

RURAL RESILIENCE OF THE REPUBLIC OF MOLDOVA: EVALUATION OF THE ECONOMIC DIMENSION

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Abstract

The basic purpose of the research was to assess the economic dimension of the rural resilience in the Republic of Moldova. At the initial stage of the research, using the methodological tools of historiographical and bibliographical study, a foray into the conceptual evolution of resilience, into the crystallization of societal resilience, as well as the meaning and dimensions of rural resilience was undertaken. Having found the absence of a generally accepted framework of indicators for measuring them and, implicitly, of an evolutionary and comparative investigation methodology, the reasoning was formulated regarding the relevance of the assessment of rural resilience through the distinct diagnosis of each dimension. The second stage of the research consisted in the evaluation of the economic dimension of the rural resilience of the Republic of Moldova through the predominant application of the economic-statistical analysis. The results obtained showed that there were no visible trends of improvement, which is supported by the fluctuating trends in the evolution of the agricultural output, the low level of diversification of the economic activities, the unstable and slow economic growth, the low level of the gross domestic product per capita and of the per capita income. On the basis of these findings, recommendations were made to strengthen measures to support the economic development of rural areas through a series of actions that would facilitate the access to financial resources, rationalization and streamlining of the supply process, improved quality of natural and human resources, and better managerial skills.

Key words: economic dimension, rural resilience, societal resilience, Republic of Moldova

INTRODUCTION

The adversities of various nature facing society at the present stage are provoking increasingly heated discussions among the policy makers and politicians about the societal resilience and, by implication, about the measures to strengthen it.

Thus, today the term "resilience" is often associated with the communities' ability to cope with external disruptions when, in fact, it has a long deontological evolution and a wide range of uses.

Having its origins in antiquity, the first scientific use of the term "resilience" can be found in the Francis Bacon's famous work "Sylva sylvarum", being used in the context of comparing mechanical, optical and acoustic feedback, which led the scientific community to consider Bacon as the founder of the physical tradition of the notion of resilience [11].

Subsequently, resilience is increasingly

present in the physical sciences, being used in the works of Samuel Gott, Henry More, Matthew Hale, etc.

In the early 19th century, the concept of physical resilience was taken up by the applied mechanics and materials science.

The term was also introduced into physiology and medicine.

In the mid-20th century the term entered ecology and psychology, where it became particularly popular in the late 1980s, and in the late 1990s, it made a transition from the natural ecology to the human ecology [3,11].

In view of the numerous resilience conceptualizations, which justifies Pells' assertion that it is a contested term [24], some common threads can be distinguished in the researchers and practitioners' attempts to reflect its essence.

Thus, Martin and Sunley have identified three basic interpretations, which are schematized in Figure 1.

