

THE CONCEPT OF RESILIENCE AS A BROADER METHODOLOGICAL APPROACH FOR ASSESSMENT OF HUMAN SECURITY IN LOCAL COMMUNITIES

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Abstract: With respect to the set of values entrenched in the concept of human security, nominal and non-nominal, it is justified to argue about local community as the most convenient framework or context, not just for assessment of human security- identification, analysis and evaluation of security risks and threats, but also for its treatment, or, in other words, specific action in order to accomplish, as positive as it can be, adaptation, mitigation or elimination of unsecure phenomena, including increasing security and safety. Towards that goal, having in mind the urgent need for innovative methodological approach, as a result of an inevitable reconceptualization of human security itself, in the recent researches focus was most commonly on increasing community preparedness, by participatory mechanisms in which way their members are involved in all phases of assessment of human security and further specific activities. With appreciation for the practical contribution that application of Community-based participatory research (CBPR), and related community preparedness, or readiness, as research tools, have on assessment of actual parameters of human security in local community, as much as on defining and formulating guidelines for further navigating it's members toward increasing safety and security, the authors suggest broadening of this methodological approach by including the concept of resilience. Endeavouring to strengthen the resilience of local communities (meaning, in this context, ability of a community to prevail existing problems with minimum of negative consequences, and to revert in state of normal functioning – safe and secure atmosphere from the perspective of its members) could potentially lead to valuable and specific effects in practice- by analogy with crisis management- in response and recovery phases.

Keywords: human security, resilience, local community, crisis management.

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Introduction

In recent years, the concept of human security has suffered numerous and rather harsh criticisms, primarily of a methodological nature. In response to these criticisms, human security was operationalized in different ways, enriched with different contents, and the particular focus of the research community was directed to the development of new methodological tools applicable to this concept. However, it seems that these efforts mostly went in the direction of assessing the current state of human security of an individual, community, nation or any other level of analysis, i.e., in the direction of developing readiness and preparedness and promoting the participation of individuals/communities in decision-making and creating policies for improvement of human security through certain measures and activities of a preventive nature.

By accepting the thesis that the community appears as the most adequate level of analysis of human security, the authors of this paper started from the assumption that the concept of resilience appears as the most suitable, coherent and comprehensive analytical framework for dealing with issues of human security and tried to recognize the implications that this concept has to the improvement of human security, mostly from the other dimension of its improvement, unjustifiably neglected in theory and practice - by analogy with crisis management - response and recovery.

Towards that goal, the paper will start from the presentation of those theoretical and practical implications of resilience that have the greatest potential for effective incorporation into the concept of human security and its effective improvement. In this sense, special attention will be devoted to the concepts of Community Resilience and Disaster Resilience, whose practical contribution is particularly significant. Additionally, out some of the most important other elements of the concept of resilience will be pointed out, those that can contribute to more successful adaptation, mitigation or elimination of security challenges, risks and threats, i.e. strengthening the resilience of the local community as the ability of a community to prevail existing problems with minimum of negative consequences and to revert in state of normal functioning - safe and secure environment from the perspective of its members, such as capacities or dimensions, conceptual models and resilience strategies.

Resilience

The concept of resilience has the potential to be built into a coherent analytical framework that, on the one hand, is capable of incorporating scientific knowledge from accepted concepts of vulnerability and risk and, on the other hand, opens new and different perspectives on the contemporary challenges of global change (Keković & Ninković, 2020). The concept of resilience contains an implicit assumption

that the world around us has systematic features and characteristics of dynamic change and interdependence (Haines, Crowther & Horowitz, 2008). Consequently, building resilience requires understanding the complex interactions among different components in time and space relevant to the system (Dahlman, 2011). There is no quick fix, single process, management system or software application that will create resilience (Gibson & Tarrant, 2010).

The use of the term “resilience” has a long tradition in various sciences and scientific disciplines - psychology, sociology, ecology, engineering, management, while it has only been present in security studies since the beginning of the 21st century. In the last few decades, the use of this term in academic discourse is growing at a “dizzying” speed, and its conceptualizations and operationalizations (even mutually opposed, almost contradictory) are increasingly numerous and diverse, both in academic literature and in strategic and legal documents (Stanković, 2021). At the moment, there is an abundance of literature on resilience in various domains of security studies – national security, crisis management, human and corporate security, etc. (Keković & Ninković, 2020).

By reviewing the literature on resilience, Zoran Keković and Vladimir Ninković conclude that there are two prevalent views in security studies – one that views resilience as the desired state of a system, be it a nation, community or infrastructure, and the other that proposes resilience as a risk management strategy that can be used when we face events characterized by a high degree of uncertainty (Keković & Ninković, 2020). The recent “flourishing” of literature on the concept of resilience is due to explicitly or implicitly recognized shortcomings of traditional approaches to prevention and preparedness (*ibid*). The earlier view of nature and society as systems in a state of near-equilibrium has been replaced by a dynamic view that emphasizes complex non-linear relationships between entities under continuous change and facing discontinuity and uncertainty (Dahlman, 2011).

To determine resilience, it is essential to determine the so-called disruptive events. Disruptive events are commonly referred to in the resilience literature as shocks or stressors. Shocks are generally short-term events that have a negative impact on people, well-being, property, security, lives and the ability to overcome future shocks. Stressors, contrary to shocks, imply long-term pressures that often do not have a clear beginning or end and that weaken the stability of the system, i.e., increase its vulnerability (CARRI, 2013, according to Choularton et al., 2015). Due to time differences, acute events are often labelled as shocks and chronic events as stressors. And yet, more precisely, both shocks and stressors can be both acute and chronic (*ibid*).

