponds to an annual per capita of about 283 €. This is about 35 % of the statistical per capita income in the region. Within the National Park Prespa there are no markets and shops for dairy products and meat through own subsistence production. There are no marketing and processing capacities inside the Park. Almost 100% of dairy products and 80% of meat is used for home consumptions. Small quantities of milk and cheese are sold to neighbors and 20% of meat is sold to traders at the farm gate and within the community (lamb and kid within the community and calf to traders).

Key words: National Park Prespa, stakeholders, socio economic status, household.

Introduction

Prespa area is an area internationality known for its ecological importance. Meanwhile, Prespa area abounds in rare animal and plant species, and contains some extraordinary examples of Byzantine heritage. Livestock, farming and fishing are the most important sources of income in the Prespa lowland.

The Prespa area in Albania (Macro and Micro Prespa), in 1999 was designated as a National Park Prespa (NPP) not only due to the specific geographical features: there are two lakes connected to each other, but and for its very high biodiversity, extremely rich flora and fauna and exceptional beauty. National Park Prespa lies in the South-Eastern part of our country, at the border to Macedonia and Greece.

Most of the households in Prespa Commune are engaged in agriculture (farming, and livestock production). Farming is labor intensive. Women's labor is particularly important in crop production, while men's labor is crucial in animal husbandry. Livestock husbandry is integral to the farming system (UNDP/GEF, 2004 a; 2004b). On average, households cultivate all of their land growing wheat, maize, potato, alfalfa, and vegetables. Almost all of households hold one or two cows mainly for milk, ten to fifteen chickens and few sheep and goats. Fishery is another important income source in Prespa. Most of farmers, also, have to rent tractors for cultivation, combines for harvesting, as well as family labor for fertilizer and seed applications. Poor farming methods, timbering, overgrazing and soil erosion have damaged severely some gently sloping to sloping soils, many of which are today abandoned to brush.

There is growing evidence that the values of many of the world's protected area are under threat and a considerable number are currently being degraded or are losing important values. A study carried out for WWF indicated that almost 70% of Europe's protected areas are exceeding critical loads of pollutants (Tickle *et al.*, 1995). In 1990, the *IUCN Register of Threatened Protected Areas of the World* listed 91 threatened protected areas in 50 countries (Thorsell, 1990). Regional studies summarized in *A Global Representative System of Marine Protected Areas* found that only 31 % of MPAs were generally achieving their management objectives (Kelleher *et al.*, 1995). *A Global Overview of Forest Protected Area on the World Heritage List* listed key WH sites at risk (Thorsell and Sigaty, 1997). A book written for WWF identified many protected areas currently at threat but did not attempt to quantify these (Carey *et al.*, 2000).

In this study we are intending to analyze the socio economic status and market trends in Prespa National Park, and to acquire relevant information, which would be very useful to the Prespa Park certification initiative planning. Development of a special certification scheme could set the base and help in better protected area management, mitigating the impacts of the agricultural and livestock activities, producing goods and services based on the Prespa Park's special environment, and therefore leading to a more sustainable future both for the local population and nature (Grazhdani, 2007a).

Materials and Methods

Survey has been found by us to be almost the only practical means of collecting data about a large number of farmers. Because the farming units were large, our survey was based on samples, which were taken following the strategy to meet statistical reliability objectives. The sample size must be sufficiently large so that statistical interferences can be made with reasonable reliability.

After a preliminary analysis of the secondary data, we collected primary data by conducting farmer interviews and making both technical and socio-economic observation of the farming system. Then we analysed both primary and secondary data, described the farming system in the survey area in terms of biophysical and socio-economic setting, and drafted the on-farm survey background.

The chairman of the village provided a list of all households. A sample of 200 farm households was randomly drawn from the villages. Samples were selected using a table of random numbers. However, some of selected farmers were not available and the next number in the random table was selected as a substitute. The head of each household was interviewed during September-October, 2006.

