Studia Administracji i Bezpieczeństwa
nr 19 (2025)
s. 345–362

ISSN 2543-6961
e-ISSN 2720-3093
LICENCJA: CC BY-NC

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Social Resilience and Social Security in the Face of Disasters: A Case Study of the 2024 Flood in Poland

Odporność społeczna a bezpieczeństwo społeczne w obliczu katastrof: studium przypadku powodzi w Polsce w 2024 roku

Abstract
The article examines the social and institutional impacts of the September 2024 flood in southwestern Poland, focusing on social resilience. Using qualitative data from four semi-structured interviews with affected residents and a crisis-management expert, the study identifies multidimensional consequences: material damage, psychological distress, and social tensions linked to insufficient coordination of institutional support. Procedural barriers to compensation disproportionately affected residents of smaller communities and people with lower educational attainment, weakening perceptions of safety and trust in public institutions. While community self-organization, mutual aid, and local solidarity helped mitigate losses, they were insufficient to offset the disaster's full effects. The article recommends improving early-warning systems, simplifying aid procedures, expanding professional psychological support, strengthening community-based initiatives, and modernizing flood-protection infrastructure. Findings are preliminary due to the small sample.

Keywords: social security, flood, natural disasters, climate change, citizen safety, social resilience

Abstrakt
Artykuł analizuje skutki społeczne i instytucjonalne powodzi, która dotknęła południowo-zachodnią Polskę we wrześniu 2024 roku, ze szczególnym uwzględnieniem odporności społecznej. Celem badania była ocena wpływu katastrofy na lokalne społeczności oraz roli solidarności i zdolności adaptacyjnych w łagodzeniu jej skutków. Badania jakościowe przeprowadzono w oparciu cztery półustrukturyzowane wywiady z osobami poszkodowanymi oraz ekspertem ds. zarządzania kryzysowego. Wyniki ujawniły wielowymiarowe konsekwencje – od strat materialnych, przez zaburzenia psychiczne, po napięcia społeczne wynikające z niewystarczającej koordynacji pomocy instytucjonalnej. Bariery proceduralne w dostępie do odszkodowań szczególnie dotykały mieszkańców mniejszych miejscowości i osoby z niższym wykształceniem, wpływając na poczucie bezpieczeństwa i zaufanie do instytucji publicznych. Badanie podkreśliło znaczenie odporności społecznej – samoorganizacji, wzajemnej pomocy i solidarności lokalnych wspólnot – choć nie wystarczała ona do całkowitego złagodzenia skutków katastrofy. Rekomendacje obejmują usprawnienie systemu wczesnego ostrzegania, uproszczenie procedur pomocowych, wprowadzenie profesjonalnego wsparcia psychologicznego oraz wzmacnianie inicjatyw społecznych, a także modernizację infrastruktury przeciwpowodziowej. Należy zaznaczyć, że ze względu na niewielką próbę badawczą (cztery osoby) wyniki mają charakter wstępny i ograniczony, co należy uwzględnić przy interpretacji wniosków.

Słowa kluczowe: bezpieczeństwo społeczne, powódź, katastrofy naturalne, zmiany klimatu, bezpieczeństwo obywateli, odporność społeczna

Introduction

Social security can be defined as the ability of the state and its institutions, supported by social mechanisms, to ensure the protection of citizens' lives, health, and fundamental living conditions. The literature emphasizes that while the state possesses the institutional capacity to carry out these tasks, society—through solidarity, social capital, the activity of non-governmental organizations, and civic pressure—has the potential to support and co-shape the security system. In this perspective, social security constitutes one of the key challenges faced by contemporary states. According to the author of this article (whose assumptions are based on an analysis of the scholarly literature), social security—and in particular one of its components—deserves special attention. In the face of the growing pace of climate change and the intensification of extreme phenomena, ensuring the continuity of the functioning of local communities and limiting the impacts of natural disasters takes on strategic importance.

In the context of Poland, the author assigns particular significance to floods. Due to the country's geographical and hydrological conditions, they constitute the most serious threat among natural disasters. Poland lies within the catchment areas of the Vistula and Oder rivers, as well as several smaller rivers, whose flood surges—typical of a temperate climate and caused by heavy rainfall, snowmelt, or torrential downpours—have repeatedly led to catastrophic consequences. This is best illustrated by the so-called "millennium flood" of 1997 and the flood of 2010, both of which resulted in extensive material losses,[1] mass evacuations, and long-lasting economic and social repercussions.

The flood that struck southwestern Poland in September 2024 became one of the most serious challenges for the social security system in recent years. This disaster highlighted both the scale of threats arising from climate change and the vulnerability of institutions and local communities to their impacts. In the face of sudden hydrological events, not only do material losses occur, but also a weakening of citizens' sense of security, the emergence of trauma, and tensions within local communities. An analysis of the experiences of those affected, along with the actions of public institutions, provides deeper insight into the mechanisms of crisis management and allows for the identification of weaknesses within the existing system of protection against natural disasters.

