

**КВАЛИТАТИВНО ИСТРАЖИВАЊЕ  
СПРЕМНОСТИ ГРАЂАНА  
ЗА РЕАГОВАЊЕ У ПРИРОДНИМ  
КАТАСТРОФАМА**

**QUALITATIVE RESEARCH  
ON THE READINESS  
OF CITIZENS TO RESPOND  
TO NATURAL DISASTERS**



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**ABSTRACT**

**Key words:**

natural disaster,  
flood, perception,  
knowledge, supplies  
stock, interview,  
Serbia

The paper presents the results of qualitative research on the readiness of citizens in Serbia to respond to natural disasters caused by the flood. The study used the recommended intentional sample and interviews were conducted with persons who are from the area of local communities at risk of flooding. The sample included ten participants from Loznica, Šabac, Sremska Mitrovica, Priboj, Batočina, Sečanj, Novi Sad, Lapovo and Rekovac who were asked an identical set of basic questions, after which the discussions were directed according to estimates of their interest, sincerity, and seriousness. The results of the conducted research allow gaining more insight into how much citizens are willing to respond and to create a broader picture of the relationship that citizens have towards the obligation of preparing for natural disasters.

*Раd примљен:*

*31.5.2016.*

*Paper received:*

*5/31/2016*

*Раd прихваћен:*

*24.6.2016.*

*Paper accepted:*

*6/24/2016*

## САЖЕТАК

### Кључне речи:

природна катастрофа, поплава, перцепција, знање, залихе, интервју, Србија

У раду су изнети резултати квалитативног истраживања спремности грађана за реаговање у природним катастрофама изазваним поплавом у Србији. У истраживању је коришћен препоручени намерни узорак и интервју је обављен са особама које су са подручја локалних заједница угрожених поплавом. Узорком је било обухваћено десет учесника из Лознице, Шапца, Сремске Митровице, Прибоја, Баточине, Сечња, Новог Сада, Лапова и Рековца којима је постављен идентичан сет основних питања, након чега су разговори били усмеравани сходно проценама њихове заинтересованости, искрености и озбиљности. Резултати спроведеног истраживања омогућавају да се стекне бољи увид у то колико су грађани спремни за реаговање и да се створи шира слика о односу који грађани имају према обавези припремања за природне катастрофе.

## INTRODUCTION

Serbia is in a significant degree exposed to various natural disasters [1], mostly to flooding. In the period from 2000 to 2011, the risk of natural disasters' occurrence was more pronounced than the risk from technological disasters [2]. Of the total number of disasters, 62% are of natural origin. Among them, the most frequent are floods with 55%. Natural disasters on the territory of Serbia are obviously on the rise [3]. Bearing in mind the security implications of natural disasters on the population, the overall tangible and intangible assets and the environment, each country has primary responsibility for its own sustainable development and for the implementation of effective measures to reduce the risks of natural disasters. Therefore, the state must take action in a timely manner to effectively reduce the risk of natural disasters caused by floods [4].

In the literature, there is no generally accepted definition of readiness to respond to natural disasters [5-8]. The readiness, as a concept in the theory of catastrophe, involves actions taken prior to the occurrence of natural disasters in order to improve response and to recover from the resulting consequences [9]. Tierney and associates [10] hold the view that the readiness involves activities undertaken to strengthen the capabilities and opportunities of social groups to respond to situations caused by disasters. At the same time, they especially emphasize the inconsistency of readiness with

a clear focus on its two objectives: 1. to help people to avoid the threat and 2. to develop the capacity and mechanisms with the aim of an effective response to the disaster. Examining the preparedness of citizens for response to natural disasters is a very popular question in disaster risk studies [10-19].

In this paper, with qualitative research approach, which was implemented conducting standardized interviews, the authors examined the readiness of citizens to respond to natural disasters caused by floods in Serbia.

## THE METHODOLOGICAL FRAMEWORK OF THE RESEARCH

In the following text, we will discuss a sample used for the research, the collection of qualitative data and the method of interviewing, issues related to the perception of readiness to respond, possession of supplies and plans for responding to natural disasters caused by the flood, etc.

