

Publisher: Scientific-Professional Society for Disaster Risk Management

International Journal of Disaster Risk Management

Journal homepage: https://internationaljournalofdisasterriskmanagement.com



Research Paper



State Aid in Reconstruction of Natural and Other Disasters' Consequences Using the Budget Funds of the Republic of Serbia

Goran Milošević¹, Cvjetana Cvjetković - Ivetić² and Luka Baturan^{3,*}

- ¹ University of Novi Sad, Faculty of Law, Trg Dositeja Obradovića 1 21102 Novi Sad, Serbia; g.milosevic@pf.uns.ac.rs (G.M.); c.cvjetkovicivetic@pf.uns.ac.rs (C.C.I.); l.baturan@pf.uns.ac.rs (L.B.)
- * Correspondence:q.milosevic@pf.uns.ac.rs

Received: 4 September 2024; Revised: 27 November 2024; Accepted 2 December; Published: 25 December

ABSTRACT

Financial law theory and practice emphasize the need to apply appropriate instruments to ensure the equitable use of collected public revenues, not only to achieve the fiscal interests of the country but also to address society's non-fiscal needs. However, despite the efforts to regulate state and society, events that arise from natural forces and the effects of natural laws create risks and threats that can significantly disrupt the natural balance and tranquillity of citizens, the economy, and the broader social community. Recognizing these challenges, the Republic of Serbia has established a legal framework to provide state aid for the reconstruction of disaster consequences, aiming to restore and offer assistance to citizens and businesses that have suffered material damage. This paper explores the public's perception of this state aid system and evaluates its effectiveness in addressing disaster impacts. The main objective of the study is to assess the effectiveness of the state aid system in mitigating the consequences of natural and other disasters and to determine the extent to which the system contributes to the protection of citizens' property and economic stability at both micro and macroeconomic levels. The study focuses on the legal and organizational aspects of state aid in the reconstruction of disaster consequences in Serbia, examining the system's ability to respond effectively to the needs of citizens and businesses affected by natural and other disasters. By applying scientific methods, primarily legal, economic, and security theories, the paper seeks to analyze the public's attitude towards the implementation of the state aid system using budget funds. The research employs a structured questionnaire distributed to 215 respondents across Serbia to gather data. An analysis was conducted to identify relationships between key variables, such as trust in the aid system, perceived effectiveness, and demographic factors like age, education, and income. The findings indicate that a majority of respondents support the implementation of the state aid system and recognize its importance in mitigating disaster impacts. The study also reveals that citizens believe the system contributes to enhancing social stability and the security of both citizens and the economy. However, there are areas identified for improvement, particularly concerning transparency and efficiency in the distribution of aid. The results suggest the need for continuous refinement of the legal framework governing state aid and disaster recovery. Enhancing transparency and public awareness, as well as integrating technological solutions for aid management, could strengthen the effectiveness of the state aid system. Furthermore, engaging local communities in disaster response efforts could enhance the resilience of affected areas and improve the overall disaster recovery process.

Keywords

State aid, reconstruction, budget, natural disasters, risks, threats, public.

1. Introduction

By studying the scope and dynamics of the budget funds use at the central or local government level, the possibility and justification of their use can be seen (Berkley, 2024; Thurmaier, 1994). In this regard, the financial law theory and practice indicate the necessity and requirement to apply appropriate monitoring instruments, i.e., the principle of evenness of use of collected public revenues, not only to achieve the fiscal interests of country the, but also to achieve the non-fiscal needs of society (Ball, 2001; Vladimir M. Cvetković et al., 2022; Pope & Puxty, 1991).

Imposed as a dominant non-fiscal goal is the social peace and tranquillity of citizens (Gnan et al., 2013). Achieving social peace and well-being of citizens is the question of all issues observed throughout the history of the development of the state and society. The issue of social peace and well-being is the source and basis of the creation and development of legal, economic, social, political and other issues of society and its consciousness (Berkley, 2024; Chambers, 1997; Jacobs, 2016).

However, regardless of how the issue of the state and society is regulated, events that are the product of natural powers and the effect of natural laws produce risks and threats that, by their intensity of action, can collapse the natural balance and tranquillity of citizens, the economy and the social community (Chakma, 2023; Cvetković, 2024b; Cvetković, Nikolić, & Lukić, 2024; Cvetković, Romanić, & Beriša, 2023; Cvetković & Šišović, 2024; Cvetković, 2023; Cvetković & Šišović, 2024; El-Mougher, Abu Sharekh, Abu Ali, & Zuhud, 2023; Grozdanić, Cvetković, Lukić, & Ivanov, 2024; Islam, 2023; Starosta, 2023; Sudar, Cvetković, & Ivanov, 2024; Tanasić & Cvetković, 2024; Zareian, 2023). Natural risks and threats lead to the loss of human lives and material resources of a society through their direct and indirect action (Cvetković, 2024c; Cvetković, Čvorović, & Beriša, 2023; Cvetković & Nikolić, 2023; Cvetković & Planić, 2022; Cvetković, Renner, Lukić, & Aleksova, 2024; Cvetković, Tanasić, et al., 2023; Cvetković, Gole, Renner, & Lukić, 2024; Mohammed M. El-Mougher, 2022; Kabir, Hossain, & Haque, 2022; Kabir, Tanvir, & Haque, 2022; Odero & Mahiri, 2022; Podder, Hasan, & Islam, 2022; Tanasić & Cvetković, 2024). The risks of natural disasters are not only related to property and infrastructure, but depending on the intensity of the action, they can cause negative oscillations within the entire economic system of the country (Cvetković, Roder, Ocal, Tarolli, & Dragićević, 2018; Cvetković, Tanasić, et al., 2021). The consequences can be not only within the microeconomic area where the unwanted event occurred but also at the level of the macroeconomic area (Adem, 2019; Aleksandrina, Budiarti, Pasha, & Shaw, 2019a; Kumiko & Shaw, 2019; Mano, A, & Rapaport, 2019; Perić & Cvetković, 2019; Vibhas, Adu, Ruiyi, Anwaar, & Rajib, 2019; Vibhas, Bismark, Ruiyi, Anwaar, & Rajib, 2019; Xuesong & Kapucu, 2019; Xuesong & Kapucu, 2019).