[1] The millennium flood of 1997 caused losses exceeding PLN 22 billion (almost 2.4% of GDP), and just a decade later the 2010 flood generated damages amounting to approximately PLN 13.6 billion, or about 1% of GDP. Source: *Susza i powódź jednocześnie? Oto Polska w czasach zmiany klimatu*, https://ziemianarozdrozu.pl/susza-i-powodz-jednoczesnie-oto-polska-w-czasach-zmiany-klimatu/? [date of access: 1.08.2025].

This article advances the research hypothesis that the 2024 flood in Poland revealed significant shortcomings in the civil protection and crisis management system, which adversely affected the sense of social security, while at the same time highlighting the importance of social resilience and the solidarity of local communities. Accordingly, the following research question was formulated: how did the experiences of individuals affected by the 2024 flood, along with the actions of public institutions, influence the sense of social security, and what mechanisms may enhance societal resilience to future natural disasters?

Theoretical Approach to Social Security

In the contemporary world, human beings face the necessity of constructing security across multiple domains and levels—ranging from the safety of individuals and local communities, through the national and international dimensions, to social, ecological, global, economic, public, and military security. The diversity of needs associated with the sense of security, as well as the scale of accompanying threats, make the engagement of all available actors and resources possessed by modern states and societies increasingly indispensable in the process of shaping it.

Until recently, the category of "social security" was not present in research on national security. However, in the 2014 *White Book of National Security of the Republic of Poland*, it was identified as one of the four fundamental domains of security, alongside defense, protective, and economic security. The issue of social security plays an important role in the state's strategic planning, which is reflected both in the *National Security Strategy of the Republic of Poland 2014* and in the 2020 Strategy. The 2014 document emphasized that the overarching objective of the state in this area is to ensure a rapid and tangible improvement in the quality of citizens' lives. This requires the implementation of an active social policy, encompassing poverty reduction, the mitigation of social exclusion, the increase of real incomes across all social groups, and the reduction of unemployment. The activities of state institutions are also aimed at counteracting excessive social stratification and reducing disparities in the development of individual regions.[2] At the same time, the fourth pillar of the 2020 Strategy underscores the crucial importance of environmental protection. It's very title—*Social and Economic Development. Environmental Protection*—indicates the centrality of this domain within national security. The fourth pillar stresses that issues related to environmental protection, including climate change and natural disasters, remain

[2] *Strategia bezpieczeństwa narodowego Rzeczypospolitej Polskiej 2014*, pp. 38-40, https://www.bbn.gov.pl/ftp/SBN%20RP.pdf [date of access: 1.08.2025].

a priority and constitute an integral part of state security policy, closely linked to processes of social and economic development.[3]

Social security encompasses a broad range of legal and organizational measures undertaken by state entities, non-governmental organizations, and citizens themselves, aimed at ensuring an adequate standard of living for individuals, families, and social groups, as well as preventing their marginalization and social exclusion. In the scholarly literature, social security is also understood as the deliberate actions of the state designed to create existential conditions that guarantee at least the maintenance of citizens' existing standard of living. This includes support for individuals who are temporarily or permanently unable to engage in professional work and who find themselves in difficult life circumstances due to personal incapacity or events beyond their control, such as fires, floods, or other natural disasters.[4]

According to Marek Leszczyński, the expansion of the state's security scope to include a social dimension stem from the very nature of the modern democratic state, whose fundamental duty is to care for its citizens—regardless of their material status—and to ensure them genuine opportunities for participation in social life. Leszczyński emphasizes that the economic "disempowerment" of large segments of the population leads to the transformation of democracy into a façade system, in which democratic institutions become inaccessible to broad social groups.[5]

Supporting individuals in difficult life circumstances, regardless of the causes of their problems, constitutes a cornerstone of social security. However, the mere provision of support is insufficient—the system must also account for various social threats, commonly defined as situations within society in which negative phenomena and processes intensify, leading to the violation of fundamental existential values and significant interests of the nation and the state. Due to their broad scope, intensity, and long-lasting effects, these threats increasingly take on a global character, transcending national and continental boundaries, with consequences affecting all of humanity. Among the most pressing contemporary threats are those related to the natural environment, such as climate change, lack of access to potable water, deforestation of tropical forests, and excessive exploitation of natural resources. Individuals affected by such issues often find themselves in critical life situations, resulting in a weakened sense of security and existential stability.

[3] *Strategia bezpieczeństwa narodowego Rzeczypospolitej Polskiej 2020*, pp. 30-35, https://www.bbn.gov.pl/ftp/dokumenty/Strategia_Bezpieczenstwa_Narodowego_RP_2020.pdf [date of access: 01.08.2025]..

[4] M. Leszczyński, *Bezpieczeństwo socjalne jako obszar zainteresowania badawczego i składnik bezpieczeństwa państwa*, [in:] *Zarządzanie bezpieczeństwem – wyzwania XXI wieku*, ed. M. Lisiecki, Warszawa 2008, pp. 543–558.

[5] M. Leszczyński, *Kształtowanie bezpieczeństwa społecznego przez państwo,* "Prace naukowe uniwersytetu ekonomicznego we Wrocławiu" 2010, no. 102, p. 189.