## THE COLLECTION OF QUALITATIVE DATA

Gaining better insights that could be used for an adequate interpretation of results obtained by means of a survey on the readiness of citizens to respond to a natural disaster caused by the flood is inconceivable without conducting some interviews. In this way, it is possible to create a general and broader picture of the relationship that citizens have towards the

readiness to respond, and therefore we conducted ten semi-structured interviews with participants (citizens) from the local communities who were on several occasions confronted the consequences of flooding.

### THE SAMPLE

In the survey, we used the recommended intentional sample, according to the principle of snowball, which implied that the interviewees themselves recommended respondents at the level of their local community. First, we selected the starting number of respondents who then pointed to new respondents that should be included in the sample. Bearing in mind that intentional sampling means that the sampling units are selected because they have special characteristics that will allow detailed research and understanding of the central theme, the interview was conducted with informants and collaborators in the area of local communities in which the quantitative research was conducted.

The sample consisted of ten participants (eight men and two women) from Loznica, Šabac, Sremska Mitrovica, Priboj, Batočina, Sečanj, Novi Sad, Lapovo, and Rekovac. As to their education, two participants have completed secondary schools, two have obtained master's degree, two have graduated from faculties and two have completed colleges. Three participants have an income of up to 40,000 dinars, while seven earn a sum beyond that.

In terms of age, one of the participants up to 30 years was interviewed, five of them up to 50, and four of them who were over 50. Interviews lasted on average 55 minutes (Table 1).

An identical set of basic questions was posed to the participants, after which the discussions were directed according to estimates of their interest, sincerity, and seriousness. Semi-structured interview implied conceiving a handbook for the interview that followed the conceptual framework of the questionnaire. The handbook contained open questions pertaining to various aspects of citizens' readiness to respond.

#### *Questions about the perception of readiness to respond*

1. What do you think is the readiness of citizens to respond to a natural disaster caused by the flood? What does it include?
2. What is your general opinion about the level of preparedness of citizens to respond to a natural disaster caused by the flood? Please, explain what do you mean.
3. How do you assess the motivation of citizens to take certain measures of readiness to respond to a natural disaster caused by the flood and what, in your opinion, influences it? Please, explain what do you mean.
4. What do you think are the obstacles for not taking certain measures of readiness to

**Table 1. Overview of the characteristics of the interviewed subjects**

Code of the interviewees	Implementation date	Interview duration	Gender	Age	Place	Education	Income	Marital status
01	February 3, 2015	1 hour and 20 minutes	Female	28	Loznica	Master	65.000	In relationship
02	March 6, 2015	45 minutes	Female	48	Šabac	College	28.000	Divorced
03	December 1, 2014	1 hour and 10 minutes	Male	55	Sremska Mitrovica	Faculty	47.000	Married
04	April 3, 2015	35 minutes	Male	45	Priboj	Secondary school	31.000	Widower
05	March 21, 2015	48 minutes	Male	56	Batočina	College	42.000	Married
06	April 14, 2015	1 hour and 8 minutes	Male	47	Sečanj	Master	71.000	Divorced
07	April 24, 2015	49 minutes	Male	36	Novi Sad	Secondary school	37.000	Unmarried
08	May 14, 2015	1 hour и 12 minutes	Male	31	Lapovo	Faculty	42.000	Married
09	December 11, 2014	51 minutes	Male	61	Rekovac	Secondary school	37.000	Widower
10	November 25, 2014	32 minutes	Male	52	Kruševac	Faculty	47.000	Married

\* Codes are used to represent respondents.

- respond to a natural disaster caused by the flood? Please, explain what do you mean.
5. What do you think is the readiness of local government to respond to a natural disaster caused by the flood? Please, explain what do you mean.
  6. How could be improved the readiness of citizens to respond to the flood as a natural disaster in terms of knowledge, preparing supplies, implementing preventive measures, having plans, etc.? Please, explain what do you mean.
  7. What do you think is the readiness of a household in Serbia to respond to a natural disaster caused by the flood? Please, explain what do you mean.
  8. What measures should take the local government in order to raise the level of readiness of citizens to respond to the flood to a higher level? Please, explain what do you mean.

