



STUDY OF THE AWARENESS AND READINESS FOR PROTECTION IN CASE OF FLOODS OF THE BULGARIAN CITIZENS FROM THE DANUBE REGION (PLEVEN MUNICIPALITY AND SVISHTOV MUNICIPALITY) - PART 2.

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SUMMARY

A survey was conducted of 240 Bulgarian citizens from the Danube region, the Republic of Bulgaria, to study their awareness and readiness for protection and proper behavior in floods. The participants in the study were divided into two age groups: young from 18 to 39 years and mature from 40 to 64 years. The respondents live in two municipalities from the Danube region - a small municipality of Svishtov and a larger municipality of Pleven.

Assessment of the awareness and readiness for proper behavior and protection of the studied group of 240 persons permanently living in the Danube region:

- A small percentage of the two surveyed groups know who organizes and provides assistance to flood victims - 47% of the young and 38% of the mature group.

- The percentage of sirens for early warning of danger is small in both groups of bags - 47% from a young group and 30% from an adult group.

- The two age groups showed in the survey that they are well informed about the main causes of past dangerous floods in the municipalities where they live (65% correct answer in the adult group and 44% correct answer in the young group).

- Below 50% in both groups is the level of awareness about problems related to deforestation, excessive deforestation and long-lasting forest fires.

- Half of 50% of both age groups know in advance where to look for information related to floods or other natural threats.

- There is a large percentage in both groups, 66% mature and 81% young group, who expressed in the survey a desire to increase their own knowledge and to improve and build the right behavior for protection in case of potential flood or another disaster.

Keywords: floods, Danube region, disaster preparedness, correct behavior, flood relief.

INTRODUCTION

Floods are common and leading natural disasters in the Republic of Bulgaria. They cause huge material damage, affect populated areas, industrial areas, productive agricultural land.

According to the United Nations (UN, 2000), the global distribution of natural disasters is as follows: Floods - 40%, cyclones - 20%, earthquakes and landslides - 15%, avalanches, colds and droughts - 15%.

Worldwide, floods kill more than 22,000 people a year. In addition to the damage to the population inhabiting the flooded places and areas, the consequences are pollution of the air, water and soil.

The floods in the Danube region in the last 15 years (2005-2020) are of rain-river type. The rivers Danube, Iskar, Vit, Osam, Yantra, Rositza and Dolapdere are at increased risk of overflow. Other reasons besides heavy torrential rains and snow melt are the non-maintenance of riverbeds and dikes, leakage of dam walls, the old sewerage system of mixed type in the two municipalities of Pleven and Svishtov, man-made floods and others.

According to NSI data, the floods in 2019 for the whole country were 108, the damages amounted to BGN 21,173. Seriously damaged by floods are several municipalities in the Danube region - Veliko Tarnovo - 6 crisis events, Gabrovo and Sofia with 4 crisis events and Lovech and Ruse with 3.

MATERIALS AND METHODS

A survey of 240 Bulgarian citizens from two municipalities in the Danube region - Pleven and Svishtov. The participants in the study are divided into two age groups: young from 18 to 39 years and mature from 40 to 64 years.

A sociological method was used to study flood awareness and preparedness. The chosen method is an anonymous survey using a questionnaire filled in personally by the respondents.

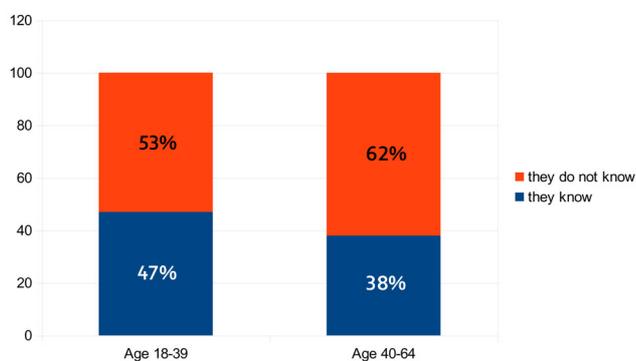
RESULTS AND DISCUSSION

To our question, “Do you know who organizes flood relief?”

Figure 1 distribution of the question: “Who organizes flood relief?”

Respondents from the adult group, 62%, young people 53% do not know who organizes the help of flood victims (Fig. 1). No significant differences were found in terms of education and gender ($p \leq 0.05$). The level of awareness and preparedness of the public and local institutions in the Danube region in case of floods affects the reduction of human, social and economic damage and losses. The low awareness of both age groups should be increased in the future by organizing and conducting active and systematic educational campaigns.

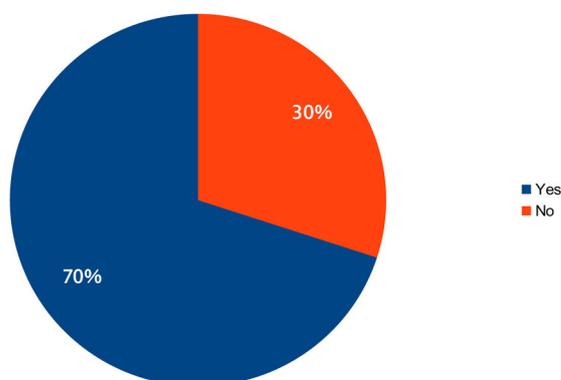
Fig. 1. Distribution of the question: “Who organizes flood relief?”



To the question “Have you heard of early warning sirens?”

The campaign for early warning and prevention of disasters in the adult age group is too weak (only 30% of 120 have heard the national alarm). In a real disaster situation, this part of society will be put at serious risk (Figure 2).