As previously stated, the literature abounds in diverse, often mutually exclusive and almost contradictory definitions of resilience. Each of the definitions reflects the theoretical commitment of its author and the area in which its practical application is expected. Apart from the progressive growth of the number of definitions of resilience, the “enrichment” of their content is noticeable both chronologically, over time, and in relation to new theoretical

insights and empirical findings of various sciences and scientific disciplines in which it is placed.

In recent years, the concept of resilience has been applied at the individual, community, organizational, and societal levels to describe the ability to cope or “cope” with often sudden and dramatic change (World Economic Forum, 2013; The Reform Institute, 2008). Consequently, a large number of definitions of resilience reflect the origin of the term in the social, environmental, computer or engineering sciences (Holling, 2001; Paton & Johnson, 2001; Rose, 2004; Gaillbard, 2007; Sapountzaki, 2007; Boshier et al., 2009; DeBardeleben et al., 2009). It is, therefore, a complex, multidimensional and multifactorial concept (Gibson & Tarrant, 2010).

Starting from the etymological origin of the term “resilience”, in most dictionaries it is defined as “the ability of the system to return to a state of balance, the state before the disturbance”, but also as “the ability of the system to face change and adapt to it”. The results of the first significant research on resilience support the thesis that resilience is related to the stability of the system, its capacity to absorb shocks from the environment, as well as to maintain its function (Fraccascia, Giannoccaro, & Albino, 2018), and they define resilience as “the ability of the system to return to a state of equilibrium, before the disturbance itself”. Subsequently, the concept is “enriched” by the system’s ability to face and adapt to change (ibid).

There is an abundance of definitions, processes, management systems and measurement instruments that unify the concept of resilience. Resilience does not only refer to “rejecting” the inconvenience caused by a disruptive event, but, more broadly, it also includes adaptive capacity and a way to better understand and determine uncertainty in the internal and external environment (Keković & Ninković, 2020). Resilience can be applied to all systems, and, as already pointed out, -it can be observed at different levels – individual, organizational, community, national, regional, global (Stanković, 2022). Speaking of modules of resilience, there is political, economic, psychological, digital (IT), environmental (“green”), social, etc. resilience. Some authors talk about socio-political (state level), socio-economic (community level) and socio-technical (organizational level), as well as macro, mezzo and micro levels of analysis (Keković & Ninković, 2020). Urban resilience and community resilience to disasters appear as significant special forms, as well as societal resilience as an emerging form (Stanković, 2022).

Each of the definitions has value and makes a contribution to the field in which it is used. Apart from the abundance of definitions in academic works, their number in the official legal and strategic documents of a large number of countries is undeniable.

Capacities, Models and Strategies of Resilience

Apart from the definitions themselves, for the analysis and use of the concept of resilience it is also necessary to present its dimensions / capacities, models and strategies. As

a consequence of the existence of several different criteria for the classification of definitions of resilience, there are also different conceptual models, many dimensions of resilience and capacities attributed to it, and the like.

The “principles model of resilience”, offered by Carl Gibson and Michael Tarrant in the work “Conceptual models”, can serve as a convenient and at the same time the most comprehensive starting point for understanding different conceptual models of organizational resilience (“A ‘conceptual models’ approach to organizational resilience”, 2010). This “model” of resilience was created by identifying the most common themes or concepts that appear in the definitions of resilience of different sciences and scientific disciplines, and is based on six key principles:

1. “Resilience is an outcome”;
2. “Resilience is not a static property”;
3. “Resilience is not a single property”;
4. “Resilience is multidimensional”;
5. “Resilience exists through a number of forms”;
6. “Resilience is based on valid risk management” (Gibson & Tarrant, 2010).

According to Gibson and Tarrant, the principles presented are the basis on which other models of resilience can be developed and evaluated. Without going into a critical analysis of the model itself at this point, we will agree with the need for the existence of clearly defined principles, the immediate outcome of which will be reflected in the possibility to “bare” the shortcomings of many other existing models of resilience. With certain reservations regarding the claim that measuring resilience is not possible, i.e. that many existing approaches to measuring resilience assume that the measurement of a range of organizational attributes in a routine environment can be directly translated into measuring resilience (*ibid*), it seems to be a well-founded position that in practice every organizational attribute (or capacity) potentially functions differently and will contribute to resilience to different extents, or, in other words, that the maximum possible contribution of a model is to measure the capabilities of organizational resilience, and since resilience arises from an entity that interacts with its environment (*ibid*).

Acknowledging the fact that resilience is determined by interactions with a changing context, the organizational context can simultaneously have both a stimulating and a degrading effect on resilience capabilities, which ultimately results in a wide range of possible outcomes – generating opportunities from high to low resilience. How an organization will deal with such variability depends on how it monitors, understands and deals with the risks it faces (*ibid*).

It is also important to point out that in the literature there are many different attempts to identify the key dimensions, capacities or abilities of resilience in relation to the systems that are the subject of observation. The capacities or capabilities of resilient systems usually differ depending on the object of observation or level of analysis – society, nation, community, organization or other system. And yet, three capacities common to all systems are recognized - absorptive, adaptive and restorative, while some authors also include predictive ones (Keković, Dragišić, & Ninković, 2014).

Absorptive capacity is generally interpreted as the degree to which the system can automatically absorb the impact of disturbances and minimize the consequences with

little effort. Adaptive capacity represents the degree to which a system is capable of self-organization to recover its performance levels. Finally, the restorative capacity refers to the ability of the system to simply recover - either by returning to the primary level, before the disturbance itself, or by moving to a completely different state that corresponds to the future requirements of the system for functioning (ibid). The mentioned four capabilities (including the predictive one) emphasize different forms of knowledge and a cognitive perspective of how people influence the resilience of the system (Hollnagel et al., 2011).