#### *Questions about knowledge regarding the readiness to respond*

1. What is your general opinion on the readiness of citizens to respond to a natural disaster caused by the flood in terms of their knowledge of the floods? Please, explain what do you mean.
2. How do you assess the awareness of citizens of specific preventive measures to respond to a natural disaster caused by the flood and what influences it? Please, explain what do you mean.
3. What is your general opinion on the readiness of citizens to respond to a natural disaster caused by the flood in terms of practicing certain activities (evacuation) related to such a disaster? Please, explain what do you mean.

#### *Questions regarding the stockpiles and plans for responding*

1. What is your general opinion on the readiness of citizens to respond to a natural disaster caused by the flood in terms of holding supplies of food and water? Please, explain what do you mean.

2. What is your general opinion on the readiness of citizens to respond to a natural disaster caused by the flood in terms of verbal / written plans for protection and rescue at the household level? Please, explain what do you mean.

At the end, the participants were asked if they had anything further to say on the readiness of citizens to respond to a natural disaster caused by the flood in the Republic of Serbia.

#### **THE MANNER OF INTERVIEWING**

Before the start of the interview, respondents were given a questionnaire about their basic demographic, socio-economic and psychological characteristics, and then the goal of the interview was explained, especially pointing out that it was about a collection of opinions of ordinary people, not experts. In particular, we pointed out to them that there were no wrong answers, and asked them to be as much honest and open as possible. After that, they were given the reason why audio recording was deemed necessary, and that was that the researcher, instead of taking notes, could pay better attention to the conversation. The interviewer requested the permission to record the conversation and guaranteed anonymity of the respondents. In particular, it was pointed out that in the paper their names would not appear, but would instead be kept under the code. During the interview, the key ideas were written down and records were kept on non-verbal reactions of the interviewee.

#### **RESULTS AND DISCUSSION**

By conducting a semi-structured interview, the extensive material was collected which started by recording the transcript of the interview. All transcripts of interviews are given in the form of supplements that, due to the limited space in this paper, cannot be displayed. After that, the indexing of data was done, that is, data pertaining to specific topics were integrated into a single unit in order to be suitable for encoding. Data were sorted and analyzed by the thematic category to which they referred, such as:



**1. the perception of readiness to respond:**

- conceptual definition of readiness,
- individual preparedness for response,
- readiness of households to respond,
- motivation to improve readiness,
- obstacles for failure to implement measures of readiness,
- modalities to improve readiness to respond,
- local government and improving preparedness measures;

**2. knowledge in connection with the reacting:**

- knowledge related to floods,
- awareness of citizens,
- practicing certain activities;

**3. supplies and plans for response:**

- possession of stocks of food and water,
- verbal / written plans for response.

The answers were structured and followed the questioning, which was followed by analysis. With the first question that was asked to the interviewees regarding their opinion about the readiness of citizens to respond to a natural disaster caused by the flood, we wanted to investigate what was their perception of the readiness, what did they mean by that and how they perceived it. The results of the analysis of responses are presented in the Table 2.

Key segments of the responses are summarized in the categories of *knowledge*, *supplies stocks*, *plans* and *training* in order to examine the frequency of certain answers. It has been found that 80% of those interviewed, under the term readiness mean in broader sense knowledge (50%), keeping supplies stocks (20%) and having plans (20%), but also the implementation of training (40).

In the same way, the following question (“What is your general opinion about the level of preparedness of citizens to respond to a natural disaster caused by the flood?”) was asked in order to examine the opinion of the interviewees about the level of preparedness for response. The results of the analysis of responses are presented in the Table 3.

Key segments of the responses are classified into two categories: the readiness and unreadiness to respond. The results show that the majority of those interviewed believe that individual citizens are unprepared for the reaction (90%), while only one participant believes that they are ready to react (10%).

