

Protected and Proposed Hydro Monument in Kosovo 2002-2008

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Abstract:

Kosovo even if it is a small country, it is distinguished by diverse hydrography, with the permanent and temporary water flows. Geographical position, geological, hydrological and pedological composition, relief and climate have affected to create many hydro monuments which are with rare natural and scientific values. Waterfalls of Mirusha, Spring of the Drini i Bardhë, Ura e Fshajtë Canyon, Rugova Canyon, Spring of Thermo- mineral in Banja (Banja e Pejës), etc., are some of these natural values and with the aim of better protection were declared as protected monuments of natural heritage.

Until 2002, within the protected areas are included 52 natural areas. The number of monuments of nature was 38, while 8 of them were monuments with hydrological character. During the period 2002-2008 are taken into the protection 58 new Nature Monuments, 8 of them with hydro character. Today the network of protected areas consists of 97 areas, with surface of 46,362 ha (4.36% of Kosovo territory) from their one National Park, 11 Nature Reserve, 82 Nature Monuments, two Regional Nature Parks and one Forest Park. Within the protected monuments 15 are with hydro character.

Protection of natural values with hydro character, excepting their natural resource values preserving, are also important because of their touristic, curative and educational values.

Keywords: Protected area, hydro monument, natural value, hydro value, Kosovo etc.

Introduction

Kosovo has dense hydrographic network, consisting mostly from the small rivers. Through the main rivers, outside of Kosovo territory flow approximately $114.5 \text{ m}^3 / \text{s}$. Average value of the module leaks is 10.5 l/s/km^2 , but with territorially emphasis oscillations ($4\text{-}48 \text{ l/s/km}^2$). According to the module value of leaks, Kosovo is a little bit richer with water than regions. Network hydrographic of Kosovo belongs to different river systems that discharge water in the direction three seas that defines the Balkan Peninsula: Adriatic Sea, Black Sea and Aegean Sea. White Drin River is the largest ($63 \text{ m}^3 / \text{s}$ - Vermic) and the most important in Kosovo and other rivers significantly are smaller. (Pllana R., et al, 2006)

Geographical position, geological, hydrological and pedological composition, relief and climate have affected to create many hydro monuments which are with rare natural and scientific values. Waterfalls of Mirushës, Spring of the Drini i Bardhe, Canyon of Drini i Bardhë next to Fshajt's bridge, Rugova Canyon, Spring of Thermo mineral Bath (Banja e Pejës), etc, are some of these natural values and with the aim of better protection were declared as protected monuments of natural heritage.

National network of protected areas in Kosovo consist 97 nature areas with surface of 47,842.34 ha (4.39% of the territory of Kosovo). Within these areas are included: 11 Nature reserve, (bifurcation of Nerodime River, Maja e Arnenit, Maja e Ropsit, Rusenica, etc.), one National Park (Mali Sharr), 82 Nature Monuments (Spring of the White Drin, Cave in Gadime, Rugova Canyon, Ura e Fshajtë, Old trees, etc..), two Regional Nature Parks (Gërmia and Mirusha) and one Forest Park (Decani's Pines) (KEPA, 2009). This paper will be focused on the most important protected hydro monuments and proposed in Kosovo during the period 2002-2008.

Table 1. Nature Protected areas in Kosovo (2009)

Nr:	Category	Nr. of areas	Surface /ha
1	Nature reserve	11	864.92
	Plants	6	
	Animals	2	
	Special	3	
2	National Park	1	39.000
3	Nature monument	82	6.296,93
	Speleological	4	
	Hydrologic	15	
	Geomorphologic	7	
	Botanic	55	
	Memorial	1	
4	Regional Park	2	1. 683,49
5	Forestry Park	1	15
	Total	97	47.842.34

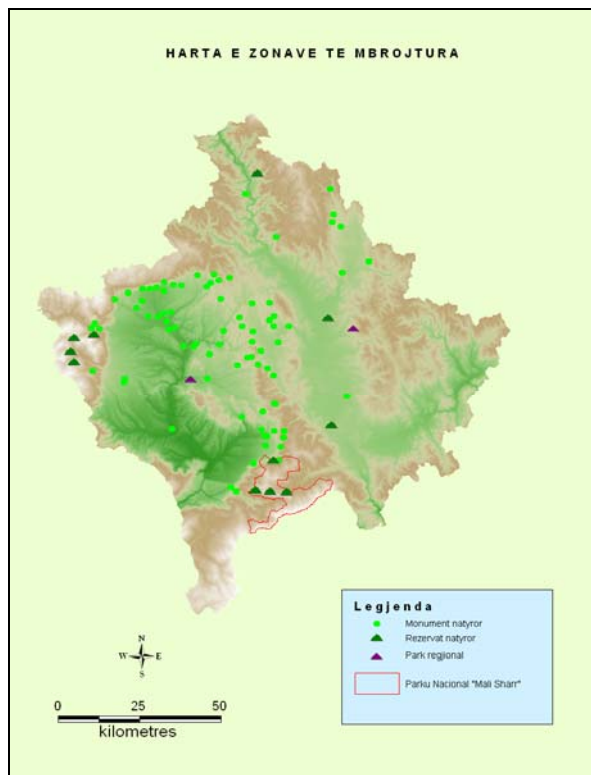


Figure 1. Map of Protected areas in Kosovo (2009)