The subject of scientific research in this paper will be the application of the system of state aid and reconstruction of the natural and other disasters' consequences using budget funds. The paper aims to use scientific methods, primarily legal, economic and security theory, to assess the public's attitude towards the implementation of the system of state aid and reconstruction in the aftermath of natural and other disasters using budget funds, that is, whether and to what extent the system can contribute to the goals of protecting the property of citizens and the economy on a macroeconomic and microeconomic level.

The basic hypothesis is that the implementation of an efficient state aid system using budget funds reduces threats and risks from natural and other disasters and contributes to the economic system's stability.

2. Natural and other disasters

Natural and other disasters an events caused by the action of natural forces or human activity, which interrupt the normal development of life to an extent that exceeds the regular ability of the individual and the local community to recover without the help of the state and cause material damage that is greater than 10% of the budget of the local self-government unit and which was declared as such by the Government (Cvetković, Öcal, et al., 2021). This way of defining the term natural and

1 Article 5 paragraph 1 of the Law on Reconstruction following Natural and Other Disasters, "Official Gazette of RS", no.

other disasters indicates the basic characteristics of this negative phenomenon, namely: an event in a specific time and space; the event caused by the action of natural forces or human activity; the event is extreme; the event in which society or a part of society suffers damage to an extent that exceeds the normal ability of the individual and the local community to recover; the event causes material damage that is greater than 10% of the local self-government unit's budget; the event interrupts the normal course of life; the event implies that all or some basic social values have been violated.

Starting from the scope and intensity of the effect, the most significant forms of natural disasters can be: floods (Aleksova, Milevski, Mijalov, Cvetković, & Lukić, 2024; Cvetkovic & Martinović, 2020),² droughts (Boken, Cracknell, & Heathcote, 2005; Cvetković & Bošković, 2014; Shibru, Operea, Omondi, & Gichaba, 2022), extreme temperatures (Cvetković, Gačić, & Jakovljević, 2015; Ebi & Schmier, 2005; Lewis, 2016), fires (Cvetković et al., 2018; Cvetković, Pavlović, & Janković, 2021; Cvetković & Marković, 2021; Kozlowski, 2012; Molnár, 2024; Mumović & Cvetković, 2019; Nones, Hamidifar, & Shahabi-Haghighi, 2024) and other. A flood is a natural phenomenon that means an unusually high water level in rivers and lakes, due to which water from the river bed or lake slope overflows the shore and floods the surrounding area. A drought is an event of long-term water shortage. Extreme temperature is a prolonged period of extremely high or low temperature to the usual weather of a certain area in a certain period or interval. A fire is an uncontrolled spread of fire in a certain area while simultaneously causing material damage and endangering people's lives (Cvetković, 2024a; Del Moral & Walker, 2007).

3. The system of state aid and recovery of natural and other disasters consequences

An event in a certain time and space, in which society or one part of society suffers damage and social disruption so that all or some basic social values are violated, requires a special approach (Olawuni, Olowoporoku, & Daramola, 2020). Disrupting the peace and tranquillity of citizens, natural disasters have to be monitored, remediated and predicted. For exactly this reason, aware of the consequences of natural and other natural disasters, the Republic of Serbia adopted the Law on reconstruction following natural and other hazards. The law aims to restore and provide assistance to citizens and business entities that have suffered material damage due to natural and other disasters.³

The state aid and reconstruction program determines the conditions, the type of aid, as well as the criteria and measures for determining the amount of aid (Al-Malawi, El-Mougher, & Al-Agha, 2020). The conditions for receiving assistance are that: the damage occurred as a direct consequence of natural or other disasters; the damage has been reported by the law; damage has been suffered by a citizen or business entity; is a damaged or destroyed item that serves and is necessary for the satisfaction of basic life needs, and as such was in daily or regular use; the item is stored with care and in the prescribed manner, as well as that all measures have been taken to reduce the risk of natural and other disasters; other conditions following the law have been met.

Source: https://www.obnova.gov.rs/vesti/clanak/ukupno-isplaceni-korisnici-poplave-2020; https://www.obnova.gov.rs/vesti/clanak/ukupno-isplaceni-korisnici-poplave-2021; https://www.obnova.gov.rs/vesti/clanak/ukupno-isplaceni-korisnici-poplave-u-maju-i-junu-2023.

4 Article 11 paragraph 1 LRFNOD.

^{112/2015; (}LRFNOD).

² The consequences of the flooding of the territory of the Republic of Serbia in 2014 were estimated at 1.7 billion euros, i.e., 4.8% of the GDP of the Republic of Serbia. The cumulative consequences of the disaster in the amount of 1.7 billion euros were mainly concentrated in the areas of: production activities (1.190 million euros or 70% of the total loss), social services (272 million euros or 16% of the total loss) and infrastructure (204 million euros or 12% of the total loss). The flood disaster led to a recession in the Serbian economy, causing a 1.8% drop in the economic activity.

³ According to the official records of the Ministry for Public Investments, 1.722 decisions in the amount of 274.070.000,00 dinars were forwarded to the victims for payment in the name of state aid for floods: - during 2020 in the name of: damaged residential buildings - until June 13, 2022 in floods; - destroyed residential buildings - until June 13, 2022, 5 decisions in the amount of RSD 11.000.000,00 were forwarded for payment. During 2021, in the name of: - damaged residential buildings - until June 13, 2022, 1.069 decisions in the amount of 138.280.000,00 dinars were forwarded for payment to those damaged in floods. During 2023, in the name of: - damaged residential buildings - until May 31, 2024, 2.231 decisions in the amount of RSD 493.450.000,00 were forwarded for payment to those damaged in floods; - destroyed residential buildings - until April 23, 2024, 11 decisions in the amount of RSD 34.500.000,00 were forwarded for payment to those damaged in the floods.

Aid funds after natural and other disasters are provided from: the budget of the Republic of Serbia; donations; contributions and gifts; income from borrowing; proceeds from the sale of financial assets; funds of public companies and other forms of organization founded by the Republic of Serbia; and other sources in accordance with the law.⁵ Assistance to citizens and business entities is also granted from the budget of the autonomous province, i.e. the local self-government unit, per the law.

The law establishes the procedure for realizing the right to state aid after natural and other disasters. The obligation of local self-government units is to invite citizens to report the resulting damage without delay, and no later than within 15 days from the declaration of the end of the natural and other disasters, within a period that cannot be shorter than 15 or longer than 60 days from the date of publication of the invitation. The procedure for assisting is initiated by reporting damage.

