

Original article

Exploring crisis governance: Quest for functional resilience during COVID-19 in Lithuania

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ABSTRACT

An effective, timely managed and interoperable governance process and its adaptive features are of the utmost importance in dealing with any type of crisis at the state level. This article explores civil society actors' engagement in Lithuania to identify the functional resilience level in crisis governance of COVID-19. Social capital and adaptive capacity approaches were employed for theoretical consideration and analysis. We hypothesise that linking social capital is more important for enhancing resilience at the beginning of the crisis, while adaptive capacity gains prominence during and after the crisis. Mixed analysis methods were used in gathering data through content analysis, surveys (standardised questionnaires) and interviews with experts from civic (voluntary and non-governmental) and public (local and central government) sectors.

The findings provide novel insights into the importance of civil society actors' engagement in bolstering functional resilience and embedment of a whole of society approach in crisis governance during times of uncertainty.

KEYWORDS

crisis governance, functional resilience, civil society actors,
social capital, adaptive capacity

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Introduction

In the last decade, research focused increasingly on complex emergencies and crises and the challenges they create for national governments, regional frameworks and the international community [1-7]. Crises or emergencies have an unpredictable nature, demand a rapid response, close cooperation, coordination and collaboration among multiple entities, actors and organisations at different levels [1; 8]. In general, crises are classified as event-centred or process-driven [9]. Crisis as a process approach highlights the importance of pre-event,

in-event, and post-event crisis management. An event-centred perspective suggests that organisations may address the threat of crises before, during, and after the triggering event (through phases or stages). Furthermore, it explains many relations linking diverse stakeholders and issues and how this interaction influenced the crisis management process [10; 11]. The latter perspective is applied in this research paper.

In times of turbulence, such as the COVID-19 pandemic, the importance of resilience is stressed at the individual, local, state, national or even global level [12-15]. As S.S. Luthar [16, p. 780] noted: “Resilience rests fundamentally, on relationships”. Resilience is attributed to social capital as the fundamental basis of community [17], shared communication and information [18] and interventions of non-government organisations [19]. While assets and capital are essential resilience indicators, resilience also necessitates process-oriented changes, including changes to ways of learning, taking advantage of new opportunities and responding to events [20]. Although dealing with emergencies and crises is primarily the responsibility of government and public sector executives [1], it is hardly feasible to solve the problem without the direct and indirect support or engagement of civil society actors (CSAs). Despite legal authority and access to national resources, public sector organisations are often constrained in their efforts to handle the complexities related to emergency and crisis management [1]. Taking into account multilevel governance relations, a need for collaboration, in addition to legitimacy concerns, are crucial. Although civil society is a part of the social dialogue and policymaking process, CSAs’ role in governance during emergencies or crises is still unclear.

Previous research is focused mainly on governance questions and issues involving formal (governmental) response networks [21; 22]. Not much is known as to how public organisations governing civil society act during uncertainty because most research so far focused more on stable and routine situations [23]. Our theoretical starting point was based on social capital as a network linking civic and public sectors and adaptive capacity theoretical frameworks, with the latter contributing to organisational and institutional learning capacities and changes in crisis governance. To assess resilience in crisis governance, we used social capital and adaptive capacity conceptual frameworks to explore resilience in governance during a specific case study. In this regard, the primary interaction processes in the social capital network (*collaboration, coordination and cooperation*) and adaptive capacity features (*structures, learning and resources*) were used as variables for the operationalisation of functional resilience in crisis governance. The novelty of the research is an endeavour to assess resilience from a dynamic empirical standpoint rather than taking a descriptive approach based on a legally embedded architecture (structure) in a crisis governance system. We argued that the functional resilience level in crisis governance depends substantially on the linking of social capital and, to a lesser extent, on the adaptive capacity of the entities involved.

Lithuania was selected as a research case study for two reasons. Firstly, the ability to evaluate resilience in crisis governance was more feasible in terms of collecting and processing specific data due to the location of the researchers and their access to the relevant actors. Secondly, Lithuania was one of the few countries in the European Union identified by the Organisation for Economic Co-Operation and Development (OECD) to have successfully contained and managed the first wave of the COVID-19 outbreak [24]. However, despite the Lithuanian government’s claim of civic initiatives, effective crisis communication, a constructive decision-making process and the allocation of necessary funding to address the coronavirus challenge, Lithuania’s functional resilience level was still unknown. Therefore, a mixed-method approach was applied in the research that merged quantitative and qualitative tools. Public sector institutions (on national and municipality levels) and non-governmental organisations (NGOs)

engaged in crisis governance or located in crisis-affected regions contributed to the survey and were captured in the research results. In addition, expert interviews were conducted to support the validation of the results. The period of data analysis of this paper covers only the first wave of the COVID-19 pandemic from May to September 2020; thus, the second wave, which nominally commenced in Lithuania at the end of the summer, is not the focus of this particular research. However, preliminary data show that not much of the interaction between government institutions and NGOs changed during the beginning of the second wave.

Starting with the theoretical part of the analysis, we proceed with the research methodology and then discuss the general results and some salient aspects of the statistical data analysis related to social capital and adaptive capacity as main components of functional resilience in more specific detail. Furthermore, we went through the survey results of CSAs' engagement in crisis governance, unveiling further aspects of functional resilience in COVID-19 crisis governance. In the concluding part of the work, we summarise the findings and deliverables that require further development and research.

1. Governance of crisis and the role of civil society actors

Crises are characterised by the interconnectedness and interdependence of modern civil society and are often described as 'transboundary' in nature. The emergency or crisis could serve as an indicator and tester of the viability and stability of the existing order of the social system [4]. "Whether we talk about epidemics, energy black outs, financial crises, ice storms, oil spills or cyber-terrorism – the characteristics of these crises are pretty similar; they affect multiple jurisdictions, undermine the functioning of various policy sectors and critical infrastructures, escalate rapidly and morph along the way" [4]. On the one hand, a crisis is defined as "a threat to core values or life-sustaining systems which requires an urgent response under conditions of deep uncertainty" [25, p. 205]. Other scholars describe crises as unanticipated contingent events that are isolated in space and time, have a discernible source or cause, and result in high impact [26; 27]. Many typologies of crises are based on their causes [28; 29], for example, whether they are intentional or not, the degree of uncertainty, uniqueness or transboundary features [1]. Besides having a legal, and therefore, objective element, a crisis is also a matter of perception and, hence, also includes subjective elements [1]. The crisis-as-event perspective, by definition, privileges research that investigates actors' reactions to rare and exceptional events and, in many ways, neglects research that aims to understand how the crisis was produced in the first place [27; 28]. In contrast to the event-centred perspective, which focuses primarily on exploring the aftermath of a crisis, the crisis as a process perspective focuses on the need to understand crisis-fostering environments, processes of organisational weakening, crisis evolution, and how organisations respond to any stage of a crisis [30]. The crisis-as-a-process perspective emphasises that crises develop over time and sometimes in phases. Extending research beyond rare, novel crisis events highlights the various forms of adversity organisations face and how they enact, interact with, and respond to the environment at different crisis stages.

Governments are associated with the notion of governance, but the latter has a much broader meaning and encompasses relations between governments and governed subjects, in other words, the interaction between the state and society [31, p. 310]. Governance is defined as a process of "achieving direction, control, and coordination of individuals and organizations with varying degrees of autonomy to advance joint objectives" [32, p. 282]. Alternatively, governing is a process of "the totality of interactions, in which the public and other actors

participate, aimed at solving societal problems” [33, p. 4]. Governance is a complex and constant interaction process among various actors in the social system to keep it balanced and problem-solving oriented. Crisis and disaster management systems are built upon networks of agencies from multiple sectors that work as equal partners for achieving a common goal. Like other service delivery networks, crisis management networks are indirect government tools used to accomplish complex policy goals. It is essential to note an overlap between governance as a government capacity and governance as networks. Government capacity is not limited to governmental agencies but also includes the management of non-governmental entities. Managing network performance, ensuring accountability, and having harmony among participants in a network are challenging tasks for which there are no easy solutions. Every network is unique and specific, and its effective management requires employing different mechanisms.

When considering responses to crises, it is helpful to distinguish two contrasting sorts of governance: “stiff and flexible” [34, p. 270]. In this view, stiff governance is suited for a particular known threat to mobilise resources for defence or attack. However, such governance might experience challenges dealing with other sorts of threats or risks with uncertainty codes. Flexible governance, in contrast, is based on the capacity to adapt and change, and it can deal with a variety of threats. Moreover, flexible governance is most likely to be effective in crises since it is embedded in the participation of different sectors of society, learning, making decisions, mutual respect among stakeholders and resources, including communication [34].

On the other hand, flexible governance in the context of a crisis or emergency might be something different. Some authors regard the *good governance* doctrine as an example and a basis for flexible crisis governance and resilience building on the community, society, national, regional and international levels [35-37]. And M. Levi argued that “good government is a result of an interaction between civic-minded citizenry and civic-minded government actors” [38, p. 50]. In literature, terms such as trust in government, transparency, accountability and rules of law are often connected with the good governance concept, which was used for the first time in 1989 [39]. The core idea of good governance is to prepare for contingencies and invest the necessary resources to minimise the impacts on people and society from catastrophic events when they occur [35; 40]. However, good governance is a normative and descriptive concept representing governance features in the economy, welfare and human rights domain to develop policies and administrative mechanisms [31, p. 315]. Furthermore, despite its holistic and idealistic nature, it still retains a traditional feature of Weber’s style bureaucracy. Simply said, although the concept of good governance has a strong declarative tone, it does not necessarily reflect all aspects of the resiliency of the social system under uncertainty when prompt action is needed across all spectra of the crisis governance system.

The management and governance of current crises can be complex due to their velocity, interconnectedness and unpredictability [41]. Therefore, governance during a crisis should be more agile to keep pace with emerging technologies and adapt to rapidly changing environments. Here comes agile governance, a concept coined in software engineering and later expanded to organisational studies [42; 43]. It primarily entails working practices and methods that facilitate a quick response. Agile governance is an “organizational culture and methods of collaboration to achieve a higher level of adaptiveness” [44, p. 291]. In fact, agility can also enable more inclusive policymaking by involving more stakeholders in the process [45]. It seems that the main difference between good governance and the concept of agile governance relates to the matter of reaction time during emergencies or crises.

Another concept related to the emergency or crisis environment is adaptive governance which, in contrast, refers to the ability to deal with complex societal issues involving many

stakeholders, divergent interests and uncertainty about the actions to be taken [46]. Adaptive governance originates from evolutionary theory and draws widely from the ideas of organisational theory and complex systems science [47]. Adaptability requires new forms of collaboration and shared decision-making and accountability between governmental and non-governmental actors [48]. In times of crisis, adaptability is equally applicable to governments and societies. However, it requires a mix of centralised and decentralised efforts to deal with uncertainties. And M. Janssen and H. van der Voort [42] noted that the system's capacity to anticipate change and incorporate relevant initiatives into future planning and governance is an essential aspect of adaptive governance that also includes decision-making, transparency and prioritisation. Decision-making and governance that is flexible, collaborative and learning-based may be responsive, adaptive and better able to cope with evolving challenges [42].

All the aforementioned governance modes focus on responding and dealing with uncertainty and crisis and can complement each other by providing stability; however, they contribute to crisis governance concepts in different ways. Crisis governance requires a combination of multi-entity efforts and leadership to ensure a prompt and adequate response, which "critically depends on the capacity to enhance improvisation, coordination, flexibility, and endurance – qualities that we typically associate with resilience" [4, p. 11]. Crisis governance refers to situations that are different from routine or business as usual day-to-day governance [49]. We followed the logic of F. Demiroz [50], who defines crisis governance as cross-sector collaboration and inter-organisational networks that formally and naturally occurred in crisis. Collaborative and interdependent relationships occur between local emergency management agencies and non-governmental actors (e.g. private infrastructure companies and first responders and different non-governmental actors). Institutions, people, groups, entities or sectors have different interactions within various networks to cope with crises.

Governance is a concern of all citizens, and the quality of democracy is directly related to the extent of continuous civic engagement and participation in all matters of governance. However, one sector cannot solve all challenges alone. These roles are increasingly carried out through engagement in partnerships and collaborative frameworks across civil society. The term *civil society* is often equated with non-governmental organisations (NGOs) or citizens' movements in everyday political parlance [51]. Although civil society is recognised as an ecosystem of individuals, communities and organisations [52], here it is determined and limited to a variety of actors operating outside the public and private sector spheres or areas of interest. CSAs can undertake voluntary action in the social and political domains and differentiates themselves from the government (public sector) and corporate enterprises (private sector) based on their altruism and philanthropy. In other words, CSAs comprise non-governmental organisations, including volunteer organisations, that have a functional structure, planned activities and are officially (formally) registered entities. CSAs are often perceived as more effective and sustainable because their representatives are highly motivated and committed to their work [53]. The diversity of CSAs is one of civil society's most important strengths, enabling them to make considerable contributions across many different spheres and issues [54].

Crisis volunteerism was studied from the pioneering days of social science research on disasters and crises in the 1950s [55; 56]. Although crisis governance policy experienced a renewed interest in crisis volunteerism, empirical data show that a significant amount of voluntary CSA engagement occurs outside the realm of core crisis management actors [57; 58]. Publicly, government authorities often stress the importance of CSAs to tackle emergencies and crises, while in reality, voluntary organisations still seem to be regarded as secondary actors. There are two main types of CSAs in crisis volunteerism. Those affiliated with organisations

and trained to operate in crisis settings, and those unaffiliated with any recognised response agency, with little or no experience [59]. Unaffiliated organisations often have a very high level of within-sector and inter-sector collaboration relationships [60]. When volunteers engage, they do not only enhance crisis management capacity but also foster social capital with its associated features of trust and mutual obligation [61]. In general, crisis volunteerism has a positive impact; however, it poses a number of significant challenges. Volunteers can be regarded as potential liabilities since they usually lack proper training and have unknown skill sets. An overabundance of volunteers can overwhelm formal coordination efforts and cause logistical difficulties [62]. The legal status and liability of volunteers represent another challenge, as do concerns about their accountability [63]. On the bright side, all these legal and financial-based issues can be solved before the crisis or emergency by adopting an appropriate legislative framework. CSAs' engagement can contribute to various public development outcomes, including strengthening practices of participation and engagement in crisis management. CSAs are often perceived not only as passive objects of security but also as active actors in the security process [64].