The next question that the interviewees had to answer referred to the readiness of citizens to respond to a natural disaster caused by the flood in terms of their knowledge of the floods.

**Table 2. Overview of key segments of the answers to the question: “What do you think is the readiness of citizens to respond to a natural disaster caused by the flood? What does it include?”**

Codes of the interviewees	Key segments of answers
01	“Undertaking various activities in order to reduce consequences of extraordinary events; possession of elementary knowledge about how to protect oneself; undergo specific training; conceive verbal instructions on the procedure; provide a certain amount of food and water.”
02	“Awareness of the possibility of injury to people and their property; ready to take some additional measures and tasks in order to save themselves and others; responding to the invitation of the competent authority; supplies of food and water.”
03	“Planning, construction, maintenance and reinforcement of damaged buildings; observing and surveying the status of water levels; evacuation of people; being trained and qualified.”
04	“The propaganda activities; preventive education; getting to know the extent of the damage.”
05	“Education of citizens on primary sources causes and forms of threats; ensuring supplies of food and water.”
06	“Awareness of the dangers; experience; knowledge; the ability and readiness to participate in helping; humanity and impartiality; trained and equipped to respond efficiently and safely.”
07	“Awareness of the possibility of consequences; education of citizens from an early age, starting from preschool education to the education of the families.”
08	“Good awareness of citizens about the possible hazards; raising collective awareness and developing the ability to react.”
09	“To know how to behave; knowledge of the consequences, possession of certain equipment for the protection against water.”
10	“To have bottles filled with water in the house, and bags of sand; agreement with family members about who will actually move things to the upper floors.”

The results of the analysis of responses are presented in the Table 4.

Key segments of responses are classified into three categories: low, medium and high level of knowledge. Most of the interviewed persons believe that the level of the citizens' knowledge about floods is low (50%), intermediate (40%) and high (10%).

The following question referred to what was the respondents' general opinion on the readiness of citizens to respond to a natural disaster

caused by the flood in terms of holding stocks of food and water. The results of the analysis of responses are presented in the Table 5.

Key segments of the responses are classified into two categories: citizens have and do not have stocks of food and water. Most of the interviewees believe that citizens do not have stocks of food and water (80%), while 20% believe that they do have.

In order to examine the opinion on the possession of response plans, the next question

**Table 3. Overview of key segments of the answers to the question: “What is your general opinion about the level of preparedness of citizens to respond to a natural disaster caused by the flood? Please, explain what do you mean”.**

Codes of the interviewees	Key segments of answers
01	“Very few people have knowledge about floods; they do not have plans for actions; no one stocks food in the necessary quantities; they mainly rely on improvisation (operation without preparation).”
02	“There is no necessary or a sufficient level of readiness of citizens to respond. There are paid services that should work on that, it should not be the concern of an individual, of a citizen.”
03	“Citizens are practically not really ready, they are even totally unprepared to react; they are insufficiently aware of all potential hazards and risks in their immediate environment.”
04	“The readiness is poor because everyone ‘minds their own business’, and does not care about anything else; the neighbor does not respond until his or her own property is in danger. Citizens expect <i>the state to react because they pay for it.</i> ”
05	“The readiness of citizens, it might be said, is at a high level, their coordination, collegiality, and cooperation have been raised to a higher level of security.”
06	“They are unprepared to respond because they do not receive any kind of training, preparation and information about ways to react; citizens are not aware of their duties, prescribed obligations and the ordered measures.”
07	“By the time the water comes to us, we will figure something out, there is no way it can reach us, we are situated on the highest point in the village, however, we will do what the others do.”
08	“After the May floods, the level of readiness and responsibility of citizens to respond is much higher but still insufficient to obtain an organized response.”
09	“Citizens, in general, do not even think about preparedness measures; I think they are unprepared; most are not informed about the consequences of flooding and the possible levels of the potential depth of flooding.”
10	“I think that citizens are unprepared; most people do not even think about it; they are unprepared because they do not have a general awareness of the floods.”

