

RESILIENCE THROUGH THE LENS OF DECISION-MAKERS: SPATIAL DIVERSITIES, ADAPTIVE CAPACITY AND TRANSFORMATION THROUGH MULTI-LEVEL GOVERNANCE

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Abstract

The present research aims to contribute to the strain of literature that investigates resilience implementation features at different spatial scales. The analysis is guided by the following research questions: Are there any significant variations in the perception of shocks and stresses by policymakers at different spatial scales (rural, urban, local, regional, national)? How do spatial diversities influence adaptive capacities and transformation at different scales? How can multi-level governance frameworks be tailored to increase resilience performance? The research is a qualitative case study aimed to analyse the perception of Romanian decision-makers at different levels on how their territorial units experienced various difficult situations, surpassed them and proved to be resilient. The research methodology consisted of a set of semi-structured in-depth interviews conducted with public authorities at central, regional, local and sub-local levels (urban and rural). The study highlighted Romanian decision-makers' perception of shocks, stressors and the resilience capacity at various spatial scales. For the analyzed period, the economic crises, the pandemic crisis and various types of natural disasters were identified as the main shocks. Also, a series of stressors can be added, with slower action, but equally strong and persistent over time, such as the phenomenon of deindustrialization and the waves of emigration. The study has also outlined the fact that strategies and plans, structures and dedicated resources can be identified at all levels, but these are mainly aimed at emergency situations such as natural disasters and less to economic and social shocks.

Keywords: resilience, policymaking, adaptative capacity, transformation, multi-level governance

1. INTRODUCTION

With the growing concern about multiple and overlapping crises and shocks, resilience implementation has become a topical issue in both the academic and policy-making circles. In this respect, in their bibliometric analysis of urban resilience, Bautista-Puig et al. (2022) have observed a practical turn in the orientation of the related research, evolving from more theoretical approach to a more practical one, with a stronger focus being placed on resilience implementation and „enabling strategies”. Nonetheless, despite this turn, there are still important gaps between resilience research and practice. Chelleri et al. (2015) outline the poor understanding of how to operationalize “the metaphor” of resilience and the conceptual misalignment in resilience implementation. In their large survey among scholars from different fields and city practitioners in Europe, Chelleri and Baravikova (2021) found that despite the transformative approaches became more popular than the traditional „bouncing back” ones, resilience practices are still driven through robustness and safety-driven measures. According to Shamsuddin (2020), implementing urban resilience raises its own questions and challenges, such as the need for extensive coordination or the acknowledgement of divergent time horizons and potential diverse outcomes.

Understanding how ideas of resilience are translated into practice at different scales has also captured the attention of different scholars across the globe. Overall, there is general consensus that resilience theory and practice should be conceptualized and operationalized while considering interdependencies across multiple spatial and temporal scales and answering the question: resilience for whom, what, when, where and why? (Meerow et al, 2016). However, research priorities across different scales seem to be different. In this respect, Zhang and Li (2018) found that the issues related to ecological systems are more prominent at global level, while research at the regional level tend to focus more on resilience of economic structures; meanwhile, institutional arrangements and administrative issues are more in focus at the city level, while the community scale puts more emphasis on actions to ensure the basic conditions for residents (i.e. resilience of infrastructures, health services, transport networks etc.). Apart from being different, priorities at various scales can entail trade-offs. For example, Chelleri et al. (2015) showed that increasing resilience at one scale, for example at the individual level, could result in a reduction of resilience on another level, i.e. the community level. Moreover, Weichselgartner and Kelman (2015) argue that scholars should better acknowledge the „geographies of resilience” and the differences between ecosystems and societies; in their view, the key to ensure that science is translated into an action agenda is the promotion of justice both socially and spatially, as well as increasing the equity of knowledge and resource distribution and access across all scales.

The present study aims to contribute to this strain of literature that investigates resilience implementation features at different spatial scales. Our analysis is guided by the following research questions: Are there any significant variations in the perception of shocks and stresses by policy-makers at different spatial scales (rural, urban, local, regional, national)? How do spatial diversities influence adaptive capacities and transformation at different scales? How can multi-level governance frameworks be tailored to increase resilience performance? We illustrate the analysis with a qualitative case study that investigates the perception of Romanian decision-makers at various levels (national, regional, local, urban, rural) with regard to resilience shocks and stresses, adaptive capacities and forward-looking strategies and actions.

The reminder of the paper is organized as follows. Part 2 highlights the key theoretical concepts of the research, while Part 3 introduces the methodology of the study. Part 4 summarizes the findings and the implications for resilience theory and practice. Our conclusions are presented in Part 5.

2. LITERATURE REVIEW: RESILIENCE THEORY AND PRACTICE

Defined in general terms, resilience illustrates systems, institutions, and individuals' behaviors in face of endogenous and exogenous shocks and stressors, namely their capacity of absorbing the shock and returning to the state before the shock or continuing to advance to a new, superior state. At the same time, the system must succeed to maintain its main functions and characteristics. Briefly explained, resilience means the capacity to cope with changes, unexpected events, shocks and continue to develop (Fisher, et al., 2019, Demiroz & Haase, 2020, Shamsuddin, 2020).

Furthermore, resilience is considered a positive characteristic, with great importance for long-term economic development, and can be used as a tool in the policy-making process for helping groups of individuals or even economies to decrease their vulnerabilities in face of shocks and stressors (Martin & Sunley, 2007, Boschma & Martin, 2010). The importance of developing economies' resilience at national, regional, and local levels increased due to the growing impact, frequency, and severity of different shocks, stressors, and disturbances that any type of organization and group of individuals have to face (Zseleczky & Yosef, 2014). Currently, the importance of resilience is stressed by its growing impact in practice, being often used as the main purpose of public policies in different fields, and as time passing, it might replace the concept of sustainability (Martin & Sunley, 2015, Tocci, 2020, Androniceanu, 2020). In this respect, under the present circumstances, resilience does not only describe a system's behavior in critical times but also comprises the opportunities that arise in crises after a shock stroke (Folke, 2006, Fisher, et al., 2019, Profiroiu & Nastacă, 2023).