The local self-government unit without delay forms the required number of commissions that assess damage caused after natural and other disasters to citizens' belongings under the act regulating the unique methodology for assessing damage from natural and other disasters, which is adopted by the Government. Upon reporting the damage, determining, assessing and verifying the damage, the local self-government unit continues the procedure for determining the right to state aid, inviting the party to state the verified record of the damage assessment and other relevant circumstances of importance for determining the right to state aid.

The government can decide on assistance to economic entities that have suffered material damage due to natural disasters (Aleksandrina et al., 2019a; Cuny, 1994; Strömberg, 2007; G. Xuesong & N. Kapucu, 2019). The conditions for receiving the assistance are that:⁶ material damage has occurred, which implies physical damage or destruction of immovable or movable things owned by the business entity; damage was caused as a result of a natural disaster; the damage has been reported under the Law; the business entity has taken all necessary and prescribed precaution measures to reduce the risk of natural disasters; there has been damage of such a type and extent that it threatens the further survival of the business entity; is damage caused by risks that are not insured by entities dealing with property insurance; other conditions stipulated by law are met.

2. Methods

Research related to the views of citizens on the program of assistance and reconstruction of the natural and other disasters' consequences using budget funds was carried out using a questionnaire that was requested and then collected online Google questionnaire. The questionnaire was conducted in the period from July 10, 2024, to August 10, 2024. In 2024. The number of people surveyed is 215 from the territory of the Republic of Serbia. A multivariate regression analysis was used, which identified the total extent of assessment of the main dependent variables (trust in the state aid program; effectiveness of the application of the state aid system, the level of efficiency of providing aid to citizens and the economy; and security of citizens and the economy) that are associated with five demographic and socio-economic variables: gender, education, employment, income and age. We tested the hypothesis that the implementation of an efficient state aid system using budget funds reduces threats and risks from natural and other disasters and contributes to the economic system's stability. The results of the research show that the majority of respondents support the implementation and introduction of various state aid measures to reduce the consequences of natural and other disasters.

2.1. Questionnaire design

The first section of the questionnaire included a research question about the socioeconomic and demographic data of the participants. The second section of the questionnaire included the following questions:

⁵ Article 14 paragraph 1 LRFNOD.

⁶ Article 29 paragraph 1 LRFNOD.

- Are you familiar with the provisions of the Law on Reconstruction following natural and other hazards?
- Did you use the funds of the state program for relief and reconstruction of the natural and other disasters 'consequences;
- Do you support the introduction of the system of the state program of aid and reconstruction of the consequences of natural and other disasters;
- Do you have confidence in the implementation of the state program of aid and reconstruction of the consequences of natural and other disasters;
- Whether the introduction of the legal obligation of the state program for aid and reconstruction of the consequences of natural and other disasters raised the level of efficiency in assisting citizens and the economy that suffered damage due to natural disasters;
- Has the state aid and reconstruction program of the consequences of natural and other disasters produced the desired effects in terms of creating security for citizens and the economy in terms of providing funds for the reconstruction of the damage consequences;
- Can we consider the introduction of the state program of aid and reconstruction of the consequences of natural and other disasters as a step forward in the system of protecting citizens and the economy;
- Evaluate the current system of work of local self-governments during the implementation of the state aid program and reconstruction of the consequences of natural and other disasters;
- Is the state aid and reconstruction program of the consequences of natural and other disasters: a good solution, a bad solution, it need to be improved?

2.2. Socio-economic and demographic characteristics

The sample was appropriate for the research and is not necessarily representative of the Serbian population since the invitation to participate in the online questionnaire was published on social networks and distributed to the addresses of acquaintances of the author. A total of 215 people agreed to participate in the research study and filled out the survey questionnaire. The sample included 52.1% men and 47.9% women. Of the participants in the survey, 18.6% were between 18 and 30 years old, 43.3% between 31 and 50 years old, 31.2% between 51 and 65 years old, and 66 were over 7,00% years of age. 18,1% of respondents with secondary education, 41,4% with higher education, 31.6% with completed bachelor's or master's studies and 8,8% with completed doctoral studies took part in the survey.

2.3. Analysis

The goal of the research is to use scientific methods, primarily legal, security and economic theory, to look at the positive and negative trends in the implementation of state aid measures in the function of eliminating the consequences of natural and other disasters. We tested the hypothesis that the implementation of an efficient state aid system using budget funds reduces threats and risks from natural and other disasters and contributes to the stability of the economic system.

3. Results

The results are divided into two groups based on the aforementioned methodological frameworks and research design:

- The citizens' views on the fact that the implementation of the state aid system contributes to the elimination and reconstruction of the consequences of natural and other disasters.

⁷ The participation of women in the total population of the country is 51.3%, and men 48.7% - Republic Statistical Office, 2020.

- Descriptive statistics results and relationships between variables and the citizens' attitudes.

The citizens' views on the fact that the implementation of the state aid system contributes to the elimination and reconstruction of the consequences of natural and other disasters were tested using the following questions:

- Do you support the introduction of the system of the state program of aid and reconstruction of the consequences of natural and other disasters?
- Whether the introduction of the legal obligation of the state program for aid and reconstruction of the consequences of natural and other disasters raised the level of efficiency in assisting citizens and the economy that suffered damage due to natural disasters;
- Evaluate the current system of work of local self-governments during the implementation of the state aid program and reconstruction of the consequences of natural and other disasters;
- Is the state aid and reconstruction program of the consequences of natural and other disasters: a good solution, a bad solution, it need to be improved?