In the context of social security, it is worth referring to two significant theoretical approaches: the theory of social resilience and crisis management. The former emphasizes the capacity of individuals, groups, and entire communities to adapt, overcome difficulties, and recover after experiencing crises such as natural disasters, conflicts, or sudden socio-economic changes. Resilience thus highlights the need to develop mechanisms that strengthen social self-sufficiency, solidarity, and the ability to rapidly regenerate.[6] However, as Janusz Ziarko notes in the journal *Bezpieczeństwo. Teoria i Praktyka*, communities are unable to precisely predict when a threat will occur, its course, or its consequences for people, infrastructure, or the natural environment. Under such conditions, building social resilience—the ability to adapt, respond, and recover in uncertain and dynamic situations—appears more appropriate.[7]Crisis management, on the other hand, focuses on the planning, organization, and coordination of state and social institution actions in the face of threats. It encompasses both the prevention of crises and responses to them, as well as post-crisis recovery. These two approaches are mutually complementary: social resilience enhances the capacity of individuals and communities to cope with the consequences of crises, while crisis management provides institutional and organizational frameworks for the effective protection of social security.

Social resilience enhances the capacity of individuals and communities to cope with the consequences of crises, while crisis management provides the institutional and organizational frameworks necessary for the effective protection of social security. An example of this correlation can be observed in flood situations within small communities: residents may independently organize temporary levees and safeguard their homes, demonstrating social resilience; however, they are unable to predict the scale or timing of the flood. It is precisely the crisis management system—through hydrological warnings, evacuation plans, and state support—that enables coordinated protective actions, minimizing the impacts of the disaster. Consequently, social resilience and crisis management form a synergistic mechanism: the former allows for rapid and flexible responses at the local level, while the latter ensures security on a systemic scale, providing planning, resources, and coordination where grassroots community initiatives may prove insufficient.

The literature emphasizes that social resilience is a multidimensional process encompassing the capacities of individuals and groups as well as

[6] J. Ziarko, *Uwarunkowania zarządczego podejścia do społecznej odporności na zagrożenia kryzysowe*, "Bezpieczeństwo. Teoria i Praktyka" 2024, no. 4, pp. 137-140.

[7] Ibidem, pp. 150-151.

broader mechanisms of community functioning.[8] Resilience is not understood as a static attribute but rather as a set of dynamic resources—social, economic, informational, and institutional — that enable communities to adapt to changing threat conditions.[9] Within this perspective, communities are resilient not because they avoid hazards, but because they are able to transform available resources into effective coping strategies.

Scholars also highlight the relationship between resilience, vulnerability, and adaptive capacity. As Norris and colleagues argue, resilience emerges from the interaction between reducing vulnerability and strengthening adaptive capacities: the more effectively local support networks function and the more transparent risk communication is, the stronger the resulting resilience mechanisms.[10] In the context of natural disasters, this means that the effectiveness of community responses depends both on their internal organization and on the extent to which public institutions are capable of supporting recovery processes. The authors further emphasize that resilience is embedded in social and institutional systems that enable the flow of information, coordination of actions, and mobilization of resources.[11] This implies that social resilience and crisis management operate in close interdependence: the former is rooted in bottom-up cooperation and solidarity, while the latter provides planning, anticipation, and organizational structures essential for protective actions.

Natural Disasters and Social Security

In the event of a natural disaster resulting in loss of human life and significant damage to infrastructure, a high degree of societal and resource vulnerability to such threats becomes evident. The escalation of losses generated by natural disasters—borne not only by local communities but also by the financial and insurance sectors as well as state structures—highlights the multidimensional nature of vulnerability. This encompasses not only economic and financial consequences but also social and political implications, underscoring the complexity and systemic scope of the impact of natural disasters. Natural disasters exert a destructive and long-lasting effect on the emotional well-being of communities. This impact is heterogeneous, meaning that certain social groups experience its consequences more intensely and over a longer duration compared to others. According to

[8] F.H. Norris, S.P. Stevens, B. Pfefferbaum, K.F. Wyche, R.L. Pfefferbaum, C*ommunity Resilience as a Metaphor, Theory, Set of Capacities, and Strategy for Disaster Readiness*, "American Journal of Community Psychology" 2008, no. 41, p. 127.

[9] Ibidem, p. 131.

[10] Ibidem, p. 134.

[11] Ibidem, p. 139.

the author, a significant example is provided by hurricanes in the United States which, like floods in Poland, are characterized by a large scale of impact, causing severe damage to infrastructure, material losses, as well as profound social and psychological consequences. Their analysis makes it possible to understand how extreme phenomena affect both infrastructure and the social and psychological spheres, while at the same time revealing the differentiated emotional resilience of individual communities.

