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RESILIENCE OF SOCIAL SYSTEMS IN NATO MEMBER STATES

The article explores the concept of social resilience within NATO, focusing on the ability of member states to prepare for, respond to, and recover from strategic threats. The relevance of this research lies in the growing importance of resilience in the context of contemporary global challenges, particularly considering ongoing geopolitical tensions. The hypothesis of the research is that the resilience of social systems is determined by their ability to withstand crisis situations across four dimensions: individual, household, community, and social. The aim of the research is to assess the resilience of social systems in NATO member states as a necessary condition for ensuring collective security, as well as to justify strategic directions for enhancing their resilience. The methodology involved assessing the resilience levels of social systems in NATO member states using the World Risk Poll Resilience Index by

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СТІЙКІСТЬ СОЦІАЛЬНИХ СИСТЕМ КРАЇН – ЧЛЕНІВ НАТО

У статті розкриті концептуальні положення стійкості соціальних систем країн НАТО з акцентом на здатності держав-членів бути готовими до стратегічних загроз, реагувати і відновлюватися після них. Актуальність дослідження зумовлена зростаючим значенням стійкості в контексті сучасних глобальних викликів, особливо з огляду на триваючі геополітичні напруження. Гіпотезою є твердження, що стійкість соціальних систем визначається їхньою здатністю витримувати кризові ситуації на чотирьох рівнях: індивідуальному, домогосподарств, громади і суспільства. Метою дослідження є оцінка стійкості соціальних систем у країнах – членах НАТО як необхідна умова для забезпечення колективної безпеки, а також обґрунтування стратегічних напрямів її посилення. Методологія дослідження передбачає оцінку рівнів стійкості соціальних систем у державах – членах НАТО за допомогою World



Lloyd's Register Foundation across four dimensions: individual, household, community, and social resilience. The analysis revealed that none of the NATO member states displayed high levels of social resilience; 17 countries were categorized as having sufficient resilience, while 15 were rated medium. The most vulnerable levels of resilience were found at the household and community levels, which experience the greatest shocks during crises. The individual level of resilience was found to depend on psychological support, access to resources, and critical thinking, while social resilience was influenced by governance effectiveness, institutional trust, and rapid-response mechanisms.

Keywords: individual resilience, household resilience, community resilience, social resilience, collective security, crisis situations.

Risk Poll Resilience Index від Lloyd's Register Foundation. Проведений аналіз показав, що жодна з країн НАТО не продемонструвала високого рівня соціальної стійкості; 17 країн віднесено до категорії з достатньою стійкістю, тоді як 15 отримали середній рівень. Найбільш вразливими до криз виявилися домогосподарства та громади. Індивідуальний рівень стійкості залежав від психологічної підтримки, доступу до ресурсів та критичного мислення, тоді як на суспільному рівні на стійкість більше за все впливали ефективність управління, довіра до інституцій та механізми швидкого реагування.

Ключові слова: індивідуальна стійкість, стійкість домогосподарств, стійкість громад, суспільна стійкість, колективна безпека, кризові ситуації.

JEL Classification: F52, H11, P16, D74, O38.

Introduction

The resilience of social systems is a strategic factor in ensuring national and collective security for NATO member states. In the face of growing global challenges such as military conflicts, hybrid threats, economic crises, pandemics, and mass migration processes, a society's ability to maintain stability, adapt to change, and respond effectively to threats becomes particularly significant. Social systems encompass public governance institutions, civil society, the labour market, the healthcare system, education, and social protection mechanisms, all of which ensure the population's livelihood and well-being.

NATO countries have different approaches to ensuring the resilience of social systems, shaped by their political, social, economic and cultural characteristics. However, the Alliance's strategic goal is to guarantee the resilience of all member states as a crucial component of collective security.

For NATO countries, social resilience is not only a domestic priority but also an integral part of the broader collective security architecture. Constantinescu (2024). Therefore, analyzing the resilience levels of social systems and identifying key factors influencing their effectiveness is essential for developing effective policies and adaptation mechanisms.