2. Functional resilience in crisis governance

2.1. Functional resilience defined

The public-private interface offers opportunities for decision-makers at all levels of government to build resilience by proactively coordinating and positioning the capabilities of stakeholders to manage disaster consequences collaboratively [65, p. 344]. Linking crisis, governance and resilience may provide a better understanding of their complex relationship [66]. The concept of resilience originated from ecological and engineering complex system studies [67]. It finally was grounded in the social system domain and organisational scholarship [68-76], but it can be scarcely found in the crisis-related literature [4, p. 11]. The resilience of political systems includes both the survival and the maintenance of formal decision-making processes and the associated systems and communications for maintaining the survival and social functioning of the population [77]. Some scholars identify resilience with the ability of systems to respond effectively under pressure from unexpected crises, other regard resilience as a function of resource robustness and adaptive capacity [78; 79]. In the security analysis framework, resilience is defined as the capacity to sustain and overcome external and internal shocks to society to the state and its institutions [80]. Resilience is the ability to surpass a crisis by adapting to dramatically changed conditions, minimising casualties, securing the basic quality of life for individuals and communities and preserving democratic values and identity [81]. It is worth noting that security concerns the perception of emerging threats and risks to any system or entity and its vulnerability, while resilience is oriented more towards the system or entity's ability to cope with uncertainties.

Three main types of resilience capacity (absorptive, adaptive and transformative) are mentioned in the literature as needing enhancement to achieve national resiliency under emergencies [82]. Foundations of national resilience are consolidated before a crisis, during and immediately following one [81]. There are four main pillars of resilience identified on the state-level system related to responding to (coping with) emergencies and crises: *infrastructure*, *societal*, *institutional (organisational)* and *functional*. Infrastructure and institutional resilience represent the static nature of the system, while societal and functional resilience refers to the dynamic aspect. Societal resilience focuses on enhancing the capacity of

communities or societies to resist, absorb, accommodate and recover from the effects of a hazard in a timely and efficient manner [83]. Functional resilience concerns governance system or network capacity to prepare, respond and adapt to changing security environments [84]. The interaction between governmental or public authorities, CSAs and private communities contribute to the lesser or higher level of functional resilience. Research of these dynamic networks contributes to determining the success or failure of crisis governance. Therefore, functional resilience could be defined as the *capacity of the governance system (network) to prepare, maintain and adapt its core functions and features in response to changing and complex security environments prior, during and after emergencies, crises and conflict*. Thus, the core of the functional resilience concept is deeply rooted in the interaction processes between subsystems in the system and its adaptive characteristics while preparing and coping with emergencies and crises. Resilience is considered a proactive, not just a reactive concept. Traditional top-down command and control solutions, therefore, often come up short [85]. Specifically, during crises or emergencies, interaction ties between citizens, communities, private and public organisations emerged, became more visible and could be assessed.

Resilience points to the means of counteracting, responding and adjusting to critical events that actors in the governance network are facing. The concept of resilience continues to change and expand, and today it is increasingly taking into account the value of social interaction in building resilient systems and networks. Resilient systems are diverse and redundant, with built-in redundancy to ensure that they can continue to function in the face of shocks and to allow for reserve resources that can be drawn upon during times of stress and need [86]. Scholars highlight the importance of governance arrangements that encourage broad stakeholder participation and control in decision-making [87]. Empirical studies indicate that good leadership, collective action (engagement) and community cohesion are essential to dealing with uncertainty and change [88; 89]. Depending on the context, the regard for resilience might be a process or an outcome of that process. We support the understanding of resilience as a continual process of adjustments and change, both incremental, agile, adaptive and transformative, rather than something achieved through the building up of assets [90]. Resilience requires a diverse set of capacities to meet complex challenges posed by an unpredictable environment. Based on the aforementioned arguments, our focus is on the functional resilience generated by dynamic interactive processes within the social capital conceptual framework and adaptive capacity potentials both in public and non-governmental sectors during specific emergencies.

2.2. Adaptive capacity as a potential of functional resilience

Adaptive capacity is an attribute of the resilience of social systems and strengthens its ability to keep functioning during an emergency or crisis. Understandings of adaptive capacity are still very much in their infancy [91]. From the organisational theory perspective, the adaptive ability is rooted in the information processing capacity of an organisation [92]. On the other hand, the potential of adaptive capacity is demonstrated by the stability of social relations and the maintenance of social capital [73]. It is argued that direct assessment of adaptive capacity is hardly feasible and, therefore, it is more rational to identify the characteristics or features that influence and form it. Although there is no final agreement about its characteristics and determinants at the national or community level, the Local Adaptive Capacity Framework (LACF) proposes five interrelated characteristics related to adaptive capacity: Assets, Entitlement and Institutions, Knowledge and Information, Innovation, Decision Making and Governance. These parameters influence and determine the degree of resiliency of a social

system (community or society) and its responsiveness to changes in the external environment [93]. The ability of a community or other social system to cope with external shocks depends heavily on access to and control over key assets [94]. Assets include both tangible capital (natural, physical and financial) and intangible, including human and social [95].

Institutions establish the rules that govern belief systems, behaviour and organisational structure [96] and play a prominent role in adaptive capacity [97]. In an emergency or crisis, the adaptive capacity of the institutional environment has the same value as the adaptation of the civil actors. Organisations with adaptive capacity can reconfigure themselves quickly in changing environments rather than merely identifying existing demands and exploiting the available resources [98]. Organisations with limited adaptive capacity tend to search for solutions to problems in terms of the competencies they already have and can therefore understand. Because their adaptive capacity is low, they may not realise that they need to develop new knowledge in an evolving and uncertain environment [99]. Adaptation to any hazard is not only dependent on information about the hazard itself but also on raising general awareness and capacity building of stakeholders to inform adaptation decisions [100]. Relevant information needs to reach key stakeholders to ensure that actions are effective in the long term and prevent maladaptive practices. Another characteristic of adaptive capacity relates to the system's ability to foster innovation and support new practices [101].

In the context of social systems, adaptive capacity is commonly associated with the ability of institutions and networks to learn and maintain best practices, flexible, evidence-based and timely managed decision making and the existence of power structures that are responsive and consider the needs of all stakeholders. Adaptive capacity refers to the ability to cope with unknown future circumstances. It works as a preventive measure in reducing the impact of predicted shocks through inherited knowledge and constant learning. The skills and resources required for adaptation may necessitate mobilising additional outside resources or expertise. Systems can have these elements to varying degrees, yet scholars argue that a balance of all of them is needed to move towards resilience [87; 102]. The extent to which government authorities can adapt to uncertainty and learn from their experiences affects governance capacity and legitimacy. Hence, this is not a simple and straightforward process and may not always be wholly rational with learning as it is one of the most underdeveloped aspects of crisis management [22]. Crises may facilitate learning and contribute to overcoming the organisational inertia that often inhibits learning under normal conditions, but they may also create obstacles to learning [103]. While there is often a strong wish to learn from a crisis, dramatic crises may produce incremental rather than radical policy and structural changes, owing to cultural path dependency and resistance [28]; in such cases, one often faces a dynamic conservatism [35]. Changes often occur within an established order rather than changing that order per se [23]. In the aftermath of emergencies or crises, institutions tend to be responsive and adapt to the lessons learnt, but, in general, they remain somewhat resistant to radical changing existing crisis management systems.

2.3. Linking social capital as an enabler of functional resilience in crisis governance

2.3.1. Defining social capital network levels and types

Social capital is regarded as an essential resource available to societies or communities for various collective societal issues, such as volunteering to contribute to crisis management, and as a key factor of networks and processes that promote social cohesion, trust

and resilience. Sources of social capital are changing in an increasingly global, hyper-connected and multi-stakeholder world. Social capital provides a valuable theoretical lens for investigating the factors and mechanisms of resilience and risk governance and is the main factor through which a community adapts to change [104]. A well-connected relationship network facilitates cohesion and collaboration in the face of increased external change and, therefore, enhance collective action in crises, emergencies or uncertainties. Social capital in an emergency, crisis or conflict context consists of networks of cross-agency (public, private and civic) interaction based on shared values, norms, trust and goals. Close interactions between stakeholders are seen as signs of well-developed social capital [105]. Previous research demonstrates that social capital influences resilience [61; 106; 107]. On the other hand, social capital is a context-dependent phenomenon [108]. Context-dependency means that different forms of social capital have diverse manifestations in different social systems and change over time.

There are numerous interpretations and definitions of social capital based on the context of the specific research or seen through different disciplines, lenses and angles. However, most authors in their definitions share the perception that social capital is a *societal resource*, which connects actors and permits them to pursue common goals jointly [109; 110]. Moreover, they all agree on the premise that engagement in social interactions is coupled with expecting beneficial returns for the individuals or the social network as a whole [111]. Pierre Bourdieu, Robert Putnam and James Coleman are considered the pioneers in the contemporary understanding of social capital theory. However, the roots of the concept can be traced back to the 1916 work by Lyda Judson Hanifan [112]. The principal idea of social capital is that networks of relationships have either an individual or collective value [113-115]. Furthermore, civic engagement is considered an essential element of Putnam's view of social capital [115], which is not just a matter of fulfilling practical needs. Civic engagement also helps society function smoothly in times of uncertainty and crisis [116]. The research of these three significant authors is often presented together to show how contemporary research on social capital evolved in divergent, non-linear and sometimes contradictory manners [117].

In this particular work, the classical definitions of social capital “features of social organization such as, networks, norms and social trust that facilitate coordination and cooperation for mutual benefit” will be used [118, p. 67]. In Putnam's understanding of social capital, emphasis was placed on two basic notions – structure (networks) and culture (norms and trust). In a similar manner, the other authors tend to stress either the functionality of structures (interactions, relationships, cooperation and engagements) or the cognitive capacity of social networks (values, reciprocity willingness and trust) to cooperate within or among groups or even outside the homogenous social system to achieve specific goals. And M. Hooghe, D. Stolle [110], M. Woolcock [119], and A.J. Saffer [120] identified four distinct approaches regarding how research on social capital developed according to various actors or agents involvement: communitarian, networks, institutional and synergy. The latter, synergy, is described as “community networks and state-society, whose relation has the greatest empirical support and lends itself best to comprehensive and coherent policy prescriptions” [121, p. 225].

There are two levels of social capital networks – the *micro and macro* level [119]. Micro-level networks refer to intra- or extra-community ties and macro-level networks to state-society relations, institutional capacity and credibility. In macro-level networks, the capacity of social capital is reflected through legislation (legal system) agreements, decision making, lack of corruption, formalised institutional relationships, civil society, the rule of law and government [122]. The macro approach to social capital looks at the social and political structures that

enable or impede civic engagement and participation [123]. This means that the micro approach encompasses the credibility and capacity of the governance to create the conditions and platform for cooperation [124]. These networks are often discussed as *bonding* (trusting cooperative relations between homogenous groups and social networks) and *bridging* (trusting cooperative relations between heterogeneous groups and social networks) types of social capital [121].

Linking social capital is the third type of social capital network that is less often analysed and discussed in academic studies. Although, the most significant gap in the scientific literature is the absence of a more coherent description of how linking social capital and political or public institutions affect each other [109]. Linking social capital has many indirect community benefits that are often overlooked in the literature, such as connecting government officials with people who provide knowledge and skills to perform their jobs [125]. Linking social capital refers to the relations between individuals and groups in different social strata and reveals ties between the community and those in positions of influence in formal organisations [121]. Furthermore, despite the variety of academic works and views on the micro-level and bridging and bonding social capital types, little research has been done to explore the aspects of linking social capital as a governance network during periods of stability (peacetime) with even less academic work considering times of emergency or crisis. However, R.L. Hawkins and K. Maurer [126] analysed how each form of social capital worked in the case of Hurricane Katrina in New Orleans, Louisiana, and noticed that linking social capital offered pathways to longer-term resilience than bridging and bonding types during an emergency. Linking social capital creates the opportunity to engage with external agencies and to influence policy [121]. Thus, in Figure 1, linking social capital represents the network and relationships between the community or civic organisations and the public sector as a whole and allows civil actors to connect with authorities and decision-makers in peacetime and emergency.

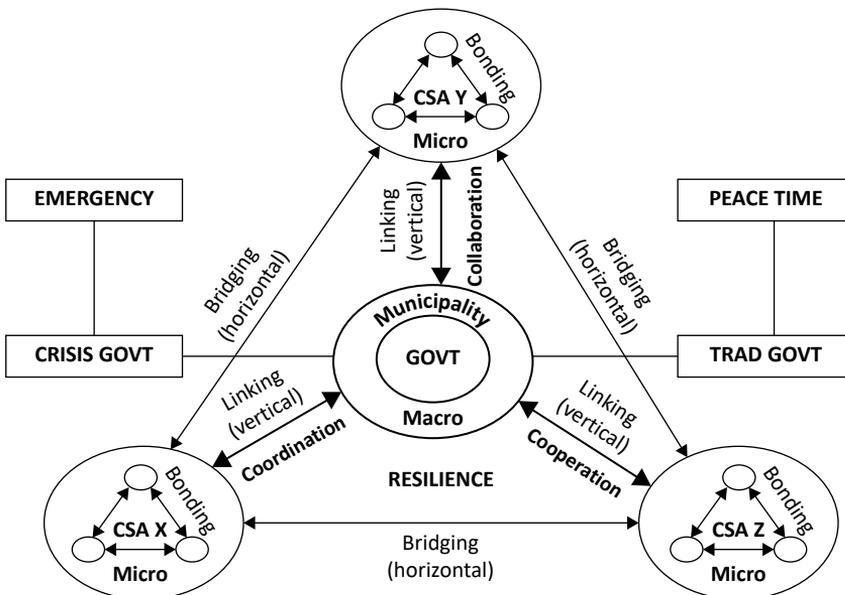


Fig. 1. Structural social capital in traditional and crisis governance

Source: Own elaboration.

