



БЪЛГАРСКА ФОНДАЦИЯ  
БИОРАЗНООБРАЗИЕ  
КЛОН БЕЛАСИЦА

Project title:  
**Feasibility Study for Trans-border  
Biosphere Reserve Osogovo**  
Ref. N: 2007CB16IP0007-2012-3-047



## **Final Report - Summary**

# **ECONOMY**

## **Feasibility Study for Trans-border Biosphere Reserve Osogovo**

**Author: Dimitar Sabev**

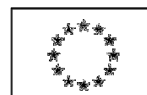
**May 2015**



This project is co-financed by European Union through



- IPA CROSS- BORDER PROGRAMME  
CCI Number 2007CB161P0007



# **Sustainable Economic Development in Osogovo**

Osogovo is a sparsely populated mountain ridge in the heartland of the Balkan Peninsula divided between Bulgaria and Macedonia. The regional economy consists mainly of horticulture, livestock breeding, forestry, ore mining, manufacturing, and tourism. The living standard of the local population on the both sides of the border is very similar. In the same time the economic structure of the Bulgarian and Macedonian part of Osogovo differs significantly. Different models of land use prescribe divergent strategies for spatial development. Still, a closer communication between local people is emerging.

The aim of this study is to evaluate the economic feasibility to implement a biosphere reserve in Osogovo under the “Man and Biosphere” Programme of UNESCO. The research methods include analysis of statistical data, analysis of former researches on the economy of Osogovo, field observations, interviews with key municipal experts, and non-structured interviews with local people. The general conclusion of this study is that it is indeed feasible to rely on the biosphere reserve framework and thus to invest in enhancing the sustainable economy in Osogovo. Sustainable sectors have the market potential to replace or at least to limit the importance of some traditional unsustainable sectors with adverse effects on the living and health conditions in the studied region.

Still, there are at least three conditions to be met before making an informed decision in favor of a biosphere reserve in Osogovo:

- A biosphere reserve in Osogovo Mountain is pointless if implemented after the planned expansion of the lead and zinc mining and ski tourism facilities;
- The biosphere reserve in Osogovo should be big enough to be economically successful. The local resources on the Bulgarian or on the Macedonian part of the mountain do not suffice for such a big-scale undertaking. Without business

synergies and economic spillovers across border the added value of the biosphere reserve would be much smaller, if not negative;

- It is crucial to guarantee the involvement of local population and to have the key stakeholders as allies in the implementation process. A lobbying against the biosphere reserve is to be expected by some authorities and probably some powerful local entrepreneurs. The bottom-up approach should be complemented by the explicit support of the central governments, and much educational work among local people should be envisaged. That is to say, the local involvement should be matched by external support.

Before coming to these conclusions the study started with a detailed analysis of the local economy. Ten municipalities were included in this research: eight in Macedonia and two in Bulgaria. The well established three sector approach was applied dividing the local economy into primary (resources), secondary (manufacturing), and tertiary (services) sectors. It turned out that the incomes on the Macedonian and Bulgarian part of Osogovo are very similar – around ten times lower than the EU average, measured in GDP per capita. But the unemployment rates diverge, being much higher in Macedonia. Calculations based on a study from 2009 revealed 42% unemployment rate on the rural territory of Macedonian Osogovo. At the end of 2014 the unemployment rate in Kyustendil municipality was around 15% and in Nevestino above 20%.

It is hard to accept that such a big share of the population stays idle. Most of the unemployed probably pursue different unregistered economic activities in agriculture, forestry and gathering. This reveals another key difference between the Bulgarian and Macedonian part of the mountain: the livestock in the eight Macedonian municipalities is around ten times more abundant than in the two Bulgarian municipalities. This extensive livestock breeding in Macedonia is partly pursued in traditional ways using the highland pastures of Osogovo in the summer and pulling the feral animals to the lowlands in the winter. The number of small individual farms in Osogovo is substantial, if still diminishing. There is a considerable expansion potential for the

Macedonian farmers especially when compared to the “dying” Bulgarian livestock breeding.