The survey results show the following results:

- 1) When asked whether they support the introduction of a system of the state program for aid and reconstruction of the consequences of natural and other natural disasters, the respondents gave the following answers:
 - The answer Yes, I support the introduction of the system of the state program of aid and reconstruction of the consequences of natural and other disasters, was given by 164 respondents. This result shows that 76.3% of those surveyed are aware of the need for state assistance in repairing the consequences of natural and other disasters.
 - The answer No they would not support the introduction of the system of the state program of aid and reconstruction of the consequences of natural and other natural disasters, was given by 51 respondents. This result shows that 23.7% of those surveyed do not have an opinion on the need for state assistance in repairing the consequences of natural and other disasters.
- 2) When asked whether the introduction of the legal obligation of the state aid and reconstruction program for the consequences of natural and other disasters raised the level of efficiency in assisting citizens and the economy that suffered damage due to natural disasters, the respondents gave the following answers:
 - The answer yes, the introduction of the legal obligation of the state program to aid and restore the consequences of natural and other disasters raised the level of efficiency in assisting citizens and businesses that suffered damage due to natural disasters, was given by 168 respondents. This result shows that 78.1% of the respondents recognize the importance and effectiveness of the implementation of state aid measures in the reconstruction of the consequences of natural and other disasters.
 - The answer is no, the introduction of the legal obligation of the state aid and reconstruction program for the consequences of natural and other disasters did not raise the level of efficiency in assisting citizens and the economy that suffered damage due to the natural disaster, 47 respondents, i.e., 21.9% of the respondents, believe that the introduction of the legal obligation of the state aid and reconstruction program for the consequences of natural and other disasters did not achieve the required level of efficiency in assisting citizens and the economy in repairing damage caused by natural disasters.
- 3) When asked about the current system of work of local self-governments during the implementation of the state aid program and reconstruction of the consequences of natural and other disasters, the respondents gave the following ratings:
 - excellent (grade 5), given by 40 respondents, or 18.6% of respondents gave the highest rating to the current system of work of local self-governments during the implementation of the state program of aid and reconstruction of the consequences of natural and other disasters.
 - very good (grade 4) was given by 61 respondents, i.e., 28.4% of the respondents believe that the current system of work of local self-governments during the implementation of the state

- program of aid and reconstruction of the consequences of natural and other disasters, expressed on a scale from 1 to 5, can be evaluated with a grade of 4.
- good (grade 3) was given by 76 respondents, i.e., 35.3% of respondents believe that the current system of work of local self-governments during the implementation of the state program of aid and reconstruction of the consequences of natural and other disasters, expressed on a scale from 1 to 5, can be evaluated with a grade of 3.
- below the average (grade 2) was given by 33 respondents, i.e., 15.3% of respondents believe that the current system of work of local self-governments during the implementation of the state program of aid and reconstruction of the consequences of natural and other disasters expressed on a scale from 1 to 5 can be evaluated with a grade of 2.
- negative (grade 1) was given by 5 respondents, i.e., 2.3% of the respondents believe that the current system of work of local self-governments during the implementation of the state program of aid and reconstruction of the consequences of natural and other disasters, expressed on a scale from 1 to 5, can be evaluated with a grade of 1.
- 4) When asked whether the state aid and reconstruction program of the consequences of natural and other disasters: is a good solution, a bad solution, it needs to be improved, the respondents gave the following ratings:
 - the answer, the state program for aid and reconstruction of the consequences of natural and other disasters is a good solution, was given by 81 respondent, that is, 37.7% of the respondents have a positive attitude about the state program of aid and reconstruction of the consequences of natural and other disasters.
 - the answer, the state program for aid and reconstruction of the consequences of natural and other disasters is a bad solution, was given by 35 respondents, that is, 16.3% of the respondents have a negative attitude about the state program of aid and reconstruction of the consequences of natural and other disasters.
 - The answer, the state program of aid and reconstruction of the consequences of natural and other disasters needs to be improved, was given by 76 respondents, or 35.3% of the respondents who believe that it is necessary to continuously improve the existing state aid program.
 - The answer, I do not have an opinion on the state program of aid and reconstruction of the consequences of natural and other disasters, was given by 23 respondents, or 10.7% of the respondents.

The results of descriptive statistics and the relationship between variables and citizens' attitudes will be analysed through the following responses from respondents:

- Do you have confidence in the implementation of the state program of aid and reconstruction of the consequences of natural and other disasters;
- Has the state aid and reconstruction program of the consequences of natural and other disasters produced the desired effects in terms of creating security for citizens and the economy in terms of providing funds for the reconstruction of the damage consequences;
- Can we consider the introduction of the state program of aid and reconstruction of the consequences of natural and other disasters as a step forward in the system of protecting citizens and the economy;
- 1) To the question, do you have confidence in the implementation of the state program of aid and reconstruction of the consequences of natural and other disasters, the respondents gave the following answers:
 - The answer yes, I have confidence in the implementation of the state program of aid and reconstruction of the consequences of natural and other disasters, was given by 130 respondents, that is, 60.5% of the respondents.
 - The answer no, I have no confidence in the implementation of the state program of aid and reconstruction of the consequences of natural and other disasters, was given by 85 respondents, that is, 39.5% of the respondents.

- 2) To the question, whether the state program of aid and reconstruction of the consequences of natural and other disasters produced the desired effects in creating the security of citizens and the economy in terms of providing funds for the reconstruction of the consequences of damage, the respondents gave the following answers:
 - The answer yes, the state program of aid and reconstruction of the consequences of natural and other disasters produced the desired effects in creating the security of citizens and the economy in terms of providing funds for the reconstruction of the consequences of damage, was given by 153 respondents, i.e., 71.2% of the respondents.
 - The answer no, the state program of aid and reconstruction of the consequences of natural and other disasters did not produce the desired effects in creating the security of citizens and the economy in terms of providing funds for the reconstruction of the consequences of damage, was given by 62 respondents, i.e., 28.8% of the respondents.
- 3) To the question, whether we can consider the introduction of the state program of aid and reconstruction of the consequences of natural and other disasters as a step forward in the system of protecting citizens and the economy, the respondents gave the following answers:
 - The answer yes, the state program for aid and reconstruction of the consequences of natural and other disasters can be considered a step forward in the system of protection of citizens and the economy, was given by 161 respondents, that is, 74.9% of the respondents.
 - The answer no, the state program for aid and reconstruction of the consequences of natural and other disasters cannot be considered a step forward in the system of protection of citizens and the economy, was given by 54 respondents, that is, 25.1% of the respondents.

4. Discussion

The analysis of citizens' views on state aid and reconstruction of the consequences of natural and other disasters using budget funds indicates a high level of awareness of the need for clear legal regulations in the implementation of state aid measures. This finding highlights the critical role of legal frameworks in defining and guiding the state's involvement in disaster recovery. Citizens are generally supportive of such measures, perceiving them as essential for enhancing the country's resilience to natural and other adverse events. However, the results also underscore the importance of constantly improving these measures to address emerging challenges and evolving risks effectively.