Since the basis of organizational (we would add - and any other) resilience is the understanding and treatment of risks, especially non-routine and those related to disruptions, the existence of valid conceptual models of resilience is important for representing the various interdependent factors that must be taken into consideration in management such risks (Gibson & Tarrant, 2010). In belief that each model contains some useful elements for understanding resilience, five conceptual models of resilience derived by Gibson and Tarrant are as follows:

1. Integrated functions model of resilience;
2. Attributional resilience model;
3. Composite resilience model;
4. Herringbone model of resilience;
5. Resilience triangle model.

Effective resilience is built through various strategies that include both hard and soft elements of the system. As in the case of conceptual models, each of which describes some aspect of resilience, no single strategy can be said to "guarantee" strong resilience, nor is there one that is uniform and applicable to all individual circumstances. However, what is important to point out at this point is that some of the terms such as resilience, flexibility, anticipation or risk management are used in the sense of strategies, paradigms, approaches, but also attributes, dimensions, etc. Without going into further terminological clarifications, in the meaning of strategies, we will pay attention to some of the most important terms that are directly related to resilience, whether they are labelled as strategies, paradigms, approaches or the like.

Among the many different "strategies" mentioned in the literature related to resilience, the following will first present a classification into four key strategic approaches that are proposed for building and strengthening resilience. According to Gibson and Tarrant, these are the following strategies: resistance, reliability, redundancy and flexibility. As already pointed out, each of these strategies can provide resilience under certain conditions and in very specific circumstances. Therefore, it is suggested that each system (state, community, organization, etc.) uses all four strategies complementarily, in accordance with specific requirements. In other words, each system must be ready and able to implement the appropriate strategy when the need arises, in order to enable it to operate in a wide range of possible disturbances. Finally, the application of any of the offered strategies will affect the capabilities of the system in a different way, and consequently, its resilience. In the absence of strategies, a disruptive event is expected to lead to collapse. On the contrary, the

application of one or more strategies in accordance with specific circumstances and requirements will lead to the mitigation of the consequences of a disruptive event to a lesser or greater extent, depending on the nature of the strategy and the nature of the event itself.

Community Resilience

Since there are numerous and various definitions of resilience, most of which refer to the resilience of communities, it should be noted that the literature recognizes the term “community resilience” as an independent concept, derived from the concept of resilience. However, this concept is interpreted and applied very diversely and flexibly, depending on the theoretical affiliation of the author and the practical goals for which it is used. Just as there is no universally accepted and standardized definition of resilience that can be used in all sciences and scientific disciplines, there is also no consensus regarding the definition of community resilience.

It is similar when it comes to the term “community” in the concept of community resilience. In the literature on the resilience of communities, this term is interpreted extremely broadly and applied flexibly, starting from the hypothesis that communities mean regions such as metropolises, rural areas or cities that share similar ecological, cultural, or political ties, politically determined places such as districts, cities, aqua areas or settlements within cities, or culturally defined places such as neighbourhoods or blocks larger than individual households, plots or buildings (NRC, 2019), so that a community represents a geographically defined group of people, at a sub-national or sub-state level of jurisdiction (ibid).

With all of the aforementioned in mind, two key factors can be derived from the extensive literature on community resilience research. First, community resilience is the ability of a community or its constituent elements to “bounce back” from the adverse impact of adversity or disaster. The emphasis is on capacities related to adaptation, variability and recovery, which make the community able to adapt and respond to disasters or risks, continuing the functioning of critical systems and maintaining the unique character of the community (Masterson et al., 2014; Cox & Hamlen, 2015). And second, community resilience is a holistic structure that integrates individuals, families, and organizations into the community. As a whole, the term “community resilience” describes a network of systems that directly affect human society at the community level. The basic premise of community resilience is the existence of a collaborative network in which people and organizations are connected to each other and work together (Arbon, 2014; Morris, Mcnamara, & Belcher, 2019).

One of the criteria that can prove useful for the analysis of community resilience definitions is the central concept that these definitions contain or the key concept from which they are derived. According to the Community and Regional Resilience Institute, definitions related to community resilience as improving the ability of communities to recover from disruptive events explicitly or implicitly contain the following central concepts:

1. Attribute – resilience is an attribute of the community;
2. Duration - community resilience is an inherent and dynamic part of the community;
3. Adaptation - the community can adapt to disadvantages/obstacles;

4. Point of departure - adaptation leads to positive outcomes for the community, i.e., its state after the crisis, especially in terms of functionality;
5. Comparability - an attribute that allows comparison of communities in terms of their ability to positively adapt to disadvantages/disadvantages (CARRI, 2013).

Based on the analysis of definitions of community resilience by numerous authors (such as Vildavski (1991), Komfort and Mileti (1999), Norris (2008), etc.), the community and regional resilience institute (CARRI) derives its definition. According to this definition, community resilience is the community's ability to anticipate risk, limit impact, and quickly respond by surviving, adapting, evolving, and progressing in the face of turbulent change (ibid). Such a definition is considered useful for the practical purposes of improving the resilience of communities because it embodies all the aforementioned central concepts that the resilience of communities should contain, as follows:

1. Resilience is an inherent and dynamic attribute of a community. This means that it is present throughout the entire "life" of the community. Community resilience can be determined or, at least, its changes can be recognized.
2. Adaptability is at the "core" of resilience, with the fact that adaptation can occur either as part of a response to a crisis or already in anticipation of it.
3. Any adaptation must lead to the improvement of the community, that is, it must result in a positive outcome for the community in terms of its condition after a disruptive event or disaster. This can best be seen by determining the functionality of the community after the crisis.
4. Resilience should be defined in a way that makes useful predictions about a community's ability to recover from adversity. This will enable communities to assess their resilience and, if necessary, take action to improve it (ibid).