In the primary sector Bulgaria has its advantages in the fruits production on the orchards around Kyustendil, and also in the forestry sector. More important is the fact that the integration of different resource branches of the local economy could boost the manufacturing production and guarantee less volatile prices to farmers. There is a huge demand of clean foods in Sofia and their production under the auspices of the biosphere reserve in Osogovo may raise the employment opportunities and incomes across the region. With respect to this several win-win decisions for the regional economy were identified:

- providing pasture in Bulgaria for Macedonian herds;
- utilizing the livestock production from Macedonia in Kyustendil;
- common strategy for access of Osogovo fruits on the EU markets;
- joint touristic routes;

The economic accounts of Kyustendil municipality are a valuable source of information (a rather rare find on NUTS 4 level). They clearly show that the manufacturing industry in this town of 50 000 people is much better developed than some may be expecting. The secondary sector accounted for 36% of the employment in Kyustendil, 41% of the net revenues and 62% of the long-term assets. In respect to the strategic planning the manufacturing industry is considered to be one of the major tools for increasing the well-being of rural and mountainous areas. Thus it may be regarded as a promising and positive sign for Osogovo. Another advantage of the Bulgarian side is the growing touristic sector relying mainly on balneology, cultural heritage and preserved ecosystems. There is a relatively diversified hotel base in Kyustendil including a luxury hotel, several family hotels, guesthouses and two mountain huts.

The main production branch in Macedonian Osogovo is the mining industry (it is still disputed whether the mining operations should be considered being in the secondary or

in the primary sector). A detailed analysis of corporate data revealed that the annual lead and zinc ore production in Macedonian Osogovo amounts to more than 1.5 million tonnes. In fact this is three times more than the current lead and zinc ore production in Rhodopi Mountains in Bulgaria. The mines of Osogovo provide direct employment to 1 500 people, and maybe 10 000 people in this poverty stricken region are in some way dependent on the mining incomes. After the closure of mining operations in Bulgarian Osogovo in 2002, around 1200 people were dismissed and some of them still struggle to find constant employment. This fact accentuates the importance of mining business for this rural low-income region.

The mining industry does not contradict by itself the idea of biosphere reserves or of sustainable development. Yet the environmental record of the Macedonian mines in Osogovo is highly controversial. There are several cases of big breakdowns on tailing ponds, one of them in Sasa mine in 2003 led to infusion of 20 000 m<sup>3</sup> tailings into the Kalimantsi Lake which waters are used for irrigating the fertile Kochani plane. Also drinking waters were affected at that time, and the imposed damages were calculated to amount to billions of euro. Some of the other old tailing ponds continue to contaminate soils and waters. Before engaging in a big-scale clean food production the mining impact in Osogovo should be carefully investigated.

Also the working conditions on the three operational ore mines in Macedonian Osogovo are unsatisfactory. In the Sasa mine the average wage of an ore miner working underground is around 400 euro, the shift begins at 6 a.m. The list of fatal incidents is long, and mining companies are used to pay 50-100 000 euro to the families of the victims, instead of investing in bettering labor conditions. Such state of affairs contradicts with the sustainable development concept and may compromise the very idea of biosphere reserves. These issues have to be resolved before advancing with the implementation of a biosphere reserve in Osogovo.

The second stage of the study was to calculate whether the sustainable sectors in Osogovo have the potential to guarantee a level of incomes high enough to assure the involvement of local people in the implementation process. The answer is

unambiguously positive – there are considerable untapped opportunities in Osogovo to generate incomes in a sustainable way. In addition, these revenues will be distributed far more evenly among the population than the profits from the mining industry and winter tourism. Evidence-based assumptions lead to a conservative estimation that an annual value of 60 million euro could be created in a sustainable way across Osogovo. This value will be revealed in a medium term (3-10 years), with biggest potential in livestock and fruit production followed by sustainable tourism, real estate operations, emerging furniture industry, and clean food production. The considerable potential of geothermal energy and some other branches was not included into the calculations.

As regarding the employment opportunities the sustainable way of development could provide more than 5 000 new jobs, according to the author's estimations. The sustainable economy, respectively the biosphere reserve is not the panacea for the economic plight of Osogovo, at least in the medium term. On the other hand, when compared to the expansion plans of the mining and ski tourism industries, it is evident that the sustainable economy may deliver much bigger positive results which would also be shared more widely. The proposed mass scale urbanization of the heartland of Macedonian Osogovo and the mining expansion will no doubt diminish the sustainable potential of the place. Unlike this, the sustainable economy based on a biosphere reserve framework could preserve and even enhance the value of the cultural and natural heritage of Osogovo.

The third stage of this study was the evaluation of different development strategies for Osogovo in order to decide whether the biosphere reserve is the best available option. Four main scenarios for the future were identified:

- Status quo: low development, low conservation of the heritage;
- Traditional protected area: low development, high conservation;
- Wild industry and greenwashing: high development, low conservation;
- Biosphere reserve: high development, high conservation.