Natural Hydro Monument

Hydro heritage monuments are different according to the way of the creation, size, territorial dimensions, visual appearance and their value. They have unique natural values and they are protected and identified on the list of protected areas of nature. Natural monuments with hydro character are represented by 15 of them within the protected areas.

The most important hydro monuments and representative on the Kosovo are: Spring of the Drini i Bardhë, bifurcation of Nerodime River, Vrella Spring, Istok Spring, Haxhajve Spring, Canyon of Drini i Bardhë next to Fshajt's bridge, Mirusha River Canyon, Peja's Lumbardhi Canyon, Prizren's Lumbardhi Canyon and a considerable number of glacial lakes in Bjeshkët e Nemuna and Sharr Mountains.

Hydro monuments as natural rarities as well are characterized with representative visual, aesthetic, educational, scientific, genetic and economic values. According to nature protection Law (*Law 2006/22*) most of them are categorized as natural monuments or protected landscapes, while others are proposed for protection.

A large number of hydro monuments are with complex character, those are associated with elements and with different geological, geomorphologic, hydro geologic, biological and cultural content.

Hydro Monuments protected during the period 2002 -2008

During the period 2002-2008, 58 new natural monuments are taken into legal protection, 8 of them are with hydro characters and include a surface of 5.5 ha. Among the most important values of hydro protected heritage in this time are: two thermal springs (thermal spring in the bath of Istog and thermal spring in the bath of Skënderaj), three mineral springs (mineral spring in the Poklek of Drenas, mineral spring in the Leqinë of Skënderaj and mineral spring in Rudicë of Klina), 2 karst springs (spring of Istog and Vrella spring) and Reqan spring in Suharekë.