Analyzing the massive variety of resilience studies, it was observed that many of them focused on economic resilience (of regions, communities, and households) in face of different types of shocks such as natural disasters or economic crises (see Martin et al. 2016, Reggiani et al. 2002, OECD, 2014, Bene et al. 2014,

Giacometti, 2018, Tocci, 2020). These studies revealed how national, regional, or local economies recovered from economic crises and how communities and households adapted to climate change disasters.

A series of studies regarding economic resilience used the notion of „mechanical” resilience which can be defined as the capacity of an economic system to keep its stability in face of a shock (economic crises, natural disasters, epidemics, or pandemics as Covid-19), managing to maintain its long-term growth (this is called short-term resilience and shows the system’s ability to return to its original state in which it was before the shock). Other studies focused on the notion of „ecological” resilience which shows the long-term capacity of a given economic environment to withstand continuous shocks and evolve towards a new state of equilibrium (Boyd & Folke, 2011, DiCaro, 2015).

Other authors approached resilience from an evolutionary perspective considering that the economy of a community, region, or country is not in a state of equilibrium, but rather has a complex, non-linear and dynamic path. Evolutionary theorists argue that resilience should be conceived as a multidimensional and processual entity (Komninos, et al., 2019). As consequence, appeared the need to understand not only the nature, the time of the shock, and the region/community’s vulnerability to it, but also their capacity to face the shock, the robustness of firms and institutions to respond to it, and how the economy recovers from the shock (Martin & Sunley, 2020, Staničková & Melecký, 2018, Ladner & Soguel, 2015). This complexity is the source of one of the critical problems identified in the literature on resilience, especially in terms of measuring it, and led to the tendency to confuse the results of resilience with the capacity of resilience (Bristow & Healy, 2014).

When studying resilience, understanding the nature of the shock and how the external environment has changed is very important, due to all the contexts in which resilience is developed when economies are experiencing shocks or crises (Barbera, 2021). Thus, as Martin & Sunley (2020) observed, only when a shock occurs, it is possible to verify whether and to what extent the continued adaptation of an economy led to resilience. The literature proposes to divide the shocks that economies might face into four categories: covariate shocks, idiosyncratic shocks, seasonal shocks, and stressors (Giacometti et al, 2018). Shocks have a different impact on people because they have diverse capacities to anticipate, respond and cope. In addition, how a system anticipates and responds to these shocks, reveals its level of resilience (OECD, 2014). OECD (2014) defined all the aforementioned shocks: (1) the covariate shocks are high in intensity and impact a group or all populations such as epidemics, pandemics, violent conflicts, inflation, or economic crises; (2) the idiosyncratic shocks affect individuals and their families such as the death of a relative, a divorce or bankruptcy of a family business; (3) the seasonal shocks appear in certain periods and can be floods or other natural disasters; (4) the stressors are constant negative factors such as the demographic aging, climate change or unemployment.

As mentioned before, to study the resilience of economies, it is important to define various types of shocks that might occur at the national or regional level: at the macroeconomic level there are financial, and fiscal shocks related to capital stocks, while local shocks arise from the decision-making process managed by the local actors (Sensier et al., 2016, Desmidt & Meyfrootd, 2023, Polyzos & Tsiotas, 2023). The factors used to analyze the resilience of regional economies are: industrial and business infrastructure, labor market conditions, financial arrangements, power and decision-making, economic diversity, trade opening, exports, employment, human capital, labor skills profile, market characteristics, territoriality, urbanization and infrastructure (Sensier, et al., 2016; Palaskas et al., 2015, Shamsuddin, 2020).

In addition, when measuring resilience, it is important to differentiate between specific post-shock result indicators and other indicators that measure the economies’ adaptive capacity. The indicators that measure adaptability do not show resilience, but the mechanisms and processes of adaptation that helped the system to become resilient (Bruneckiene, et al., 2019).

Measuring resilience as a performance or result also requires identifying comparable economic indicators (such as GDP and employment), and understanding how to manage mixed outcomes and compromises (e.g. at certain times the result indicators will show positive performance). This is particularly difficult when it is obvious that shocks can have a wide range of effects on the economic development of regions or communities (Martin, 2012). A similar challenge is to determine whether resilience is analyzed in absolute terms (as all regions or communities reacted to the shock) or in relative terms (which regions or communities did better or were more resilient than others) (Giannakis & Bruggeman, 2020, Bristow & Healy, 2020).

Another perspective of economic resilience is the adaptive capacity which involves the ability of a system to cope with market and environmental shocks, stressing the importance of this feature on the resilience of regional economies. This type of resilience implies the existence of four conditions: risk, resistance, reorientation, and recovery. These conditions depend on the scale, nature, and duration of economic shocks (Giacometti et al., 2018). These studies also discuss the role of inclusive societies and cohesion as important factors of resilience, together with active networks of citizens, the safety of neighborhoods, and the healthy lives of citizens (Giacometti et al., 2018).

Regarding community resilience, there were identified three categories of factors that can strengthen it: social cohesion, education level as well as social rules and values (Faulkner et al., 2018, Huggins & Thompson, 2015, Koliou et al., 2020, Fraser-Moleketi, 2012).

More than that, studies on economic resilience, also approached the link between resilience and governance (Ladner & Soguel, 2015, Țiclău, et al., 2020, Păceșilă et al., 2022), governance being one of the four areas identified by OECD (2014) with impact on resilience. OECD (2014) proposes that resilience is also driven by leadership and management, strategic and integrated approaches, public sector competencies, and an open and transparent governance process (Bromfield & McConnell, 2021, Trondal et al., 2022, Koca, 2022, Vedder et al. 2023).

The analyzes conducted by OECD (2014) regarding the resilience of various systems are based on risk management approaches. These approaches represent a much broader perspective as they focus on the system as a whole, instead of a single risk or event. The method allows a more comprehensive picture of the interconnections that are between different risks- for example, how natural disasters or pandemics can trigger economic shocks and affect all the factors of a well-functioning society (OECD, 2014, Pattyn et al., 2021).