The specifics of NATO countries resilience were analyzed by Brezhnyeva (2018) underlining the importance of security environmental conditions, vulnerabilities, and key areas that are crucial for increasing the Alliance resilience. Onofriychuk (2024) state that NATO views resilience through the lens of military cooperation and deterrence, while the EU approaches it as a broader concept encompassing nation-building, good governance, human rights, and sustainable development.

Further Kudyrko and Andriiets' studies (2024) highlight the "Build Allied" strategy, which aims to strengthen NATO's industrial base through international strategic partnerships and enhanced collaboration in modern

weapons production, underlining quantum technology as a key area of prospective cooperation, offering unique advantages in computing and communication that could provide NATO with a significant strategic edge.

Vargulis (2021) emphasizes that member states must strengthen their own resilience to enhance the Alliance's collective defence as the 2014 annexation of Crimea highlighted the need for social readiness and a lack of unity could undermine NATO's solidarity.

Social resilience and its aspects have been widely represented in the contemporary studies. Social resilience encompasses the strengthening of local communities by actively including them in shaping policies, ensuring that resilience frameworks are inclusive and responsive to the specific needs of marginalized populations (Kalliontzi et al., 2024). By integrating local knowledge and traditional risk management practices, governments can create more adaptable and community-centered strategies that enhance long-term sustainability.

In urban contexts, resilience strategies benefit from greater accountability and citizen participation. As Bruzzone et al. (2021) highlight, involving the public in both policy design and implementation not only fosters trust in institutions but also strengthens social cohesion, ultimately leading to more effective resilience measures. The study by Grum and Kobal Grum (2023) investigates urban resilience and sustainability considering global events like the COVID-19 pandemic and the war in Ukraine, highlighting the need for adaptable urban policies. The study by Nguyen and Nguyen (2024) examines how social capital contributes to urban resilience in the face of climate change, highlighting the importance of community networks.

The comprehensive analysis of social resilience in Ukraine in war conditions with development of a tentative framework for its study, including aspects of responsiveness, robustness and resilience at different levels have been made by Ekström et. al (2023). Shkuropadska et. al (2025) state that critical infrastructure resilience fundamentally depends on adaptable institutional support systems that facilitate coordination between government bodies, private sector entities, and international organizations, particularly influencing social resilience.

These publications offer valuable insights into social resilience, exploring challenges and strategies for strengthening resilience in different crisis contexts. However, we believe that social resilience to global turbulences remains underrepresented, highlighting the relevance of the current study.

The authors of the article propose the hypothesis that the resilience of social systems is determined by their ability to withstand crisis situations across four dimensions: individual, household, community, and social.

The aim of the research is to assess the resilience of social systems in NATO member states as a necessary condition for ensuring collective security, as well as to justify strategic directions for enhancing their resilience.

To achieve this aim, the SWOT analysis method was used to identify strengths, weaknesses, opportunities, and threats to resilience in the context of NATO's collective defense. Statistical and grouping methods are used to assess the resilience levels of social systems in NATO member states and Ukraine. Systems analysis and systematization methods are applied to identify and analyze key directions for ensuring social system resilience, while the method of scientific abstraction is utilized to substantiate the study's conclusions.

The structure of the article is as follows: after this introduction we address the concept of NATO resilience; next, the resilience levels of social systems in NATO member states and Ukraine are assessed; finally, the key directions and measures for ensuring the resilience of social systems in NATO member states are outlined.

1. NATO's Resilience Concept

NATO's main advisory body on resilience and civil preparedness is the Resilience Committee (RC). Reporting directly to the North Atlantic Council, the RC oversees strategic and policy direction, planning, and the overall coordination of resilience initiatives. Its responsibilities are outlined in the 2021 Strengthened Resilience Commitment, the NATO 2030 agenda, and the 2022 Strategic Concept (NATO, 2022, October 7).

The RC sets resilience priorities, translates NATO's ambitions into actions, and promotes a whole-of-government and social approach. It coordinates with military bodies and committees, offering political-military advice and integrating resilience into NATO's defense planning, operations, and activities.