**Table 4. Overview of key segments of the answers to the question: “What is your general opinion on the readiness of citizens to respond in terms of their knowledge of the floods?”**

Codes of the interviewees	Key segments of answers
01	“The level of knowledge of our citizens is quite low; the media do not organize educational programs of this type.”
02	“The level of knowledge about the floods in terms of the implementation of preventive measures, including some operational measures of protection and rescue from floods, is not at the required level.”
03	“Knowledge of the citizens in the field of protection from floods is very modest; it turned out that they do not know how to react until rescue teams reach them on the spot; no one has trained our citizens in this field in the last 25–30 years.”
04	“I think they know the minimum.”
05	“The citizens are well informed and know about the floods, their sources, forms of threats.”
06	“Their knowledge of floods is based on their personal previous experiences or on the experiences of others.”
07	“In the recent past, the floods that engulfed Serbia awakened the awareness of citizens about the consequences; unless we continue with the education of citizens about the floods, it is going to be quickly forgotten.”
08	“We are familiar with the scope and consequences of the flood in our municipality from 1964, but it is mostly at the level of knowledge without empirical actions in order to take preventive measures.”
09	“I think that the knowledge of the floods is average, bearing in mind that they already had to deal with it twice.”
10	“I think it is just knowledge about past experiences. Many people do not know how big the risk of flooding is.”

that the interviewees answered referred to what was their general opinion on the readiness of citizens to respond to a natural disaster caused by the flood in terms of having verbal / written plans of protection and rescue at the household level. The results of the analysis of responses are presented in the Table 6.

Key segments of the responses are classified into two categories: they have a plan for responding and they do not have. All interviewed persons believe that citizens do not have verbal / written plans (100%).

In order to examine the opinion of the interviewees about practicing certain activities associated with the reactions during the flood, they were asked about their general opinion on the readiness of citizens to respond in terms of practicing certain activities (evacuation) associated with such a disaster. The results of the analysis of responses are presented in the Table 7.

Key segments of the responses are classified into two categories: the evacuation is not practiced and it is practiced. The majority of the interviewees consider that evacuation is not

**Table 5. Overview of key segments of the answers to the question about what is the general opinion of the interviewed persons on stocks of food and water held by citizens.**

Codes of the interviewees	Key segments of answers
01	“There are few citizens who timely prepare the necessary amounts of food and water.”
02	“They have adequate supplies of food; they do not have stocks of water since they rely on the supply of bottled water.”
03	“Our citizens (in a high percentage) do not have enough food even in times when there are no natural disasters.”
04	“They have some supplies of animal feed but those are not long-lasting. The current standard is such that nobody buys larger quantities of food but they go shopping every day. Households rarely have a stock of fuel for the machines.”
05	“Previous experiences of citizens have led them to be well equipped with supplies of food and water, rather than to face their shortage.”
06	“People affected by the flood are more likely to get sick due to the lack of clean drinking water, food supplies, and bad sanitary conditions.”
07	“If it is a city, food and water are not provided in large quantities because even during major floods they can be purchased, and the people lead an intense life.”
08	“They do not have stocks of food and water so they provided for them during flooding, which creates shortages.”
09	“Most people have food stocks in their households for two or three days. In Serbia, citizens have food prepared for winter, dried meat etc. which can be used in the times of need.”
10	“I think that no one owns stocks in this regard.”

**Table 6. Overview of key segments of the answers to the question: “What is your general opinion on the possession of a plan to react?”**

Codes of the interviewees	Key segments of answers
01	“They do not have written plans for protection and rescue at the household level, while only those who have already been flooded and learned some lessons from it have ‘verbal’ (unwritten) plans.”
02	“Written or verbal plans of protection and rescue from floods, in my opinion, are not necessary if the planning solutions in the basins of watercourses and threatened areas provide measures and tasks of protection and rescue.”
03	“There are developed, approved and adopted plans for flood protection at the local government level. The plans of protection and rescue at the household level do not exist.”
04	“I think that we are far from it, but the best results could be achieved by working with children in schools.”
05	“The household does not hold plans for protection and rescue because the plan of protection and rescue at the level of a household is not legalized by law; only through the media and educational programs and professional journals they can be informed.”
06	“In urban areas it is simply implied that others have plans for protection and that others are responsible for the rescue. In rural areas is greater solidarity and readiness to cope with the floods themselves with existing resources and personnel.”
07	“I believe that not a single household possesses such a plan, not even of verbal character.”
08	“There is awareness among individual citizens of the need to take measures for protection and rescue at the household level but they boil down to personal experience and perception.”
09	“I think that no one has written a plan for responding.”
10	“No one has it. I do not even know what it is.”

practiced, while only one participant deems that it is practiced (10%).