One of the characteristics of community resilience that is abundant in the literature is its multidimensionality (Beccari, 2016; Cutter, 2016, NRC, 2012). Multidimensionality in this sense refers to the fact that community resilience includes all resources and assets available in the community. These dimensions of community are commonly referred to as community capital. The concept of community capital is grounded in both community improvement literature and disaster research in general, and the basic forms of capital available in a community include: natural, building (physical), financial (economic), human and cultural, social and political capital (Flora and Flora, 1993, Flora et al, 2008, NIST, 2016, Ritchie and Gill, 2011).

And yet, when it comes to the literature related to community resilience with an emphasis on its measurement, the most common classification implies the following six types of community capital (or dimensions):

1. Natural (or ecological): natural resource base or environmental conditions in communities. This includes: air, land, water, mineral resources, ecosystem stability and health, natural land cover, and/or environmental quality indicators;
2. Building (infrastructural): buildings and infrastructure systems in communities. This includes critical response support facilities, housing, schools, commercial and industrial facilities, infrastructure support such as energy, transportation, bridges, roads, communications, water and wastewater.

3. Financial (economic): the totality of economic property and possessions in the community. These include income levels, personal wealth, income equality, overall employment rates, employment rates by sector, volume and barriers to doing business.
4. Human and cultural: demographic characteristics, knowledge, skills, health and physical abilities of community members, including language competence, cultural symbols and belief systems. Some specific examples are: education levels, age distribution, health insurance, access to health and mental health services, food security, populations with special needs, and access to transportation and communication services.
5. Social: social networks and connections between groups and individuals in the community. These include the level of trust and reciprocity, political engagement, length of stay, volunteering, religious affiliation and services offered by the community. It also includes a sense of community.
6. Political (institutional or governmental): access to resources and the ability/power to influence their distribution as well as externally influence community entities in efforts to achieve community goals. This includes disaster insurance coverage (for example, flood and drought), coordination and distribution of responsibilities, disaster experience and recovery, emergency capacity management, etc. (NRC, 2019: 16).

The above six types of capital or dimensions of community resilience provide a holistic approach to this concept, and indicate the importance of each dimension for improving the community's ability to prepare, plan, absorb, recover and adapt more successfully to adverse events (NRC, 2012). However, at this time there is still no generally accepted consistent and comprehensive grouping of the different dimensions of community resilience or indicators within them.

The resilience of the community requires that the population, the corporate sector and the authorities recognize their roles and responsibilities in its creation and improvement. Its population and the private sector are of particular importance for increasing the community's resilience. For building local capacities and community progress, it is necessary to respect the "bottom-up" approach, primarily because local conditions vary significantly across the country - communities are unique in terms of their own history, geography, demography, culture and infrastructure, as well as risks which they face. A community "coalition" made up of local leaders from the public and private sectors, with the support of the state government and the local population, is extremely important for improving resilience. Such coalitions may be responsible for assessing community exposure and vulnerability to risks, educating and communicating risks, and evaluating and expanding community capacity to manage such risks. A truly robust coalition would have at its core strong leadership and management structures and people with the adequate skills and commitment necessary to develop and maintain connections among all community partners (NRC, 2012: 6).

On the other hand, national resilience also largely arises from the ability of local communities to, with the support of all levels of government and the private sector, plan, prepare, absorb, respond and recover from disasters, as well as adapt to new circumstances (NRC, 2012). Formulating resilience policies and identifying their areas, identifying persons in the community and in the government who are responsible for coordinating activities in those areas and identifying recipients of information or services resulting from these activities, reveals strengths and weaknesses in the national resilience system. Improving resilience is a long-term process, but it can be coordinated around visible, short-term community goals that allow individuals and organizations to measure their progress toward becoming resilient and overcoming these deficiencies. Ultimately, the necessary first step in strengthening national resilience is strengthening resilience to disasters, as an imperative that requires the collective will of the nation and all its communities (NRC, 2012: 9).

According to the aforementioned Report from 2012, as examples of universal steps whose implementation can help local communities progress towards strengthening their resilience, the following are listed:

1. Involvement of the entire community in decision-making and disaster planning;
2. Connecting the actions of public and private infrastructure and interests towards the goals of improving resilience;
3. Improving public and private infrastructure and basic services (such as health and education);
4. Communicating risks, connecting community networks and promoting a culture of resilience;
5. Organizing communities, neighbourhoods and families in preparation for disasters;
6. Adoption of sound land use planning practices;
7. Adoption and strengthening of requirements and standards for construction in accordance with existing hazards (ibid: 117-118).

Despite the indisputable importance of improving the resilience of communities, the challenge of investing in building it is still prevalent. Therefore, demonstrating that community investments in building resilience will contribute to measurable short- and long-term benefits that equal or exceed costs is essential to a continued commitment to strengthening resilience. For example, in the US, national efforts promoting local advances in community resilience knowledge and practice include: 100 Resilient Cities (Rockefeller Foundation), National Academy of Sciences Resilient America Program, "networks of cities" such as the Urban Sustainability Directors Network, ICLEI - Local Governments for Sustainability and C40, as well as professional associations such as the National Hazard Mitigation Association, American Society of Civil Engineers, National Association of Climate Resilience Planners or American Planning Association. Many cities in the US already have or are establishing resiliency departments and programs, and many regions are "coming together" around resiliency through partnerships.