The RC is supported by six expert planning groups, each focused on a specific resilience area:

- Civil Communications Planning Group (CCPG) – strengthens resilience in communications.
- Civil Protection Group (CPG) – ensures government continuity and manages population movements.
- Energy Planning Group (EPG) – secures stable energy supplies.
- Food and Agriculture Planning Group (FAPG) – enhances food and water system resilience.
- Joint Health Group (JHG) – improves response to mass casualties and health crises.
- Transport Group (TG) – supports resilient inland, maritime, and aviation transport.

It is important to note that the principle of resilience is enshrined in Article 3 of the North Atlantic Treaty, which underpins the Alliance's security. Each NATO member state must be resilient to both military and non-military threats, such as natural disasters, disruptions to critical infrastructure, or hybrid and armed attacks.

The SWOT analysis of resilience in the context of NATO's collective defense (*Table 1*) helps assess both internal strengths and weaknesses, as well as external threats and opportunities that impact the Alliance's ability

to sustain critical functions during crises and military conflicts (*Euro-Atlantic Resilience Centre*, 2024):

Identifying Strengths – analyses resources, technologies, organizational mechanisms, the level of interstate coordination, and operational interoperability that enhance NATO’s resilience.

Recognizing Weaknesses – helps identify vulnerabilities in critical infrastructure, logistics, cybersecurity, economic stability, and civil preparedness.

Identifying Opportunities – supports the recognition of potential areas for development, such as cooperation with partners, the adoption of new technologies, or strengthening energy security.

Assessing Threats – aims to understand external factors (military, cyber, economic, or information attacks) that may undermine collective resilience and defense effectiveness.

Table 1

SWOT Analysis of Resilience in the Context of NATO’s Collective Defense

Strengths	Weaknesses
<p>Recognition that societies must endure shocks and recover swiftly.</p> <p>A unified strategy linking civil preparedness with military strength.</p> <p>Ongoing commitment to resilience as vital for NATO’s security</p>	<p>NATO’s reliance on civilian logistics can create vulnerabilities.</p> <p>Awareness gaps on how large-scale operations impact critical infrastructure.</p> <p>Coordination failures may weaken military effectiveness.</p> <p>Balancing military needs with civilian capacity remains challenging in prolonged conflicts</p>
Opportunities	Threats
<p>Improve civil-military coordination for resilience and efficiency.</p> <p>Develop strategies to protect critical infrastructure during NATO operations.</p> <p>Invest in civil preparedness as part of military strategy.</p> <p>Ensure nations can manage crises independently until Allied support arrives</p>	<p>Adversaries may target civilian infrastructure during NATO operations, as seen in the Russia-Ukraine war.</p> <p>Hostile actors could disrupt supply chains via cyberattacks or hybrid tactics.</p> <p>Disinformation campaigns may erode trust in authorities and democracy</p>

Source: compiled by the authors according to (*Euro-Atlantic Resilience Centre*, 2024).

One of NATO’s key strengths is its recognition of the necessity to ensure resilience at the Alliance-wide level. Allies understand that societies must be prepared for major shocks, including natural disasters or armed attacks, and must be able to recover quickly and effectively. Another significant advantage is NATO’s combined approach to resilience, which integrates civil preparedness with military capability. This model enables more efficient resource utilization and enhances coordination across different security sectors. Additionally, the Alliance has consistently reaffirmed its commitment to strengthening resilience through the development of civil preparedness, which is an integral part of collective defense. Political commitments and strategic initiatives demonstrate NATO’s intent to adapt to emerging challenges and threats.

Despite these strengths, certain weaknesses could limit NATO's resilience effectiveness. One of the primary challenges is the Alliance's heavy reliance on civilian resources to sustain operational activities. The transportation system, energy infrastructure, and communication networks, which belong to the civilian sector, may be vulnerable to attacks or disruptions. Another challenge is the potential lack of awareness regarding the impact of large-scale military operations on national critical infrastructure and public services. During crises, there is a risk of disruptions to energy supplies, communications, and other essential functions. Additionally, coordination failures between civilian and military structures pose a threat. If civilian institutions are unable to respond to crises in a timely manner, NATO's military capabilities may be negatively affected. Another issue is balancing military demands with civilian sector capabilities. In prolonged conflicts or high-intensity warfare, civilian resources may become depleted before the Alliance can replenish them.