In the event of a natural disaster resulting in the loss of human life and significant damage to infrastructure, a high level of societal and resource vulnerability to such hazards becomes apparent. The escalation of losses caused by natural disasters—borne by local communities as well as the financial and insurance sectors and state institutions—reveals the multidimensional nature of vulnerability. This encompasses not only economic and financial consequences but also social and political implications, highlighting the complexity and systemic scope of the impact of natural disasters. Such events exert a destructive and long-term effect on the emotional well-being of affected communities. The impact is heterogeneous, meaning that certain social groups experience its consequences more intensely and over a longer duration compared to others.

Research by Bathina, ten Thij, and Bollen (2022)[12] indicates that hurricanes in the United States, such as Irma, Harvey, Florence, and Dorian, exerted a significant impact on the emotional well-being of affected communities. Analysis of geo-located content published on social media revealed a marked decline in positive sentiment both prior to and during the occurrence of these natural disasters, reflecting a deterioration in collective mood. Although, in most cases, recovery to pre-disaster levels occurred relatively quickly—typically within one to two weeks—substantial variability was observed across different communities. Some communities experienced a deeper and more prolonged decline in well-being, confirming the existence of heterogeneous levels of emotional resilience. The authors define emotional resilience as the capacity to restore emotional equilibrium following a negative shock, measured by the time required to return to the pre-disaster state (time to recovery). The findings underscore that hurricanes pose not only material and infrastructural threats but also exert significant social and psychological effects.[13]

[12] K. Bathina, M. ten Thij, M. J. Bollen, *Quantifying societal emotional resilience to natural disasters from geo-located social media content*, https://arxiv.org/pdf/2204.13210 [date of access: 15.08.2025].

[13] contentIbidem, pp. 6–10.

The experience of hurricanes can have serious consequences for the mental health of communities, leading to disorders such as post-traumatic stress disorder (PTSD), depression, and anxiety. Research conducted by the University of California among residents of Florida affected by Hurricanes Irma and Michael indicates that not only direct exposure to these disasters but also their media coverage can exacerbate health problems. This phenomenon is particularly pronounced among women, who, due to socio-economic factors, are more vulnerable to negative psychological effects. The increasing frequency of hurricanes associated with climate change may further amplify anxiety and uncertainty within society.[14]

Research conducted by the University Centre for Rural Health in Lismore indicates that the 2017 floods in the northern region of New South Wales had severe consequences for the mental health of affected communities. Individuals who were forced to leave their homes for more than six months were twice as likely to experience symptoms of depression, anxiety, and PTSD compared to those who were displaced for a shorter period. Furthermore, individuals whose homes, businesses, and communities were impacted by the flooding were six times more likely to report long-term PTSD. The findings suggest that reducing the duration of forced displacement and ensuring social support and community engagement are critical for safeguarding mental health.[15]

The flood in Benue State, Nigeria, which occurred in September 2017, had severe social consequences, affecting over 100,000 people across 21 of the 23 local government areas. Homes, agricultural fields, roads, and public infrastructure were inundated, resulting in mass displacement of the population. Many residents were forced to seek shelter with relatives or in refugee camps, where living conditions were difficult and access to basic services was limited. The destruction also impacted the agricultural sector, which constitutes the primary source of livelihood for many families in the region. The lack of effective response from central and local authorities exacerbated feelings of neglect and marginalization among the communities affected by the disaster.[16]

In summary, natural disasters exert a multidimensional and long-lasting impact on society, encompassing both material and psychosocial domains. Infrastructural

[14] A. England, *The Psychological Toll of Repeat Hurricane Exposure Should Not Be Overlooked. Strong winds wear down our resilience*, https://www.verywellmind.com/exposure-to-hurricanes-can-be-bad-for-mental-health-8727216?utm [date of access: 15.08.2025].

[15] *Floods expose social inequities, and potential mental health epidemic in its wake*, https://www.sydney.edu.au/news-opinion/news/2022/03/23/floods-expose-social-inequities--and-potential-mental-health-epi.html? [date of access: 16.08.2025].

[16] M. Ade, *The menace of floods in the Benue Trough and vulnerability analysis: 2017 Flood*, "Geophysical Research Abstracts" 2018, no. 4, pp. 8-13.

and economic losses are accompanied by negative mental health consequences, including the occurrence of PTSD, depression, and anxiety, with the severity of these effects varying according to the emotional resilience of individual communities. Those particularly vulnerable include individuals displaced for extended periods, women, and communities dependent on agriculture and local infrastructure. A lack of adequate social support and governmental response further exacerbates feelings of marginalization and uncertainty. The findings indicate that effective measures in preparedness, the reduction of displacement duration, and the promotion of social resilience are critical for mitigating the adverse effects of natural disasters on society.

The 2024 Flood in Poland – Background and Course of Events

The flood that affected the southwestern regions of Poland in September 2024 constituted an extreme hydrological event with meteorological, geomorphological,[17] and anthropogenic origins. The immediate cause of the event was a Genoese low-pressure system moving across Central Europe, which triggered intense and prolonged rainfall. Within three days, some areas of the Lower Silesian, Opole, and Silesian voivodeships recorded precipitation totals exceeding 400 mm, significantly surpassing the average monthly rainfall for the region. This flood was one of the most severe hydrological phenomena in the country's history. The event was transboundary in nature, also affecting other Central European countries such as Austria, the Czech Republic, Romania, Slovakia, Hungary, and Germany.