The interviewees were then asked a question which related to how they evaluated and what in their opinion affected the motivation of citizens to take certain measures of readiness to respond to a natural disaster caused by the flood, in order to examine their views on the factors of influence on the motivation of citizens to improve their level of preparedness.

The results of the analysis of responses are presented in the Table 8.

Key segments of the responses are classified into five categories: knowledge, money, media, knowledge of flood risk and other reasons. Of the total number of the interviewed, 40% point out that knowledge affects the motivation, for 40% of them it is the money, and for 40% it is the media, and for 10% it is knowledge of flood risk.

**Table 7. Overview of key segments of the answers to the question: “What is your general opinion on the readiness of citizens to respond in terms of practicing certain activities (evacuation)?”**

Codes of the interviewees	Key segments of answers
01	“I think that our citizens do not rehearse at all evacuation from their homes.”
02	“There is no doubt that practicing certain activities (evacuation, etc.) can be useful.”
03	“The people are totally unprepared to respond to natural disasters. No one has ever rehearsed with citizens activities related to the implementation of specific tasks and actions.”
04	“They are familiar with the treatment procedure in case of flooding and evacuation.”
05	“There was confusion, people were left to defend their houses and property even though it was night and it was not known how much the water level was coming up.”
06	“There are groups of people more or less interested in engaging professionally.”
07	“I have not heard that anywhere, especially in areas which are often endangered by floods, any kind of evacuation exercise has been conducted.”
08	“Practicing it may be possible in cooperation with the local government; I even think that this is more efficient because in this way the entire community is practicing.”
09	“I think people are not ready to practice activities related to evacuation because there is a strong belief that they are not threatened to such an extent.”
10	“I think that our citizens have never practiced evacuation.”

**Table 8. Overview of key segments of the answers to the question: “How do you assess the motivation of citizens to take certain measures of readiness to respond and what, in your opinion, affects it?”**

Codes of the interviewed persons	Key segments of answers
01	“I give the motivation of citizens a low grade; besides their loved ones (children, old people, women) and material goods, the next thing to motivate them is solidarity; media can also have influence through well-designed programs and appeals.”
02	“Socio-economic situation of citizens (apathy of the population), then a desirable level of training and qualifications, organized and planned response to the challenges of the disaster caused by the flood, to information and creating a favorable overall environment.”
03	“The most motivating is the permanent – potential risk or threat that flooding may occur; the financial factor affects the motivation, as well as the activity of the local community.”
04	“Knowing what the possible consequences are and what can happen to people.”
05	“With their educational programs, the media influence the motivation.”
06	“In order to distinguish between social and individual responsibility, i.e. the risks about which the states should worry and those about which individuals should worry about; be informed by the media and from the relevant institutions; sanctions for civil acts or omissions.”
07	“The engagement of local self-government plays the key role; voluntary work, open type seminars, demonstrative exercises.”
08	“Citizens expect from the wider community to take preventive and other measures.”
09	“They have to be educated first; money; it takes time for it; knowledge, awareness of the possibilities of flooding.”
10	“To know why it is important to be ready to respond; knowledge about flood risks and possible consequences, not excessive burden about the lack of money.”



The interviewees were then asked the following question in order to examine their opinion about obstacles and to improve the readiness of citizens to respond. The results of the analysis of responses are presented in the Table 9.

Key segments of the responses are classified into five categories: knowledge, money, media, knowledge of flood risk and other reasons. Of the total number of the interviewed, 50% highlights the lack of knowledge, 60% the lack of money, 10% the lack of time, 10% points out that there are no obstacles while 40% of them point to other reasons.