Other authors (Martin et al., 2016) propose to use the concept of resilience for analyzing how economies are affected by recession using four dimensions: resistance, recovery, reorientation, and renewal. The authors emphasize that resilience is a multilateral process, involving four stages: exposure to shocks of firms, industries, employees, and institutions; the resistance of these firms, industries, workers, and institutions to the impact of these shocks; their ability or inability to adapt to the adjustments and changes necessary to return to their basic functions and the degree and nature of recovery from shock (Martin & Sunley, 2015).

These aspects of resilience depend on the nature, intensity, and duration of the recession and on several determinants of economic development: economic structures, resources, measures taken by local and national institutions, such as welfare policies, business infrastructure support programs, etc. These determine an economy's risk of exposure to shock and the resilience in face of disruptions caused by recessions.

To conclude, the most important take-aways for our qualitative study are that: i) resilience analysis should carefully consider the variances in the impact and severity of exogenous and endogenous shocks and stresses at various levels (national, regional, local); ii) resilience should be conceived as a multi-dimensional concept that takes into account simultaneously the economic, ecological, socio-ecological, environmental perspectives; iii) resilience capacity and performance should be treated distinctly, with equal attention being paid to resistance, recovery, reorientation and renewal or to adaptive capacity and transformation towards sustainability.

3. RESEARCH METHODOLOGY

In the present study, resilience is understood as the ability of a system to anticipate, resist, recover, respond, and transform itself in response to shocks or stressors (Wiig & Fahlbruch, 2019). Shocks are disruptive external events with significant negative short-term impact (e.g. earthquakes, floods, droughts, epidemics, economic crises, etc.), while stressors increase long-term vulnerability (e.g. demographic decline, climate change, chronic poverty, etc.) (Fingleton et al., 2012, Ormerod, 2008, Doran & Fingleton, 2014). The study covered several types of disturbances and forms of resilience at economic, social and environmental levels.

Our research departs from the hypothesis that perception of shocks and stressors, as well as adaptive capacities vary by spatial/ jurisdictional level, with important implications for resilience implementation and transformation towards sustainability. To test the hypothesis, we conducted a qualitative case study aimed to

analyse the perception of Romanian decision-makers at different levels on how their territorial units experienced various difficult situations, surpassed them and proved to be resilient. The research methodology consisted of a set of semi-structured in-depth interviews conducted with public authorities at central, regional, local and sub-local levels (urban and rural).

The interview guide was structured around five main topics that were meant to identify respondents' perception of: (1) Representative shocks and stressors experienced over the past 15-20 years; (2) Factors that influenced the response to shocks and contributed to recovery; (3) Shocks and stressors that may affect Romania/ the specific territorial units over the next 10 years; (4) The resilience capacity, i.e. the existence of strategies, plans, institutional structures, forms of dialogue with stakeholders and dedicated resources for responding to unforeseen situations; (5) Transformation towards sustainability: national, regional and local measures that can be implemented to increase the resilience capacity of the Romanian regions. The study was guided by the following research questions:

- Are there any significant variations in the perception of shocks and stressors by policy-makers at different spatial scales (rural, urban, local, regional, national)?
- How do spatial diversities influence adaptive capacities and transformation at different scales?
- How can multi-governance frameworks be tailored to increase resilience performance?

The interviews were conducted by a team of researchers from the Bucharest University of Economic Studies. Participation in the study was voluntary, the data collected being confidential and anonymous, as no respondent could be identified.

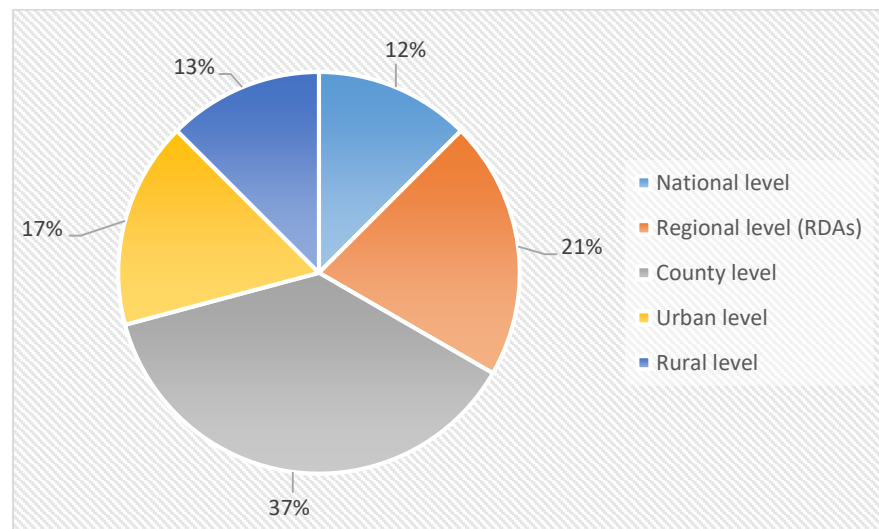


FIGURE 1 - RESPONDENTS' PROFILES

Source: authors, 2023

The qualitative study was based on 24 in-depth interviews conducted with representatives of the Romanian Parliament, the Romanian Government and the Ministry of Regional Development and Public Administration (National Level- 12%), Regional Development Agencies (RDAs- 21%), County Councils – local level (37%) and City Halls of urban (17%) and rural (13%) territorial administrative units (Figure 1). It should be noted here that Romania is a Parliamentary Republic with a semi-presidential regime and a unitary state, whose administrative-territorial structure is composed of the counties (intermediate level), cities (urban level) and communes (rural level); there are also eight development regions on the Romanian territory which serve for development purposes, but are not recognized as administrative territorial units in the country's Constitution, representing only statistical territorial units. The study has representation at the level of all eight development regions of Romania, as follows: Bucharest-Ilfov (25%), South East (12.5%), South West Oltenia (12.5%), West (12.5%), Centre (12.5%), North East (12.5%) South-Muntenia (8.33%), North West (4.17%).

4. MAIN FINDINGS OF THE STUDY

4.1 Perception of most representative shocks and stressors

The first question of the study aimed to identify and characterize the most representative economic, social and environmental shocks and stressors that Romania and its territorial units has faced over the past two decades. Figure 2 groups the responses by categories of shocks.