The flood was also caused by the specific topography of southern Poland, characterized by a dense river network and limited natural retention, which contributed to a rapid rise in water levels in both mountain and lowland rivers. Flood embankments and retention reservoirs, which in some locations were outdated or not adapted to extreme flows, were unable to effectively contain the runoff from the heavy rainfall.

The flood primarily affected the southwestern part of the country. The greatest losses were recorded in the Lower Silesian, Opole, and Silesian voivodeships, where intense and prolonged rainfall led to a rapid rise in water levels within the Oder River basin and its tributaries, resulting in numerous inundations and infrastructure damage. The scale of the phenomenon was, however, broader, as the flood also impacted the Lubusz voivodeship, where local breaches of flood embankments, disruptions to transportation, and the necessity of conducting evacuation operations were reported.

[17] Relating to geomorphology, that is, the study of landforms, their structures, the processes of their formation, and the changes occurring on the Earth's surface.

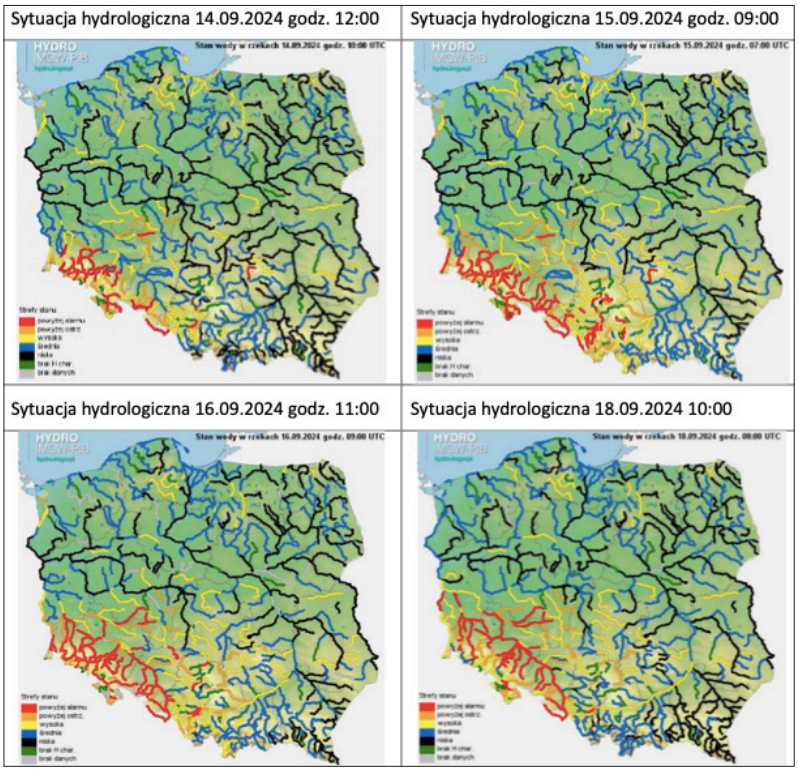


Figure 1. Map 1: Hydrological situation on September 14, 15, 16, and 18, 2024

Source: *Raport z przeglądu i aktualizacji wstępnej oceny ryzyka powodziowego w 3 cyklu planistycznym. Załącznik nr 7. Powódź we wrześniu 2024 [Report on the review and update of the preliminary flood risk assessment in the third planning cycle. Appendix No. 7. Flood in September 2024]*, p. 13.

In the first days of September 2024, intense rainfall associated with the Genoese low "Storm Boris" caused a rapid rise in smaller watercourses in south-western Poland, particularly in the Lower Silesian and Opole voivodeships. On September 12–13, local inundations occurred because of rivers Odra and Vistula exceeding alarm levels, and partially breached flood embankments necessitated the evacuation of residents. On September 14–15, the situation escalated, with water levels reaching catastrophic levels, resulting in widespread destruction of infrastructure, including roads, bridges, and power lines, as well as a significant number of people being forced to leave their homes. The intervention of emergency services, including the military and humanitarian organizations, was essential but at times delayed or constrained by logistical limitations, which heightened stress and the sense of threat among the affected population. Simultaneously, the Silesian voivodeship experienced damage to industrial and agricultural areas,

while the Lubusz voivodeship faced inundations on a smaller scale. In response to the crisis, on September 16, the Council of Ministers declared a state of natural disaster,[18] and rescue services—including the military and humanitarian organizations—initiated emergency and relief operations, which continued over the following weeks, alongside damage assessments and reconstruction planning.

The consequences of the 2024 flood in Poland affected four voivodeships: Lower Silesian, Opole, Silesian, and Lubusz. The disaster had a multidimensional impact—significant losses were recorded in economic activity, including the agricultural, industrial, and service sectors, as well as in transport and municipal infrastructure. At the same time, the flood had serious environmental consequences, leading to water pollution, soil erosion, and the destruction of green areas and local ecosystems. Most dramatically, however, the human population was affected—both in terms of physical health and daily life. Evacuations, the destruction of homes, and limited access to basic medical and sanitation services increased the risk of disease, injury, and post-traumatic stress. As a result of the flood, nine people lost their lives, highlighting the direct threat to the life and health of residents in the affected regions.