Citizens' responses reflect a consensus that the systematic implementation of state aid contributes significantly to societal stability and economic recovery. This consensus aligns with existing literature that emphasizes the importance of a strong policy framework in mitigating the long-term impacts of disasters (Finucane, Acosta, Wicker, & Whipkey, 2020; J.-M. Kim, Yum, Park, & Bae, 2022). Similar findings have been reported in studies conducted in disaster-prone countries, such as Japan, the United States, and Turkey, where robust state intervention has proven effective in alleviating the negative impacts of catastrophic events.

The findings of this study also reveal an interesting dynamic regarding public trust in government initiatives (Blind, 2007; S. Kim, 2010). A considerable proportion of respondents expressed concerns about the efficiency and transparency of the aid distribution process. Transparency in the management of aid funds and clear communication of the aid allocation criteria are crucial factors that influence public trust. Studies from other countries have shown that a perceived lack of transparency can lead to decreased public cooperation and confidence in government institutions. Therefore, the Serbian government should prioritize enhancing the transparency of aid allocation processes and regularly update citizens on the progress of aid distribution (Cvetković, 2023).

Moreover, the study's results highlight the need for increased citizen engagement and awareness. A significant number of respondents indicated that they were only partially aware of the details of the state aid program. This knowledge gap can undermine the effectiveness of disaster recovery efforts. Previous studies have shown that public awareness campaigns and community-based programs play a vital role in disaster preparedness and recovery. By increasing efforts to educate

citizens on their rights and responsibilities in the context of disaster recovery, the government can foster a culture of resilience and shared responsibility.

A comparison with other countries reveals differences in how state aid programs are structured and implemented. For instance, countries like Germany and Canada have a long history of involving local communities in disaster recovery efforts. These countries emphasize a decentralized approach, where local governments and communities play a central role in disaster response and recovery. In contrast, the Serbian model primarily relies on state-driven aid, which, while effective in certain situations, may benefit from incorporating more community-based strategies. Engaging local communities in disaster response not only enhances the effectiveness of aid distribution but also strengthens local resilience.

The findings also indicate a general consensus among citizens that the current state aid measures are a good solution, but there is room for improvement. A notable proportion of respondents believe that continuous improvement of the existing state aid program is necessary to address new challenges. This sentiment resonates with global trends in disaster risk management, where adaptive policies and flexible legal frameworks are increasingly seen as essential components of effective disaster response strategies. The dynamic nature of disaster risks necessitates regular updates to legal frameworks and disaster management strategies to incorporate new knowledge and technological advancements.

In line with these findings, future efforts should focus on revising and updating legal frameworks to reflect the latest developments in disaster risk management. One potential improvement could be the integration of technological solutions, such as digital platforms for aid application and monitoring, to enhance efficiency and minimize bureaucratic delays. Digital platforms can provide a transparent and streamlined process for citizens to apply for aid and track the status of their applications. Additionally, these platforms can facilitate communication between government agencies and the public, ensuring that citizens are well-informed about the aid distribution process.

Another important aspect that emerged from the study is the role of local self-governments in implementing state aid measures. Respondents expressed varying levels of satisfaction with the performance of local governments, indicating the need for a more standardized approach to aid distribution. Strengthening the capacity of local self-governments to respond effectively to disasters is crucial for ensuring that aid reaches those in need promptly. This can be achieved through targeted training programs for local officials, the development of clear guidelines for aid distribution, and the establishment of monitoring mechanisms to assess the effectiveness of local government actions (Arya, 1993; Baldwin, 1994; Cvetković, Jakovljević, Gačić, & Filipović, 2017; Paton, 1996; Vibhas, Bismark, et al., 2019).

The study's results also provide valuable insights into the economic implications of disaster recovery efforts. The efficient implementation of state aid measures can mitigate the negative economic impacts of disasters, particularly at the local level. Disasters often disrupt economic activities, leading to financial losses for individuals and businesses. By providing timely assistance to affected citizens and businesses, the state can help stabilize local economies and prevent long-term economic decline. This finding underscores the importance of designing aid programs that not only address immediate recovery needs but also contribute to long-term economic resilience.

The findings further suggest that the introduction of the state aid program can be considered a step forward in protecting citizens and the economy. However, there are still challenges to be addressed, particularly in terms of ensuring the sustainability of aid programs. The long-term success of disaster aid programs depends on their ability to adapt to changing circumstances and to incorporate lessons learned from past disasters. In this context, it is essential to establish mechanisms for regular evaluation and review of state aid programs to identify areas for improvement and to implement necessary changes.

In conclusion, the analysis of citizens' views on state aid and reconstruction efforts highlights the need for a comprehensive and adaptive approach to disaster recovery. Legal frameworks must be continually revised to incorporate new knowledge and best practices in disaster risk management. Additionally, efforts to increase public awareness and engage local communities in disaster recov-

ery should be prioritized to enhance resilience at all levels of society. By adopting these measures, the state aid system in Serbia can become more robust and responsive to the evolving nature of disaster risks.

The study's findings have several policy implications. First, there is a need for continuous monitoring and assessment of state aid measures to ensure that they remain effective and responsive to citizens' needs. Second, public trust in state aid programs can be strengthened through increased transparency and efficient communication. Finally, integrating technological solutions and community-based approaches can enhance the overall effectiveness of state aid measures and contribute to a more resilient society.

Future research should explore the effectiveness of different models of state aid in disaster recovery, particularly in terms of their impact on local resilience. Comparative studies involving countries with different approaches to state aid can provide valuable insights into the strengths and weaknesses of various models. Additionally, qualitative studies involving in-depth interviews with key stakeholders can shed light on the practical challenges of implementing state aid programs and identify potential solutions.

Overall, the findings of this study contribute to the growing body of knowledge on disaster risk management and highlight the importance of continuous improvement and adaptation in state aid programs. By addressing the identified challenges and building on existing strengths, the Serbian state aid system can better fulfil its role in protecting citizens and promoting economic stability in the face of natural and other disasters.

5. Conclusions

Examining the views of the respondents on the state aid program and reconstruction of the consequences of natural and other disasters by using budget funds, indicates that citizens are aware of the necessity and need for legal regulation of the implementation of state aid measures in remediating the consequences of natural and other disasters. Strengthening the system of social responsibility and raising the level of citizens' awareness of the need to implement effective systemic measures of state aid in remediating the consequences of natural and other disasters contributes to the prevention and reduction of the risk of negative events in society. According to the opinion of the respondents, the current state aid measures in remediating the consequences of natural and other disasters are a good solution, but it is necessary to constantly improve them.