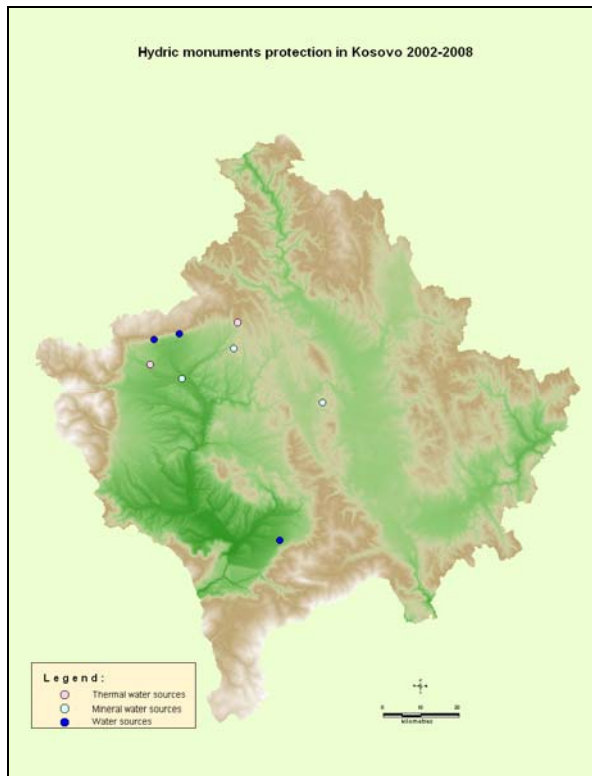


Figure 2. Map of Protected Hydro-monuments in Kosovo 2002-2008

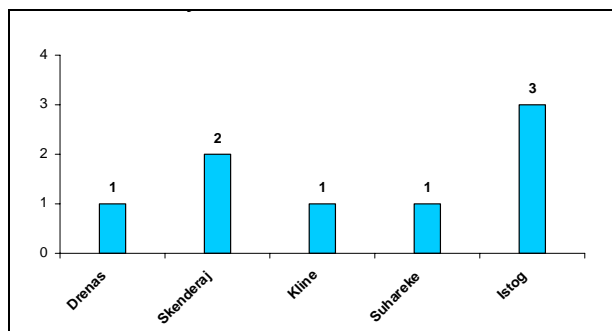


Figure 3. Protected Hydro monuments in Kosovo 2002-2008

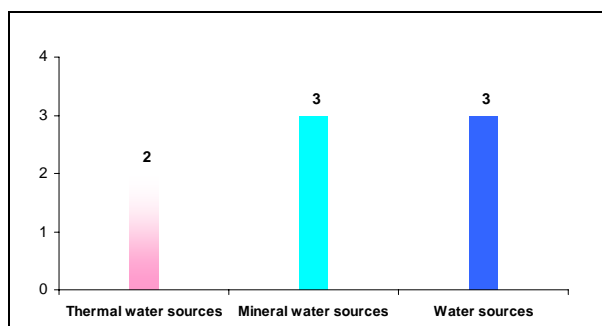


Figure 4. Protected of Hydro monuments by category 2002-2008

Hydro Monuments proposed for protection during the period 2002-2008

During this period are proposed for protection 37 new hydro monuments. Among the most important proposed monuments for protection during this period are: thermal spring in the village of Malisheva Bath, throat Llapushnik River in Gjilan, Batllava Lake in Podujevë, water spring in Mulliq of Gjakova and Waterfall of Trepqalive in Mitrovice, etc.

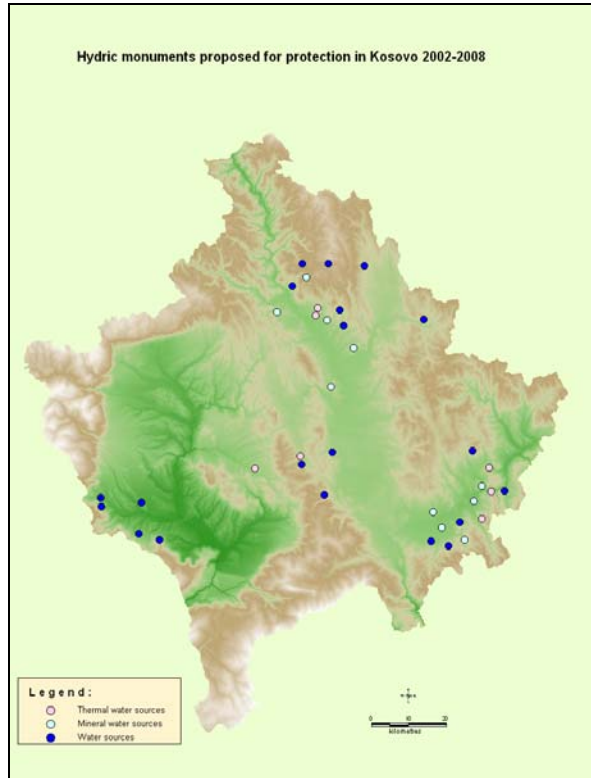


Figure 5. Map of proposed Hydro monuments in Kosovo 2002-2008

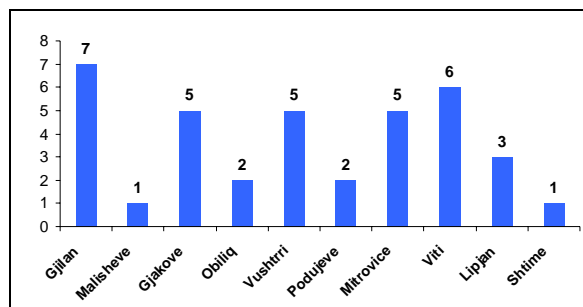


Figure 6. Proposed Hydro monuments in Kosovo 2002-2008

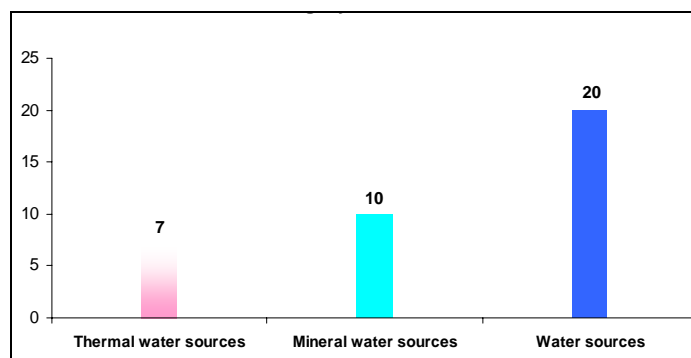


Figure 7. Proposed Hydro monuments by category in Kosovo 2002-2008

Conclusion and recommendations

Hydro monuments in Kosovo have scientific, education, touristic and economic importance. Therefore must be their preservation and management conform national laws and relevant international convents, in order to maintain their authenticity.

Hydro monuments are important for education and tourism purposes. Many of them have large number of visitors during the year. The biggest numbers of them are students, what's show the education importance of these monuments. But these monuments are not able to accept such a large number of visitors, so it is necessary for proper management of these areas, in order to create adequate conditions for tourists.

Negative impacts on these monuments, as well as in other protected areas are evident as a consequence of water use without any critter like for irrigation, drinking water, use of inert materials from rivers and other. Therefore for protection and sustainable management of the values of this monuments it is needed a long-term and sustainable strategy.

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