Table 1. Number of affected individuals and flooded buildings during the September 2024 flood in each voivodeship

Województwo	**śląskie**	**opolskie**	**lubuskie**	**dolnośląskie**
Liczba osób poszkodowanych	21 226	33 902	5 623	177 294
Liczba zalanych budynków mieszkalnych	156	192	430	9 744
Liczba zalanych budynków o znaczeniu społecznym	124	167	10	513

Source: *Raport z przeglądu i aktualizacji wstępnej oceny ryzyka powodziowego w 3 cyklu planistycznym. Załącznik nr 7. Powódź we wrześniu 2024 [Report on the review and update of the preliminary flood risk assessment in the third planning cycle. Appendix No. 7. Flood in September 2024]*, p. 30.

The table above presents the scale of human and material losses in the four voivodeships most affected by the September 2024 flood. The data reveal a clear disparity between regions—both in terms of the number of affected individuals and the extent of infrastructural damage. The highest number of victims was recorded in the Lower Silesian Voivodeship (177,294), confirming that it was the area most severely impacted by the disaster. It is followed by the Opole Voivodeship

[18] It remained in effect for 30 days, covering selected areas of the Lower Silesian, Opole, and Silesian voivodeships. As the situation developed further, the state of natural disaster was extended to additional counties and municipalities, with its scope updated on September 17 and 25, 2024. Ultimately, on October 15, 2024, the Council of Ministers decided to lift the state of natural disaster, citing the stabilization of weather conditions and the effective assistance provided to the affected population.

(33,902), the Silesian Voivodeship (21,226), and the Lubusz Voivodeship (5,623). A similar pattern is visible in the figures concerning residential buildings: in Lower Silesia, as many as 9,744 structures were flooded, significantly exceeding the numbers in the remaining regions. As for socially significant facilities (e.g., schools, healthcare centers, and care institutions), Lower Silesia also dominates (513).

The September 2024 flood disaster clearly revealed significant deficiencies in the existing flood protection systems, both in terms of hydraulic infrastructure and crisis management procedures. The scale and intensity of the event indicate that enhancing the country's resilience to future hydrological disasters requires strengthening both technical protection mechanisms, such as flood embankments, retention systems, and hydrological monitoring, and social adaptive mechanisms. Of particular importance is the cooperation between local communities and state institutions—through education, the development of evacuation plans, the preparation of crisis points, and the enhancement of early warning systems. The combination of technical and social efforts not only enables more effective mitigation of flood impacts but also increases adaptive capacity and social resilience in the face of dynamically changing hydrological threats.

Methodology of the Author's Research

The objective of the conducted research was to explore the experiences and perceptions of individuals affected by the September 2024 flood, as well as to understand the actions of institutions responsible for disaster response. The sample was purposively selected and consisted of two main groups of respondents: individuals directly impacted by the flood and experts with knowledge and experience in crisis management. Within the group of flood-affected individuals, three residents from smaller towns in southwestern Poland were included — one resident of Jelenia Góra (38 years old, cleaner), one resident of Szprotawa (28 years old, mechanic), and one resident of Kłodzko (43 years old, nurse). The expert group also comprised a former police officer from Jelenia Góra (57 years old) with experience in emergency response during natural disasters (flood in Poland in 2010). The selection criteria for specific participants were based on their direct experience with flooding or practical knowledge in crisis management, allowing insights from both the residents' perspective and experts in the field of social safety.

The research was conducted using semi-structured interviews, which allowed for the collection of detailed information regarding respondents' experiences, opinions, and perceptions while also enabling flexible follow-up questions

depending on the course of the conversation.[19] The semi-structured format facilitated the gathering of rich qualitative data encompassing material, psychological, and social impacts of the flood.

Data analysis was based on content analysis and thematic categorization. The interviews were transcribed and subjected to careful reading to identify recurring themes and patterns. The analysis resulted in the identification of key categories, including experiences related to property loss, the impact of the flood on daily life, the assessment of public institutions' effectiveness, and the effects of the disaster on respondents' health and sense of security. These categories enabled a systematic organization of observations and allowed for a comparison between residents' experiences and the expert perspective.

Data were collected using semi-structured interviews, which allowed for the elicitation of in-depth narratives regarding experiences related to the 2024 flood. Each interview lasted between 40 and 60 minutes and was conducted individually under conditions ensuring participants' safety and comfort. Following the interviews, detailed transcripts and research notes were prepared, forming the basis for further analysis. The empirical material was then systematically processed: the researcher produced precise transcriptions of the interviews based on the notes and subsequently coded them using an inductive approach, enabling the emergence of analytical categories without imposing pre-established frameworks. The coding process involved identifying recurring themes, categorizing them, and interpreting them in the context of material, psychological, and social experiences. This approach ensured transparency and methodological rigor while safeguarding participants' privacy and confidentiality.