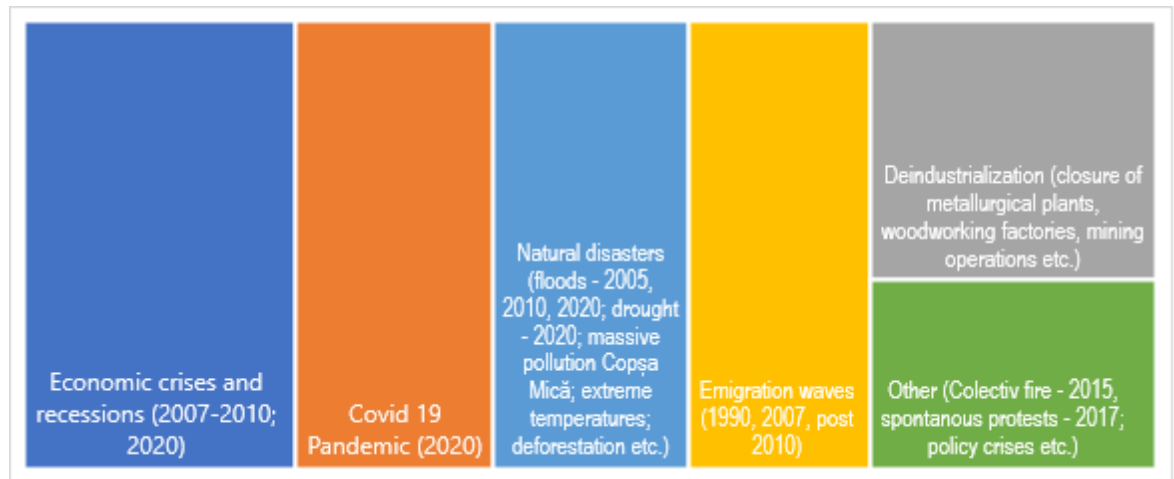


FIGURE 2 - REPRESENTATIVE SHOCKS AND STRESSORS WITH REGIONAL IMPACT

Source: authors, 2023

For the period under review (2000-present), economic crises are referred to as representative shocks by the majority of the participants in the study, but especially by the decision-makers at the national level. The respondents made reference to the economic and financial crisis and the periods of recession (2007-2010) as well as to the recent economic crisis, set in the context of the Covid-19 pandemic: "The economic and financial crisis of 2008-2009 and the pandemic crisis are events with a significant impact on Romania and, in fact, the entire world. In the case of the 2008 crisis, the negative effects were seen in increasing unemployment, poverty and disparities, or decreasing turnover, exports and competitiveness. The new Covid-19 crisis has a completely different effect, because we are now talking about loss of life, the weakening of education and health systems, the disruptive increase in indebtedness, or entire industries whose survival depends only on government aid. The Covid crisis was ongoing with a global impact and its effects on the economy and the population are still under assessment and analysis" (Decision-making representative, national level).

The pandemic crisis is perceived as having both a health dimension, with effects on human health, and a socio-economic dimension, particularly in certain sectors of activity (education, transport, services, tourism): "The major effects of this global shock are already anticipated at the economic level, through a recession considered to be the worst since the global economic crisis at the end of World War II, but also at a social level, as social restrictions and distancing have among the most diverse psychological effects among the population, from changing consumption behaviour to emotional distress, stress, depression, alienation" (Decision-making representative, national level).

Taken together, natural disasters form a third important cluster of shocks and stressors, with particular effects on the environment. Respondents mentioned in particular climatic and meteorological shocks (e.g. floods, droughts, extreme temperatures), but also phenomena such as chronic pollution (e.g. Copșa Mica- the most polluted commune in Europe in the 2000s) or the intensive logging of forests in the last 20 years.

The phenomenon of deindustrialisation is perceived by respondents as one with significant and lasting impact, with effects that are still felt today in many Romanian territories. References are made to specific events, such as closure of steel/metallurgical plants, closure of mines, closure of the 'only two factories in the city', or mass phenomena, such as 'disappearance of industry', 'end of economic activity', 'failing of companies'. The effects of deindustrialisation are felt both at economic level ("bankruptcy", "insolvency", "loss of competitiveness",

“unemployment”) and at the individual level, reflected in the increase in the level of indebtedness of the population, the degree of poverty and social exclusion or the decrease in living standards.

From a social perspective, most respondents refer to repeated waves of emigration, as ‘massive immigration’, ‘population exodus’, ‘labour migration’, ‘migration of skilled people’, ‘migration and decrease of the working population’: „The migration of Romanians began immediately after the 1989 Revolution, which caused the fall of the communist system, and then, after Romania’s integration into the European Union, in 2007, this phenomenon started to produce quite serious consequences. In the first waves of migration, the emigrating population came mostly from the unemployed category as a result of the deindustrialization of the country. Consequently, the impact for Romania’s economy was and is significant. The number of Romanians abroad is increasing year after year, so it can be affirmed that, at present, we are at a critical moment, if we take into account the worrying number of young people who choose, annually, to go abroad” (Representative from County Council, North-East region). The phenomenon has a much larger impact on smaller communities, where „Almost every family has a member working abroad” (Representative of City Hall, rural level).

A single respondent of the study (national level) mentions “The Colectiv Tragedy” among the major shocks faced by Romania in the last decades, with profound and transformative social and political effects. „The devastating fire in Colectiv Club (November 2015) resulted in the loss of 64 lives and generated a major social impact among the population, while revealing serious structural problems in Romania’s emergency response capacity, especially in the medical sector (but not exclusively). The “Colectiv accident” led to the organisation of the largest spontaneous protests since the Revolution, which culminated in the resignation of the government at that time” (Decision-making factor, national level). Figure 2 puts this shock together with the political crises that followed this tragedy.

4.2 Factors that influenced the shock response and had impact on recovery

Respondents to the study identified various forms of response to shocks that helped Romanian regions overcome or mitigate the critical effects of the crisis situations (Table no 1). However, it is worth mentioning that related to shocks such as the pandemic crisis, emigration waves or deindustrialisation, respondents appreciated that ‘the situation has not improved’, ‘the crisis is not overcome’, ‘the situation has not been recovered’, the negative effects still being felt.