The capacity of civic organisations to develop cooperative ties is also determined by the effects of state policy and its public governance structure. This point of view implies that institutional design might indeed foster social capital and resilience in traditional and crisis governance because linking social capital involves connections and interactions between communities, non-governmental organisations (NGOs) with institutions and political structures, such as the private sector or state government authorities. While S. Knack [127, p. 773] reveals two causal powers of social capital by which it enhances government performance: the ability to hold the government more accountable to the broader public interest and introduce innovation and flexibility into policymaking.

Social capital has to be studied in the political context in which it emerges [128]. Institutional arrangements can extend and constrain the formation of voluntary associations and their scope of influence on government policymaking [129]. The institutional design of governance influences the community's associational activity considerably. Governments can encourage the development of social capital by providing opportunities for participation in community matters. However, the generation of social capital hinges on the degree to which citizens and associations are given access to local decision-making processes [129]. In other words, public institution arrangements and legal frameworks play an essential role in generating and shaping structural social capital. Social capital logic tends to reveal the capacity of society to cooperate to reach common goals. To achieve them, people have to trust each other and public institutions (public sector), which in turn have to develop a user-friendly atmosphere for cooperation [130].

2.3.2. Linking social capital network forms (interaction processes)

Social capital can take many networking forms, but we focus on interaction processes inside structural social networks while dealing with emergencies and crises in this research. The hierarchy matters considerably in an emergency or crisis because different interaction processes between respective civil society actors in crisis governance have other characteristics and criteria. In Figure 2, the interaction processes are shown as active social capital networks in different stages or phases of crisis governance. These networks are of higher intensity *during a crisis (response phase)* and of lower intensity *in pre-crisis (preparation phase) and after crisis (adaptation phase)*.

For a long time, scholars of emergency and crisis management disciplines were sensitive to cooperative and collaborative cross-sectoral initiatives related to preparing for and responding to risks, threats and extreme events. This was mainly due to the narrow management focus on the government sector as the sole authority responsible for emergencies. The situation has only recently changed due to an increased understanding of the potential of the enormous benefits that collaboration might provide for better success in crisis management. Scholars analysing crisis governance tend to agree that effective preparation, response and adaptation to complex crises is feasible if collaboration is ensured across different sectors of crisis governance. It vastly facilitates the development of a whole-of-government or even a whole-of-society approach [4; 22; 131-133]. Providing basic services to society and ensuring functional resilience require various actors and stakeholders to engage in collective action across sectors [134].

Several partnering activities or interaction processes were identified in the academic literature related to disaster, emergency or disaster governance, namely, communication, cooperation, coordination and collaboration – the *four Cs* [135]. Communication is a critical ingredient

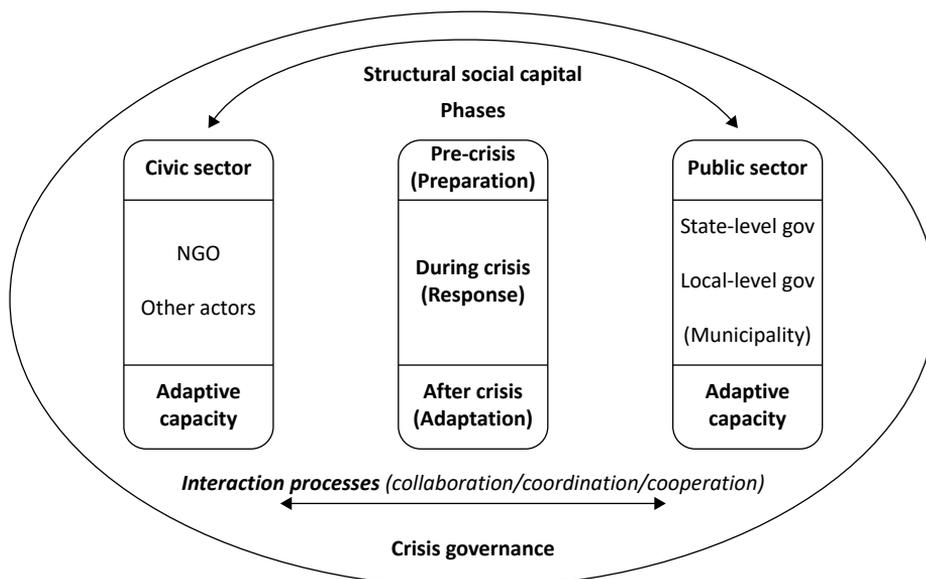


Fig. 2. Interaction processes in different phases of crisis governance
Source: Own elaboration.

of collective action [136]; however, we argue that communication is a part of other interaction processes. We agree with the argument that “collaboration, coordination, and cooperation are at the core of inter-organizational relationships... and cross-sector partnerships” [137, p. 966]. The line between coordination, cooperation and collaboration is blurred, and the common understanding of what these concepts reflect is somewhat fragmented. These terms are often used interchangeably and placed on the same level [138]. Some authors define coordination, cooperation and collaboration processes as complementary because they consist of similar elements [139]. Although these processes might be complementary, they involve distinct activities in specific contexts. Moreover, each concept (process) reflects a differing level of commitment, formality and autonomy [140]. The linkage between social capital and adaptive capacity and governance approach is shown in Table 1.

Cooperation is the least formal interaction between actors or partners in crisis governance cooperation. It shows limited connections and low intensity of working together. Cooperation refers to short-term, often informal and voluntary, relationships between organisations or parts thereof; it is characterised by low levels of intensity and risk [141; 142]. Coordination is regarded as the next step, as it is more formal than cooperation [140]. Coordination creates proactive efforts with other agencies and partners to ensure compatibility of goals, data gathering and redundancy reduction.

On the other hand, collaboration defines the relationship between partners whose operations and tasks are already coordinated [143]. Collaboration presents the highest level of commitment, trust and information sharing. Criteria span from the level of trust and commitment, the relationship length and the quality and closeness of the relationship to the level of intensity, the willingness to share information, the level of partnership management system and the level of relationship-specific assets and leadership [144]. Collaboration implies working together to conceptualise, plan, fund and implement activities that lead to operational success that could not have been achieved if undertaken independently. Collaboration is

Table 1. The theoretical linkage between functional resilience level and crisis governance approach

Structural social capital		Adaptive capacity characteristics	Functional resilience level	Crisis governance approach
Interaction types	Characteristics			
Cooperation	<i>Trust and commitment:</i> Short term and low intensity <i>Decision making and leadership:</i> Informal <i>Information sharing:</i> sporadic	<i>Structures:</i> Not inclusive <i>Resources:</i> Own <i>Learning:</i> Separate feedback process	Low	Public institution driven
Coordination	<i>Trust and commitment:</i> Medium-term and modest intensity <i>Decision making and leadership:</i> Formal (Leading) <i>Information sharing:</i> one-directional	<i>Structures:</i> Partly inclusive <i>Resources:</i> Provided <i>Learning:</i> Coordinated feedback process <i>Structures:</i> Inclusive	Medium	Whole-of-government
Collaboration	<i>Trust and commitment:</i> Long term and high intensity <i>Decision making and leadership:</i> formal (chairing) <i>Information sharing:</i> bidirectional	<i>Resources:</i> Shared <i>Learning:</i> Comprehensive feedback process	High	Whole-of-society

Sources: Own elaboration.

more complex and challenging than other networking processes. Multi-sector collaboration often occurs when organisations or sectors tried to solve problems by themselves but failed [145]. In multi-sector collaboration, private, public and non-profit actors from different parts of the society solve issues in unison. It requires all parties involved to put aside their narrow sectoral interests and give priority to solving the problem.

3. Research methods and operationalisation

The research methodology is based on the scientific literature analysis and empirical case study of COVID-19 in Lithuania. A mixed-method approach was applied that merged quantitative and qualitative features to strengthen results and validate findings. Quantitative analysis was conducted on social capital and adaptive capacity convergence to identify the functional resilience level of the specific crisis using statistical tools. In contrast, a qualitative approach was used to describe how functional resilience was perceived by CSAs and public sector organisations in different phases (content analysis, data survey interpretation, expert interviews).

First, the authors of this paper analysed the scientific literature on governance, social capital and adaptive concepts to identify the main criteria for measuring functional resilience level in crisis governance during a specific crisis period. Second, we focused on the main linking social capital network components, namely *collaboration*, *coordination* and *cooperation* and adaptive capacity components and characteristics, namely *structures*, *learning* and *resources* that are, in theory, crucial for building functional resilience in crisis governance.

The survey was conducted in Lithuania from May to September of 2020. Two questionnaires were prepared for a specific target audience. It included representatives of public (governmental) and civic (non-governmental) sectors, either directly involved in pandemic management or ready to engage. Each question in the questionnaire (except for demographic ones) was related either to social capital or adaptive capacity components of entities involved in crisis governance (see Annex A and B). In total, 60 responses from CSA and public (governmental) sector respondents were received and analysed. CSAs provided 16 answers, while the public sector (national and municipality level) submitted 44 answers. Due to the particularities and sensitivity of the problem, we carefully managed data without revealing the identities of the respondents and their respective affiliations.

The survey data were compiled and processed using the SPSS package. Weights were assigned to the answers to questions in the questionnaire based on an expert method. Answer index and weight – positive: 1, negative: –1 and neutral: 0.5. Index for SC (cooperation: 0.2, coordination: 0.3 and collaboration: 0.5). Index for AC (structure: 0.5, resources: 0.3, learning: 0.2). Because of these weights, minimal and maximal values were established for all social capital (SC) and adaptive capacity (AC) components to evaluate the functional resilience level of crisis governance. These numeric values were categorised with the ordinal values marked. The low level of functional resilience (FR) was from 0 to 0.3, medium from 0.4 to 0.6, and 0.7 to 1.0. Furthermore, the normalised numerical values for each SC/AC component were calculated to identify functional resilience (FR) level (see Table 2).

In addition, three (3) open expert interviews based on the aforementioned survey questionnaire were conducted with representatives of the governmental institutions who were members of the national crisis management centre (Table 3). The purpose was to understand the complexities and adaptive capacities of the Lithuanian crisis governance system institutional design. These interviews were carried out in June and July 2020 (Informant A and B) and September 2020 (Informant C).

The research authors know only their identities so that personal data were not disclosed for certain reasons.

Table 2. Operationalisation of functional resilience level

Components	Answer index and weight	FR level and numeric values	
SC	Positive/Negative/Neutral 1, 0.5, (–1)	Low	0.....0.3
Cooperation	0.2	Medium	0.4.....0.6
Coordination	0.3		
Collaboration	0.5		
AC	Positive/Negative/Neutral 1, 0.5, (–1)	High	0.7.....1.0
Structure	0.5		
Resources	0.3		
Learning	0.2		

Source: Own elaboration.

Table 3. The demographic characteristics of the expert interviewees

Informant	Years of service	Gender	Age	Education
A	More than 20	M	47	High
B	More than 20	M	45	High
C	More than 20	M	46	High

Source: Own elaboration.

4. Lithuania's case study findings and results

4.1. Quantitative analysis approach towards functional resilience in crisis governance

The histograms of the distribution of normalised values of the main functional resilience components of SC and AC are shown in Figure 3. Notably, a high level of functional resilience was observed only in a minor part of the participants' responses. This fact is supported by histograms of numerical SC and AC components showing the concentration of responses in lower values and the continuous tail in the area of high-strength values.

As a consequence, strong links between the separate components were observed, namely, if the respondent has a bad relationship with one component, then usually the other ones will be bad as well. Statistical data distribution fitting showed good correspondence with Weibull distribution with a positive rate coefficient. It should be noted that the latter property of Weibull distribution testifies to the growth of respondents with higher resilience levels [146; 147]. These considerations are summarised in Table 4, where the percentages of low, medium and high levels of functional resilience and its components are presented. Thus, one can conclude that the majority of the population has medium social capital and low adaptive capacity. Finally, this leads to a conclusion that functional resilience levels are low to medium in crisis governance.

To investigate the structural model of SC/AC components, factor analysis was performed using the principal component method. Factor analysis is commonly used in biology, psychometrics, personality theory, marketing, product management, operations research and finance. It is one of the most widely used interdependency techniques. It is employed when

Table 4. Levels of functional resilience via social capital and adaptive capacity component distribution

	FR	AC	Resource	Learning	Structures	SC	Cooperation	Coordination	Collaboration
Low	25 (41.67%)	32 (53.33%)	32 (53.33%)	32 (53.33%)	34 (56.67%)	19 (31.67%)	21 (35.00%)	19 (31.60%)	17 (28.33%)
Medium	27 (45.00%)	23 (38.33%)	23 (38.30%)	24 (40.00%)	21 (35.00%)	30 (50.00%)	29 (48.33%)	30 (50.00%)	30 (50.00%)
High	8 (13.33%)	5 (8.33%)	5 (8.33%)	4 (6.67%)	5 (8.33%)	11 (18.33%)	10 (16.67%)	11 (18.3%)	13 (21.67%)

Source: Own elaboration.