Finally, an illustrative example that speaks in support of the thesis about the importance of improving resilience is the analogy of the effective resilience of the community with the health of the human organism. Communities can be seen as a set of interconnected systems that share the same vision, so the overall resilience of a community can be seen

in the same way as the overall health of the human organism. The human body relies on the integrated functioning of its organs to maintain health and resist disease and injury. Similarly, communities depend on interconnected systems of economic stability and growth, markets, education, communications, population welfare, energy, transportation, and the like. The relative “health” of the community will determine how the community will deal with a disruptive event. If the community does not have adequate infrastructure, like a human body with a compromised immune system, it will not be able to withstand trauma as if it were “in good health”. In both human health and community resilience, investments in health maintenance and strength building reduce demands for very expensive treatments and recovery. Health experts know that prevention is cheaper than treatment after the disease occurs. Likewise, investing in community resilience before a disaster strike can help a community avoid a difficult recovery and reduce rebuilding costs after an event occurs (NRC, 2012, 17). Health experts know that prevention is cheaper than treatment after the disease occurs. Likewise, investing in community resilience before a disaster strike can help a community avoid a difficult recovery and reduce rebuilding costs after an event occurs (ibid). Health experts know that prevention is cheaper than treatment after the disease occurs. Likewise, investing in community resilience before a disaster strike can help a community avoid a difficult recovery and reduce rebuilding costs after an event occurs (ibid).

Disaster Resilience

Regarding disaster resilience, there is a similar terminological ambiguity or, more precisely, terminological inconsistency in the literature. Namely, apart from resilience to disasters in principle (applicable to all levels of analysis - organization, community, nation, etc.), in some places the concept of “disaster resilient nations” and, as already established, the concept of “community resilience to disasters” is mentioned, without specifying clear distinctive features, i.e., without clearly defined boundaries of these concepts. Guided by the same principle that can be applied on definitions and conceptual models of resilience in general, in regard with disaster resilience we will try to present the key theses in relation to all three mentioned terms, in the belief that they are all mutually “intertwined” and inextricably linked.

Disaster resilience does not seem to be at the centre of the political agenda until a disaster strikes a community or nation. Political will and strong leadership are therefore indispensable for building resilience at any level. Furthermore, to build resilience as a multidimensional concept, the participation of experts from the fields of physical sciences, engineering, geographical sciences, social and behavioural sciences, economics, public health, etc. is necessary, including persons with professional experience in research, creation of public policies, management of extraordinary situations and disasters, as well as non-governmental organizations, private and public sector (NRC, 2012). Thus, resilience at any level implies monitoring and research, data provision, community leadership, adequate emergency and disaster management, adequate response to disasters, and rapid recovery capabilities. Based on the above, it is clear that resilience appears as a topic that connects different

groups of people with the aim of creating a common dialogue, reducing losses and reducing vulnerability to hazards and disasters (ibid).

Gathering key information about the successes and challenges faced by individuals and institutions in their efforts to become disaster resilient, along with direct experience in building disaster resilience, is the basis for further impact absorption, disaster response, recovery, as well as adaptation and mitigation negative effects (ibid).

In various ways, Hurricane Katrina was a turning point for the understanding and management of disasters and related planning and policy formulation (Olshansky & Johnson, 2010). It also led to the introduction of the term community resilience into the vocabulary of disaster management (Cutter et al., 2006; Cutter & Emrich, 2006; Fothergill & Peek, 2015; Weber & Peek, 2012). Disaster risk, defined as “the potential for the occurrence of negative consequences due to the occurrence of specific catastrophic events, derived from a mixture of physical hazards, exposure and vulnerability” (Peduzzi et al., 2009; IPCC, 2012), i.e., understanding, management and disaster risk reduction is the foundation for building disaster resilience (NRC, 2012).

According to The National Research Council Report (2012) – “Disaster Resilience: A National Imperative”, disaster resilience is defined as “the ability to prepare, plan, absorb, recover, and adapt more successfully to adversity” (NRC, 2012: 1). This Report defined six broad principles for building national disaster resilience:

1. Understanding, managing and reducing disaster risk;
2. Demonstrating that investments in community resilience will produce short-term and long-term benefits that will equal or exceed the incurred costs;
3. Measuring progress towards resilience, including the potential development of a single, uniform resilience measurement instrument (“scorecard”);
4. Building local capacities or “bottom-up” resilience;
5. Cultivating power, policies and resources, or “top-down” resilience;
6. Connecting communities and governments at all levels to effectively build national resilience (NRC, 2012: 3-8).

The “Characteristics of a Resilient Nation in the Year 2030” imply the development of a culture of resilience from individuals to the highest levels of government, which requires a paradigm shift and a new national “culture of disaster resilience” that includes the following components:

1. Taking responsibility for disaster risks;
2. Identifying challenges to the core values of resilience in communities, including using data on disaster losses, to foster a long-term commitment to strengthening resilience;
3. 3. Development and use of metric tools for monitoring progress towards resilience;
4. Building the capacity of local communities since decisions and the ultimate resilience of communities are based on a “bottom-up” approach;
5. Understanding the context of government policies and practices to help communities improve their resilience;
6. Identifying and communicating the roles and responsibilities of communities and all levels of government in building resilience (NRC, 2012: 2).

Strengthening national resilience to disasters is a national imperative for the stability, progress and well-being of the nation that can contribute to the nation economically, environmentally and from a national security perspective (NRC, 2012). To build a culture of resilience, it is necessary to use scientific information, data and observation systems to ensure the availability of reliable information, decision support tools and data sources for decision makers. Strengthening resilience is achievable through scientific, technical and engineering research that enables more accurate forecasting, better risk and disaster management, development of metrics for assessing resilience progress, progress in understanding community dynamics and the economics of disaster insurance, as well as improving legislation and social engagement in communities (ibid).