Results and Discussion

a. Agricultural Sector

Most of the households are engaged in agriculture (farming and livestock production). Farming is labor intensive, with women's labor particularly important in crop production, and men's labor crucial in animal husbandry. Livestock husbandry is integral to the farming system. Thus, almost all of the households hold one or two cows for milk, ten to fifteen chickens and a few sheep and goats.

Three main problems faced by agriculture are: First, the existence of an agricultural farm with minimal size (1.4 ha), fragmented, closed in itself and oriented towards the fulfillment of the family needs; second, the existence of a considerably large family which needs to operate in the micro farm; Third, the lack of irrigation system. Under these conditions, the farmers have found the adoption of very complex production systems including a large number of crops and animals.

The total number of agricultural holdings are 1448 and they are all mixed holdings (agriculture and stock - breeding) with almost 2185 ha of total land. Cereals (i.e. wheat, corn, barely and rye) are the main crops covering the 69.7% of the total land. The remaining 30% is cultivated with potatoes (1.4%), dry beans (3.2%), vegetables (8.2%), alfalfa (9.6%), fruits (0.9%) and vineyards (6.9%).

The small farm size and the even smaller average size of each parcel, constrain the development of mechanization and the productivity of the crop production sector. Despite the demand for agricultural land, it is still utilized with inefficiency. All arable land is not cultivated intensively.

Agricultural production is produced for livestock and home consumption and it is not included to the annual income generated in NPP-Albania.

b. Livestock breeding

As for livestock production, goats and sheep are predominant and cattle plays important role. Actually the animal production is taking priority in the total agricultural production. In the future this tendency, especially with possible tourism development and space organization in the Park conditions, will become most important. Even now livestock has an important economic value.

The breeding systems for small ruminants are still traditional: exploitation of the summer and winter meadows and low forest, grazing in the considerable area of non cultivated agricultural land, tree lopping and a relatively limited use of concentration and dry feed.

Concerning the possible future perspectives (KfW, 2005), it is estimated that the total sheep and goat numbers will decrease, cow numbers may increase or remain stable and some farmers will specialize and enlarge their herd size, but rather in cow and sheep than in goats.

Within the National Park Prespa there are no markets and shops for dairy products and meat through own subsistence production. There are no marketing and processing capacities inside the Park. Almost 100% of dairy products and 80% of meat is used for home consumptions. Small quantities of milk and cheese are sold to neighbors and 20% of meat is sold to traders at the farm gate and within the community (lamb and kid within the community and calf to traders). Although there is a general trend of decreasing goat and sheep numbers, people keep animals for different uses. The average price for cheese is 2.3 €/kg and for lamb/kid meat 2 €/kg.

Most households slaughter or sell the young stock and keep sheep, goat and cow. The average household has four sheep, five goats and one cow. Assuming one lamb/kid/calf per animal/year, the total estimated meat amounts to 210 kg. 160 kg (80%) is on average consumed at home, resulting in about 40 kg meat consumption per person/year (four people/household). 60 – 70% of all households additionally slaughter one pig/year if they sell the calf.

There are few villages inside NPP, next to Greek border that have different livestock structure. People do not only keep livestock for subsistence production, but mainly for income generation/trading. Sheep and goats are illegally sold to Greece, at 30% higher prices. Recently, people in these villages have started to sell meat to traders at the farm gate for the market in Tirana. Meat from the region is known for its high quality and good taste ("organic" production, no vaccination, no artificial concentrate etc.).

Livestock breeding is the most important source of income for local communities and directly dependant on park's resources. Based on the livestock numbers of 2006 (3 667 sheep and 4 067 goats and 2 714) and gross margin calculation (for one sheep is approximately 40 €/year, for one goat 60 €/year and for one cow 180 €/year), sheep keeping contribute about 144 680 € per year, goat keeping 244 020 € and cow keeping 488 520 € (Grazhdani, 2007b). Livestock contributes about 880 000 € to total annual income generated in the NPP-Albania.

c. Fishing

Fishing is one of the main economic activities in the area. Currently, there are totally 100 fishermen who are organized and their fishing activity is carried out on an individual base. 50 of them are licensed, while the other 50 are unlicensed and thus their activity is considered illegal.