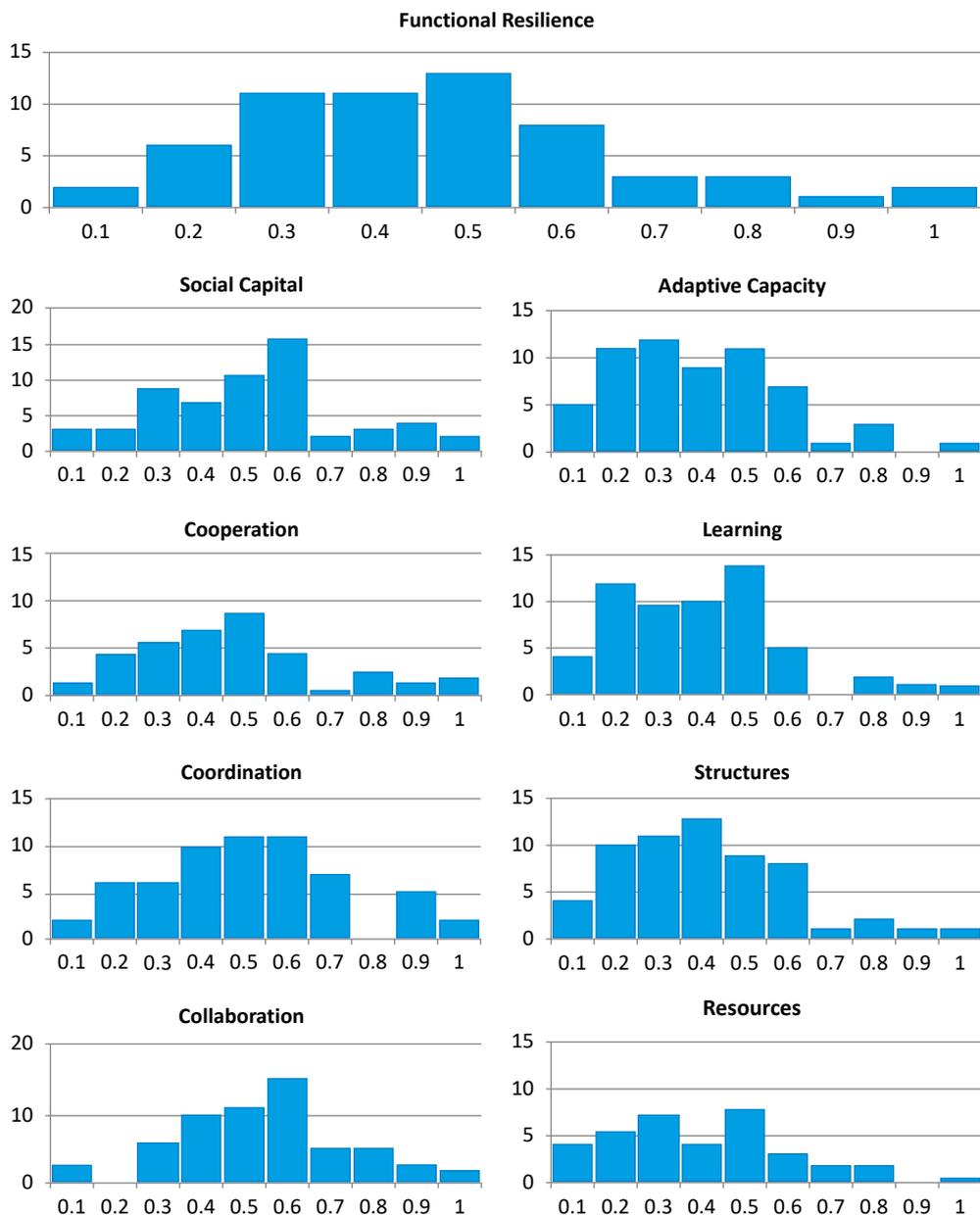


Fig. 3. Histograms of normalised functional resilience and its components
 Source: Own elaboration.

the relevant set of variables shows a systematic interdependence and the objective is to determine the latent factors that create a commonality. The researcher makes no *a priori* assumptions about the relationships among factors. Factors enable the identification of groups of interrelated variables to see how they are related. The objective of factor analysis is to identify certain unobservable factors from the observed variables. From the point of view of exploratory analysis, the eigenvalues of PCA have inflated component loadings, i.e.

contaminated with error variance. Thus, the factor loadings are the correlation coefficients for the observed variables and latent factors [148].

This analysis showed that two main factors impact the SC/AC components (see Table 4). The first one represents 87% of the total data variance (cumulative variance). Therefore, it can be associated with a common all-component variable describing functional resilience and its impact on separate SC/AC components of all respondents. The second factor explains about 11% of the total data variance and describes the interaction between SC and AC (see factor and impact component matrix in Table 5 and Table 6). The component matrix shows that the main resilience factor has a positive weight of about 0.9 on all SC/AC components. The second-factor weight is about 0.3 and shows that respondents with lower SC levels tend to adapt their AC.

Table 5. Factor analysis of SC/AC components

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.810	86.779	86.779	7.810	86.779	86.779
2	.982	10.915	97.694	.982	10.915	97.694
3	.088	.978	98.672			
4	.059	.660	99.331			
5	.041	.457	99.788			
6	.019	.212	100.000			
7	1.155E-15	1.284E-14	100.000			
8	-1.437E-16	-1.597E-15	100.000			
9	-9.405E-16	-1.045E-14	100.000			

Source: Own elaboration.

Table 6. Impact of principal characteristics on SC/AC components

Characteristics of FR components	Impact	
	1	2
Collaboration	.910	-.374
Coordination	.930	-.326
Cooperation	.928	-.331
SC	.935	-.354
Structures	.934	.316
Learning	.908	.368
Resources	.902	.377
AC	.936	.351
FR	1.000	-0.17

Source: Own elaboration.

One can see that the loadings of the components of SC and AC on the second factor have approximately the same values but with different signs.

4.2. Qualitative analysis approach towards functional resilience in crisis governance

4.2.1. CSAs in governance legal framework during COVID-19 (preparation phase)

Lithuanian laws, which regulate crisis management and activities of NGOs, do not explicitly indicate any possible involvement of NGOs or other CSAs, except the Lithuanian Riflemen's Union (LRU)¹ in the emergency, crisis or conflict management process. Nevertheless, there are indirect references in current legislation regarding the interactions between governmental agencies with CSAs in an emergency, crisis or even military conflict [149-152]. In June 2020, the Lithuanian government approved its COVID-19 management strategy stressing the importance of a "timely and objectively informed society" as part of the national response to COVID-19. However, the document said nothing about how CSAs' engagement might facilitate pandemic management [153]. Furthermore, the implementation of the aforementioned strategy was slow and formal [154]. Such a legal vacuum means that the interaction between CSAs and governmental institutions in an emergency is dependent on the goodwill of public entities. Apparently, it contributed very little to boost functional resilience in crisis governance. And V. Nakrošis, et al [154, p. 5] noted that "during this crisis, we lacked not prevention or control, but resilience in public governance system". The institutional legal design of governance considerably influences CSAs' activity because the public sector has a leading role and can encourage the development of linked social capital by providing opportunities for participation or engagement of CSAs in crisis governance.

During the first wave of the COVID-19 pandemic, the Lithuanian government authorities switched away from a typical institutional centric framework embedded in the current legislation (Fig. 4) to adopt one featuring a whole-of-government approach (Fig. 5 and Fig. 6).

"The situation in the beginning was unusual. Nobody ever thought about this level of emergency and authorities did most of the things *ad hoc* disregarding pre-existing emergency plans". Therefore, a "new structure was created which better orientated the response to the crisis than the typical [structure]" [156]. At the centre of the adopted crisis governance structure were the COVID-19 management committee, emergency operation centre and different working groups. One of them, the Society Security Group (SSG), was responsible for cooperation with CSAs. However, CSAs were not directly represented in the SSG, except for the LRU. The cooperation with other CSAs was established via different means of communication, including social networks, but coordination of a broad array of CSA initiatives struggled. This happened in part due to the diversity and myriads of NGOs and their different expectations that were difficult to meet. On the other hand, government institutions were also not very active in attracting civil society in pandemics, management activities, and decision-making in this field. NGOs were often seen as an additional asset that should comply with the formal instructions.

¹ Lithuanian Riflemen's Union (LRU) is a voluntary paramilitary organisation. It is partly financed by the Lithuanian Ministry of Defence (MOD) and led by the retired or active officers of the Lithuanian Armed Forces. Source: <https://www.sauliusajunga.lt/>.

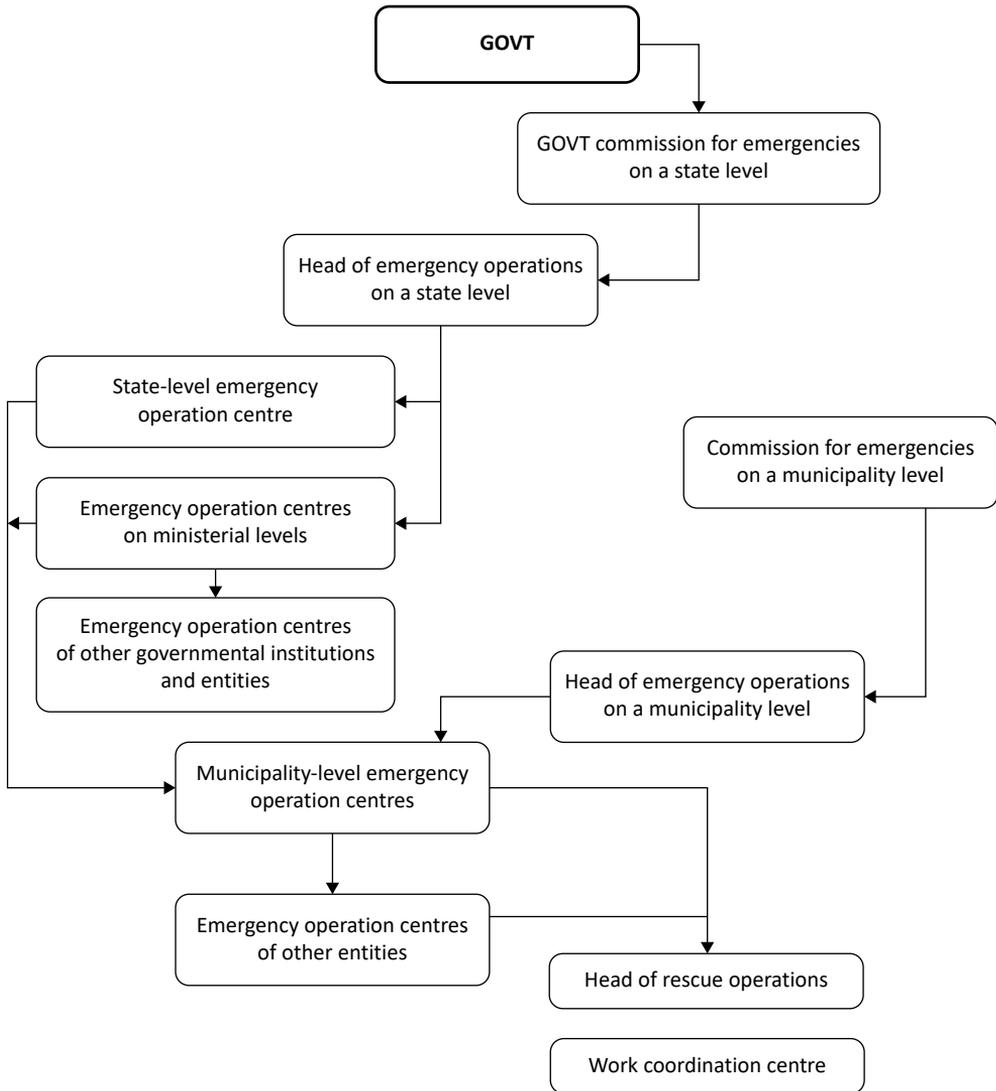


Fig. 4. Typical structure of the state emergency management system in Lithuania before COVID-19
 Source: [152].

About half (48%) of the CSA respondents described conditions for them to engage formally in the crisis governance process on a volunteer basis as unfavourable. On the other hand, 30 per cent of survey participants from the public sector institutions agreed that the current Lithuanian institutional crisis governance framework does not possess a strong collaborative nature. However, crisis volunteering strategies are already embedded and proved effective in Nordic countries such as Sweden, Norway and Finland. For example, in Norway and Sweden, it is part of their Total Defence concept and comprehensive security in Finland [157]. Moreover, Finland has a special security concept, which defines inter-governmental and inter-sectoral interaction processes [158].

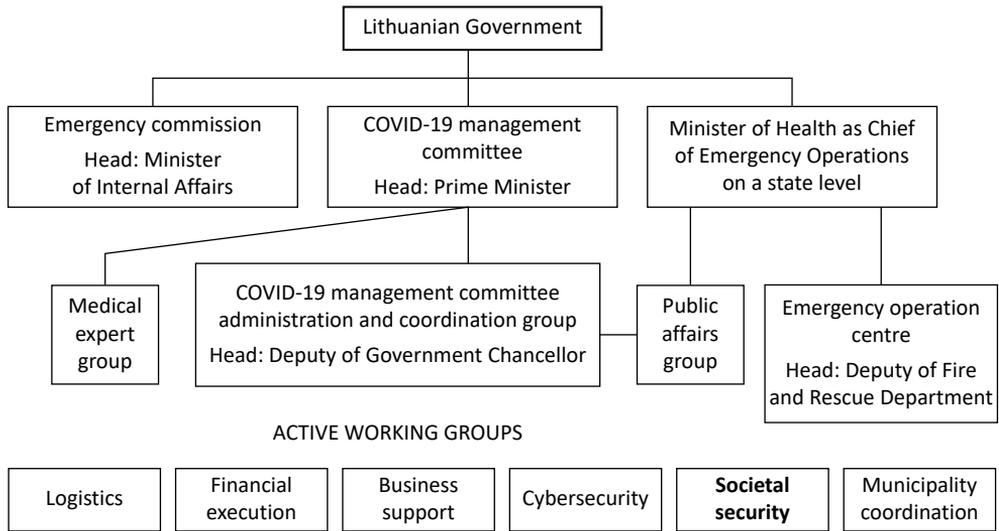


Fig. 5. Employed structure of the state emergency management system in Lithuania during COVID-19
Source: [155].