To address these weaknesses, NATO has several promising development pathways. One of the primary ways to enhance resilience is by improving coordination between civilian and military sectors. The development of unified interaction standards and joint training exercises will facilitate more effective crisis responses. It is also crucial to design and test strategies to minimize the impact of military operations on critical infrastructure. This approach will prevent excessive strain on the national resources of allied countries. Another key opportunity is increasing investments in civil preparedness. Strengthening the role of the civilian sector within NATO's defense strategy will enhance the Alliance's overall resilience. Moreover, efforts should focus on preparing NATO member states and partners for independent crisis response. This will ensure their ability to act effectively until allies can provide assistance.

Despite these opportunities, NATO faces serious external threats that could undermine its resilience. One of the primary dangers is adversary attacks on critical civilian infrastructure and public services. The experience of the Russia-Ukraine war demonstrates that energy, transportation, and communication systems are among the top targets for aggressors. Another significant threat is cyberattacking and hybrid actions aimed at disrupting supply chains and undermining economic stability. In modern conflicts, adversaries actively use cyber weapons to destabilize opponents. Additionally, the risk of information warfare must be considered. Disinformation campaigns can erode public trust in governments and NATO as a whole, complicating decision-making processes and creating conditions for political instability.

2. Level of social systems' resilience

NATO considers the resilience of social systems as a key factor in overall security, as a weakened society becomes vulnerable to external threats. The level of resilience of social systems is assessed using economic, institutional, and socio-psychological indicators.

The World Risk Poll Resilience Index is a global tool developed by Lloyd's Register Foundation that evaluates the ability of individuals, households, communities, and societies to cope with hardships, including disasters, wars, crises, and other shocks. The World Risk Poll Resilience Index measures resilience across four main dimensions:

- The Individual Dimension assesses personal empowerment and the level of education.
- The Household Dimension considers financial assets, the presence of a disaster response plan, and access to communication tools.
- The Community Dimension measures social capital, sense of security, and satisfaction with local infrastructure.
- The Social Dimension analyses the level of discrimination, trust in government, and the availability of social support.

The resilience level is measured on a scale from 0 to 100, where 0 represents the lowest resilience and 100 represents the highest. *Table 2* presents the World Risk Poll Resilience Index scores for NATO member states and Ukraine in 2024. It is important to note that Ukraine has been included in the analysis to assess the resilience of its social systems in comparison to NATO member states amid Russian aggression and economic challenges.

Table 2

World Risk Poll Resilience Index in NATO and Ukraine

Country	Individual Resilience Index	Household Resilience Index	Community Resilience Index	Social Resilience Index	World Risk Poll Resilience Index
Norway	69	76	74	70	72
Sweden	71	71	70	71	71
Finland	66	73	74	68	70
Denmark	64	76	66	67	68
Luxembourg	59	68	73	71	68
Germany	75	66	64	68	68
Netherlands	64	74	65	67	68
Iceland	68	68	70	65	68
Canada	67	67	64	66	66
Estonia	65	66	64	64	65
USA	74	63	52	65	64
Slovenia	66	65	59	62	63
Belgium	59	69	62	61	63
United Kingdom	62	64	63	61	62
Czech Republic	64	64	58	61	62
Portugal	61	65	58	58	61
Croatia	70	66	51	59	61
France	58	64	61	59	60
Spain	58	63	58	58	59
Lithuania	57	64	59	58	59
Slovakia	67	57	52	59	59
Hungary	65	54	58	57	59
Italy	64	53	59	56	58
Poland	61	56	53	57	57
Latvia	63	53	54	56	57
Greece	65	45	57	57	56
Turkey	51	57	60	51	55

Country	Individual Resilience Index	Household Resilience Index	Community Resilience Index	Social Resilience Index	World Risk Poll Resilience Index
Bulgaria	62	49	49	56	54
North Macedonia	63	51	50	52	54
Ukraine	59	50	52	55	54
Romania	62	52	47	52	53
Montenegro	35	51	65	61	53
Albania	48	58	53	47	51

Note: Resilience

81–100	High level	61–80	Sufficient level	41–60	Medium level
21–40	Moderate level	0–20	Low level	–	Not available

Source: compiled by the authors according to (The Lloyd's Register Foundation, 2024).