It is reported that economically valuable fish species, such as carp (*Cyprinus carpio*), have dropped while less demanded smaller fish species have increased. The average daily catch of fishermen is 25 kg of small fish (only small quantity of carp) between April and October. Between November and March, the average daily catch is 1.5 kg of carp (only small quantity of small fishes).

In most fishing households, at least two people are involved. While the men go fishing by boat, many women take the bus to the closest city Korça (45 minutes) to sell the fish in the streets. The average price for small fish is about 0.5 €/kg, for carp 3.25 €/kg. Smaller quantities of fish are sold in the Prespa area. There are no traders who buy the fish in the area. Some fishermen dry small fishes with salt for the winter period, but only in small quantities because they need to sell the daily catch for income generation.

The average monthly turnover from fishing for one fishermen is 240 € and yearly turnover amounts to 2 880 €. Fishing contributes to 140 000 € per years (50 households x 2 800 €).

d. Forestry

The total forest land inside NPP is 13 500ha, from which 9 399 ha (69.6%) belongs to state forest land, 3 721 ha (27.6%) to communal and 380 ha (2.8%) to private forest land. There are three factors which impact the condition of forest inside NPP: lopping of fodder (branches and leaves) for livestock, grazing of animals (goats, sheep, and cows) inside the forest land and firewood extraction.

These three practices carried out by the local population for subsistence economy but also for income generation (selling of firewood) had led to a severe degradation of the forest areas. More than 50% of the forest cannot be called forest anymore.

Dry foliage of oak branches cut in August and September are fed at a rate up to 80% of the winter diet of goats, and to a lesser extent to sheep. About 200 kg of dry branches is needed per animal for which an area of 600 m² of coppice bush has to be cut. For the estimated number of 4 067 goats a lopping area of 244 ha should be provided annually and for the 3 667 sheep another 220 ha maybe needed. These cuts can be executed every 5 years on the same area. Thus, a total oak bush area of 2 320 ha should be foreseen for lopping, which is about 42% of the 5 500 ha of oak shrubs in the park. In the future, some leaf fodder could be provided through the scheduled clear-cutting and releasing work in the managed oak stands and later on by green pruning.

In table 1 is given firewood generation and marketing. The total firewood production in the NP is 20 000 m³. The price for one m³ is about 20 €, amounting to an overall income from firewood production amounting to 400 000 €.

Table 1. Firewood generation and marketing (estimation)

Item	Firewood (m ³ stere)
Wood legally produced in NPP	11 000
Wood illegally cut in NPP by buffer zone communities	4 000
Wood illegally cut in Greek NPP	5 000
Total firewood production (NPP + from Greek NPP)	20 000
Of total: Consumption in NPP	10 000
Of total: Consumption in NPP buffer zone	4 000
Of total: Sold outside NPP	6 000

e. Tourism

Tourism in the Prespa area is small-scale rural and family tourism, based on a few small hotels, private accommodation and restaurants. Capacities for overnight stays in hotels are 34 beds, for private accommodation 500 beds and there are 11 restaurants with 345 seats. The occupancy rate for the few hotels ranges from 9 – 20% and for private accommodation between 0.02 and 3%. Restaurants are reported to have 200 – 1 000 visitors per day at the weekends during the main summer season (July and August), resulting in about 2 400 – 12 000 visitors a year.