TABLE 1 - THE MAIN FACTORS THAT INFLUENCED THE RESPONSE TO CRISIS AND THE RECOVERY PROCESS (RESILIENCE DRIVERS)

Resilience drivers	Description of resilience drivers
Sanitary measures	Vaccination, quarantine, social distancing, mobility limitation, telework, online school etc.
Packages of anti-crisis socio-economic measures	State aid for certain sectors, capitalization of banks, minimum social pension, work flexibility, simplification of the taxation system etc.
Consolidation/ restoration of the infrastructure	Acquisition of utilities, consolidation works, modernization of heating systems, canals, roads, waste management, decontamination of industrial sites etc.
Investments in economic assets	Investments made by Romanians from the diaspora and support for families remaining in the country, Foreign Direct Investments, European funds, investments made by residents in the development of new businesses (trade, tourism, services) etc..
Investments in human and social capital	Professional retraining, IT courses & supporting vulnerable groups, involvement of volunteers, NGOs, etc.

Source: Authors, 2023

As far as the pandemic crisis is concerned, respondents have explicitly marked that the pandemic is still ongoing, and a full recover cannot be considered yet, and also “*there is currently no prediction in the world of when and how it will be completely outdated*”. The anti-pandemic measures taken by public authorities are

widely identified, namely the isolation of localities with outbreaks, quarantine of affected areas, social distancing, limiting mobility, promoting vaccination, introducing online education, financing the purchase of tablets, switching to tele-work or promoting specific measures in tourism, services, health, education, public administration: *"The measures taken to refrain the spread of SARS-COV2 are unprecedented globally and in Romania, being imposed by the exceptional situation of a pandemic and the huge pressure it has on public health systems in all countries. The measures targeted most sectors and aimed to comply with the main conditions imposed to limit/prevent infection with Covid-19- social distancing, wearing a protective mask and enhanced hygiene measures. Currently, the ongoing vaccination campaign is the main goal of reducing the incidence of new Coronavirus infections"* (Decision-maker, national level).

Related to economic and financial crises, nationally adopted anti-crisis packages are mentioned such as: state aids for certain sectors, capitalisation of banks, maintenance of the single tax rate, introduction of minimum social pension, flexibility of work, simplification of the taxation system, relaxation of business conditions, support for vulnerable groups, redirecting European funds to sectors affected by the crisis: *"The institutional response to the economic crisis that affected Romania in the 2008-2009 period came through a package of anti-crisis measures adopted by the Government consisting of interventions on several levels: increasing public investment in infrastructure, the main aim being to create jobs to mitigate the shock of private sector unemployment caused by the economic crisis; speeding up the absorption of European funds into the economy and administration; maintaining the single tax rate; capitalisation of banks; freezing dignitaries' salaries, setting up the minimum social pension, etc."* (Decision-maker, national level).

In the same context, the representatives of the RDAs emphasize the role of European Structural Funds in addressing the negative effects of the crises: *"For the 2008 economic crisis, measures have been taken in the management of European funds (ROP 2007-2013) for the development of the business environment, by allocating 100% eligible expenditure for micro-enterprises. At regional level, there has been a number of projects funded from external sources or from the public budget for adults' professional conversion; a number of institutions have been set up, such as the Regional Centre for Professional Reconversion of Adults, which aimed to retrain the unemployed. Professional conversion and access to non-reimbursable funds have contributed to the creation of new jobs"* (Representatives of RDA).

The effects of the crises caused by natural disasters (floods, landslides, technological accidents) were addressed through public interventions to restore the affected infrastructure, purchase of new utilities, consolidation projects, modernisation of district heating systems, water canal, roads, waste management, decontamination of industrial sites, etc. However, preventive measures and those concerning an integrated approach to sustainable development, climate change and environmental stressors are of main importance in this context.

For the shocks related to deindustrialisation and waves of emigration- which are to some extent interdependent- respondents' opinions converged in favour of the idea that the effects have not been directly and coherently addressed in national policies and strategies. The problems have not been solved, however efforts to attract foreign investments or investments of Romanian citizens from diaspora were identified, as well as efforts to encourage professional retraining and to support new types of economic activities (supported in particular through European funds). For all types of identified shocks, the quality of institutions and local leadership are key factors that can contribute to recovery. *"Relating to the factors that generally contribute to the post-crisis recovery, I believe that there is a need first and foremost for solid institutions capable of anticipating, preventing- if possible, reacting quickly and coordinately, and communicating real, not disguised, with those directly affected and with the whole of society. Regardless of the type of crisis, the chances of overcoming difficult situations are all the greater as the economy is diversified, infrastructure is well developed, the risk of poverty and social exclusion is reduced and the region/country has clear competitive advantages. In other words, overcoming difficult situations depends on how solid you are up to the moment of the crisis and what mobilisation capabilities you show in the post-crisis period. Romanian people have demonstrated throughout their history their capacity for resilience and solidarity in face of crises, but real leadership is needed to highlight these qualities!"* (Decision-maker, national level).

4.3 Shocks and stressors likely to affect regions over the next 10 years

The third question of the study aimed to identify the decision makers' perception of the shocks that may affect the regions in the next decade (Figure 3).



FIGURE 3 - SHOCKS AND STRESSORS THAT MIGHT AFFECT REGIONS IN THE NEXT 10 YEARS
Source: authors, 2023

Socio-economic shocks, namely economic and financial crises, long-term unemployment and population decline are at the top of respondents' answers, followed by events that can cause natural or biological disasters. Extreme poverty and social exclusion, but also cyber-attacks and major transport accidents are on the bottom of the list and this is probably due to their high frequency and their chronic character. At this moment, we could easily observe that they had not anticipate the major shocks that came in a few months such as: the Ukrainian war, the energetic crisis or a possible nuclear accident.

4.4 The resilience capacity: strategies, plans, structures, resources

In order to identify the perception about the preparedness to cope with shocks and stressors, the interview guide covered issues related to the existence of: (1) strategies and plans that anticipate possible risks and vulnerabilities; (2) specialized structures for responding to unforeseen situations; (3) resources dedicated to unforeseen situations; (4) some forms of dialogue, consultation and involvement of local groups of stakeholders to anticipate, solve and evaluate the response to unforeseen situations.