Individual resilience refers to the psychological, emotional, and economic capacity of individuals to cope with difficulties. No NATO country falls into the group with a high level of individual resilience. Instead, most countries demonstrate a sufficient level of individual resilience (24 countries). The group with a medium level of individual resilience includes Luxembourg, Belgium, France, Spain, Lithuania, Turkey, and Albania. The only country with a moderate level of individual resilience is Montenegro (35 points), indicating certain challenges in maintaining personal capacity amid crises. Interestingly, despite being in a state of war, Ukraine has shown a medium level of individual resilience. However, the high level of volunteerism, mutual aid significantly strengthens the individual resilience of Ukrainians.

Household resilience is the ability of families to sustain their well-being in times of crisis (Chen & Yeung, 2024). No NATO country falls into the group with a high level of household resilience. Twenty countries demonstrate a sufficient level of household resilience, while thirteen countries, including Ukraine (50 points), have a medium level. The full-scale Russian invasion has led to a significant decline in household incomes across Ukraine, with internally displaced persons (IDPs) experiencing a greater relative income reduction compared to non-displaced individuals. Additionally, income disparities exist among IDPs, as urban residents generally have higher monthly incomes than those in rural areas. Overall, the vast majority of households across the country, particularly among IDPs, have either completely exhausted or significantly reduced their savings under martial law conditions (IOM UN MIGRATION, 2024, April).

Community resilience refers to the ability of local communities to maintain cohesion, mutual support, and self-governance. No NATO country falls into the group with a high level of community resilience. Fourteen countries demonstrate a sufficient level, while nineteen countries, including Ukraine (52 points), have a medium level of community resilience. On October 31, 2024, the All-Ukrainian Association of Local Self-Government Bodies, "Association of United Territorial Communities", held a webinar titled "Communities in Wartime: How to Ensure Managerial Resilience and

Democracy". This event provided a platform for discussing key challenges and risks faced by Ukrainian communities under martial law, including:

resource shortages. A significant portion of community budgets is allocated to wartime adaptation, particularly security measures, limiting opportunities for development;

security challenges. Lack of funding for equipping shelters in schools, hospitals, and other social infrastructure in accordance with new state construction standards;

demographic issues. Population decline, labour migration, and low tax revenues, particularly due to relocated businesses paying taxes in large cities;

communication barriers. Insufficient transparency and open dialogue between citizens and local authorities (OTG All-Ukrainian Association, 2024, November 8).

Overall, Ukrainian communities have demonstrated significant resilience during the war: those that found themselves under temporary occupation have retained their potential for resistance and the ability to recover after liberation, while communities in the rear provide the socio-economic foundation for Ukraine's victory (Decentralization in Ukraine, 2023, January 10).

NATO defines social resilience as the ability to endure and recover from major shocks – armed attacks, disasters, health crises, or infrastructure failures – through a mix of civilian readiness and military support. It relies on state institutions, the private sector, and civil society, with citizens playing a key role in preparedness, crisis response, and countering disinformation. Trust in government is vital for crisis management, making public engagement essential for long-term resilience (Civil-Military Cooperation Centre of Excellence, 2022, April).