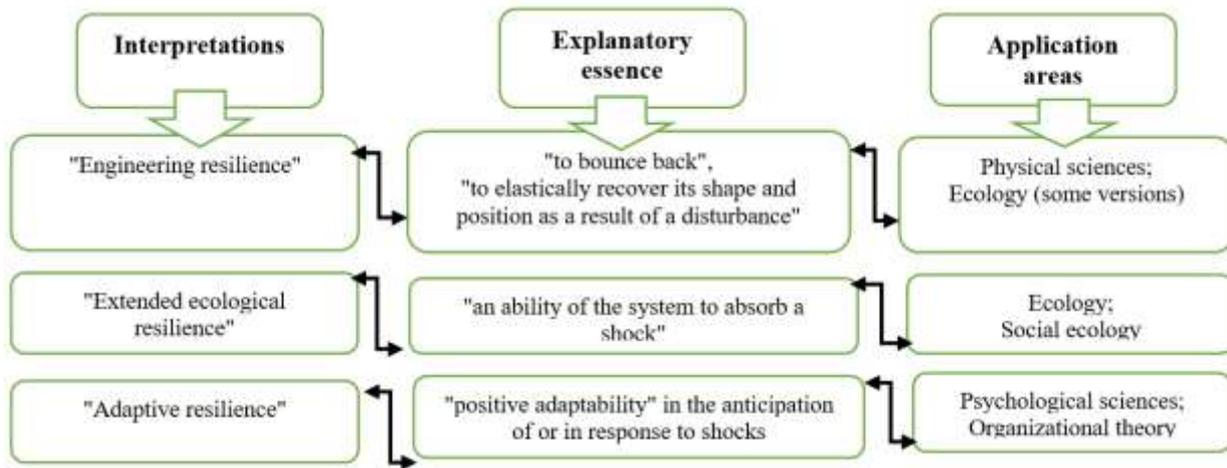


Fig. 1. The resilience interpretations
 Source: Developed by the other based on [21] .

In spite of the multiplicity of the existing approaches to resilience, as well as of the diverse domains in which the term is being used, it must be recognized that, in each case, it is stated as a systems' ability to restore their initial state after the extreme phenomena, the differences between opinions consisting in:

1. the extent of the reflections - while some authors expound in a broad sense, referring to the process of returning to the initial state [27, 32, 34], others emphasize also qualifiers for the states to be returned to [4,16, 20, 31];
2. different characteristics for the states to be maintained or developed. Thus, the equilibriums approaches are distinguished, based on the idea of maintaining the equilibrium state of the systems following certain shocks, and the evolutionary approaches, oriented to the formative influence of the respective shocks, i.e. to their contribution in shaping an evolutionary dynamics of the systems, in attaining higher development levels compared to those before adversity [24].

While the current contexts in which resilience is addressed are very diverse, there is, however, an increasing use of the term to elucidate the behavioral responses of the communities, institutions and economies, i.e. there is a growing use of the term in the social sciences [17], which has led to the crystallization of the concept of social/societal resilience, focusing on the societies 'capacity to withstand and recover easily and rapidly from shocks [23], to flexibly withstand major

disruptions and to recover and move forward rapidly after the inevitable decline of their basic functionalities [10], to help people and places adapt and move forward in a changing environment [22], through responses and strategies at the level of individuals, groups, organizations and societies facing complex societal problems [5,15].

Based on the above, we can specify that, even if similarities can often be identified in the conceptualization of social and societal resilience, there are separate opinions regarding certain differences between them. Thus, Burgess mentions the political aspect of the societal resilience, as well as the fact that it refers to the problems of the society as a whole, to preserving the rights and privileges, dignity and morality of the whole society, rather than of the individuals or specific groups [9]. Apostol et al highlighted the more comprehensive nature of the societal resilience, incorporating elements related to migration, identity, internal cohesion, etc. [6]. Haavik considers societal resilience to be a heterogeneous field of research with many different connotations, some of which intersect, contrast or enrich each other, while others exist more or less in parallel without much interference [12].

Starting from the societal resilience's complexity and heterogeneity, rural resilience can be examined as a component of it, delimited according to the territorial principle, the latter representing a topic increasingly addressed in research and debates by

politicians and other decision-makers [13,14,18, 28, 29, 35, 36, 38, 40]. The increase of interest in rural resilience occurs in the context of the transfer of debates from the national level to the community level [25, 30], acting according to the principle "think globally, act locally", this principle being particularly relevant in the conditions of growing pressure caused by the economic and environmental hazards [8,19]. The COVID-19 pandemic has also played a key role in increasing the interest in rural resilience recently. However, there is a deficiency in investigating the situation of the farmers under pandemic conditions, as well as a lack of relevant conclusions with regard to the policies needed for possible future pandemics [33]. At the same time, it would be wrong to overestimate the role of the COVID-19 pandemic in increasing the interest in rural resilience. The rural environment, in fact, has been and continues to be affected by a number of negatively influencing factors, including the economic and financial crises; the extreme climatic events and, consequently, the loss of biodiversity, the soil deterioration; the increasing social inequality and legitimacy crisis with negative effects on democracy [14]. Thus, we deduce that the rural vulnerabilities are characterized by diversity, flexibility and continuity. On the basis of the above, we consider relevant the definition of rural resilience by Heijman et al. as "a capacity of a rural region to adapt to changing external circumstances in such a way that a satisfactory standard of living is maintained". According to the same authors, "rural resilience perspective refers to a rural area's ability to cope with its inherent economic, ecological and cultural vulnerability" [13]. Li, in turn, defines the rural resilience as "the capacity of resistance, adaptation and transformation", mentioning the multifunctional transformations, the exercising bottom-up planning and the increasing social capital as benchmarks in its improving [18]. The need for rural communities to focus on certain reorganizations and subsequent transformations is also supported by Heijman et al. who state that "rural