Fig. 2. Answers to the question: “Have you heard sirens for early warning of disaster?” - Mature age group.



According to the place of residence, the highest percentage of early warning sirens from the villages is 57%, and the lowest result are the residents of small towns in the two municipalities of Pleven and Svishtov - 29% (Table 1).

Table 1. Early warning sirens for respondents from a large, small town or village.

Place of residence	Early warning sirens	Negative answers
Big city	47% Yes	53% no
Small town	29% Yes	71% no
The village	57% Yes	43% no

In both age groups, the current study found that they have a good awareness of the main causes of past dangerous floods in the municipalities where they live (Fig. 3). The higher percentage of correct answers in the adult age group, 65% against 44% is a result of longer life experience and higher education (Fig. 4).

Fig. 3. Causes of past floods.

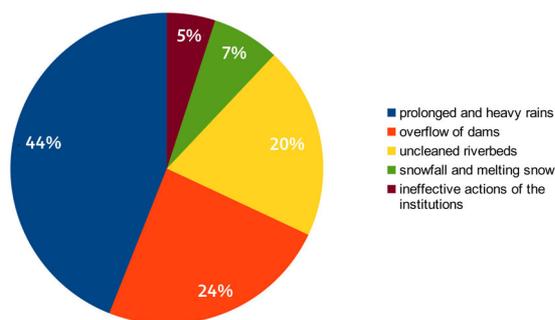
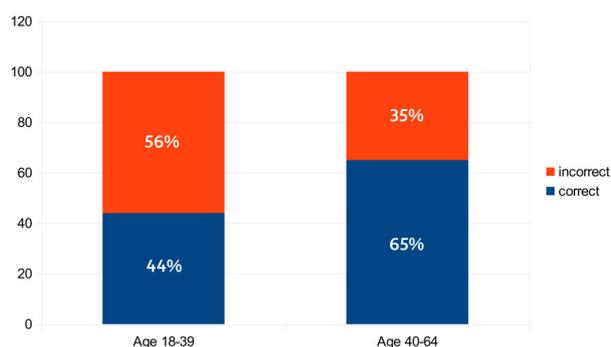


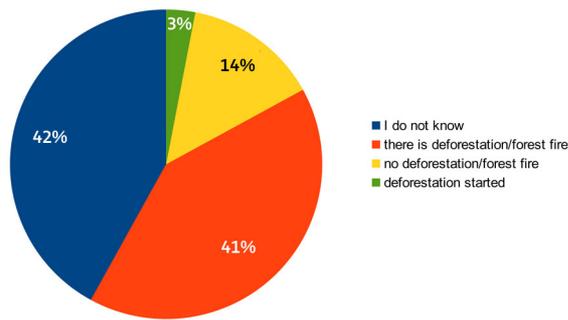
Fig. 4. Ratio of correct answers by age groups.



To the question “Is there deforestation as a result of excessive logging or fire?”

There was no statistically significant difference in the responses of the two age groups ($p \leq 0.05$), 38% of young people (18-39 years) answered that there is deforestation and 41% of mature (40-64 years) the same. (Fig. 5).

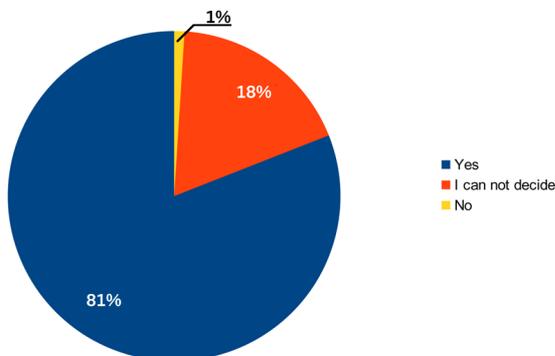
Fig. 5. Answers to the question: “Is there deforestation as a result of excessive logging or fire?”



Half of the 50% of the two age groups (48% of the young group and 52% of the adult group) know in advance where to look for information related to floods or other natural threats.

There is a high percentage in both groups of 66% of adults and 81% of young groups who expressed in the survey a desire to increase their own knowledge, improve and build the right behavior for protection in the event of a potential flood or another disaster. The obtained high percentage confirms our hypothesis that the awareness of the Bulgarian citizens should be raised, and systematically corrected behavior for reaction and protection in case of potential disaster should be built (Fig. 6).

Fig. 6. Answers to the question: “Do you think that your knowledge of flood protection and behavior should be increased?”



CONCLUSIONS

1. A small percentage of the two surveyed groups know who organizes and implements flood relief - 47% young and 38% mature group.

2. The percentage result obtained in both age groups of the early warning sirens is small. This makes them vulnerable in a potential disaster situation.

3. Both age groups have shown good awareness of the main causes of past dangerous floods in the municipalities, where they noted that living and working - 65% mature and 44% young group.

4. Below 50% of all 240 respondents in the current survey are aware of problems related to deforestation, excessive deforestation or prolonged forest fires.

5. Below 50% of all 240 respondents in the current survey are aware of problems related to deforestation, excessive deforestation or prolonged forest fires.

6. We give high marks to both age groups for knowing where and how to look for information about floods - 52% mature and 48% young group. All this will help both groups in real situation to save their lives.

7. There is a high percentage in both groups, 66% mature and 81% young group, who expressed in the survey a desire to increase their own knowledge and to improve and build the right behavior for protection in case of potential flood or another disaster.

8. The highest percentage of respondents prefer to increase their knowledge through media broadcasts, distance learning, the Internet - 40%, training courses - 28%, leaflets and brochures - 20%, more knowledge at school - 12%.

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