

Original scientific paper
UDC: 551.582(497.11)(497.6)
DOI: 10.7251/afts.2016.0814.079B
COBISS.RS-ID 5846296

LOCAL PEOPLE'S ATTITUDES TOWARDS QUALITY OF ENVIRONMENT IN SERBIA – B&H CROSS-BORDER REGION

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ABSTRACT

Public participation in environmental decision-making is nowadays accepted as an integral part of the sustainable development process and an important mean for improving quality, legitimacy and capacity of environmental assessment and decisions. When communities participate in the management of their resources in form of consultation or active involvement, there is a greater likelihood of success as people are more willing to obey their own regulations than those imposed upon them from outside. This paper presents results of a survey in Serbia-BiH cross border region that explored the attitudes of local people towards natural resources and environment quality, environmental priorities and efficiency of local government in solving environmental problems. Results were used as inputs for drafting “Action plan for sustainable use of cross border natural resource” contributing in this way to better acceptance and easier implementation of the plan at the community level.

Key words: *local people, environmental protection, public participation, Serbia – BiH cross border region*

INTRODUCTION

Natural resources management process is complex, multi-scale and affects different recourse users such as individuals, groups and organizations That is why the notion of government as the only decision-making authority has been replaced by multi-scale, polycentric governance, which recognizes that a large number of stakeholders including interested public contributes to the overall management of a resource [1].

Public participation in environmental decision-making is increasingly becoming regarded as a democratic right (and is enshrined as such in the United Nations Economic Commission for Europe's 1998 Aarhus Convention). This right is increasingly being used by proliferating environmental interest and pressure groups [2]. It is accepted as an integral part of the sustainable development process [3] and is currently embraced all over the world as an important means of promoting the sustainable management of natural resources [4]. The goal of participation is to improve quality, legitimacy and capacity of environmental assessment and decisions.

When communities participate in the management of their resources in form of consultation or active involvement, there is greater likelihood of success as people are more willing to obey their own regulations than those imposed upon them from outside [5]. If participatory processes are to lead to

high quality and durable results, engagement with stakeholders should be as early as possible [6,7] and should start with consultations.

This paper presents results of consultation process in the form of public opinion assessment regarding natural resources, environment quality, environmental priorities and efficiency of local government in solving environmental problems conducted in 3 municipalities in Serbia and 3 municipalities in Bosnia and Herzegovina (BiH). Results were used as input for "Action plan for sustainable use of cross border natural resource" developed within the frame of the IPA CBC project "Wise use of common natural resources - road to sustainability of the Serbia-BiH cross-border region".

METHODS

The study was conducted in 3 municipalities in Serbia - Bogatić, Mali Zvornik and Ljubovija and 3 municipalities in BiH– Bijeljina, Zvornik and Bratunac. All municipalities are situated by the Drina River which is natural border between two countries. Bijeljina and Bogatić are situated in the northern part of the region which is a fertile plain containing the basins of the Sava and Drina rivers, while other municipalities are in the hilly and mountainous region. The climate is continental, defined by hot, dry summers and autumns and cold winters with heavy snowfall due to the presence of high mountains. Recently, the climate has experienced changes similar to those seen in other countries, with apparent global warming and rapid weather changes.

The survey was performed during November and December 2013 with a statistically valid sample of 0,5% of the total population from study area. In total 767 randomly selected citizens were interviewed using the structured questionnaire that had 10 questions of different types (closed, multiple-answers or ranking related to: (i) personal socio-economic background, (ii) quality of environment (iii) threats to the environment, (iv) threatened natural resources, (v) environmental priorities that should be solved and (vi) quality of work of local self-government in the field of environmental protection.

RESULTS

Demographic variables collected through the questionnaire included gender, age, educational attainment and place of living. The total number of respondents from Serbia and BiH is 767 out of which 48% are men and 52% women. The age of respondents ranged from 16–80 years: 16-18 (11%), 18 – 29 (27%), 30- 39 (21%), 40 – 49 (13%), 50 – 59 (20%), > 60 – (8%). The education level was different and ranged from primary to university level. The majority of respondents have 4 years of secondary education level (34%) or university level (37%). Regarding place of living 45% of respondents live in rural area, 34% in urban areas, while 21 % are from suburban areas. Summary of demographic variables is presented in Table 1.

Table 1. Demographic characteristics of respondents

	No. of resp.	Gender (%)		Age (%)						Educational background (%)			Place of living		
		M	F	<18	18-29	30-39	40-49	50-59	>60	Elementary school or less	Secondary school	University	Urban	Rural	Suburb
Serbia	301	48	52	18	22	16	9	27	8	3	51	46	33	53	14
BiH	466	49	51	7	32	23	15	16	8	11	42	48	30	45	25
Total	767														

Respondents were asked to assess 10 indicators of environmental quality at local level: quality of air, land, tap water, water from water courses, quality of flood defense, landfills management, industrial

waste management, sewage system, state of river banks and forest coverage on the scale from the very good to the extremely poor. Results are summarized in table 2.