Regarding strategies and action plans, about a quarter of the respondents stated that they do not exist/are not aware of the existence of such documents or that they are being developed. The answers of the other respondents varied considerably depending on the territorial level to which they were referring: national, regional, county and local.

At national level, respondents outlined the existence of numerous strategies, but which are poorly inter-correlated and implemented: "Romania has, on paper, hundreds of economic, social and environmental strategies and plans. Probably the most relevant for the topic of the interview are the National Strategy (NS) for the Prevention of Emergency Situations, the NS on the Protection of Critical Infrastructures, the NS on Medium and Long Term Flood Risk Management, the NS on Preventing and Combating Money Laundering and of Terrorism, Romanian Cyber Security NS, Nuclear Security and Safety NS, Occupational Health and Safety NS, Contaminated Site Management NS, National Strategy on Climate Change and Economic Growth based on Low Carbon Emissions, Sustainable Development of Romania 2030. Each strategy has behind it action plans, roadmaps, decision structures. However, I believe that all these strategies are poorly inter-

correlated and that complete and objective evaluations are not made at the end of the implementation period" (Decision-maker, national level).

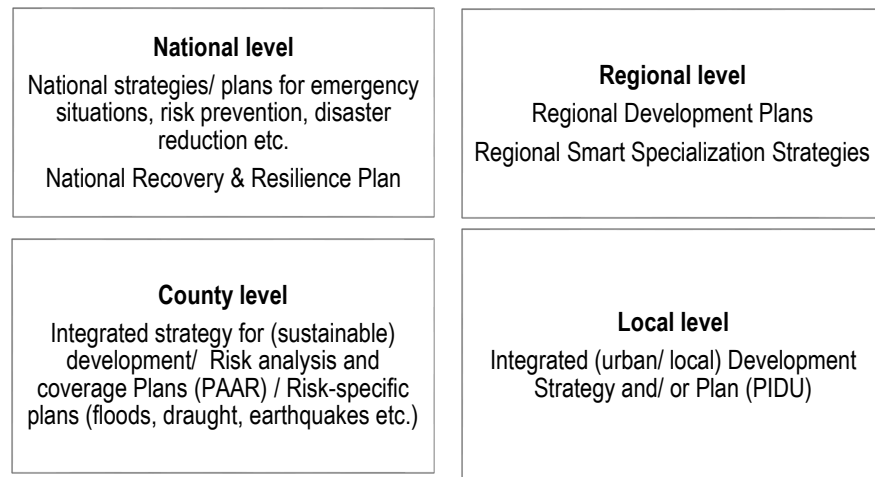


FIGURE 4 - STRATEGIES AND ACTION PLANS
Source: authors, 2023

Also, the National Recovery and Resilience Plan (NRRP) was brought to attention as a response tool to a certain shock- the pandemic: "NRRP is a financial package intended for reforms and public investments, a tool specially designed to address the effects and negative consequences of the crisis caused by COVID-19 in the European Union " (Decision-maker, national level).

At local level, the Risk Analysis and Coverage Plan (PAAR) is the most mentioned document by county and local representatives. „The Risk Analysis and Coverage Plan is developed according to the provisions of Order no. 132 from January 29, 2007. It includes the potential risks in the administrative-territorial units, the measures, actions and resources necessary for the management of the respective risks. PAAR applies to any emergency situation on the territory of the county" (Decision-maker, county level).

In addition to PAAR, respondents mentioned many other types of strategies, plans, programs, such as: (1) at regional (and inter-regional) level - regional development strategies/plans; joint disaster response strategy in the cross-border regions; regional smart specialization strategies; (2) at local level - development strategies (socio-economic, sustainable) of counties, municipalities and communes; county plans: air quality maintenance, flood risk management, waste management, measures to reduce the negative effects of the heat waves, prevention plans and interventions in nuclear/radiological emergency situations, "red" plans for interventions; plans for medical emergencies, epidemics and epizootics; anti-drug action plans.

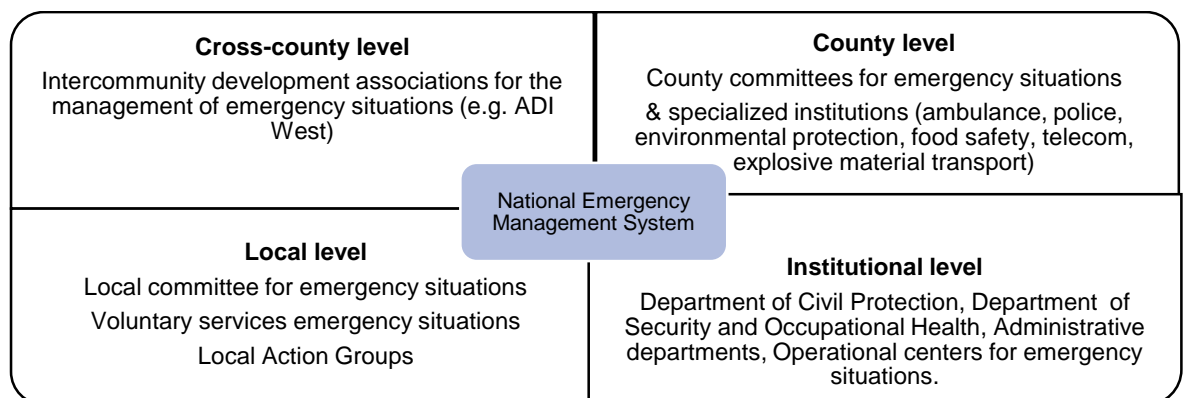


FIGURE 5 - STRUCTURES OF RESPONSE TO UNFORSEEN SITUATIONS
Source: authors, 2023

The main **specialized structures for responding to unforeseen situations** are mentioned in Figure 5. The National Committee for Emergency Situations (CNSU) and its territorial structures are mentioned as the main bodies with powers in the management of emergency situations. *"The National Committee for Emergency Situations is an inter-ministerial body operating within the national emergency management system, according to GD 94/2014. It has among its competencies the fulfillment of specific attributions in line with the achievement in Romania of the objectives of European and international disaster reduction strategies, the adoption of policies and strategies for the knowledge, prevention and management of emergency situations, as well as for limiting the effects, coordinating the management of determined emergency situations of the main types of risk provided in annex no. 2 of GD 94/2014 (The main types of risk generating emergency situations within the competence of the National Committee for Special Emergency Situations) and the permanent monitoring and assessment of risks, threats and vulnerabilities, in the field of competence" (Decision maker, national level).*

Associated to CNSU, at territorial level are Inspectorates/Committees for Emergency Situations, which have in their composition representatives of specialized institutions such as the Ambulance Services, the Sanitary-Veterinary Directorates, the Public Health Directorates, the Police, the territorial Services for Civil Protection, "Red Cross" service, etc. At the local level, the Committees for emergency situations bring together decision-makers from local public institutions, who implement various measures established at national or county levels. Voluntary emergency services, in turn, have responsibilities clearly established by the legislation in force. Last but not least, a series of structures organized at community level (for example, Local Action Groups) or at institutional level (for example, departments, commissions or even people with roles in crisis management) are mentioned.