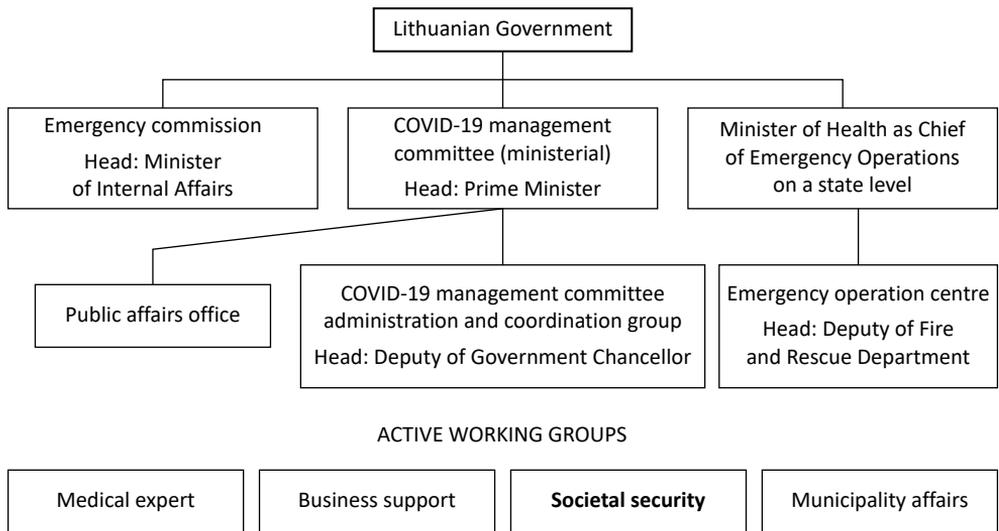


Fig. 6. Adopted structure of the state emergency management system in Lithuania during COVID -19 crisis
Source: [155].

The survey findings revealed that CSAs were more proactive in seeking opportunities to provide support, but they encountered several problems of bureaucratic origin, namely, the legal crisis management framework, miscommunication and a lack of mutual trust.

4.2.2. The engagement of CSAs in COVID-19 crisis management (response phase)

Currently, more than 15 per cent of the Lithuanian population has official ties to volunteerism through more than 12,000 registered organisations. However, the exact number of volunteers involved in the pandemic management activities was not established. In the research, two main CSA camps in the COVID-19 pandemic were revealed – *SOFT (indirect support) response actors* and *HARD (direct support) response actors*. The main goal of SOFT response camp representatives was not direct participation in the pandemic management measures but rather the efficient provision of existing services. In March 2020, the umbrella organisation National Coalition of NGOs (Nacionalinė NVO koalicija) was asked to provide financial support to further provide social and other services during the pandemic [159]. Some of them became even more important during the pandemic, for example, food provision for disabled persons during quarantine, psychological support in the environment of growing domestic violence induced by quarantine, etc.

On the other hand, *HARD response camp actors'* engagement and support of the public sector in crisis management was crucial. The most active supporter of the government's response to the pandemic was the LRU. Starting from February 2020, the LRU was among the first CSAs that took part in pandemic management. Every day, more than 150 members of the LRU: patrolled the airports; supported the establishment and operation of the central phone helpline 1808; ensured stable flows of infected and tested people in hospitals and mobile 'hotspots'; assisted with other communication, logistic and public security tasks ensuring local lockdowns, etc. Moreover, the LRU supported other CSAs like *Caritas*, *Malta Order* and *Red Cross* in their respective activities. It is worth mentioning another critical civic initiative – crisis volunteering coordination centre, *Strong Together (Stiprūs kartu)*, founded by members of the LRU. During the pandemic, it served as the main platform for crisis volunteerism in Lithuania [160]. In addition, the crowdfunding initiative *Hold up, Medics (Laikykitės, medikai)* managed to raise almost EUR 2.5 million [161], which was spent on medical protection equipment and other medical supplies in a very short supply at the beginning of the pandemic. Supplies, with the support of the Lithuanian Armed Force, were efficiently distributed in the main and regional hospitals, social care facilities and other institutions. For example, at the beginning of April, more than 50 per cent of FFP2 respirators in some main hospitals were provided through this initiative. At the local level, a public initiative *Gediminas Legion (Gedimino legionas)* was created and coordinated by the Vilnius City Municipality [162].

SOFT response actors, in general, fell under the unaffiliated category of crisis volunteerism concept. *In contrast*, *HARD response* actors mainly were affiliated to some extent with organisations trained for emergency settings. Furthermore, most respondents pointed out that no special criteria or prerequisites for engagement of CSAs in crisis governance were anticipated in advance, with less than 20 per cent of CSAs confirming their attendance at emergency classes or exercises beforehand. Despite the willingness to contribute, not all CSAs were at the same level of preparedness. The majority (70%) of respondents from the public sector agreed that CSAs are not sufficiently prepared to collaborate with governmental institutions in emergencies. However, the vast majority (80%) of respondents from governmental institutions welcomed CSAs' participation and agreed that they could provide substantial benefits to the common cause. These findings supported the argument that volunteerism is essential for social capital development, which, in turn, highly affects functional resilience in governance.

From 2018, the Mobilisation and Civil Resistance Department under the MOD of the Republic of Lithuania (MCRD) provides training for the public sector and CSAs on mobilisation and civil

resistance, although this barely covers crisis-volunteering areas. A massive influx of unaffiliated volunteers revealed a lack of basic skills. Therefore, the MCRD, in cooperation with one of CSAs – Defence Support Foundation (Gynybos paramos fondas) – introduced the first specific training programme for crisis volunteers [163]. A few years ago, two instruction manuals on civil resistance and tackling crises by society were published. However, a systemic approach at the state level in this field is still lacking [164]. The existing online platform operated by the Fire and Rescue Department of the Ministry of Interior is the most comprehensive information resource available for crisis or emergency awareness [165]. The government should predefine the requirements for CSAs that wish to be engaged because the preparation matters a lot in crisis management. Since the public sector is driving the process in crisis, it should ensure crisis volunteerism coordination activities.

4.2.3. Resources and Learning (adaptation phase)

Adapting to different crises and sharing best practices are keys to successful crisis management [154]. More than 60 per cent of CSA survey respondents pointed out governmental institutions reluctant to share resources, including information. This could be explained by constraints on interaction with non-affiliated CSAs embedded in the current legal framework. Governmental institutions preferred affiliated CSAs such as the *LRU*, *Caritas*, *Malta Order and Red Cross*, with which ministries already had legal agreements of cooperation during emergencies and crises [166]. Most CSA survey respondents (75%) mentioned the lack of mutual trust as a core reason impeding the coordination of civil society and their inclusion in resource sharing. Human resources turned out to be one of the critical factors in crisis management. In this context, the alternative civil service could be a credible solution for compensating the lack of public sector employers and, in the long term, could form national civil reserve units. Crisis volunteers need to be trained beforehand, receive on-the-job training, be provided with the necessary equipment and receive clear and timely communication. More than 50 per cent of public sector respondents noted that after the aforementioned events, the authorities plan to change some legal acts related to crisis management and start preparing comprehensive crisis management guides for society.

On the learning part, the research revealed some positive trends. Civil protection laws and regulations on State Emergency Situation Operation Centre were amended on 1 May 2020. In June 2020, the Lithuanian government organised discussions on COVID-19 lessons learnt by the public sector. Most participants were directly involved in the crisis governance of the COVID-19 pandemic [167]. However, CSAs were not invited to present their lessons. Therefore, CSAs initiated two separate virtual conferences in September 2020 – the “International conference on COVID-19 Lessons Learnt” and “Managing volunteer activities during emergencies”. The first one was organised in cooperation with the MCRD and Vilnius Municipality and stressed the regional and global response to the pandemic [168]. The second event was held by the NGO *Europos namai* in cooperation and support from the Lithuanian Ministry of Social Affairs and specifically focussed on crisis volunteerism. The main deliverable was a presentation of short instructions “How to organise volunteer activities during emergencies” [169]. The majority of CSA respondents (75%) stressed the importance of mutual trust and an adaptive legislation framework for a better crisis governance system.

It is worth noting that Lithuania was one of the first countries in NATO and the EU to issue guides (instructions) for society on how to act during crises and emergencies. However, there remains a lack of research on the actual preparation and skill levels needed among different sectors of Lithuanian society. With the COVID-19 pandemic still ongoing, and a potential

threat from the Belarusian Astravets nuclear plant located close to the Lithuanian border, the enhancement of functional resilience should be one of the primary endeavours of the current Lithuanian government.

Conclusions

Emergencies, crises and conflicts are often seen as matters of daily routine that vary in scale and intensity; however, the paradox is that they usually arrive with short notice and take national governments by surprise. In theory, the concept of resilience is interconnected closely with governance. Effective and resilient governance is a key factor in keeping threats and dangers at bay, allowing emergency events to be managed successfully. The strength of crisis governance is based on the resilience and sustainability of dynamic networks among different sectors during uncertainty. This work aims to contribute to the academic debate and research on resilience in crisis governance. Previous academic discussions on the concept of resilience stressed the importance of bridging and bonding social capital in bolstering societal resilience but neglected the role of linking social capital in broader resilience research outside the societal domain. Linking social capital represents the networks and relationships between the community or civic organisations and the public sector as a whole and allows civil actors to connect with authorities and decision-makers in peacetime and emergencies. Specifically, interaction ties between citizens, communities, private and public organisations during crises or emergencies are crucial for understanding and driving functional resilience. The core of the functional resilience concept is rooted deeply in the interaction processes between subsystems in the system and its adaptive characteristics while preparing and coping with emergencies and crises.

The COVID-19 pandemic affected all aspects surrounding the function of Lithuanian society and showed drawbacks of the existing crisis management mechanism. The application of mixed methods proved the strength of the research deliverables. In the quantitative approach, the histogram analysis of the distribution of normalised values of functional resilience components showed that high levels of functional resilience were observed only in a minor part of the data. Nevertheless, one can conclude that the majority of CSAs and public sector entities involved in crisis governance have medium social capital and low adaptive capacity. This leads to the conclusion that most of the respondents have low to medium levels of functional resilience.

On the other hand, qualitative data analysis revealed a more comprehensive picture with regard to functional resilience in crisis governance. The existing crisis management system was stress-tested during the COVID-19 pandemic with existing regulations and institutional arrangements in terms of good collaborative crisis management practice, demonstrating considerable shortcomings. The aforementioned crisis demonstrated some gaps in the current Lithuanian civil emergencies management system. There were coordination issues between central and municipal levels of the Lithuanian government, with modest involvement from CSAs; therefore, this suggests relatively weak linking social capital networks in this particular case. The judicial issues, resource distribution challenges, adequate representation in the working groups and other constraints applied to CSAs were identified as limitations for fostering functional resilience in governance during a crisis. The engagement of CSAs was often one-way as no continued cooperation, coordination or collaboration algorithm was prepared in advance. The data revealed that most CSAs are not prepared sufficiently or appropriately to act in a crisis or emergency. Therefore, a crisis volunteering strategy would be a good start

for resolving this inadequacy. On the bright side, the lessons learnt from this situation led to an improvement in the regulatory environment, including amendments to civil protection laws and, therefore, helped to increase adaptive capacity to some extent. The lessons were identified and discussed in public (governmental) and non-governmental sectors and eventually led to the creation of some practical products.

Because the study was limited to the first wave of the pandemic, it is hard to assess how functional resilience level and expression changed with the outbreak of the second wave of COVID-19; thus, further extensive research on governance and resilience in crisis is needed and very much welcome.

Annex A

THE ROLE OF THE NON-GOVERNMENTAL SECTOR IN COVID-19 CRISIS GOVERNANCE IN LITHUANIA

QUESTIONNAIRE FOR PUBLIC SECTOR RESPONDENTS

1. Were non-governmental organisations (NGOs) engaged/included in the crisis governance process? **(SC)**
A. Yes. B. No. C. I do not know. D. Other.
If yes, what criteria were employed in the pre-selection process?
A. Declaration of civic and patriotic values. B. Participation in training organised by governmental institutions. C. Special criteria were not employed. D. Other.
2. Was the decision to engage NGOs in the crisis governance process formalised? **(SC)**
A. Yes, a written protocol was prepared. B. Informal assignment. C. Discussion in working committees and working groups. D. Other.
3. Did NGOs request (ask) for information about the possibility to be included in the crisis governance process? **(SC)**
A. Yes, at the beginning of the pandemic. B. Yes, during the course of the pandemic. C. No request. C. I do not know. D. Other.
4. How did NGOs request (ask) for support from governmental institutions in crisis governance? **(SC)**
A. By e-mail. B. By phone. C. Via social networking. D. Via media. E. Other.
5. What kind of support was offered by NGOs to governmental institutions? **(AC)**
A. Human resources. B. Material resources. C. Psychological consultations. D. No offer. E. Other.
6. Were non-governmental organisations represented in the crisis governance institutional framework? **(SC)**
A. Yes, an NGO representative attended working group meetings. B. No. C. Governmental and municipal institutions represented NGOs. D. Other.
7. How was the communication process maintained during crisis governance/management? **(SC)**
A. Via an NGO representative in the crisis management centre (if established). B. By phone. C. By e-mail. D. Via social networks. E. Other.