Although hazard and disaster resilience has been part of the literature for decades (White & Haas, 1975; Mileti, 1999), the term first became common among national governments in 2005 with the adoption of the Hyogo Framework for Action by 168 UN members to ensure disaster risk reduction. Thus, building disaster resilience becomes a priority for governments and local communities (UNISDR, 2007). As already pointed out, the literature is being enriched with expanded and new definitions of resilience, in relation to the entities or systems to which resilience refers (e.g., ecological systems, infrastructure, individuals, economic systems, communities, etc.) (Bruneau et al., 2003; Flynn, 2007; Gunderson, 2009; Plodinec, 2009; Rose, 2009; Cutter et al., 2008; Sherrieb et al., 2010), its outcome (Kahan et al., 2009) or both (Cutter et al., 2008), as a concept that includes findings from engineering, physical, social and economic sciences (Colten et al., 2008), but also other sciences and scientific disciplines.

Regarding the above, it is significant that the international community is also showing greater interest in building disaster resilience. One of the more significant examples is the International Strategy for Disaster Reduction. Following the International Decade for Natural Disaster Reduction (IDNDR) in the 1990s, the International Strategy for Disaster Reduction (ISDR) was developed through stakeholder gatherings dedicated to reducing disaster risk and building community resilience. A major Action Plan was proposed in 2005 in Kyoto, Japan, known as the Hyogo Framework for Action (UNISDR, 2007) for the decade between 2005 and 2015. Adoption by 168 states of this Plan at that time was driven by the impacts of the 2004 Tsunami (NRC, 2012, 104).

The Hyogo Framework for Action consists of five clearly defined priorities for action:

1. Identifying risk reduction as a national and local priority, with a strong institutional basis for implementation;
2. Identification, assessment and monitoring of disaster risks, and enabling early warning;
3. Building a culture of safety and resilience by using knowledge, innovation and education at all levels;
4. Reduction of risk in key sectors;
5. Strengthening the readiness of effective response to disasters at all levels (UNISDR, 2010).

The National Research Council's document on disaster resilience states that nations must build capacity to become resilient, and must do so now, and that "building capacity begins with individuals taking responsibility for their actions and extends to entire communities working in collaboration with local, state, and federal officials, each of whom has

a specific responsibility for building national resilience" (NRC, 2012: VII). On the other hand, The British Department for International Development (DFID) defines disaster resilience as "the ability of countries, communities and households to manage change, maintain or transform living standards in the face of shocks or stresses - such as earthquakes, droughts or violent conflicts - without compromising its long-term prospects" (DFID, 2011).

The awareness that the population actually possesses significant adaptive and self-organizing abilities in crisis situations supports the claim that governments should not only direct, but also contribute to and encourage the natural tendencies of those in crisis or emergency situations to help themselves (Keković & Ninković, 2020). According to Chris Zebrowski (Chris Zebrowski), instead of withholding information for fear of initiating panic, the population in crisis situations should have access to all the information necessary for self-organization of evacuation or response (Zebrowski, 2013), all in order to facilitate and optimize natural self-organizing capacities or resilience of populations in crisis situations (Zebrowski, 2009).

The importance of the concept of resilience to disasters is also reflected in regard to urban planning and development. According to the United Nations Human Settlements Program [UNHabitat], urban planning is perhaps one of the most important tools for reducing vulnerability and risk (UN-Habitat, 2007) and can help cities significantly increase their resilience in coping with the risks of disasters and climate change (IFRC, 2010). Its importance refers to the potential to ensure planned adaptation, which consists of development and investment in urban areas in order to reduce the risk of climate impacts (and other hazards) and provide better protection for residents, households, infrastructure and businesses (Keković & Ninković, 2020 according to Bicknell, Dodman, Satterthwaite, 2009). The characteristics and capacities of urban development are fundamental determinants of resilience in cities, as well as urban resilience of the social and economic structure (Keković, Džigurski, Ninković, 2018).

A disaster-resilient community is of great importance to national security. To emphasize the context of emergency management, the concept of community resilience to disasters is used to describe more precisely the capacity of a community to adapt to change, to withstand disruption and to respond in a positive and timely manner to risks and emergencies (Cutter et al., 2008; Amaratunga, 2014; McCarthy et al., 2011; Coetzee, Van Niekerk, & Raju, 2016). Any conceptualization of the resilience of communities to disasters must acknowledge the importance of different contexts or, in other words, the conceptualization of resilience is highly related to a stressor that can take many forms, from natural disasters to man-made ones (Zhang, Zhao, Liu, & Chen, 2021).

Community resilience is also defined as a community's ability to cope with or effectively respond to disasters (NRC, 2019: 12, according to Wells et al., 2013, 1172). The World Resource Institute defines resilience as "the capacity of a system to tolerate shocks or disturbances and recover" and claims that it depends on people's ability to "adapt to changing conditions through learning, planning or reorganization"

(World Resources Institute et al., 2008). Resilience is therefore related to the way in which societies adapt to externally induced changes. The process of building disaster resilience requires continuous assessment, planning and review by communities and all levels of government, as resilience is not a task that can be marked as done (NRC, 2012: 18).

In addition to members of the academic community, the concepts of community resilience and disaster resilience have found their application in a large number of strategic and other documents of various countries and international organizations. According to the Australian National Strategy for Disaster Resilience, a disaster-resilient community is one that works together to understand and manage the risks it faces - "disaster resilience is the collective responsibility of all sectors of society, including all levels of government, the business sector, the non-governmental sector and individuals (Council of Australian Governments, 2011).