Based on the results of the research, we can conclude that there are no major differences in the views of citizens on the need to strengthen social awareness and social responsibility in the processes of application and development of the concept of the state program of aid and reconstruction of the consequences of natural and other disasters using budget funds. The general assessment is that the implementation of social responsibility measures will increase the level of efficiency in the state aid program and the recovery of the consequences of natural and other disasters by using budget funds.

Natural risks and threats, by their direct and indirect action, lead to the loss of human lives and material resources, but depending on the intensity of the action, they can also cause negative oscillations within the entire economic system of the country. That is precisely why, aware of the consequences of natural and other disasters, the Republic of Serbia adopted the Law on Reconstruction following natural and other hazards. In this manner, the existing budget financing system undoubtedly provides a form of protection to the country's economic system in terms of creating conditions for reconstruction and providing assistance to citizens and business entities that have suffered material damage due to natural and other disasters.

New challenges of time, new technologies and new forms of risks and threats require monitoring, analysis and taking other preventive measures in order to reduce the consequences of unwanted natural and other disasters for both citizens and the economy. It is necessary to create an environment of constant strengthening of social awareness and social responsibility in the processes of ap-

plication and development of the concept of the state program of aid and reconstruction of the consequences of natural and other disasters by using budget funds, with the simultaneous application of some new models of protection, such as the model of risk insurance, the issue of risk securities and similar.

Author Contributions: All authors contributed equally to the conceptualization, methodology, investigation, and writing of this manuscript.

Acknowledgements: The paper was created as a result of work on the project "Legal Tradition and New Legal Challenges", whose holder is the Faculty of Law in Novi Sad.

Conflicts of Interest: Declare conflicts of interest or state "The authors declare no conflict of interest."

References

- 1. Adem, O. (2019). Natural Disasters in Turkey: Social and Economic Perspective. 1(1), 51-61.
- 2. Al-Malawi, A., El-Mougher, M., & Al-Agha, M. (2020). The Role of Al-Shifa Medical Complex Administration in Evacuation & Sheltering Planning. 2(2).
- 3. Aleksandrina, M., Budiarti, D., Yu, Z., Pasha, F., & Shaw, R. (2019a). Governmental Incentivization for SMEs' Engagement in Disaster Resilience in Southeast Asia. *International Journal of Disaster Risk Management*, 1(1), 32-50.
- 4. Aleksova, B., Milevski, I., Mijalov, R., Marković, Slobodan, Cvetković, V., & Lukić, T. (2024). Assessing risk-prone areas in the Kratovska Reka catchment (North Macedonia) by integrating advanced geospatial analytics and flash flood potential index. *Open Geosciences*, 16(1), 20220684.
- 5. Arya, A. (1993). Training and drills for the general public in emergency response to a major earthquake. *Training and Education for Improving Earthquake Disaster Management in Developing Counties*, 103-114.
- 6. Baldwin, R. (1994). Training for the Management of Major Emergencies. *Disaster Prevention and Management*, 3(1), 16-23. doi:10.1108/09653569410049621
- 7. Ball, R. (2001). Infrastructure requirements for an economically efficient system of public financial reporting and disclosure. *Brookings-Wharton papers on financial services*, 2001(1), 127-169.
- 8. Berkley, L. A. (2024). Inner Economy: A Leadership Tool for Peace, Transformation, and Well-Being. In *Leadership at the Spiritual Edge* (pp. 201-222): Routledge.
- 9. Blind, P. K. (2007, 2007). Building trust in government in the twenty-first century: Review of literature and emerging issues.
- 10. Boken, V. K., Cracknell, A. P., & Heathcote, R. L. (2005). *Monitoring and predicting agricultural drought: a global study:* Oxford University Press New York.
- 11. Chakma, S. (2023). Water Crisis in the Rangamati Hill District of Bangladesh: A Case Study on Indigenous Community. *International Journal of Disaster Risk Management*, 5(2), 29-44.
- 12. Chambers, R. (1997). Responsible well-being A personal agenda for development. *World development*, 25(11), 1743-1754.
- 13. Cuny, F. C. (1994). Disasters and Development: Intertect Press.
- 14. Cvetkovic, V. M., & Martinović, J. (2020). Innovative solutions for flood risk management. *International Journal of Disaster Risk Management*, 2(2), 71-100.
- 15. Cvetković, V. (2024a). Disaster Resilience: Guide for Prevention, Response and Recovery. In: Scientific-Professional Society for Disaster Risk Management, Belgrade.
- 16. Cvetković, V. (2024b). Disaster Risk Management. In: Scientific-Professional Society for Disaster Risk Management, Belgrade.
- 17. Cvetković, V. (2024c). Essential Tactics for Disaster Protection and Rescue. In: Scientific-Professional Society for Disaster Risk Management, Belgrade.