It is estimated that around 40 people permanently work in the tourism sector within the NPP. Assuming an average per capita income of 700 € per year, the overall contribution to income generated in the Park is 28 000 €.

f. Honey production

There are about 20 professional beekeepers in the NPP-Albania and 5 – 10% of all people have beehives for home consumption. Honey is either sold to traders or within the communities. The contribution to household income is about 3 000 € per year, which corresponds to the average household income in the region. The overall income generated from honey production use within the Park has been estimated at 60 000 € (20 x 3 000 €).

Table 2. Income generated through resources use in the NPP

Item	Yearly income generated (in €)
Livestock keeping	
Sheep	146 680
Goats	244 020
Cows	488 520
Subtotal	879 220
Fishing	140 000
Firewoods	400 000
Honey production	60 000
Tourism	28 000
Total annual	1 507 220

g. Income generated from resources use in the NPP

Based on the calculations made, the overall income generated from resources use within the NPP has been estimated (Table 2). An annual income of about 1 507 220 € is generated. Dividing the above

estimated amount by the number of the people in the NPP (around 5 300) corresponds to an annual per capita income of about 280 €. This is about 35% of the statistical per capita income in the region.

Conclusions

In National Park Prespa agriculture is chiefly practiced at a subsistence level. Mixed farming (i.e. agriculture and livestock breeding) covers the main needs of the households. Cereals are the main crops farmed taking up 70% of the total cultivated land, whilst sheep, goat and cow breeding also plays an important role in the local people's live. From an environmental point of view, the area's forests are under high pressure mainly due to high practice of tree lopping and illegal wood cutting (wood for heating). Also, agriculture, the way it is practiced, causes environmental problems, as in many cases it is based on monoculture systems, although it should be mentioned that as far as agrochemicals are concerned, their use is still at a low level.

The low industrialization of the area's agriculture in comparison with the shortages of basic infrastructure (i.e. irrigation, transportation etc.) and services (e.g. land market, credit availability, extension services etc.) form the main restrictive factors for the area's rural development. Under these circumstances, there is no link with the market or it is very low and almost the whole of the production is destined for own-consumption.

In this context, the development of an appropriate planned certification scheme (i.e. product certification) based and compatible with the Prespa Park's ecological values could provide a number of "goods & services", including more effective protected area management and friendlier land use, and result in the establishment trademark for the products produced under the standards of the scheme.

References

- Carey, C. N. Dudley and Stolton, S. (2000).** Squandering Paradise – The Importance and Vulnerability of the World's Protected Areas. WWF. Gland, Switzerland.
- Ervin, J. (2003).** A methodology for the rapid assessment and prioritization of protected area. Report of WWF International.
- Giannis Chardaloupas. (2006).** Introduction of a Prespa Park Trademark. Society for the Protection of Prespa.
- Grazhdani D. (2007a).** Socio-Economic Evolution of Resource Conserving Practices in Lake Prespa Region. I Symposium for protection of natural lakes in Republic of Macedonia. 31. 05 – 03. 06. 2007, Ohrid – Macedonia.
- Grazhdani D. (2007b).** Socio-economic Analysis of Main Stakeholders in the NP Prespa - Albania. Microthesis, 93 pp.
- Kelleher, G. C. Bleakley and Wells, S. (1995).** A Global Representative System of Marine Protected Areas. Volumes 1 – 4, prepared in collaboration by The World Bank, IUCN and the Great Barrier Reef Marine Park Authority. Washington DC.
- KfW. (2005).** KfW Feasibility Study: Project Preparation & Development of the Transboundry Prespa Park Project.
- Thorsell, J. (1990).** The IUCN Register of Threatened Protected Areas on the World Heritage List. IUCN. Gland.
- Thorsell, J. and Stigaty, T. (1997).** A Global Overview of Forest Protected Areas on the World Heritage List. IUCN. Gland.
- UNDP/GEF. (2004 a).** Assessment of Globally Significant Biological Biodiversity within Micro and Macro Prespa Lake Watershed. PDF- B Biodiversity Report.
- UNDP/GEF. (2004 b).** Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, FYR-Macedonia and Greece. PDF-B Project Document.