No NATO country falls into the group with a high level of social resilience. Sixteen countries demonstrate a sufficient level, while seventeen countries, including Ukraine (55 points), have a medium level of social resilience. According to sociological research, the resilience and consolidation of Ukrainian society are key factors in securing Ukraine's victory in the war. Important drivers of social consolidation include culture, national symbols and attributes of statehood, independence, and Ukrainian citizenship as both spiritual and socio-political values. The absolute predominance of national civic identity over local and regional identities indicates that the formation of the Ukrainian political nation is largely complete. The Ukrainian language is increasingly becoming a unifying factor in society. Social cohesion remains relatively high, as evidenced by the strong sense of social connectedness that Ukrainians feel toward residents of nearly all regions of the country (NISS, 2023, October 16).

Thus, most NATO members demonstrate either a sufficient (17 countries) or medium (15 countries) level of social resilience. However, no country has achieved a high level of social systems resilience. This suggests that even the most developed states face challenges in ensuring full social resilience, which may be a consequence of economic instability, demographic shifts, and external pressures.

3. Key Directions for Ensuring the Resilience of Social Systems

Enhancing the resilience of social systems should become one of the key priorities for NATO countries, as it directly affects overall security, social cohesion, and the ability of states to effectively respond to future challenges. In this regard, *Table 3* presents the key directions for ensuring the resilience of social systems.

Table 3

Directions for Ensuring the Resilience of Social Systems

Social system level	Directions for Ensuring the Resilience
Individual resilience	Development of adaptation skills and critical thinking Psychological support and access to medical services Financial literacy and ensuring economic stability for citizens Protection against information threats and enhancement of digital literacy
Household resilience	Increasing income levels and ensuring access to social guarantees Developing social insurance systems and crisis support mechanisms Energy independence and accessibility of basic resources (water, energy, communication) Supporting household economic activity (access to credit and small business development programs)
Community resilience	Development of local economies and support for small businesses Strengthening trust and community engagement Protection of critical infrastructure and ensuring the continuity of essential services Implementation of public safety and crisis response programs
Social resilience	Ensuring effective governance and the rule of law Developing cybersecurity strategies and countering information threats Strengthening economic independence and diversifying resource supply Fostering social cohesion through education, culture, and civil society

Source: compiled by the authors.

Individual resilience can be strengthened through the development of life skills, psychological support, financial literacy, and protection against information threats. One of the key areas is fostering life skills, including critical thinking, emotional intelligence, adaptability, and problem-solving abilities. These skills help individuals respond effectively to the challenges of the modern world. Educational initiatives play a crucial role in this process, including international programs such as PISA Life Skills, which focus on developing the competencies necessary for successful integration into society (OECD, 2022).

Psychological support and access to healthcare services are equally important aspects. Mental health support enhances stress resilience and prevents emotional burnout. Additionally, resilience training is an effective tool for adapting to crisis situations. Initiatives like Building Resilience Training in the United States are designed to support veterans and critical sector workers (Resilience Institute, 2024).

Financial literacy and economic stability are also essential for ensuring individual resilience. Financial education programs help individuals manage their finances effectively, reduce debt burdens, and build financial security. At the same time, reskilling and upskilling initiatives, such as the European Reskilling & Upskilling program, facilitate workers' adaptation to labour

market changes and enhance their competitiveness (World Economic Forum, 2025, January 17).

Particular attention should be paid to protection against information threats and improving digital literacy. With the rise of information attacks, it is crucial to educate citizens on identifying manipulation and disinformation. The Digital Operational Resilience Act (DORA) in Europe aims to enhance media literacy, enabling individuals to critically assess information (EIOPA, 2023, January 16). Furthermore, protecting personal data is of utmost importance, which can be ensured through the development of secure digital platforms and compliance with international standards such as the General Data Protection Regulation (GDPR, 2016, April 14) in the EU.

To effectively enhance household resilience, NATO member states implement comprehensive strategies aimed at reducing population vulnerability and improving citizens' well-being. One of the key areas is increasing income levels and ensuring access to social guarantees. To achieve this, countries introduce mechanisms for indexing the minimum wage in line with inflation, support programs for low-income households, and initiatives for job creation. For example, Germany operates the "Bürgergeld" program, which provides financial support to the unemployed along with additional training opportunities (BMAS, 2024). In the United States, the Earned Income Tax Credit (EITC) offers financial assistance to low-income families. The European Commission implements the "Flexicurity" concept, which combines high social protection with extensive opportunities for reskilling and employment (European Commission, 2012).