Table 2. Quality of environment in Serbia-BiH cross border region according to opinion of local people

	Serbia	BiH	Serbia	BiH	Serbia	BiH	Serbia	BiH	Serbia	BiH	Serbia	BiH
	Extremely poor		Poor		Average		Good		Very good		I do not know	
Air	5	10	10	20	30	29	35	27	16	12	4	1
Soil	2	3	5	13	39		37	34	12	14	5	1
Tap-water	10	5	10	15	34	41	35	31	9	7	1	
Water in watercourses	7	7	14	19	35	43	32	25	5	5	6	1
Flood defense	13	18	24	35	34	30	14	12	4	3	11	1
Landfills	19	28	26	33	30	21	14	13	4	2	7	3
Industrial waste	17	21	28	32	24	25	11	8	3	2	17	11
Sewage system	36	12	12	25	29	30	14	22	2	8	7	4
River banks	15	10	30	28	34	40	12	18	4	3	6	1
Forest coverage	12	17	14	47	49	21	16	9	4	2	4	3

According to the 36% of respondents in Serbia and 12% of respondents in BiH sewerage system is extremely poorly managed. The reason for this drastic difference in people opinion is the fact that municipality of Bogatić in Serbia does not have sewage infrastructure at all [8].

The state of landfills and industrial waste are pointed out as extremely poor in both countries in the opinion of 19% and 17% of interviewed local people in Serbia and 28% and 21% in BiH respectively. Quality of air, soil and tap-water in Serbia is good for 35%, 37% and 35% of respondent respectively. The situation in BiH is pretty much the same since 27% of respondents regard quality of air as a good, for 34% of respondents it is soil while in opinion of 31% of respondents tap-water is of good quality. For the majority of respondents all assessed indicators are of average quality.

The main threats to the environment according to the local people's opinions are presented in Figure 1.

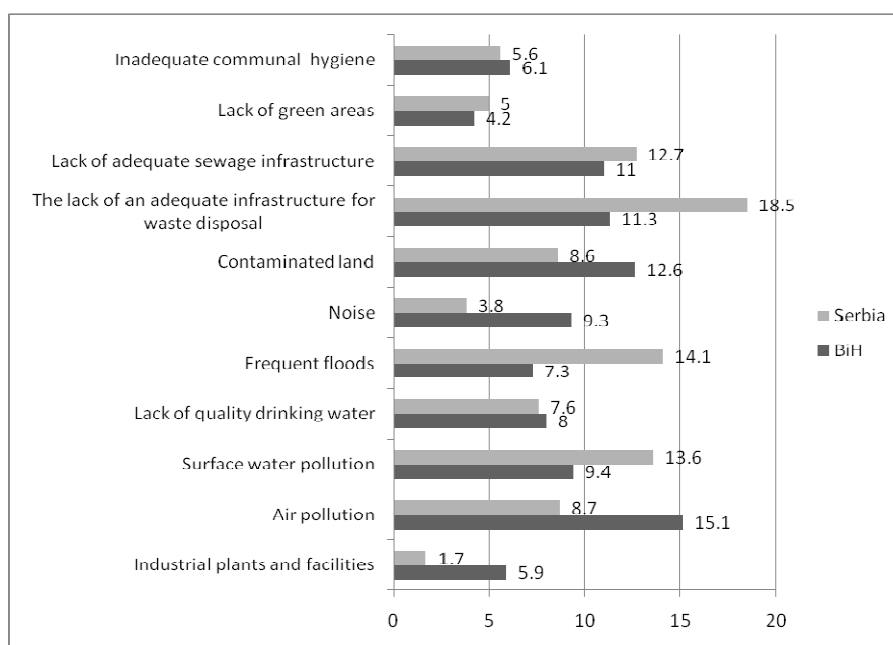


Figure 1. Greatest environmental threats according to opinion of local people

Although there are no major differences between percentages concerning environmental threats in the cross border region between Serbia and BiH, top 4 identified threats differ to some extent. In Serbia these include lack of adequate infrastructure for waste disposal, frequent floods, surface water pollution and lack of adequate sewage infrastructure, while in BiH the top two identified threats are air and soil pollution and the remaining two coincide with threats indicated in Serbia which are lack of adequate infrastructure for waste disposal and sewage systems.

The most threatened natural resource differs among countries, Figure 2. In Serbia soil, with over 30% of answers, is in the first place, while in BiH the same spot is taken by air with just under 30% of answers. Water is recognized as the second most threatened natural resource in both Serbia and BiH with between 20 and 25% of answers respectively.