- 18. Cvetković, V., & Bošković, D. J. B., Beograd. (2014). Analysis of spatial and temporal distribution of drought as natural disaster. *56*(3), 148-164.
- 19. Cvetković, V., Čvorović, M., & Beriša, H. (2023). The Gender Dimension of Vulnerability in Disaster Caused by the Corona Virus (Covid-19). *PREPRINT* (Version 1) available at Research Square https://doi.org/10.21203/rs.3.
- 20. Cvetković, V., Gačić, J., & Jakovljević, V. (2015). Impact of climate change on the distribution of extreme temperatures as natural disasters. *Vojno delo, 67*(6), 21-42.
- 21. Cvetković, V., Giulia, R., Adem, O., Marina, F., Bojan, J., & Eric, N. (2018). Childrens and youths' knowledge on forest fires: Discrepancies between basic perceptions and reality. *Vojno delo*, 70(1), 171-185.
- 22. Cvetković, V., Jakovljević, V., Gačić, J., & Filipović, M. (2017). Obuka građana za reagovanje u vanrednim situacijama Citizens' training for emergency situations. *Ecologica*, In press.
- 23. Cvetković, V., & Nikolić, A. (2023). The Role of Social Media in the Process of Informing the Public About Disaster Risks. *Preprint*, 10-20944.
- 24. Cvetković, V., Nikolić, N., & Lukić, T. (2024). Exploring Students' and Teachers' Insights on School-Based Disaster Risk Reduction and Safety: A Case Study of Western Morava Basin, Serbia. *Safety*, 10(2), 2024040472.
- 25. Cvetković, V., Pavlović, S., & Janković, B. (2021). Private security preparedness for disasters caused by fires. *Journal of Criminalistic and Law*, NBP, 26(1), 35-59.
- 26. Cvetković, V., & Planić, J. (2022). Earthquake risk perception in Belgrade: implications for disaster risk management. *International Journal of Disaster Risk Management*, 4(1), 69-89.
- 27. Cvetković, V., Renner, R., Lukić, T., & Aleksova, B. (2024). Geospatial and Temporal Patterns of Natural and Man-made (Technological) Disasters (1900-2024): Insights from Different Perspectives. *Preprints*(https://doi.org/10.20944/preprints202408), 2024080175.
- 28. Cvetković, V., Roder, G., Öcal, A., Tarolli, P., & Dragićević, S. (2018). The Role of Gender in Preparedness and Response Behaviors towards Flood Risk in Serbia. *International Journal of Environmental Research and Public Health*, 15(12), 2761. doi:https://doi.org/10.3390/ijerph15122761
- 29. Cvetković, V., Romanić, S., & Beriša, H. (2023). Religion Influence on Disaster Risk Reduction: A case study of Serbia. *International Journal of Disaster Risk Management*, *5*(1), 66-81.
- 30. Cvetković, V., & Šišović, V. (2024). Understanding Community (Social) Disaster Resilience in Serbia: Demographic and Socio-Economic Impacts. *Preprints* 2024, 2024020950., 2024020950.
- 31. Cvetković, V., Tanasić, J., Ocal, A., Živković-Šulović, M., Ćurić, N., Milojević, S., & Knežević, S. (2023). The Assessment of Public Health Capacities at Local Self-Governments in Serbia. *Lex localis Journal of Local Self Government*, 21(4), 1201-1234.
- 32. Cvetković, V. M. (2023). A Predictive Model of Community Disaster Resilience based on Social Identity Influences (MODERSI). *International Journal of Disaster Risk Management*, 5(2), 57-80.
- 33. Cvetković, V. M., Dragašević, A., Protić, D., Janković, B., Nikolić, N., & Milošević, P. (2022). Fire safety behavior model for residential buildings: Implications for disaster risk reduction. *International Journal of Disaster Risk Reduction*, 102981. doi:https://doi.org/10.1016/j.ijdrr.2022.102981
- 34. Cvetković, V. M., Gole, S., Renner, R., & Lukić, T. (2024). Qualitative Insights into Cultural Heritage Protection in Serbia: Evaluating Legal and Institutional Gaps.
- 35. Cvetković, V. M., & Marković, K. (2021). Examining the Impact of Demographic and Socio-Economic Factors on the Level of Employee Preparedness for a Disaster Caused by Fires: A Case Study of Electrical Power Distribution in Serbia.
- 36. Cvetković, V. M., Öcal, A., Lyamzina, Y., Noji, E. K., Nikolić, N., & Milošević, G. (2021). Nuclear power risk perception in serbia: Fear of exposure to radiation vs. social benefits. *Energies*, 14(9), 2464.
- 37. Cvetković, V. M., & Šišović, V. (2024). Community Disaster Resilience in Serbia. In: Scientific-Professional Society for Disaster Risk Management, Belgrade.

- 38. Cvetković, V. M., Tanasić, J., Ocal, A., Kešetović, Ž., Nikolić, N., & Dragašević, A. (2021). Capacity Development of Local Self-Governments for Disaster Risk Management. *International Journal of Environmental Research and Public Health*, 18(19), 10406.
- 39. Del Moral, R., & Walker, L. R. (2007). *Environmental disasters, natural recovery and human responses*: Cambridge University Press New York.
- 40. Ebi, K. L., & Schmier, J. K. (2005). A stitch in time: improving public health early warning systems for extreme weather events. *Epidemiologic reviews*, 27(1), 115-121.
- 41. El-Mougher, M. M. (2022). Level of coordination between the humanitarian and governmental organizations in Gaza Strip and its impact on the humanitarian interventions to the Internally Displaced People (IDPs) following May escalation 2021. *International Journal of Disaster Risk Management*, 4(2), 15-45.
- 42. El-Mougher, M. M., Abu Sharekh, D. S. A. M., Abu Ali, M. R. F., & Zuhud, D. (2023). Risk Management of Gas Stations that Urban Expansion Crept into in the Gaza Strip. *International Journal of Disaster Risk Management*, 5(1), 13-27.
- 43. Finucane, M. L., Acosta, J., Wicker, A., & Whipkey, K. (2020). Short-term solutions to a long-term challenge: Rethinking disaster recovery planning to reduce vulnerabilities and inequities. *International Journal of Environmental Research and Public Health*, 17(2), 482.
- 44. Gnan, E., Nowotny, E., Simor, A., Begg, I., Bosomworth, A., Panizza, U., . . . Kraemer, M. (2013, 2013). *The interaction of political, fiscal and financial stability: lessons from the crisis.*
- 45. Grozdanić, G., Cvetković, V., Lukić, T., & Ivanov, A. (2024). Sustainable Earthquake Preparedness: A Cross-Cultural Comparative Analysis in Montenegro, North Macedonia, and Serbia. *Sustainability*, 16, 3138.
- 46. Islam, F. (2023). Anticipated Role of Bangladesh Police in Disaster Management Based on the Contribution of Bangladesh Police during the Pandemic COVID-19. *International Journal of Disaster Risk Management*, 5(2), 45-56.
- 47. Jacobs, G. (2016). Integrated Approach to Peace & Human Security in the 21st Century. *Cadmus*, 3(1).
- 48. Kabir, M. H., Hossain, T., & Haque, M. W. (2022). Resilience to natural disasters: A case study on the southwestern region of coastal Bangladesh. *International Journal of Disaster Risk Management*, 4(2), 91-105.
- 49. Kabir, M. H., Tanvir, H., & Haque, M. W. (2022). Resilience to natural disasters: A case study on the southwestern region of coastal Bangladesh. *International Journal of Disaster Risk Management*, 4(2), 91-105.
- 50. Kim, J.-M., Yum, S.-G., Park, H., & Bae, J. (2022). Strategic framework for natural disaster risk mitigation using deep learning and cost-benefit analysis. *Natural Hazards and Earth System Sciences*, 22(6), 2131-2144.
- 51. Kim, S. (2010). Public trust in government in Japan and South Korea: Does the rise of critical citizens matter? *Public Administration Review*, 70(5), 801-810.
- 52. Kozlowski, T. T. (2012). Fire and ecosystems: Elsevier.
- 53. Kumiko, F., & Shaw, R. (2019). Preparing International Joint Project: Use of Japanese Flood Hazard Map in Bangladesh. *International Journal of Disaster Risk Management*, 1(1), 62-80.
- 54. Lewis, S. C. (2016). Can public perceptions of Australian climate extremes be reconciled with the statistics on climate change? *Weather and Climate Extremes*, *12*, 33-42. doi:https://doi.org/10.1016/j. wace.2015.11.008
- 55. Law on Reconstruction following Natural and Other hazards, ("Official Gazette of RS", No. 112/2015)
- 56. Mano, R., A, K., & Rapaport, C. (2019). Earthquake preparedness: A Social Media Fit perspective to accessing and disseminating earthquake information. *International Journal of Disaster Risk Management*, 1(2), 19-31.
- 57. Molnár, A. (2024). A Systematic Collaboration of Volunteer and Professional Fire Units in Hungary. *International Journal of Disaster Risk Management*, 6(1), 1-13.