Another critical area is the development of social insurance systems and crisis support mechanisms. Effective insurance frameworks for unemployment, illness, or disability help mitigate economic shocks (Shtunder & Shkuropadska, 2024). For instance, Canada operates the Employment Insurance program, providing temporary financial assistance to those who have lost their jobs (Government of Canada, 2025, January 10). In 2020, the European Union launched the Support to Mitigate Unemployment Risks in an Emergency (SURE) mechanism, enabling countries to finance employment support programs during economic crises (European Commission, 2023).

Energy independence and access to basic resources such as water, electricity, and communication networks are also essential factors in household resilience. In response to global energy crises, governments are expanding the use of renewable energy sources and implementing energy efficiency programs. Norway actively promotes green energy and subsidizes housing modernization to reduce energy consumption. Germany has introduced the "Energiewende" initiative, aimed at reducing reliance on fossil fuels and transitioning to renewable energy sources (Clean Energy Wire, 2022). France has implemented the "MaPrimeRénov" initiative, which provides financial support to households for upgrading heating systems and improving home insulation (MaPrimeRénov, 2024). Additionally, Finland has launched state programs to expand access to high-speed internet, which is a crucial factor in ensuring digital equality.

Special attention should be given to supporting economic activity in families through access to credit and small business development programs. To achieve this, countries create favourable conditions for entrepreneurship by providing subsidized loans, grants, and tax incentives. For example, Poland's "Rodzina 800+" program supports families by increasing their purchasing power and stimulating small business development (Serwis Rzeczypospolitej Polskiej, 2019). In the United States, the Small Business Administration program provides small business owners with access to credit and government guarantees (U.S. Small Business Administration, 2024).

Community resilience is the foundation of social stability and security, particularly in times of crisis. One of the key areas of community resilience is the development of local economies and support for small businesses. Local businesses provide employment, strengthen the financial independence of communities, and contribute to their sustainable development. Governments and municipalities implement various support strategies, such as preferential loans, grants, public procurement, and the promotion of social entrepreneurship. For example, the United States runs the "Opportunity Zones" program, which encourages investments in small businesses in distressed regions (IRS, 2024, October 8). In Canada, the "Community Futures" program provides funding for small businesses in rural areas (Government of Canada, 2024, November 28).

Another important direction is increasing trust and cooperation within the community. High levels of trust between residents and active citizen participation in decision-making help strengthen social capital and enhance the community's ability to respond to challenges. For instance, the Netherlands implements the "Wijk aanpak" program, which involves citizens in management processes through municipal participation councils (Platform 31, 2025). In France, the "Quartiers Solidaires" initiative aims to support social cohesion in urban areas by organizing cultural and social activities (Quartiers Solidaires, 2025).

Equally important in ensuring community resilience is the protection of critical infrastructure and the continuity of essential services. Modern communities rely on the stable functioning of energy, transport, water supply, and digital systems. In the event of natural disasters or technological crises, failures in critical infrastructure can have serious consequences. In the United States, the "Infrastructure Investment and Jobs Act" (2021) provides for the modernization of bridges, roads, energy systems, and water supply to enhance their resilience. Sweden is implementing "Smart Grid" technologies to improve the protection of energy systems from cyberattacks (Smart City Sweden, 2025).

Finally, an important aspect of community resilience is the implementation of public safety and crisis response programs. Modern challenges, such as military threats, technological accidents, and natural disasters, require effective mechanisms to prepare communities for emergencies. Many countries are developing response systems, training citizens, and expanding the role of

local security services. For example, Sweden operates the "Total Defense" concept, which combines military and civilian efforts to strengthen community resilience (Government Offices of Sweden, 2024). In Portugal, the "Aldeia Segura Pessoas Seguras" program (2025) involves local residents in fire safety training. The initiative aims to raise community awareness of wildfire risks and teach effective actions in emergencies. The program includes development of evacuation plans, creation of a network of local safety coordinators, and conducting of regular drills for the population, which enables communities to be better prepared for fires and reduce potential losses.