The record of the biosphere reserves across Europe is not entirely successful and this is admitted also by UNESCO experts. The case of Osogovo is a little bit different: the economic hardships there lead to a rapid and severe depopulation. In addition to the negative natural increase there are substantial demographic outflows due to migration. In Nevestino municipality in Bulgaria the share of people older than 65 years is more than 50%; there are 2.7 people in working age per square kilometer – a density expected for the Namibian deserts but not for a territory of the European Union comprising almost 500 sq.km. The ethnical tensions are on the rise in the broader region. A biosphere reserve may address not only economic but also political and geostrategic issues in this region.

The demographic exhaustion seems to be the biggest single obstacle for the implementation of a biosphere reserve in Osogovo. The demographic structure in the Macedonian part of the mountain is far more favorable than in Bulgaria. This also may lead to a win-win situation: the huge unemployment in the Macedonian municipalities may recede while invigorating the local economy in Bulgaria (new employment opportunities in livestock breeding and horticulture, but also in food and furniture industry and different alternative forms of tourism). Other obstacles which are to be expected in relation to the biosphere reserve include industry lobbying against the sustainable alternatives, corruption of some local authorities, and political tensions on a governmental level.

As regarding the prospects of sustainable tourism, there are some rare possibilities for joint touristic routes which may be realized through a biosphere reserve:

- Observation of large mammals (using the three big carnivores pattern);
- Mining and geology tourism (based on archeological sites, closed mines in Bulgaria and working ore mines in Macedonia);
- Balneology and health procedures;
- Good-food and good-drink tourism;
- Pilgrimage (based on the story of the famous hermits of Osogovo);

It turns out that, while Bulgaria and Macedonia share the same Osogovo Mountain, each brought forth entirely different economic structures. Nowadays Bulgaria is lacking the sectors that are relatively well developed in Macedonia, and vice versa. The touristic supply in Kyustendil municipality is ten times bigger than in the eight Macedonian municipalities on a thrice bigger territory. The livestock breeding on the Macedonian part is ten times higher than in the two Bulgarian municipalities. Yet the fruits production in Kyustendil is around five times more than in Macedonian Osogovo, and also the timber production on the Bulgarian side is much more intensive. The mining operations which are closed in Bulgaria are stepping to expand in Macedonia. The manufacturing industry in Kyustendil is struggling to emerge after the economic crisis of 2009, and there are several recent investments in the Kochani municipality, but as a whole the industrial technology level on the Bulgarian side is considerably higher than in Macedonia. Yet the utilization of geothermal energy is far more advanced in Kochani than in Bulgaria.

The reason of this divergent development is that in the last more than 100 years there was a border dividing the mountain into two separate parts and thus diminishing the production base on the each side. Even in the times of socialism both countries followed different economic paths since Yugoslavia was not an integral part of the COMECON system. The both sides of Osogovo were not meant to interact with each other economically. They were included in different production systems, and served tasks in different value chains. The situation did not change during the 1990s and 2000s and the divergence went even deeper with the accession of Bulgaria in the EU. With the exception of some expertise provided by Bulgarian companies in winter tourism planning and in ore drilling, and the processing of ore concentrates from Sasa in the smelter nearby Plovdiv, the border across Osogovo looks like an insurmountable economic Great Wall.

Generally speaking, the biosphere reserves of UNESCO have three broad goals: natural conservation, human development, and scientific advance. A biosphere reserve in Osogovo may contribute significantly to all of the three. For many decades two



parts of the same geographic territory followed different development models and now the economic and spatial outcomes are different. This may be of significant scientific interest, and the mentioned division which depressed the economic development may turn now into a valuable asset. There are a lot of unexploited synergies across Osogovo. The access to the capitals of Macedonia and Bulgaria is around 1.30 hours drive. The combined market of Sofia and Skopje amounts to 2.5 million people. A constant stream of relatively well-off tourists could recognize Osogovo as a favorable weekend destination. The foods produced in Osogovo may find markets even in Western Europe. And the geothermal resources may provide the population and industry with cheap energy, lowering production costs and pulling bigger manufacturing companies to Osogovo.

It is almost certain that this would not happen without a common strategy and proper stimuli. Neither the “status quo” nor “wild industry” scenarios would contribute to the lasting well-being of the people in this region. There are considerable setbacks and the case of Osogovo is not the ordinary one – an implementation of a biosphere reserve there may be a challenge even for the MAB Programme itself. But there is a potential: valuable natural and cultural heritage and people willing to interact with each other. Under proper management all this may deliver positive outcomes soon enough. If successful in the case of “hopeless Osogovo” the biosphere reserve framework could gain credentials across Southeastern Europe and beyond.

Still there are several key conditions to be met before the sustainable potential of the territory to be realized. That is why the conclusion of this study is that a biosphere reserve in Osogovo region is conditionally feasible.