8. Do you agree with the statement that NGOs were not as prepared as governmental institutions for dealing with the crisis? **(AC)**
A. Fully agree. B. Agree. C. No opinion. D. Do not agree. E. Other.
9. Were resources allocated in advance to NGOs to enable them to support governmental institutions during the crisis? **(AC)**
A. Yes. B. No. C. I do not know. D. Other.
10. How did you regard NGO engagement in crisis governance in Lithuania? **(SC)**
A. Very positively. B. Positively. C. Rather negatively. D. Negatively. E. Other.
11. Do you agree that NGO engagement impacts crisis governance positively? **(SC)**
A. Fully agree. B. Agree. C. Rather disagree. D. Disagree. E. Other.
12. Did governmental institutions employ previously developed practices when cooperating with NGOs while dealing with the crisis? **(AC)**
A. Rather yes. B. Rather no. C. I do not know. D. Other.
13. Was national legislation amended to improve the interaction between the public sector and NGOs when preparing for and dealing with the crisis? **(AC)**
A. Substantially. B. Minimal. C. No. D. I do not know. E. Other.
14. Have training and exercises been conducted since the first wave of the pandemic? **(AC)**
A. Yes. B. No, but they are under preparation. C. No. D. I do not know. E. Other.
15. Are there any plans to prepare a new crisis management manual with instructions for NGOs? **(AC)**
A. Yes, they are already prepared. B. Under preparation. C. No plans so far. D. I do not know. E. Other.

16. *What are your age and working/serving experience in the public sector?*

17. *What is your education?*

Annex B

THE ROLE OF THE NON-GOVERNMENTAL SECTOR IN COVID-19 CRISIS GOVERNANCE IN LITHUANIA

QUESTIONNAIRE FOR NON-GOVERNMENTAL ORGANISATIONS

1. Did you engage or participate in the COVID-19 crisis governance process? **(SC)**
A. Yes, on our initiative. B. No. C. Anticipated but not invited. D. Received an invitation but did not participate. E. Other (extended answer).
2. In your opinion, does Lithuania's legislative framework provide appropriate conditions for NGOs to be engaged in crisis management/governance? **(AC)**
A. Yes. B. Partly. C. No. D. Other (extended answer).
3. In your opinion, was the potential of NGOs exploited sufficiently during COVID-19 pandemic management/governance? **(SC)**
A. Agree. B. Disagree. C. I do not know. D. Other (extended answer).

4. Did your NGO participate in crisis training and/or exercises organised for volunteers by governmental institutions before the COVID-19 crisis? **(AC)**
A. Yes. B. Invited but not participated. C. Not invited. D. Other (extended answer).
5. What types of communication channels did you use to engage with governmental institutions responsible for crisis management/governance? **(SC)**
A. E-mail. B. Social networks. C. Phone. E. Not addressed at all. D. Other (extended answer).
6. What types of communication channels did governmental organisations use to contact your NGO to support crisis management/governance? **(SC)**
A. E-mail. B. Social networks. C. Phone. E. Not contacted at all. D. Other (extended answer).
7. Did governmental institutions offer to share resources (including information) with your NGO while managing the pandemic? **(AC)**
A. Yes. B. No. C. I do not know. E. Other (extended answer).
8. Was your organisation included/engaged in formal or informal decision-making procedures during crisis management/governance? **(AC)**
A. Yes. B. No. C. Partly. D. Other (extended answer).
9. Do you agree that governmental institutions appreciate NGO participation/engagement in the crisis management/governance process? **(SC)**
A. Agree. B. Disagree. C. I do not know. D. Other (extended answer).
10. Do you agree that society was well informed about NGO engagement/participation in crisis management/governance? **(AC)**
A. Agree. B. Disagree. C. I do not know. D. Other (extended answer).
11. Do you agree that NGO activities and initiatives were coordinated well by governmental institutions responsible for crisis management/governance? **(AC)**
A. Agree. B. Disagree. C. I do not know. D. Other (extended answer).
12. Have lessons identified been discussed and analysed in your organisation? **(AC)**
A. Yes. B. No, but in immediate plans. C. No, no immediate plans. D. Other (extended answer).
13. In your opinion, what has to be improved to facilitate better interaction between non-governmental organisations and the public sector? **(SC)**
A. Legislation. B. Attitude (Common trust). C. Everything is ok. D. Other (extended answer).
14. Did governmental institutions recognise your organisation for its engagement/participation in crisis management/governance? **(SC)**
A. No. B. Yes, a message of thanks by phone. C. Yes, a written message of thanks. D. Remembrance medal or coin. E. Other (extended answer).

15. *What are your age and working/serving experience in the public sector?*

16. *What is your education?*

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Conflict of interests

All authors declared no conflict of interests.

Author contributions

All authors contributed to the interpretation of results and writing of the paper. All authors read and approved the final manuscript.

Ethical statement

The research complies with all national and international ethical requirements.

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References

1. Læg Reid P, Rykkja LH (eds.). *Societal security and crisis management: governance capacity and legitimacy*. Cham, Switzerland: Palgrave Macmillan; 2019.
2. Boin A. *The New World of Crises and Crisis Management: Implications for Policymaking and Research*. *Review of Policy Research*. 2009;26(4):367-77.
3. Roe E. *Preventing Transboundary Crises: The Management and Regulation of Setbacks*. *Review of Policy Research*. 2009;26(4):457-71.
4. Ansell C, Boin A, Keller A. *Managing Transboundary Crises: Identifying the Building Blocks of an Effective Response System*. *Journal of Contingencies and Crisis Management*. 2010;18(4):195-207.
5. Brändström A, Bynander F. *Governing by Looking Back: Historical Analogies and Crisis Management*. *Public Administration*. 2004;82(1):191-210.
6. Blondin D, Boin A. *Managing Crisis in Europe: A Public Management Perspective*. In: Ongaro E, Van Thiel S (eds.). *The Palgrave Handbook of Public Administration and Management in Europe*. London: Palgrave Macmillan; 2018, p. 459-74.
7. Lagadec P. *A New Cosmology of Risks and Crises: Time for a Radical Shift in Paradigm and Practice*. *Review of Policy Research*. 2009;26(4):473-86.
8. Head BW, Alford J. *Wicked Problems: Implications for public policy and management*. *Administration and Society*. 2013;47(6):711-39.
9. Forgues B, Roux-Dufort Ch. *Crisis: Events or Processes*, [online]. Report presented at Hazards and Sustainability Conference, Durham, UK, 26-27 May 1998. Available at: https://www.researchgate.net/publication/254276369_CRISES_EVENTS_OR_PROCESSES [Accessed: 15 January 2020].
10. Perrow C. *Fukushima and the inevitability of accidents*. *Bulletin of the Atomic Scientists*. 2011; 67(6):44-52.
11. Shrivastava P. *Ecocentric management for a risk society*. *Academy of management review*. 1995; 20(1):118-37.
12. De Maio G. *NATO'S Response to COVID-19: Lessons for Resilience and Readiness*, [online]. Brookings. October 2020. Available at: https://www.brookings.edu/wp-content/uploads/2020/10/FP_20201028_nato_covid_demaio-1.pdf [Accessed: 15 January 2020].
13. Frankenberger TR, Spangler T, Nelson S, Langworthy M. *Enhancing Resilience to Food Insecurity amid Protracted Crisis*. Prepared by TANGO International for the High Level Expert Forum on Food

- Insecurity in Protracted Crisis, 13-14 September 2012, Rome, Italy, [online]. Available at: http://www.fao.org/fileadmin/templates/cfs_high_level_forum/documents/Enhancing_Resilience_Food_Insecurity-TANGO.pdf [Accessed: 15 January 2021].
14. Hoogensen Gjørøv G. *Coronavirus, invisible threats and preparing for resilience*, [online]. NATO Review. 2020. Available at: <https://www.nato.int/docu/review/articles/2020/05/20/coronavirus-invisible-threats-and-preparing-for-resilience/index.html> [Accessed: 12 October 2020].
 15. Barbier-Gauchard A, Dai M, Mainguy C, Saadaoui J, et al. *Towards a More Resilient European Union after the COVID-19 Crisis*. SSRN Electronic Journal. 2020. DOI: 10.2139/ssrn.3641306.
 16. Luthar SS. *Resilience in development: a synthesis of research across five decades*. In: Cicchetti D, Cohen DJ (eds.). *Developmental psychopathology. Volume 3. Risk, disorder, and adaptation*. 2nd ed. New York: Wiley; 2006, p. 739-95.
 17. MacRae G, Hodgkin D. *Half full or half empty? Shelter after the Jogjakarta earthquake*. *Disasters*. 2010;35(1):243-67.
 18. Miyaguchi T, Shaw R. *Corporate Community Interface in Disaster Management – A Preliminary Study of Mumbai, India*. *Risk Management*. 2007;9(4):209-22.
 19. Pierre-Louis F. *Earthquakes, Nongovernmental Organizations, and Governance in Haiti*. *Journal of Black Studies*. 2011;42(2):186-202.
 20. Tschakert P, Dietrich KA. *Anticipatory Learning for Climate Change Adaptation and Resilience*. *Ecology and Society*. 2010;15(2).
 21. Moynihan DP. *From Intercrisis to Intracrisis Learning*. *Journal of Contingencies and Crisis Management*. 2009;17(3):189-98.
 22. Nohrstedt D, Bynander F, Parker C, 't Hart P. *Managing Crises Collaboratively: Prospects and Problems – A Systematic Literature Review*. *Perspectives on Public Management and Governance*. 2018;1(4):257-71.
 23. Olsen OE, Kruke BI, Hovden J. *Societal Safety: Concept, Borders and Dilemmas*. *Journal of Contingencies and Crisis Management*. 2007;15(2):69-79.
 24. *The OECD praises Lithuania for the proper management of the coronavirus pandemic*, [online]. *Korona Stop*. 4 June 2020. Available at: <https://koronastop.lrv.lt/en/news/the-oecd-praises-lithuania-for-the-proper-management-of-the-coronavirus-pandemic> [Accessed: 12 October 2020].
 25. Rosenthal U, Charles MT, 't Hart P. *Coping with crises: the management of disasters, riots, and terrorism*. Springfield, Ill., U.S.A.: C.C. Thomas; 1989.
 26. Pearson CM, Clair JA. *Reframing Crisis Management*. *Academy of Management Review*. 1998;23(1):59-76.
 27. Weick KE. *Enacted sensemaking in crisis situations*. *Journal of Management Studies*. 1988;25(4):305-17. DOI: 10.1111/j.1467-6486.1988.tb00039.x.
 28. Boin A, Mcconnell A, 't Hart P. *Governing after crisis: the politics of investigation, accountability and learning*. Cambridge: Cambridge University Press; 2008.
 29. Rosenthal U, Kouzmin A. *Crises and Crisis Management: Toward Comprehensive Government Decision Making*. *Journal of Public Administration Research and Theory*. 1997;7(2):277-304. DOI: 10.1093/oxfordjournals.jpart.a024349.
 30. Roux-Dufort Ch. *Delving into the Roots of Crises. The Genealogy of Surprise*. In: Schwarz A, Seeger MW, Auer C (eds.). *The Handbook of International Crisis Communication Research*. Chichester, UK; Malden, MA: Wiley Blackwell; 2016, p. 24-33.
 31. Iftimoaei C. *Good governance: Normative vs Descriptive Dimension*. *SEA – Practical Application of Science*. 2015;3;1(7).
 32. Imperial MT. *Using Collaboration as a Governance Strategy*. *Administration and Society*. 2005;37(3):281-320.
 33. Kooiman J. *Governing as governance*. London: Sage; 2003.
 34. Martin B. *Effective crisis governance*. In: Starke L (ed.). *State of the World 2013. Is Sustainability Still Possible?* Washington, DC: Island Press; 2013, p. 269-78.

35. Ansell C, Boin A. *Taming Deep Uncertainty: The Potential of Pragmatist Principles for Understanding and Improving Strategic Crisis Management*. Administration and Society. 2017;51(7):1079-112.
36. Bedi N, Bishop M, Hawkins U, Miller O, et al. *Linking Resilience and Good Governance: A Literature Review*. Anthos. 2014;6(1):15-49.
37. Zolli A, Healy AM. *Resilience. Why things bounce back*. New York, Ny: Simon & Schuster Paperbacks; 2013.
38. Levi M. *Social and Unsocial Capital: A Review Essay of Robert Putnam's Making Democracy Work*. Politics and Society. 1996;24(1):45-55.
39. Brunger S, Bank W. *Sub-Saharan Africa: From Crisis to Sustainable Growth*. African Studies Review. 1990;33(1):146.
40. Widmalm S, Parker CF, Persson T. *Civil Protection Cooperation in the European Union. How Trust and Administrative Culture Matter for Crisis Management*. Basingstoke, Hampshire: Palgrave Macmillan; 2019.
41. Lalonde C. *The Potential Contribution of the Field of Organizational Development to Crisis Management*. Journal of Contingencies and Crisis Management. 2007;15(2):95-104.
42. Janssen M, van der Voort H. *Agile and adaptive governance in crisis response: Lessons from the COVID-19 pandemic*. International Journal of Information Management. 2020;55:102180.
43. Overby E, Bharadwaj A, Sambamurthy V. *Enterprise agility and the enabling role of information technology*. European Journal of Information Systems. 2006;15(2):120-31.
44. Mergel I, Gong Y, Bertot J. *Agile government: Systematic literature review and future research*. Government Information Quarterly. 2018;35(2):291-8.
45. World Economic Forum. *The Future Role of Civil Society World Scenario Series*, [online]. 2013. Available at: http://www3.weforum.org/docs/WEF_FutureRoleCivilSociety_Report_2013.pdf [Accessed: 15 December 2020].
46. Bronen R, Chapin FS. *Adaptive governance and institutional strategies for climate-induced community relocations in Alaska*. Proceedings of the National Academy of Sciences. 2013;110(23):9320-5. DOI: 10.1073/pnas.1210508110.
47. Hatfield-Dodds S, Nelson R, Cook D. *Adaptive Governance: An Introduction and Implications for Public Policy*. Australian Agricultural and Resource Economics Society, 51st Conference, February 13-16, 2007, Queenstown, New Zealand; 2007.
48. Wang C, Medaglia R, Zheng L. *Towards a typology of adaptive governance in the digital government context: The role of decision-making and accountability*. Government Information Quarterly. 2018;35(2):306-22.
49. Christensen T, Laegreid P, Rykkja LH. *Organizing for Crisis Management: Building Governance Capacity and Legitimacy*. Public Administration Review. 2016;76(6):887-97.
50. Demiroz F. *Governance in Crisis Management*. In: Farazmand A (ed.) *Global Encyclopedia of Public Administration, Public Policy, and Governance*. Springer International Publishing; 2018.
51. Schade J. *Zivilgesellschaft – eine vielschichtige Debatte*. INEF-Report number: 59/2002, [online]. Available at: https://duepublico2.uni-due.de/receive/dupublico_mods_00027114 [Accessed: 23 December 2020].
52. Cooper R. *What is Civil Society, its role and value in 2018?*, [online]. 2018. Available at: https://assets.publishing.service.gov.uk/media/5c6c2e74e5274a72bc45240e/488_What_is_Civil_Society.pdf [Accessed: 20 December 2020].
53. Riley JM. *Stakeholders in Rural Development, Critical Collaboration in state-NGO Partnership*. New Delhi: Sage; 2002.
54. Barnes K, Albrecht P. *Civil Society Oversight of the Security Sector and Gender Geneva Centre for the Democratic Control of Armed Forces (DCAF)*, [online]. 2008. Available at: <https://issat.dcaf.ch/fre/download/4887/43154/Tool%20Ciiil%20Society%20Oversight%20of%20the%20Security%20Sector%20and%20Gender.pdf> [Accessed: 28 February 2021].