To improve community resilience to disasters, progress is necessary both in the physical aspect (new technologies, methods, materials and infrastructure systems) and in the cultural aspect (people, management processes, institutional arrangements and legislation) (NRC, 2012: 7). Disaster resilience rests on the premise that all aspects of a community are strong, including the physical infrastructure, socio-economic well-being, health and education of its residents, as well as the natural environment. The aforementioned requires that community members work in a coordinated manner and in such a way that their interdependence makes them strong during catastrophic events (ibid). Communities and government, as part of a complex and dynamic system, develop and implement policies through combined efforts and responsibilities. Experience in community disaster management suggests that both bottom-up and top-down approaches are important for managing risks and building resilience. Key interactions within the national resilience system of communities and authorities can be used to help identify specific types of policies to promote resilience and formulate the roles and responsibilities of government, the private sector and communities to implement these policies (ibid).

It is important to point out the importance of understanding the spatial and temporal patterns of economic and human losses in communities as a way for communities to understand the full extent of the impact of disasters, which further motivates them to improve resilience. Historical patterns of disaster losses, such as loss of life and property, show where disaster impacts are strongest, what challenges arise in response and recovery, and what factors influence exposure and vulnerability to hazards and disasters (NRC, 2012: 4).

Having in mind everything previously presented about the concept of resilience in general, and especially two special forms - Community Resilience and Disaster Resilience, we can draw a general conclusion that the concept of resilience is the most suitable analytical framework for dealing with issues of human security, especially at the local community level. In this sense, resilience is primarily important

because, in addition to the possibility of assessment of human security - identification, analysis and evaluation of security risks and threats, it also offers significant practical possibilities for its treatment, or, in other words, specific actions and measures in order to accomplish, as positive as it can be, adaptation, mitigation or elimination of unsafe phenomena, including increasing security and safety. From a methodological view the additional benefit of incorporating resilience into the concept of human security is reflected in wide possibilities, not only for assessment of actual parameters of human security in local community and on defining and formulating guidelines for further navigating it's members towards increasing security and safety, but also to the most effective response and recovery from unintended and unplanned harmful events - that could even bring communities to a state of greater human security than was the case before the manifestation of these disruptive events ("Build Back Better" or "Survive and Thrive").

However, in order to improve the state of human security of any local community by strengthening its resilience, certain prerequisites must first be met, which ultimately aim at a proper understanding of how the resilience of a community is built and/or strengthened. Summarized, it is about the following:

1. There is no universally applicable strategy for building and/or strengthening resilience. The strategy of each community must be unique, created as a product of appreciation of the local specificities of the community (especially its capacities and resources), the specific security environment and existing and emerging security challenges, risks and threats. In general, complementarily using the following strategies is recommended: resistance, redundancy, reliability and flexibility, taking into account the elements of the anticipatory strategy.
2. There is no universal approach to managing the human security of a local community. It is very important to understand the community as a collaborative network whose success in strengthening resilience depends on collective will and action, i.e., efforts made by relevant stakeholders from all significant sectors (public, private, business, expert public, academic community, media, civil society organizations etc.), as well as from the population itself. In other words, it is necessary to respect the principles of both "bottom-up" and "top-down" management approaches, whereby the degree of decentralization in the management of each specific community is coordinated with its capacities and resources.
3. To strengthen the resilience of the local community, it is necessary to have a long-term strategic vision, but also clear and precise short-term operational plans. That is, in addition to choosing the appropriate strategic approach, it is necessary to identify qualitative and quantitative, objectively measurable indicators of resilience and human security from the beginning and create a scale that will be continuously used for the purposes of assessment, evaluation and monitoring of progress, so that all sudden changes resulted from very dynamic environment are recognized and responded to in a timely manner.

4. Finally, one of the basic attributes of the times we live in is the constant outbreak of new and/or expansion of existing crises. Modern crises, as long-term processes with extremely large destructive potential, often acquire the characteristics of existential crises that threaten to leave serious adverse consequences on every aspect of the functioning of the community. Therefore, it is very important to properly understand the role and importance of crisis management, especially those phases of this process that relate to the response to hazards and crises, as well as recovery from them.

Additionally, it is very important to understand that each community has a characteristically determined internal and external, complex and very dynamic security and safety environment that is influenced by numerous and very diverse, intertwined and interdependent factors. The basic features of this environment and community "life" are complexity, non-linearity and nondeterminism, the existence of non-routine risks, uncertainty and unpredictability, etc. In this sense, the key objectives are:

- Valid assessment of community's strengths and weaknesses, exposure and vulnerability to risks, educating and communicating risks, and evaluating and expanding community capacity to manage such risks;
- Application of a holistic approach needed to prepare, plan, absorb, recover and adapt more successfully to adverse events (NRC, 2012), by taking into account all 6 basic types of community capital (natural/ecological, building/infrastructural, financial/economic, human and cultural, and social).

Furthermore, to build and strengthen community resilience, and thus the state of human security in communities, it is necessary to have strong leadership and management structures and people with adequate knowledge, skills and experience, as well as commitment. In this sense, it is necessary to precisely determine the roles and responsibilities of all actors of the communities and create conditions for valid communication between the expert team and all other stakeholders and the population itself. This will contribute to the building of the 3 most important resilience capacities of communities: absorptive (to absorb the impact of disturbances and minimize the consequences with as little effort as possible), adaptive (to sleep-organize to recover its main functions) and restorative (to recover - either by returning to the primary state, before the disturbance itself, or by moving to a completely different state that corresponds to the future requirements for normal functioning), but also people's ability to adapt to changing conditions through learning, planning or reorganization (World Resource Institute et al., 2008).