The interviewees were asked the question referring to the readiness of the local government to respond to a natural disaster caused by the flood. The results of the analysis of responses are presented in the Table 10.

Key segments of the responses are classified into three categories: unprepared, neither ready nor unprepared, prepared local government. Of the total number of interviewed, 40% of those interviewed points out that the local government is unprepared, and 40% that it is neither ready nor unprepared, 20% declare that it is ready.

**Table 9. Overview of key segments of the answers to the question: “What do you think are the obstacles for not taking certain measures of readiness to respond?”**

Codes of the interviewees	Key segments of answers
01	“Ignorance and lack of information on necessary activities that must be undertaken for adequate readiness.”
02	“The citizens who have no money cannot be prepared for it. Maybe they do not even have time to think of such measures. In addition, most people do not know what to do.”
03	“There are not any obstacles in terms of timely taking the necessary measures and actions; a constant lack of funds.”
04	“For all the work, the money must be provided and it is never sufficient.”
05	“The lack of interest of citizens, lack of coordination and cooperation at the individual and societal levels, ignorance, poor training of human resources.”
06	“The resources necessary for intervention have not been provided; irresponsible attitude of individuals towards facilities for flood protection.”
07	“The social structure of the population; not having time to think about the natural disaster, God forbid that it ever happens again.”
08	“The lack of plans and the required professional staff for the area, and the lack of the will; lack of awareness of the potential danger, lack of funds to invest in prevention.”
09	“Everything that affects the motivation represents a sort of obstacle.”
10	“Familiarity with flood risks, lack of knowledge about possible ways to reduce the impact of floods, lack of interest in personal security.”

**Table 10. Overview of key segments of the answers to the question: “What do you think is the readiness of the local government to respond?”**

Codes of the interviewees	Key segments of answers
01	“At a satisfactory level, thanks to the knowledge, experience, and commitment of the management.”
02	“Partially ready to respond.”
03	“Specific tasks must be distributed and one must always count on the worst case scenario.”
04	“It is well prepared to operate in such a situation, there is a high level of involvement of the people, the fire service and rescue teams.”
05	“Flood prevention must not be a partial solution at the local level and in the function of politics, but at the level of the integral whole basin.”
06	“Lack of qualified staff. There are very few local governments that implement the plans for flood protection.”
07	“Local governments engage all available capacities; after the termination of emergency, the interest in this issue is reduced.”
08	“The lack of capacity at the local level.”
09	“In local governments, there is a great lack of work; until the floods have occurred, they did not care for something like that.”
10	“The local government is insufficiently prepared.”

The interviewees were asked the question referring to the improvement of citizens' readiness to respond to a flood as a natural disaster and to examine their opinions about potential ways of improvement. The results of the analysis of responses are presented in the Table 11.

Key segments of the responses are classified into four categories: education, training, media, insurance, and other. Of the total number of the interviewed, 90% declare that the readiness to respond can be improved with education, training 20%, media and insurance 20% and other activities 50% (they usually thought of adopting risk assessment and plans for protection and rescue).

The interviewees were asked the question referring to what was the readiness of a household

in Serbia to respond to a natural disaster caused by the flood. The results of the analysis of responses are presented in the Table 12.

Key segments of the responses are classified into three categories: unprepared, neither ready nor unprepared and ready households. Of the total number of the interviewed, 80% point out that households are not ready, 10% that they are neither ready nor unprepared and 10% declare that they are ready.