resilience determines the degree to which a specific rural area is able to tolerate alteration before re organizing around a new set of structures and processes" [13]. Implicitly, we also identify other aspects addressed by the authors. Thus, Rapaport et al. consider resilience as "community's ability to utilize its current resources in order to adapt to an adversity or sudden disturbance, and eventually to be able to absorb the disturbance, get back to routine, and even perform better in comparison with the pre-disturbance situation" [25]. Such a perspective includes in the area of attention not only the final effects, but also the quality of the available resource's management, which is particularly important at the current stage, when the concern for sustainable rural development persists. Resources, especially social capital, are also highlighted by Aldrich and Meyer who consider them a key component of communities' resilience [2], while Suleimany et al. specify three categories of resources of particular significance in crisis conditions: social, economic and infrastructural capital [33].

The rendering of the rural resilience essence as comprehensively as possible is particularly important in order to identify the evaluation criteria and design the actions to increase it. Thus, the diagnosis of environmental vulnerabilities provides the necessary framework for avoiding adverse influences; emphasizing the correct ways of using resources allows to model the response reactions based on relevant rules; forecasting the aspired final states is the benchmark for visualizing the entire complex of factors and actions and developing effective strategies for increasing resilience. Last but not least, the resilience dimensions need to be examined with particular rigor, as they serve as criteria for assessing the resilience in its dynamics and for providing the informational support for the processes of developing the above-mentioned strategies. With reference to the latter, we must recognize the existence of numerous attempts to elucidate and evaluate them. Heijman et al., advocate the idea that rural resilience is based on the interface of

economic, ecological and cultural resilience, a statement justified by the reasoning that this expresses, in fact, the ability of the rural area to ensure a simultaneous balancing of its functions: ecosystemic, economic and cultural [13]. Wilson defines rural resilience as a balance between the economic, environmental and social needs of the rural communities, stating that sustainable and economically, socially and ecologically resilient rural communities must develop strong multifunctional characteristics [38]. The author emphasizes the link between the rural resilience and the multifunctional quality which, in turn, depends on the level of the economic, social and environmental capital development. Implicitly, he argues for the idea that the way of interweaving the mentioned capitals creates different multifunctionality spaces, the most multifunctionality and the strongest resilience being achieved when, respectively, all three "capitals" are equally well developed.

The need to consider the interaction between ecological, economic and social dimensions is also highlighted by Hernández and Harteisen [14]. Rudiarto et al., developing the concept of livelihood resilience in the rural environment, evaluate its four basic dimensions: social, economic, environmental and physical [28], while Suleimany et al., in the context of describing community resilience to the pandemic, take into consideration five dimensions: institutional, social, economic, environmental and infrastructural, demographic and health [33].

Despite countless attempts to investigate and interpret the rural resilience dimensions, to assess them in relation to various adverse phenomena [13, 26, 28, 35, 37], at the current stage there is still a lack of a generally accepted framework of indicators for measuring rural resilience [7, 33], and therefore also a lack of a methodology for carrying out evolutionary and comparative investigations. At the same time, recognizing the complexity of the rural resilience assessment process, the need for a multidimensional and holistic approach [40], we support the reasoning that, in an

operational sense, building resilience involves specific measures and not a universal approach [13]. This would mean the distinct diagnosis of each dimension, the identification of the evolutionary trends of the indicators used for this purpose and, respectively, the formulation of conclusions regarding the observed state and the necessary measures to be taken.