Regarding **the dedicated resources** for responding to emergency situations, approximately one third of the decision makers included in the study say that they "do not know" or that "there are no dedicated allocations". The other respondents identify a series of allocations in public budgets, as follows:

- The budget allocated for the operation of specialized structures, for example operative centers for emergency situations, Voluntary Services for Emergency Situations, Command Centers.
- Budgetary reserve fund for unforeseen situations available to the County Councils of up to 5% (according to the Public Finances Law). In practice, however, "allocations for such reserves are about 2% of the local budget", as some of the respondents declared. In the context of the Covid-19 crisis, these budgets have been supplemented: "Local budgets include the budget reserve fund at the disposal of the local and/or County Council, as the case may be, in a share of up to 5% of total expenses. It is used at the proposal of the main authorizing officers of credits, based on the decisions of the respective councils, to finance urgent or unforeseen expenses arising during the budget exercise, to remove the effects of natural calamities, as well as to grant aid to other administrative-territorial units in situations of extreme difficulty, at the public request of the mayors of these units or on their own initiative" (County Council Representative).
- Emergency budget adjustments are another possible form of resource allocation for contingencies.
- Resources allocated to the purchase of necessary equipment for interventions of various types (i.e. purchase of special vehicles for first aid interventions, extrication, firefighting, work with water and foam, intervention in mass accidents, provision of minimal emergency medical assistance, etc.);
- Resources allocated to staff training, informing citizens, cooperating with other structures of the same time, organizing seminars, etc.

In order to anticipate, solve and/or evaluate the response to unforeseen situations, various types of **structures and forms of involvement of local stakeholder groups** are identified (Figure 6) but there are opinions according to which this dialogue is marked, in most cases, by the existence of legal and/or formal consultation obligations: *"When developing the strategies mentioned in the previous questions, certainly that there are extensive consultations; documents are put up for public debate, working groups are created and several rounds of consultations are held with directly interested actors. The problem arises when the dialogue with these groups is discontinuous and/or only simulated! I think that universities - depending on the specializations they offer - must be more involved in the development of public policies at national and local level alike, in*

anticipating risks, in bringing to attention European and international good practices, in monitoring implementation and in impact assessment!" (Decision-maker, national level).

The main forms of dialogue and consultation mentioned by the respondents refer to:

- Consultation through the inter-institutional emergency management committees/structures, which include representatives of all interested parties, including managers of commercial companies of county/local interest;
- Consultation through the Social Dialogue Groups/Commissions and other structures set up in accordance with Law no. 52/2003 on decision-making transparency, which aim to ensure the active participation of citizens in the administrative decision-making process and the elaboration of normative acts;
- The regular organization of public debates and meetings with the main actors involved; in the preparation of strategies;
- The establishment of local working groups, the development of consultative structures (for example the local Youth Council);
- Informal dialogue groups with local producers, the academic environment, the "intellectuals of the area" and so on.

4.5 Transformation towards sustainability: Measures to increase the resilience performance

Respondents were also asked about the types of national, regional and local measures that need to be thought of and operationalized to increase the resilience performance of Romania and its territorial units. The answers are summarized in Figure no. 6.

As can be observed, respondents primarily emphasized the need for sustained investments in transport and health infrastructure (increasing access to public health services), as well as in energy and gas networks, water supply and sewage). In this respect, direct references are made to the existence of European funds, whose resources must be better mobilized to achieve national, regional and territorial objectives.



FIGURE 6 - MEASURES TO INCREASE THE RESILIENCE PERFORMANCE. TRANSFORMATIVE GOALS

Source: authors, 2023

The development of a coherent crisis management system (at national level) is addressed simultaneously with the need to intensify the consultation of a wide range of stakeholders, as well as with the need to increase the involvement of communities in solving societal problems (training "civic sense"): *"Romania has a relatively good*

emergency alert system, but local authorities are frequently criticized for the lack or insufficient investments in infrastructure that would prevent or reduce the impact of natural or man-made disasters. Those communities that show a higher degree of development, where there is also a strong sense of community, will always have a higher capacity for recovery, compared to those where the sense of community is low or where what we call "well-being of the population" is unsatisfactory. Communities are perceived to be more resilient if their members are more open to all community members, regardless of their cultural and socio-economic background" (Decision maker, national level).

Beyond the aspects related to the management of unforeseen situations, references are made to the measures that must be taken to mitigate the negative effects of stressors (which have a slower action) and to increase the general level of social, economic and sustainable development. In this sense, the following types of proposals were mentioned: supporting digitization, entrepreneurship and local producers, supporting young people for the development of new businesses, streamlining the waste management system, developing the circular economy and new green technologies and capacities, establishing national programs for afforestation, etc.