Respecting both "hard" and "soft" elements of resilience, it is important to pay due attention to building a culture of resilience in the community, which would enable more accurate forecasting, better risk and disaster management, development of metrics for assessing resilience progress, progress in understanding community dynamics and the economics of disaster insurance, as well as improving legislation and institutional framework. In this regard, it is necessary to emphasize the importance of demonstrating that investment in community resilience will produce short-term and long-term benefits that will equal or exceed the incurred costs in the context of human security. Moreover, since the progress is necessary both in the physical aspect (new technologies, methods, materials and infrastructure systems) and in the cultural aspect (people, management processes, institutional arrangements and

legislation) (NRC, 2012), it is necessary to invest special efforts in the direction of improving community infrastructure (especially critical infrastructure systems) and basic services (such as health and education).

Finally, given that resilience is a multidimensional concept that requires the application of a systemic approach, the authors suggest further development of common dialogue and sharing best practices in building and strengthening the resilience of communities and thereby improving the state of human security in them, primarily for the purpose of strengthening the community's ability to anticipate risk, limit impact, and quickly respond by surviving, adapting, evolving, and progressing in the face of turbulent change (CARRI, 2013).

References

- Community & Regional Resilience Institute [CARRI]. (2013). Definitions of Community Resilience: An Analysis. CARRI.
- Council of Australian Governments. (2011). National Strategy for Disaster Resilience. Australian Government, Department of Home Affairs.
- <https://www.homeaffairs.gov.au/emergency/files/national-strategy-disasterresilience.pdf>.
- Dahlman, O. (2011). Security and Resilience. Resilience: Interdisciplinary Perspectives on Science and Humanitarianism, 2, 39-51.
- Department for International Development [DFID]. (2011). Defining disaster resilience: a DFIS approach paper.
- https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/186874/defining-disaster-resilience-approach-paper.pdf
- Fraccascia, L., Giannoccaro, I., & Albino, V. (2018). Resilience of complex systems: State of art and directions for further research. Complexity, 2018, 1-44.
- Gibson, C.A., & Tarrant, M. (2010). A 'Conceptual Models' Approach to Organisational Resilience. Australian Journal of Emergency Management, 25(2), 6-12.
- Haimes, Y., Crowther, K., & Horowitz, B. (2008). Homeland security preparedness: Balancing protection with resilience in emergent systems. Systems Engineering, 11 (4), 287-308.
- Hollnagel, E., Pariès, J., Woods, D.D. & Wreathall, J. (2011). Resilience Engineering in Practice, A Guidebook. Farnham: Ashgate.
- International Federation of Red Cross and Red Crescent Societies [IFRC]. (2010). World Disasters Report. Focus on Urban Risk. Geneva: International Federation of Red Cross and Red Crescent Societies.

- Keković, Z., & Ninković, V. (2020). Towards a conceptualisation of resilience in security studies. *Serbian political thought*, 67(1), 153-175.
- Keković, Z., Dragišić, Z., & Ninković, V. (2014). Towards Resilient Critical Infrastructure against Terrorism Risk. In D. Čaleta and V. Radović (Eds.), *Comprehensive approach as "sine qua non" for critical infrastructure protection* (pp. 45-59). NATO ARW, Amsterdam: IOS Press.
- Keković, Z., Džigurski, O., & Ninković, V. (2018). Determination of Urban Community Development Policies using Urban Resilience and System Dynamics Simulation Approach. *Proceedings of the 5th International Academic Conference Places and Technologies*, 26-27.04.2018. Belgrade: Faculty of Architecture.
- National Research Council [NRC]. (2012). *Disaster Resilience: A National Imperative*. The National Academies Press.
- National Research Council [NRC]. (2019). *Building and Measuring Community Resilience: Actions for Communities and the Gulf Research Program*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25383>.
- Olshansky, R. B., & Johnson, L. A. (2010). *Clear as mud: Planning for the rebuilding of New Orleans*. Chicago, IL, & Washington, DC: American Planning Association, Planners Press.
- Stanković, Nevena. (2022). The role and importance of resilience for crisis management – towards reconceptualization. *Conference Proceedings – First Memorial Scientific-Professional Conference "Predrag Marić"*, Faculty of Security Studies & Institute of International Politics and Economics (in the process of publishing).
- Stanković, Nevena. (2021). Resilience: Conceptual framework and methodological tool for assessing and improving the state of regional security, Trapara, V. and N. Šekarić (eds.), *Regional security: approaches, elements, dynamics*, Institute for International Politics and Economy, Belgrade.
- The Reform Institute. (2008). *Building a Resilient Nation: Enhancing Security, Ensuring a Strong Economy*. Washington.
- UN-Habitat. (2007). *Global report on human settlements 2007: Enhancing urban safety and security*. London: Earthscan.
- United Nations International Strategy for Disaster Reduction [UNISDR]. (2007). *Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters*. Geneva, Switzerland.
- United Nations International Strategy for Disaster Reduction [UNISDR]. (2010). *Making Cities Resilient: My City is Getting Ready*. Geneva, Switzerland.

- World Economic Forum. (2013). Special Report: Building National Resilience to Global Risks. Geneva.
- World Resources Institute, United Nations Development Programme, United Nations Environment Programme & World Bank. (2008). World Resources 2008: Roots of Resilience – Growing the Wealth of the Poor. Washington DC.
- Zebrowski, C. (2009). Governing the Network Society: A Biopolitical Critique of Resilience. *Political Perspectives*, 3(1), 1–38.
- Zebrowski, C. (2013). The Nature of Resilience. *Resilience: International Policies, Practices and Discourses*, 1(3), 159–173.