dorum inimoscote, cojetutu cojetutote itoette, Luntu Butuntun

58. Mumović, N., & Cvetković, V. (2019). Factors influencing decision-making on evacuation in the context of induced fire disasters. *Vojno delo*, 71(7), 142-163.

- 59. Ministry for Public Investment: https://www.obnova.gov.rs/vesti/clanak/ukupno-isplaceni-korisnici-poplave-2020; https://www.obnova.gov.rs/vesti/clanak/ukupno-isplaceni-korisnici-poplave-2021; https://www.obnova.gov.rs/vesti/clanak/ukupno-isplaceni-korisnici-poplave-u-maju-i-junu-2023; https://docs.google.com/forms/d/1JjRWHiw1wuge0EM0_X6APoCyrE4EtaAVoUDa6uirll0/edit#responses.
- 60. Nones, M., Hamidifar, H., & Shahabi-Haghighi, S. M. B. (2024). Exploring EM-DAT for depicting spatiotemporal trends of drought and wildfires and their connections with anthropogenic pressure. *Natural Hazards*, 120(1), 957-973.
- 61. Odero, N. A., & Mahiri, I. (2022). The Complacency of Flood Victims, Socio Economic Factors, and Effects and Vulnerabilities of Floods in Lower Kano Plains, Kisumu County, Kenya. *International Journal of Disaster Risk Management*, 4(2), 59-77.
- 62. Olawuni, P., Olowoporoku, O., & Daramola, O. (2020). Determinants of Residents' Participation in Disaster Risk Management in Lagos Metropolis Nigeria. *International Journal of Disaster Risk Management*, 2(2), 1-18.
- 63. Paton, D. (1996). Training disaster workers: promoting wellbeing and operational effectiveness. *Disaster Prevention and Management*, *5*(5), 11-18. doi:10.1108/09653569610131735
- 64. Perić, J., & Cvetković, V. J. I. J. o. D. R. M. (2019). Demographic, socio-economic and phycological perspective of risk perception from disasters caused by floods: case study Belgrade. *1*(2).
- 65. Podder, M., Hasan, M. K., & Islam, M. J. (2022). Seismic Vulnerability Assessment of Existing Buildings by Rapid Visual Screening Method: A Study on Ward 27 in Dhaka South City Corporation. *International Journal of Disaster Risk Management*, 4(2), 77-91.
- 66. Pope, P. F., & Puxty, A. G. (1991). What is equity? New financial instruments in the interstices between the law, accounting and economics. *The Modern Law Review*, 54(6), 889-911.
- 67. Shibru, M., Operea, A., Omondi, P., & Gichaba, M. (2022). Impact of 2016-2017 drought on household livestock assets and food security: the case of pastoralists and agro-pastoralists in Borana zone, southern Ethiopia. *International Journal of Disaster Risk Management*, 4(1), 49-69.
- 68. Starosta, D. (2023). Raised Under Bad Stars: Negotiating a culture of disaster preparedness. *International Journal of Disaster Risk Management*, 5(2), 1-16.
- 69. Strömberg, D. (2007). Natural disasters, economic development, and humanitarian aid. *Journal of Economic perspectives*, 21(3), 199-222.
- 70. Sudar, S., Cvetković, V., & Ivanov, A. (2024). Harmonization of Soft Power and Institutional Skills: Montenegro's Path to Accession to the European Union in the Environmental Sector. *International Journal of Disaster Risk Management*, 6(1), 41-74.
- 71. Tanasić, J., & Cvetković, V. (2024). The Efficiency of Disaster and Crisis Management Policy at the Local Level: Lessons from Serbia. In: Scientific-Professional Society for Disaster Risk Management, Belgrade.
- 72. Thurmaier, K. (1994). The Evolution of Local Government Budgeting in Poland: From Accounting to Policy in a Leap and a Bound. *Public Budgeting & Finance*, 14(4), 84-97.
- 73. Vibhas, S., Adu, G. B., Ruiyi, Z., Anwaar, M. A., & Rajib, S. J. (2019). Understanding the barriers restraining effective operation of flood early warning systems. *1*(2), 1-17.
- 74. Vibhas, S., Bismark, A. G., Ruiyi, Z., Anwaar, M. A., & Rajib, S. (2019). Understanding the barriers restraining effective operation of flood early warning systems. *International Journal of Disaster Risk Management*, 1(2), 1-19.
- 75. Xuesong, G., & Kapucu, N. (2019). Examining Stakeholder Participation in Social Stability Risk Assessment for Mega Projects using Network Analysis. *International Journal of Disaster Risk Management*, 1(1), 1-31.
- 76. Xuesong, G., & Kapucu, N. J. I. J. o. D. R. M. (2019). Examining Stakeholder Participation in Social Stability Risk Assessment for Mega Projects using Network Analysis. 1(1), 1-31.
- 77. Zareian, M. (2023). Social capitals and earthquake: A Study of different districts of Tehran, Iran. *International Journal of Disaster Risk Management*, 5(2), 17-28.