55. Quarantelli EL. *Emergent behaviors and groups in the crisis time of disasters*. Newark, De: Disaster Research Center; 1996.
56. Stallings RA, Quarantelli EL. *Emergent Citizen Groups and Emergency Management*. Public Administration Review. 1985;45:93-100.
57. Ferguson J, Schmidt A, Boersma K. *Citizens in crisis and disaster management: Understanding barriers and opportunities for inclusion*. Journal of Contingencies and Crisis Management. 2018; 26(3):326-8.
58. Whittaker J, McLennan B, Handmer J. *A review of informal volunteerism in emergencies and disasters: Definition, opportunities and challenges*. International Journal of Disaster Risk Reduction 2015;13:358-68. DOI: 10.1016/j.ijdrr.2015.07.010.
59. Barsky LE, Trainor JE, Torres MR, Aguirre Benigno E. *Managing volunteers: FEMA's Urban Search and Rescue programme and interactions with unaffiliated responders in disaster response*. Disasters. 2007;31(4):495-507.
60. Eller W, Gerber BJ, Branch LE. *Voluntary Nonprofit Organizations and Disaster Management: Identifying the Nature of Inter-Sector Coordination and Collaboration in Disaster Service Assistance Provision*. Risk, Hazards and Crisis in Public Policy. 2015;6(2):223-38.
61. Aldrich DP. *Building resilience: social capital in post-disaster recovery*. Chicago, Ill.; London: University Of Chicago Press; 2012.
62. Drabek TE, McEntire DA. *Emergent phenomena and the sociology of disaster: lessons, trends and opportunities from the research literature*. Disaster Prevention and Management: An International Journal. 2003;12(2):97-112.
63. Smith K, Hamerton H, Hunt S, Sargisson R. *Local volunteers respond to the Rena oil spill in Maketū, New Zealand*. Kōtuitui: New Zealand Journal of Social Sciences Online. 2015;11(1):1-10.
64. Linell M. *Citizen response in crisis: Individual and collective efforts to enhance community resilience*. An Interdisciplinary Journal on Humans in ICT Environments. 2014;10(2):68-94.
65. Stewart GT, Kolluru R, Smith M. *Leveraging public-private partnerships to improve community resilience in times of disaster*. International Journal of Physical Distribution and Logistics Management. 2009;39(5):343-64.
66. Williams TA, Gruber DA, Sutcliffe KM, Shepherd DA, et al. *Organizational Response to Adversity: Fusing Crisis Management and Resilience Research Streams*. Academy of Management Annals. 2017;11(2):733-69.
67. Holling CS. *Resilience and Stability of Ecological Systems*. Annual Review of Ecology and Systematics. 1973;4(1):1-23.
68. Adger WN. *Social and ecological resilience: are they related?* Progress in Human Geography. 2000; 24(3):347-64.
69. Williams TA, Gruber DA, Sutcliffe KM, Shepherd DA, et al. *Organizational Response to Adversity: Fusing Crisis Management and Resilience Research Streams*. Academy of Management Annals. 2017;11(2):733-69.
70. Adger WN, Hughes TP, Folke C, Carpenter SR, et al. *Social-ecological resilience to coastal disasters*. Science. 2005;309(5737):1036-9.
71. Carpenter S, Walker B, Anderies JM, Abel N. *From Metaphor to Measurement: Resilience of What to What?* Ecosystems. 2001;4(8):765-81.
72. Folke C. *Resilience: The emergence of a perspective for social–ecological systems analyses*. Global Environmental Change. 2006;16(3):253-67.
73. Gunderson LH. *Ecological Resilience – In Theory and Application*. Annual Review of Ecology and Systematics. 2000;31(1):425-39.
74. Walker B, Carpenter SR, Anderies JM, Abel N, et al. *Resilience Management in Social-ecological Systems: a Working Hypothesis for a Participatory Approach*. Conservation Ecology. 2002;6;1.

75. Walker B, Holling CS, Carpenter SR, Kinzig AP. *Resilience, Adaptability and Transformability in Social-ecological Systems*. Ecology and Society. 2004;9(2):5, [online]. Available at: <https://www.ecologyandsociety.org/vol9/iss2/art5/> [Accessed: 26 October 2020].
76. Wildavsky A. *Searching for Safety*. The Journal of Risk and Insurance. 1990;57(3):564.
77. Abbate J. *From control to coordination: new governance models for information networks and other large technical systems*. In: Coutard O. (eds.). *The Governance of Large Technical Systems*, London: Routledge; 1999, p. 114-29.
78. Hutter G, Kuhlicke C, Glade T, Felgentreff C. *Natural hazards and resilience: exploring institutional and organizational dimensions of social resilience*. Natural Hazards. 2011;67(1):1-6.
79. Longstaff PH, Armstrong NJ, Perrin K, Parker WM, et al. *Building Resilient Communities: A Preliminary Framework for Assessment*, [online]. Homeland Security Affairs. 2010. Available at: <https://www.hsaj.org/articles/81> [Accessed: 1 October 2020].
80. Bajarūnas E. *Addressing Hybrid Threats: Priorities for the EU in 2020 and Beyond*. European View. 2020;19(1):62-70.
81. *Civil Resilience Network*, [online]. Reut English. Israel Trauma Coalition for Response and Preparedness, Reut Institute; 2009. Available at: <https://www.reutgroup.org/Publications/Civil-Resilience-Network> [Accessed: 17 June 2020].
82. Castillo G, Jeans H, Thomas S. *The Future is a Choice: The Oxfam Framework and Guidance for Resilient Development*, [online]. Oxfam Policy and Practice. 2016. Available at: <https://policy-practice.oxfam.org/resources/the-oxfam-framework-and-guidance-for-resilient-development-604990/> [Accessed: 8 July 2020].
83. Pitrėnaitė-Žilienė B, Carosi A, Vallesi P. *Enhancing Societal Resilience Against Disasters: Engaging the Public Via Social Technologies*. Social Technologies. 2014;4(2):318-32.
84. Žilinskas R. *Valstybės atsparumas išorinėms hibridinio pobūdžio grėsmėms: hipotetinis modelis*. Politologija. 2017;87(3):45.
85. *Crisis Resilience Academy*, [online]. Institute for Societal Resilience. 2020. Available at: <https://www.resilience-institute.nl/expertise-labs/crisis-resilience-academy/> [Accessed: 22 December 2020].
86. Mazur L. *Cultivating Resilience in a Dangerous World*. In: Starke L, Assadourian E, Prugh T (eds.). *The State of the World 2013: Is Sustainability Still Possible?* Worldwatch Institute, Washington, DC: Island Press; 2013, p. 353-63.
87. Béné C, Wood RG, Newsham A, Davies M. *Resilience: New Utopia or New Tyranny? Reflection about the Potentials and Limits of the Concept of Resilience in Relation to Vulnerability Reduction Programmes*. IDS Working Papers. 2012;405:1-61, [online]. Available at: http://www.reachingresilience.org/IMG/pdf/resilience_new_utopia_or_new_tyranny.pdf [Accessed: 2 March 2020].
88. Boyd E, Osbahr H, Ericksen PJ, Thompkins EL, et al. *Resilience and "Climatizing" Development: Examples and policy implications*. Development. 2008;51:390-6.
89. Duit A, Galaz V, Eckerberg K, Ebbesson J. *Governance, complexity, and resilience*. Global Environmental Change. 2010;20(3):363-8.
90. Bernier Q, Meinzen-Dick R. *The Role of Social Capital Food Policy Network for Resilience*, [online]. 2014. Available at: <http://ebrary.ifpri.org/utills/getfile/collection/p15738coll2/id/128489/filename/128700.pdf> [Accessed: 27 February 2021].
91. Vincent K. *Uncertainty in adaptive capacity and the importance of scale*. Global Environmental Change. 2007;17(1):12-24.
92. Chakravarthy BS. *Adaptation: A Promising Metaphor for Strategic Management*. The Academy of Management Review. 1982;7(1):35.
93. Jones L, Ludi E, Levine S. *Towards a characterisation of adaptive capacity: a framework for analysing adaptive capacity at the local level*, [online]. Overseas Development Institute Report. December 2010. Available at: https://www.researchgate.net/publication/49467073_Towards_a_Characterisation_of_Adaptive_Capacity_A_Framework_for_Analysing_Adaptive_Capacity_at_the_Local_Level [Accessed: 16 July 2020].

94. Daze A, Ambrose K, Ehrhart C. *Climate vulnerability and capacity analysis: Handbook*. 1st Ed. Geneva, Switzerland: CARE International; 2009.
95. Prowse M, Scott L. *Assets and Adaptation: An Emerging Debate*. IDS Bulletin. 2009;39(4):42-52.
96. Ostrom E. *Understanding institutional diversity*. Princeton, Nj: Princeton University Press; 2005.
97. Dulal H, Brodnig G, Onoriose GCh, Thakur KH. *Capitalising on Assets: vulnerability and adaptation to climate change in Nepal*. Social Dimensions of Climate Change. 2010. Paper 121.
98. Staber U, Sydow J. *Organisational Adaptive Capacity: A Structural Perspective*. Journal of Management Inquiry. 2002;11(4):408-24.
99. Cohen WM, Levinthal DA. *Absorptive Capacity: A New Perspective on Learning and Innovation*. Administrative Science Quarterly. 1990;35(1):128.
100. Mcgray H, Hammill A, Bradley R, Schipper L, et al. *Weathering the storm: options for framing adaptation and development*. Washington, Dc: World Resources Institute; 2007.
101. Smith JB. *Climate change, adaptive capacity and development*. London: Imperial College Press; 2003.
102. Keck M, Sakdapolrak P. *What is social resilience? Lessons learned and ways forward*. Erdkunde. 2013;67(1):5-19.
103. Stern E. *Crisis and Learning: A Conceptual Balance Sheet*. Journal of Contingencies and Crisis Management. 1997;5(2):69-86.
104. Walker B, Gunderson L, Kinzig A, Folke C, et al. *A Handful of Heuristics and Some Propositions for Understanding Resilience in Social-Ecological Systems*. Ecology and Society. 2006;11(1).
105. Frankenberger TR, Spangler T, Nelson S, Langworthy M. *Enhancing resilience to food insecurity amid protracted crisis*, [online]. 2013. Available at: http://www.fao.org/fileadmin/templates/cfs_high_level_forum/documents/Enhancing_Resilience_FoodInsecurity-TANGO.pdf [Accessed: 22 July 2020].
106. Elliott JR, Haney TJ, Sams-Abiodun P. *Limits to Social Capital: Comparing Network Assistance in Two New Orleans Neighborhoods Devastated by Hurricane Katrina*. The Sociological Quarterly. 2010;51;4:624-48.
107. Magis K. *Community Resilience: An Indicator of Social Sustainability*. Society and Natural Resources. 2010;23(5):401-16.
108. Schuller T. *Reflections on the Use of Social Capital*. Review of Social Economy. 2007;65(1):11-28. DOI: 10.1080/00346760601132162.
109. Breuskin I. *Living Reviews in Democracy Social Capital and Governmental Institutions*, [online]. 2012. Available at: https://ethz.ch/content/dam/ethz/special-interest/gess/cis/cis-dam/CIS_DAM_2015/WorkingPapers/Living_Reviews_Democracy/Breuskin.pdf [Accessed: 28 February 2021].
110. Hooghe M, Stolle D. *Generating social capital: civil society and institutions in comparative perspective*. New York: Palgrave Macmillan; 2003.
111. Hanifan LJ. *The Rural School Community Center*. The Annals of the American Academy of Political and Social Science. 1916;67:130-38.
112. Bourdieu P. *The forms of capital*. In: Richardson JG (ed.). *Handbook of theory and research for the sociology of education*. New York, NY: Greenwood; 1985, p. 241-58.
113. Coleman JS. *Social Capital in the Creation of Human Capital*. American Journal of Sociology. 1988; 94:S95-120.
114. Putnam RD, Leonardi R, Nanetti R. *Making democracy work: civic traditions in modern Italy*. Princeton, Nj: Princeton Univ. Press; 1993.
115. Scrivens K, Smith C. *Four Interpretations of Social Capital: An Agenda for Measurement*. OECD Statistics Working Papers. 2013;06. DOI: 10.1787/5jzbcx010wmt-en.
116. Braw E. *Fostering social capital is a national-security issue*, [online]. Standpoint. 2020. Available at: <https://standpointmag.co.uk/fostering-social-capital-is-a-national-security-issue/> [Accessed: 28 February 2021].