Strengthening partnerships and coordination at all levels, as well as increasing participatory democracy are considered sine-qua-non conditions of resilience, as shown in the quote below, which comprehensively summarizes the objectives of an integrated system of response to shocks and stressors: "Such a system (n.b. for increasing the resilience performance) should include mechanisms that address several important objectives for communities: **Well-being** - ensuring preventive access to health services and post-crisis situation; **Accessibility** - providing immediate psychological assistance and interventions related to post-crisis mental health; **Education** - strengthening adaptation skills and by developing public health campaigns focused on messages aimed at post-crisis recovery; **Autonomy** - developing programs that recognize the vital role citizens can and must play as first responders to help their own families and neighbors in the first hours and days of a crisis situation; **Involvement** - strengthening the capacity of non-governmental organizations to involve citizens in collective actions to solve specific problems that can be delegated by the authorities; **Partnership** - the involvement of local organizations and organizations (cultural, civic and religious groups, schools, businesses, etc.) for the development and dissemination of information, but also for the organization of preventive and crisis management measures; **Quality of preparations** - identification of common data elements (benchmarks for emergency operations) to facilitate seamless monitoring and evaluation of physical health, behavioral health and social services before, during and after emergencies; **Efficiency** - developing public policies for the efficient management of donations and providing clear guidance to the public on donations in crisis situations so that alternative resources can be used immediately. (Decision maker, national level).

5. DISCUSSIONS AND CONCLUSIONS

The present study highlighted Romanian decision-makers' perception of shocks, stressors and the resilience capacity at various spatial scales. For the analyzed period, the economic crises, the pandemic crisis and various types of natural disasters are identified as the main shocks. Also, a series of stressors can be added, with slower action, but equally strong and persistent over time, such as the phenomenon of deindustrialization and the waves of emigration. Our study has also outlined the fact that strategies and plans, structures and dedicated resources can be identified at all levels, but these are mainly aimed at emergency situations such as natural disasters and less to economic and social shocks.

In relation to the hypotheses of our study, an important conclusion is that there are some variations in the perception of shocks and stressors, as well as of resilience drivers and transformative goals by policy-makers at different spatial scales. Table no 2 gives a synoptic overview of perceptions at five spatial scales (national, regional, local/ county level, urban and rural).

In our view, the differences in perception are explained, on the one hand, by the differences in jurisdictional powers between the administrative-territorial units. This is evident especially in the case of adaptive capacity, where each level has its unique structures, legally binding plans, strategies, resources and consultation mechanisms. Apart from this, the differences in the perception are explained by the nature and impact of shocks

and stresses: economic and financial crises or the pandemic crisis manifest at all scales, but natural disasters are more localized events (n.b. being strongly influenced by the geo-physical characteristics). Not least, our conclusions also support the assumption that the differences in perceptions are due to differences in formalization, levels with the local level being the least formalized and conventionalized layer.

TABLE 2 - PERCEPTIONS OF POLICY-MAKERS AT DIFFERENT SPATIAL SCALES OF SHOCKS AND STRESSORS, RESILIENCE DRIVERS, ADAPTIVE CAPACITY AND TRANSFORMATION TOWARDS SUSTAINABILITY

Spatial scales	Key shocks and stressors	Resilience drivers	Adaptive capacity	Transformation goals
National level	<ul style="list-style-type: none"> • Health/ sanitary crisis: Covid 19 • Global economic & financial crises • Internal political crises (incl. mass protests) 	<ul style="list-style-type: none"> • Macro-economic stabilization packages • Economic structures and diversification • Quality of institutions, norms, leadership 	Focus on: <ul style="list-style-type: none"> • National emergency system; development goals added recently (i.e. NRRP); inter-ministerial coordination. 	Focus on: <ul style="list-style-type: none"> • Crisis management • Partnerships • Civic sense • Prioritization
Regional level	<ul style="list-style-type: none"> • Economic crises (global, national, regional) • Emigration waves & unemployment • Pollution & air quality 	<ul style="list-style-type: none"> • Investments from national and European funds, i.e. support for SMEs, job creation, infrastructure support. 	Focus on: <ul style="list-style-type: none"> • Development goals; European Structural Funds; legally binding consultative structures. 	Focus on: <ul style="list-style-type: none"> • Investments in infrastructure, entrepreneurship, innovation.
Local (county) level	<ul style="list-style-type: none"> • Health/ sanitary crisis: Covid 19 • Emigration and population decline • Natural disasters & infrastructure failure 	<ul style="list-style-type: none"> • Sanitary measures, procedures, rules • Professional reconversion • Disaster recovery and preparedness 	Focus on: <ul style="list-style-type: none"> • Legally binding plans (PAAR) and local strategies; EU funds and budgetary reserves; social dialogue groups. 	Focus on: <ul style="list-style-type: none"> • Infrastructure • Digitalization of public admin. • Simplification of financing
Urban level	<ul style="list-style-type: none"> • Emigration of young and skilled workers • Health / sanitary crisis: Covid 19 • Deindustrialization and unemployment 	<ul style="list-style-type: none"> • Investments in human capital and innovation • Digitalization, hybrid working • Initiatives to support endogenous industries 	Focus on: <ul style="list-style-type: none"> • Urban planning documents (i.e. PIDU); voluntary services for emergency situations, with dedicated budgets; consultative councils. 	Focus on: <ul style="list-style-type: none"> • Education and skills • Health systems • Citizen involvement
Rural level	<ul style="list-style-type: none"> • Decline of traditional industries • Emigration and population ageing • Natural disasters & environ. degradation 	<ul style="list-style-type: none"> • Local incentives to attract investors and stimulate return migration • Direct support to vulnerable groups. 	Focus on: <ul style="list-style-type: none"> • Local Action Plans and Groups; special purpose committees; informal and ad-hoc dialogue groups. 	Focus on: <ul style="list-style-type: none"> • Local infrastructure • Tourism and local producers • Solidarity

Source: authors, 2023

Overall, our conclusions claim for better coordinated **multi-level governance frameworks** to increase resilience capacity and support transformation towards sustainability. The national level is the one where global

and national crises should find the appropriate responses and interventions; the focus here should be on prioritization, coordination and better regulation. The regional level is best suited for promoting partnerships between administrative-territorial units, as well as for putting forward the transformational goals. The local level (both urban and local) is the one where adaptive capacity should be reinforced both through emergency plans, structures and dedicated budgets, as well as through investments in resilient infrastructure. The urban level shows genuine potential for upskilling, innovation, diffusion of new technologies and citizens' involvement in finding fit-for-purpose solutions to increase resilience performance. Not least, the rural level is the one where the sense of community and solidarity finds its most genuine manifestation; with proper support from the upper layers, the rural level could better capitalize on the local potential and set solid grounds for endogenous development and transformation towards sustainability.

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