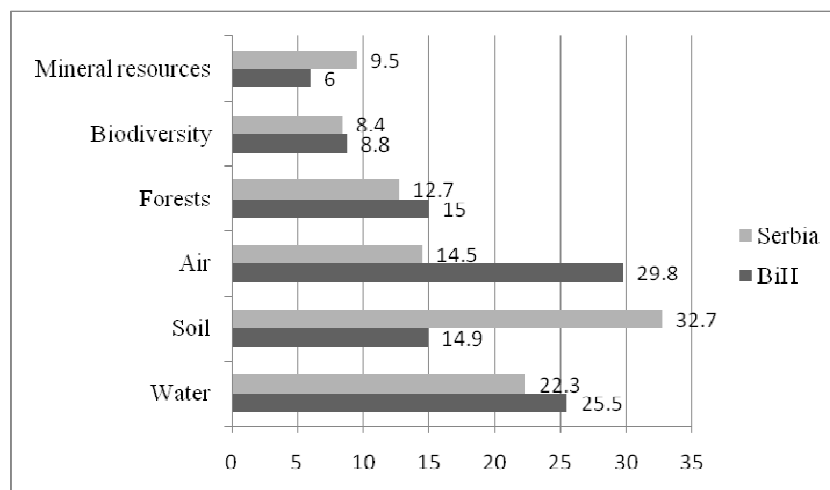


Figure 2. Most threatened natural resources according to opinion of local people

Concerning the priority for solving environmental issues, both in Serbia and BiH, there is a strong response related to waste management with over 50% of answers (Table 3). Other significant issues, which had around 10% of answers, include sewage system improvement and improvement of drinking water supply in both Serbia and BiH, as well as increase of green areas in cities in Serbia.

Prema mojoj ocjeni sljedeće ekološke probleme u našoj Opštini treba prioritetno rješavati

Table 3. Environmental priorities that should be solved according opinion of local people

Which ecological problem, in your opinion, should be solved as priority?		
(%)	BiH	Serbia
Waste management	55.0	57.3
Sewerage system Improvement	9.9	16.7
Improvement of drinking water supply	10.5	11.3
Increase the surface of green areas in the city	5.8	11.4
Flood protection	3.7	0.8
Illegal logging	0.0	0.5
Illegal gravel extraction	0.0	0.4
Water pollution	8.2	0.0
Air pollution	5.9	0.0
Soil pollution	0.0	0.0
Solve the problem of stray dogs	0.9	1.6
Local governance improvement	0.0	0.0

Most responders, over 50% from Serbia and just fewer than 45% in BiH, consider the competency of authorities for protection of the environment as average. In Serbia the second most recorded answers are in good category, while in BiH they are in bad category, which may be due to the complex government structure in BiH (Figure 3).

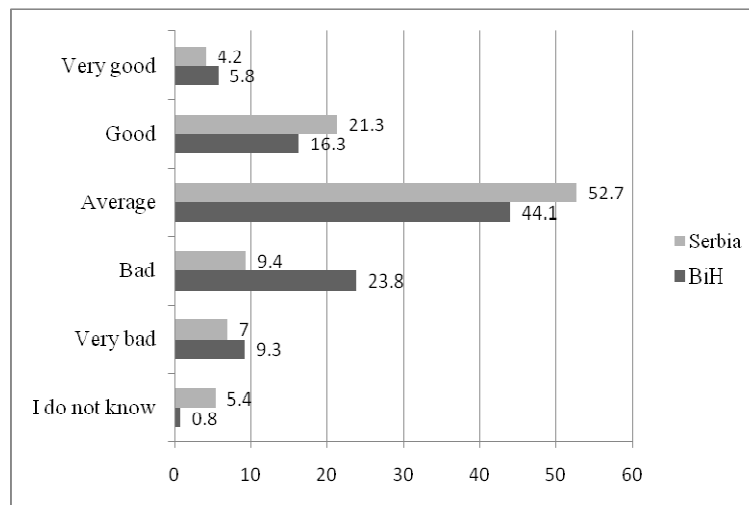


Figure 3. Opinions on competence of authorities for protection of environment

CONCLUSIONS

This research was aimed at assessing opinion of public in Serbia-BiH cross-border region regarding natural resources and environment quality, environmental priorities and efficiency of local government in solving environmental problems. Achieved results showed that there are no major differences between countries concerning identified environmental threats in the cross border region. Waste management, sewerage system improvement, improvement of drinking water supply was identified as a main issue in both countries.

Survey revealed that public environmental awareness is high since people are fully aware of environmental problems and priorities that should be solved. On the other hand, research showed that public is not aware of cross border effects of environmental threats. For example, respondents from Serbia are not aware of negative effects of air pollution generated in BiH - about 30% of respondents from BiH identified air as most threatened resource due to the presence of industry in Bijeljina and Zvornik, while only 14.5% of respondent in Serbia recognized it as threatened resource.

Furthermore, flood protection as priority that should be dealt with was on fourth place in both countries. It indicates that public is not aware of rapid climate changes, and was unable to identify flood as serious hazard that severely affected this region only one year later.

Results of survey were used as input for drafting the "Action plan for sustainable use of cross border natural resource" securing in this way a participatory approach to natural resources management and thus better acceptance and easier implementation of the plan at the community level.

ACKNOWLEDGMENTS

This paper is prepared within the project "Wise use of common natural resources - road to sustainability of the Serbia-BiH cross-border region" supported within IPA Serbia - BiH cross border programme.

(Received April 2016, accepted April 2016)

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