117. Gauntlett D. *Making is connecting. The social meaning of creativity, from DIY and knitting to YouTube and Web 2.0*. Cambridge: Polity; 2011.
118. Putnam RD. *Bowling Alone: America's Declining Social Capital*. *Journal of Democracy*. 1995;6(1): 65-78.
119. Woolcock, M. *Social Capital and Economic Development: Toward a Theoretical Synthesis and Policy Framework*. *Theory and Society*. 1998;27(2):151-208.
120. Saffer AJ. *Fostering social capital in an international multi-stakeholder issue network*. *Public Relations Review*. 2019;45(2):282-96.
121. Woolcock M, Narayan D. *Social Capital: Implications for Development Theory, Research, and Policy*. *The World Bank Research Observer*. 2000;15(2):225-49.
122. Bjørnskov C, Svendsen GT. *Measuring social capital: is there a single underlying explanation?* Aarhus: Aarhus School Of Business; 2003.
123. Franke S. *Measurement of Social Capital*. Reference Document for Public Policy Research, Development, and Evaluation, PRI Project Social capital as a Public Policy Tool, Canada. 2005, [online]. Available at: https://www.researchgate.net/publication/348050372_Measurement_of_Social_Capital_Reference_Document_for_Public_Policy_Research_Development_and_Evaluation [Accessed: 10 June 2021].
124. Bhandari H, Yasunobu K. *What is Social Capital? A Comprehensive Review of the Concept*. *Asian Journal of Social Science*. 2009;37(3):480-510.
125. Jordan J. *A Study in How Linking Social Capital Functions in Community Development*. Dissertations, [online]. 1 May 2015. Available from: <https://aquila.usm.edu/dissertations/44> [Accessed: 15 January 2021].
126. Hawkins RL, Maurer K. *Bonding, Bridging and Linking: How Social Capital Operated in New Orleans following Hurricane Katrina*. *British Journal of Social Work*. 2009;40(6):1777-93.
127. Knack S. *Social Capital and the Quality of Government: Evidence from the States*. *American Journal of Political Science*. 2002;46(4).
128. Berman S. *Civil Society and Political Institutionalization*. *American Behavioral Scientist*. 1997;40(5): 562-74.
129. Lowndes V, Wilson D. *Social Capital and Local Governance: Exploring the Institutional Design Variable*. *Political Studies*. 2001;49(4):629-47.
130. Wallis J, Killerby P, Dollery B. *Social economics and social capital*. *International Journal of Social Economics*. 2004;31(3):239-58.
131. Boin A, 't Hart P, Stern E, Sundelius B. *The politics of crisis management: public leadership under pressure*. New York: Cambridge University Press; 2016.
132. Ansell C, Gash A. *Collaborative Governance in Theory and Practice*. *Journal of Public Administration Research and Theory*. 2007;18(4):543-71. DOI: 10.1093/jopart/mum032.
133. Sundelius B. *A Brief on Embedded Societal Security*. *Information and Security: An International Journal*. 2005;17:23-37.
134. Parker CF, Nohrstedt D, Baird J, Hermansson H, et al. *Collaborative crisis management: a plausibility probe of core assumptions*. *Policy and Society*. 2020;39(4):510-29.
135. Martin E, Nolte I, Vitolo E. *The Four Cs of disaster partnering: communication, cooperation, coordination and collaboration*. *Disasters*. 2016;40(4):621-43.
136. Kapucu N. *Interagency Communication Networks During Emergencies*. *The American Review of Public Administration*. 2006;36(2):207-25.
137. Castañer X, Oliveira N. *Collaboration, Coordination, and Cooperation Among Organizations: Establishing the Distinctive Meanings of These Terms Through a Systematic Literature Review*. *Journal of Management*. 2020;46(6):965-1001. DOI: 10.1177/0149206320901565.
138. Zacharia ZG, Nix NW, Lusch RF. *An Analysis of Supply Chain Collaborations and their Effect on Performance Outcomes*. *Journal of Business Logistics*. 2009;30(2):101-23.

139. Arshinder, Kanda A, Deshmukh SG. *Supply chain coordination: Perspectives, empirical studies and research directions*. International Journal of Production Economics. 2008;115(2):316-35. DOI: 10.1016/j.ijpe.2008.05.011.
140. Saab DJ, Tapia A, Maitland C, Maldonado E, et al. *Inter-organizational Coordination in the Wild: Trust Building and Collaboration Among Field-Level ICT Workers in Humanitarian Relief Organizations*. VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations. 2012;24(1):194-213.
141. Brown K, Keast R. *Citizen-Government Engagement: Community Connection Through Networked Arrangements*. Asian Journal of Public Administration. 2003;25(1):107-31.
142. Najam A. *The Four C's of Government Third Sector-Government Relations*. Nonprofit Management and Leadership. 2000;10(4):375-96.
143. Ergun Ö, Gui L, Heier Stamm JL, Keskinocak P, et al. *Improving Humanitarian Operations through Technology-Enabled Collaboration*. Production and Operations Management. 2013;23(6):1002-14.
144. Kotzab H, Darkow I-L, Bäumlner I, Georgi C. *Coordination, cooperation and collaboration in logistics and supply chains: a bibliometric analysis*. Production. 2019;29(1).
145. Axner M. *Promoting Coordination, Cooperative Agreements, and Collaborative Agreements Among Agencies*, [online]. Community Tool Box. 2010. Available at: <https://ctb.ku.edu/en/table-of-contents/implement/improving-services/coordination-cooperation-collaboration/main> [Accessed: 15 January 2021].
146. Cameron AC, Triverdi PK. *Microeconometrics using Stata*. College Station, Tex: Stata Press; 2010.
147. Jiang R, Murthy DNP. *A study of Weibull shape parameter: Properties and significance*. Reliability Engineering and System Safety. 2011;96(12):1619-26.
148. Bandalos DL. *Measurement theory and applications for the social sciences*. New York: The Guilford Press; 2018.
149. *Dėl Nacionalinio saugumo strategijos patvirtinimo*. Nr. IX-907, [online]. Lietuvos Respublikos Seimas. 2017. Available at: <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.167925/asr> [Accessed: 21 January 2021].
150. *Lietuvos Respublikos nacionalinio saugumo pagrindų įstatymas*. Nr. VIII-49, [online]. Lietuvos Respublikos Seimas. 1996. Available at: <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.34169/asr> [cited 2021 Jan 18].
151. *Lietuvos Respublikos ginkluotos gynybos ir pasipriešinimo agresijai įstatymas*. Nr. VIII-1856, [online]. Lietuvos Respublikos Seimas. 2000. Available at: <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.106093/uFhlmHPRyZ> [Accessed: 21 January 2021].
152. *Lietuvos Respublikos civilinės saugos įstatymas*. Nr. VIII-971, [online]. Lietuvos Respublikos Seimas. 2010. Available at: <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.69957/asr> [Accessed: 15 January 2021].
153. *Parengta COVID-19 valdymo strategija*, [online]. Mano vyriausybė. 2020. Available at: <https://lr.lt/lt/naujienos/parengta-covid-19-valdymo-strategija> [Accessed: 18 January 2021].
154. Nakrošis V, Bortkevičiūtė R, Kalkytė P, Patkauskaitė-Tiuchtienė I, et al. *Nuo greitų pergalių prie skaudžių pralaimėjimų: Lietuvos viešosios politikos atsakas į COVID-19 pandemiją ir šios krizės valdymas 2020 m.*, [online]. Viešosios politikos trumpaštis, VU TSPMI. Available at: <https://www.tspmi.vu.lt/wp-content/uploads/2020/12/Vie%C5%A1osios-politikos-trumpa%C5%A1tis.pdf> [Accessed: 27 December 2020].
155. *Dėl Lietuvos Respublikos Vyriausybės COVID-19 sukeltos situacijos valdymo komiteto sudarymo*, [online]. Lietuvos Respublikos Vyriausybė. 2020. Available at: <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/32c846e46eba11eaa38ed97835ec4df6?jfwid=6m4098ow2> [Accessed: 3 February 2021].
156. Interview with governmental officer (code A) in charge of crisis governance for Alytus Fire -19 and COVID-19 in Lithuania (Vilnius, September 2020).
157. Wither JK. *Back to the future? Nordic total defence concepts*. Defence Studies. 2020;20(1):61-81.

158. *Security Strategy for Society*, [online]. Turvallisuuskomitea. 2017. Available at: <https://turvallisuuskomitea.fi/en/security-strategy-for-society/> [Accessed: 11 January 2021].
159. Šavelė G. *NVO sektoriaus veiklos tęstinumui reikia 40,2 mln. eurų*, [online]. alfa.lt. 12 May 2020. Available at: <https://www.alfa.lt/straipsnis/50418708/g-savele-nvo-sektoriaus-veiklos-testinumui-reikia-40-2-mln-euru> [Accessed: 5 January 2020].
160. *Padėkite artimui savo!*, [online]. Stiprūs Kartu. 2020. Available at: <https://stipruskartu.lt/> [Accessed: 12 December 2020].
161. *Laikykitės, medikai!*, [online]. Laisvės TV. 2020. Available at: <https://laikykitesmedikai.lt/laikykitesmedikai/finansine-ataskaita/> [Accessed: 12 December 2020].
162. *Gedimino legionas*, [online]. Vilniaus legionas. 2020. Available at: <https://legionas.vilnius.lt/> [Accessed: 21 January 2021].
163. *Gynybos paramos fondas*, [online]. Gynybos paramos fondas. Available at: <https://fondas.eu/lt/naujienos/kvietimas-registruotis-i-CC%A8-sertifikuotus-savanoriu-CC%A8-mokymus/> [Accessed: 11 October 2020].
164. Zdanavičius L, Statkus N. *Strengthening Resilience of Lithuania in an Era of Great Power Competition: The Case for Total Defence*. Journal on Baltic Security. 2020;0(0). DOI: 10.2478/jobs-2020-0009.
165. *Lietuvos pasirengimas ekstremaliosioms situacijoms*, [online]. Lietuvos pasiruošimas ekstremaliosioms situacijoms. Available at: <https://www.lt72.lt/> [Accessed: 16 December 2020].
166. Jakučionis S. *Raudonasis Kryžius sutarė bendradarbiauti su Vyriausybe per krizes*, [online]. LRT. 2019. Available at: <https://www.lrt.lt/naujienos/lietuvoje/2/1110959/raudonasis-kryzius-sutare-bendradarbiauti-su-vyriausybe-per-krizes> [Accessed: 18 October 2020].
167. *COVID-19 pamokos atvirai*, [online]. Lietuvos Respublikos Vyriausybės kanceliarija. 2020. Available at: <https://lrvk.lrv.lt/lt/naujienos/covid-19-pamokos-atvirai> [Accessed: 28 August 2020].
168. *Web Conference “COVID 19 Lessons Learned”*, [online]. Gynybos paramos fondas. 2020. Available at: <https://fondas.eu/en/news/webconference-covid-19-lessons-learned/> [Accessed: 7 September 2020].
169. *Kaip organizuoti savanorišką veiklą ekstremalios situacijos metu 2020 m. rugsėjis. Metodinės rekomendacijos nevyriausybiniams organizacijoms*, [online]. Lietuvos Respublikos socialinės apsaugos ir darbo ministerija. September 2020. Available at: [https://socmin.lrv.lt/uploads/socmin/documents/files/Rekomendacijos%20ekstremaliosios%20situacijos%20metu\(1\).pdf](https://socmin.lrv.lt/uploads/socmin/documents/files/Rekomendacijos%20ekstremaliosios%20situacijos%20metu(1).pdf) [Accessed: 10 October 2020].

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Analiza kierowania zarządzaniem kryzysowym: Dążenie do uzyskania odporności funkcjonalnej w obliczu pandemii COVID-19 na Litwie

STRESZCZENIE

Skuteczny, terminowo realizowany, interoperatywny proces kierowania wraz ze swymi cechami adaptacyjnymi ma kluczowe znaczenie w zwalczaniu skutków każdego rodzaju kryzysu na poziomie państwa. Niniejszy artykuł analizuje zaangażowanie podmiotów społeczeństwa obywatelskiego na Litwie w celu określenia poziomu odporności funkcjonalnej w kierowaniu zarządzaniem kryzysowym związanym z COVID-19. Przedmiotem rozważań teoretycznych i analizy były podejścia oparte na kapitale społecznym i zdolnościach adaptacyjnych. Postawiliśmy hipotezę, że kapitał społeczny jest istotniejszy dla zwiększania odporności na początku kryzysu, natomiast zdolności adaptacyjne zyskują na znaczeniu w trakcie kryzysu oraz po jego zakończeniu. Zastosowano mieszane metody gromadzenia danych: analizę treści, ankiety (standaryzowane kwestionariusze), a także wywiady z ekspertami z sektora obywatelskiego (wolontariat i organizacje pozarządowe) oraz publicznego (władze lokalne i centralne).

W wyniku badań uzyskano nowe informacje dotyczące znaczenia zaangażowania podmiotów społeczeństwa obywatelskiego we wzmacnianie odporności funkcjonalnej i osadzenia podejścia obejmującego całe społeczeństwo w kierowaniu zarządzaniem kryzysowym.

SŁOWA KLUCZOWE

kierowanie zarządzaniem kryzysowym, odporność funkcjonalna, podmioty społeczeństwa obywatelskiego, kapitał społeczny, zdolności adaptacyjne

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