The interviewees were asked the question referring to the awareness of citizens as to specific preventive measures for responding to a natural disaster caused by the flood. The intention was to examine how it was possible to influence to achieve a higher level of aware-

**Table 11. Overview of key segments of the answers to the question: “How could the readiness of citizens to react be improved?”**

Codes of the interviewees	Key segments of answers
01	“By organizing the necessary education, by organizing and implementing training, by recommending households making risk assessment and plan of protection and rescue.”
02	“By coordinating measures determined by the laws and regulations with the development of safety culture and awareness of the need for engagement in this area with the significant media attention.”
03	“By educating citizens. You must train them through some kind of courses, exercises or seminars.”
04	“You have to start from schoolchildren that they first understand what is flood and then to upgrade it with promotional activities.”
05	“Through training and courses, lectures in the field of protection and rescue from floods.”
06	“By compulsory insurance of property against flood damage as a measure of protection from this type of risk.”
07	“Education, cooperation with local authorities.”
08	“By informing directly by the municipal authorities; adopt plans for protection and rescue and to define the necessary budgetary resources.”
09	“Hold a meeting with the citizens and inform them of the risks; team up with each other and take certain measures; provide the money and buy us some equipment, but when you need us, we will all to come and bring it.”
10	“To inform citizens about possible floods; provide supplies to them and give them some brochures.”

**Table 12. Overview of key segments of the answers to the question: “What do you think is the readiness of a household in Serbia to react?”**

Codes of the interviewees	Key segments of answers
01	“Estimate the threat; make a plan for protection and rescue, educate citizens, organize training and seminars.”
02	“The average score of a household to respond would be 4 (ratings in the range 0 to 10).”
03	“The readiness of a household in Serbia is very bad.”
04	“Readiness is minimal.”
05	“Quite well engaged, trained, informed and prepared for the preservation of their material goods, life, and integrity.”
06	“Insufficiently ready.”
07	“Insufficient.”
08	“Households are not sufficiently prepared to respond.”
09	“I think it is at a very low level.”
10	“I think that households are generally unprepared.”

**Table 13. Overview of key segments of the answers to the question: “How do you assess and what factors determine the awareness of citizens on specific preventive measures to respond?”**

Codes of the interviewees	Key segments of answers
01	“The public’s awareness is low.”
02	“Until the floods occur, public awareness is at a satisfactory level, however, when they do, it happens that some systems are failing, so there is a termination of fixed and mobile telephony; social networks have played a major role in recent floods.”
03	“The public’s awareness is always at a satisfactory level. All the media, both print and electronic, regularly inform the citizens.”
04	“Citizens through experience become aware of the importance to carry out prevention rather than to pay an expensive cost of repairing the damage.”
05	“Mainly the media, written notifications that are sent by mail, social networks have an impact.”
06	“The ability of people to collect information, to analyze, to take appropriate measures in such situations.”
07	“Certainly the media, early warning and early notices.”
08	“Citizens are not informed of certain preventive measures to be taken and the prevailing opinion is that it should be done by the wider community.”
09	“It is necessary to broadcast certain programs on television and radio.”
10	“The public’s awareness of preventive measures is very weak. Most of them are not aware of what and how can be done to reduce the consequences of flooding.”

ness. The results of the analysis of responses are presented in the Table 13.

In each segment are identified the aforementioned factors affecting awareness and revealed the following: social networks, the media (printed and electronic), and written notifications, the ability of people to gather information, early warning, television, and radio.

### CONCLUSION

By conducting qualitative research, we have come to the following conclusions.

- Under readiness to respond, the interviewed persons mean mostly the possession of knowledge, stocks (water and food), and plans, but also the implementation of specific training.
- The majority of the interviewees point out that citizens are generally unprepared to respond, that they have a low level of knowledge about the floods and that evacuation activities are not practiced. On the other hand, they mostly point out that the readiness could be improved through education, training,

with the help of the media and high-quality insurance offer.

- The majority of the interviewees believe that citizens do not have stocks of food and water.
- All the interviewees believe that citizens do not have verbal / written plans for responding to natural disasters.
- Regarding the motivation for taking measures of readiness to respond, most interviewees emphasize money and media.
- As obstacles to taking measures of readiness, they mostly point out ignorance, lack of money and time.
- Most interviewees pointed out that the local community was neither ready nor unprepared to respond; when it comes to the households, the majority of those interviewed pointed out that they are unprepared to respond.

The survey results represent only a starting point for further research on the readiness of citizens to respond to natural disasters caused by the flood in the Republic of Serbia.

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