It should be emphasized that the research sample was very small, consisting of two directly affected individuals and one expert. This selection allowed for an in-depth understanding of individual experiences but does not permit the formulation of generalized conclusions applicable to entire communities affected by the flood. The results should be treated as an exploratory case study highlighting key areas for further, broader research.

The selection of Jelenia Góra, Szprotawa, and Kłodzko was based on their location in regions particularly affected by the September 2024 flood. These towns represent diverse conditions—Jelenia Góra as a medium-sized city, Szprotawa as a smaller local town, and Kłodzko as a regional center—enabling the capture of various social and organizational perspectives in the face of the same disaster.

[19] M. Żelazo, *Kwestionariusz wywiadu jako narzędzie badawcze*, "Obronność - Zeszyty Naukowe Wydziału Zarządzania i Dowodzenia Akademii Obrony Narodowej" 2013, no. 2 (6), pp. 222-238.

Findings: Perspective of Flood-Affected Individuals

Analysis of the interviews conducted in Jelenia Góra, Szprotawa, and Kłodzko indicates that the experience of the 2024 flood had both material and deeply psychological and social dimensions. In the initial phase—just before the water arrived—residents reported feelings of uncertainty and disbelief. As one resident of Jelenia Góra noted: *"It rained all morning, but this is Lower Silesia—rain is normal. Only in the evening did the water start to seep into the basement, and the children were screaming as the furniture floated on the water."* A similar shock was described by a resident of Szprotawa: *"During the night, water entered our house, the car sank in mud, and my wife, children, and I had to flee on foot to friends in higher areas."* These accounts indicate that the peak of the event was associated with panic, a sense of helplessness, and intense stress—even among those with prior crisis management experience. A retired police officer from Jelenia Góra emphasized: *"As a former officer, I thought I knew how to react, but seeing my grandchildren crying in my arms, I felt emptiness and fear."* Residents simultaneously highlighted the critical role of emergency services in the initial response phase. One participant reported: *"The fire brigade arrived the fastest, and overall, the services performed well, considering the confrontation with such a violent natural force."* This juxtaposition illustrates the dual dynamics of the experience—initial mobilization and the effectiveness of intervention efforts contrasted with later disappointment arising from bureaucratic procedures and unequal access to assistance.

The subsequent phase—the first days and weeks following the flood—was characterized by shock, a sense of chaos, and institutional disorganization. The assistance provided by emergency services was highly valued, although gaps in coordination and information flow were noted. As a resident of Kłodzko stated: *"The hospital was partially flooded as well, and among the residents there was a sense that everyone was fighting alone—some provided generators, others offered food, but underlying it all was fear: what comes next?"* As the weeks progressed, feelings of frustration emerged, linked to bureaucracy and unequal access to aid. A resident of Szprotawa observed: *"The compensation application is a stack of papers, and people began to argue because some received aid quickly while others got nothing, but the frustration is entirely understandable."* Material losses were particularly painful—houses in many towns became uninhabitable, requiring drying and long-term renovations. As a resident of Jelenia Góra emphasized: *"Our house was full of mud and stench; everything—from the refrigerator to the children's books—was destroyed. Looking at it, I felt as if my whole life had to start over."* After the flood subsided, residents had to confront the consequences

of their homes being inundated and the loss of property. These difficult material experiences were accompanied by emotional strain resulting from the necessity of staying with relatives or friends for an extended period. As a resident of Kłodzko described: *"It was tragic to witness my own belongings destroyed, and it was frustrating to stay with family for so long, even though I felt fortunate, because not everyone had somewhere to go."* This statement illustrates the ambivalence of emotions—simultaneously experiencing loss and discomfort on one hand, and a sense of gratitude and solidarity on the other.

The analyzed narratives also reveal significant psychological and social consequences. Reports of insomnia, anxiety about future rainfall, and emotional problems among children were recurrent. Simultaneously, strong neighborhood solidarity was evident during the initial phase, although over time it began to give way to tensions and conflicts. As a retired police officer summarized: *"The community, which was once tightly knit and fought to protect the city by building flood embankments with their own hands, began to fragment, and the images of flooded homes kept returning at night."* A critical issue was the barriers to accessing psychological support, which stemmed less from availability than from entrenched social stereotypes and fears. As one resident of Szprotawa noted: *"I could have done it even over the phone, but I wasn't fully convinced… I kept worrying about what people would think, and eventually I gave up."* Such attitudes limited the effectiveness of available assistance and exacerbated social consequences. These accounts indicate that the impacts of the flood extended far beyond material losses, encompassing lasting changes in well-being, social relationships, and individuals' sense of security. Insights drawn from these narratives highlight the need to implement more effective early warning systems, improve communication between institutions and residents, and provide professional psychological support following natural disasters.