The resilience of society is the foundation of its stability and development in the face of contemporary challenges. One of the key areas of ensuring social resilience is effective governance and the rule of law. A high level of institutional capacity fosters trust between citizens and the government, ensuring stability. For example, the European Union implements "Mechanisms to Uphold the Rule of Law", which monitors the adherence to the rule of law in member states (Council of the European Union, 2025, January 23). In contrast, the United States, Canada, Norway, and the United Kingdom are implementing the global initiative "Open Government Partnership" (2025), which focuses on government accountability and citizens' access to public information.

In the context of growing cyber threats, another important aspect of resilience is the development of cybersecurity strategies and countermeasures against information threats. In NATO member states, the NATO Cooperative Cyber Defense Centre of Excellence (CCDCOE, 2024) develops cybersecurity strategies. For example, the European Union adopted the Digital Services Act, which sets rules for combating manipulation and fake information on digital platforms (European Commission, 2022, October 19).

Economic independence is another important area of ensuring social resilience. Strengthening economic self-sufficiency and diversifying resource supplies helps countries avoid crises associated with external dependencies. For example, the European Union implements the REPowerEU plan, aimed at reducing energy imports from Russia and developing renewable energy (European Commission, 2022, May 18). The United States passed the CHIPS and Science Act (2021, January 17), aimed at supporting domestic semiconductor production and developing the technological sector.

An important factor in ensuring social resilience is also fostering social cohesion through education, culture, and civil society. For example, in Germany, the "Erinnerungskultur" initiative focuses on preserving historical memory, combating radicalization, and promoting civic responsibility (Germany's inadequate culture of remembrance, 2020). Canada supports a multicultural policy through state programs for the integration of immigrants and the Multiculturalism Policy initiative, which promotes inter-ethnic dialogue (Government of Canada, 1988). France funds cultural initiatives,

such as the "Pass Culture" program, which provides young people with access to museums, theatres, and other cultural activities, fostering social integration (République Française, 2024).

Thus, the process of ensuring the resilience of social systems is multifaceted and requires careful planning, a comprehensive approach, and coordination between government institutions, business, civil society, and international partners to effectively respond to both internal and external challenges, maintaining stability and public safety.

Conclusions

Resilience in the context of NATO refers to the ability at both the national and collective levels to prepare for strategic shocks and disruptions, to resist them, respond to them, and quickly recover from the full range of threats. NATO employs a series of strategic documents and recommendations on resilience, but most of them are advisory in nature. While NATO requires its allies to adhere to basic principles of resilience, each country determines the specific actions and the level of their implementation independently. Accordingly, this creates a risk of uneven levels of resilience among Alliance members, which may complicate collective responses to threats.

An assessment of the resilience levels of the social systems of NATO member states revealed the absence of countries with a high level of resilience. Instead, 17 countries have a sufficient level of resilience, while 15 countries have a medium level. The main factors influencing the resilience of social systems include economic stability, the effectiveness of state institutions, social cohesion, and the ability of society to adapt to crises. The analysis of the data indicates the need for further improvement of resilience mechanisms within NATO. Achieving a high level of resilience will minimize harm to the civilian population, preserve the functionality of critical infrastructure, and ensure support for defense efforts without excessive resource depletion. This will also guarantee that military resources are not overly diverted to crisis management, which could weaken overall defense capabilities.

An analysis of the areas of ensuring resilience in social systems across four dimensions-individual, household, community, and society-indicates that the most vulnerable levels are those of households and communities, as they experience the greatest economic and social shocks in times of crisis. Meanwhile, individual resilience largely depends on critical thinking, psychological support, access to resources, and the opportunities for adaptation. At the social level, key factors include the effectiveness of governance, trust in institutions, and the presence of mechanisms for rapid response to challenges. Therefore, the results confirm the hypothesis of the research.

The subject of further research will focus on evaluating the impact of the Russia-Ukraine war on the security and stability of NATO member states.

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