The experiences of residents from the studied towns align with findings in the literature on the consequences of natural disasters. Research on floods and other catastrophic events indicates that victims often go through three phases of response: a phase of disorientation and denial, a phase of mobilization and short-term social solidarity, and a phase of long-term consequences, including fatigue, frustration, and decreased trust in institutions.[20]

Accounts from residents of Jelenia Góra, Szprotawa, and Kłodzko illustrate the typical "dual-face" mechanism of social responses: on one hand, there is intense cooperation and communal solidarity, while on the other, conflicts over

[20] D. E. Alexander, *Natural Disasters*, London 2018, pp. 315 -318.

resources and inequalities in access to aid emerge.[21] Consistent with studies on the mental health of disaster victims, reported symptoms—such as insomnia, post-traumatic anxiety, and heightened vigilance toward subsequent rainfall—fall within the spectrum of disorders referred to as flood trauma.[22] At the same time, respondents emphasized inadequate coordination of institutional assistance, which, according to the literature, is a key factor exacerbating feelings of helplessness and prolonged stress.[23] The analysis of their narratives therefore confirms that effective crisis management should encompass not only infrastructural and material aspects but also social and psychological components, which are crucial for the community's resilience in the face of future crises.

Conclusions

Analysis of the research material indicates that the 2024 flood had a multidimensional impact on the lives of residents in southwestern Poland. On one hand, it caused material losses, including the destruction of homes and infrastructure; on the other, it resulted in significant psychological consequences, including feelings of helplessness, post-traumatic stress, and prolonged stress. In the initial phase of the crisis, strong social mobilization and neighborhood solidarity were evident, though over time these gave way to tensions and conflicts arising from limited access to assistance and growing frustration.

The research revealed significant deficiencies in the institutional system, including a lack of coherent coordination and excessive bureaucracy in the process of granting compensation. Despite the effective intervention of emergency services in the initial phase, subsequent actions did not provide residents with a sufficient sense of security. Procedural barriers were particularly burdensome for individuals from smaller towns or with lower educational levels—for example, rural residents with only primary education—who faced considerably greater difficulties in submitting applications and navigating the complex administrative system compared to those with higher education. Such disparities in administrative competencies directly affected subjective perceptions of safety and the ability to access state support. Additionally, the lack of adequate psychological support exacerbated the social and health consequences of the disaster.

In the context of the 2024 flood, it is evident that social resilience and crisis management operate in conjunction. Grassroots self-organization by residents—

[21] R. R. Dynes, *Organized Behavior in Disaster*, Lexington 2006, pp. 45–50.
[22] S. Tapsell, S. Tunstall, *The Health Impacts of Flooding: Traumatic Responses and Psychological Effects*, London 2008, pp. 112–118.
[23] K. Tierney, *Disaster Governance: Social, Political, and Economic Dimensions*, New York 2014, pp. 87–92.

for example, constructing temporary protective measures or providing mutual assistance—serves as an example of social resilience. At the same time, the unpredictability of the scale and dynamics of the disaster underscores the necessity of systemic crisis management measures, such as early warning, evacuation coordination, and institutional support. It is precisely this synergy between local adaptive capacity and formal safety structures that enables more effective responses to hazards and mitigates their long-term impacts.

At the same time, the findings confirmed the importance of social resilience—the capacity of residents to self-organize, provide mutual assistance, and rebuild their lives after the crisis—though this mechanism was not sufficiently strong to fully mitigate the long-term effects of the flood. The results also corroborate Marek Leszczyński's observations that social security is a cornerstone of genuine democracy, demonstrating that deficiencies in the support system following the 2024 flood led to feelings of marginalization and exclusion among certain citizens, which contradicts the fundamental democratic principle of societal equality.

The research further showed that individuals facing procedural barriers to accessing compensation or social assistance experienced reduced feelings of safety and lower trust in public institutions. A lack of fair and effective support weakened local community bonds, limited neighborhood cooperation, and reduced willingness to participate in civic activities. Empirical data thus confirm Leszczyński's theoretical proposition that the stability of democratic institutions and social cohesion largely depend on ensuring citizens' social security, and that deficits in this area can lead to the erosion of both social trust and state legitimacy.

In light of these analyses, it is necessary to implement a range of measures aimed at improving the functioning of the social security system in the face of natural disasters. First, the early warning system should be strengthened, and communication between public institutions and citizens improved, allowing residents to respond more quickly to imminent threats. At the same time, assistance and compensation procedures should be simplified and standardized to prevent situations that generate feelings of injustice and frustration among affected individuals.

A key area of action should also be the integration of professional psychological support into both emergency interventions and recovery processes, considering the needs of both adults and children, who are particularly vulnerable to the effects of disasters. Simultaneously, social resilience should be strengthened through support for local non-governmental organizations, mutual aid groups, and civic initiatives, which in the initial phase of a crisis can effectively complement state efforts and mitigate the limitations arising from barriers to formal psychological support.

Lastly, though peripheral to this study, the modernization of flood protection infrastructure remains a relevant consideration. Increasing water retention, reinforcing embankments, and adapting retention reservoirs to extreme weather events could significantly reduce material and social losses in the future. It should be noted, however, that this recommendation requires separate, in-depth analysis, as the present study focused primarily on the social and psychological aspects of the 2024 flood.

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