MATERIALS AND METHODS

In order to achieve the goal of the research, several stages were completed:

1. A synthesis of publications addressed to resilience in general, to societal resilience and to rural resilience was carried out;
2. The factors of the economic dimension of the rural resilience were delimited and systematized in two groups, according to the way of exerting the impact on it;
3. The direct factors of the rural resilience in the Republic of Moldova were evaluated and, on this basis, conclusions were drawn on their general trends and related issues.

The methodological apparatus included: bibliographic and historiographical study, economic-statistical analysis, deduction, generalization.

A wide range of scientific publications and official data sources served as sources of information.

The limitations of the research refer to the absence of official statistical data regarding the evolution of macroeconomic indicators distinctly in the rural environment. Under these circumstances, some conclusions regarding the economic dimension of rural resilience have been drawn on the basis of overall country indicators.

RESULTS AND DISCUSSIONS

The first step in assessing the economic dimension of rural resilience is to identify the basic factors that have an impact on it. Given the complexity of this dimension, the multitude of determinants and the different nature of these factors is also evident, which led to the idea of classifying them into two groups: first-degree factors, with a direct

impact on the rural resilience, and second-degree factors, whose influence on resilience

is mediated by the first-degree factors (Fig. 2).

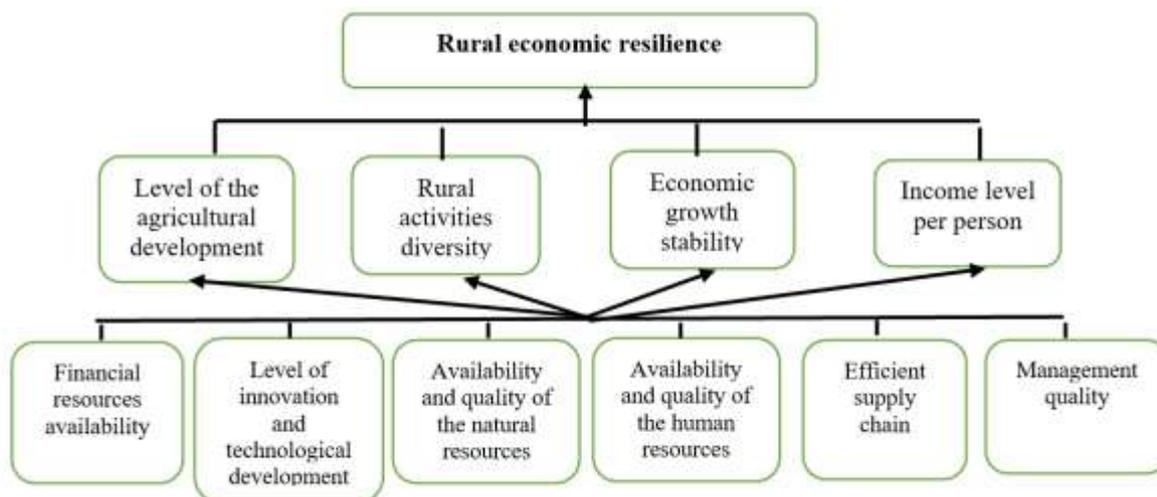


Fig. 2. Factors related to the economic dimension of the rural resilience
 Source: Developed by the author based on [1,13, 33].

As a result of the evaluation of the indicators related to the first-degree factors, the level and general trends of the rural economic resilience are appreciated, while the second-degree factors serve as benchmarks in the formulation of the specific strategic objectives and, respectively, of the necessary actions to be undertaken for its consolidation.

The role of agriculture is undeniably a very important one in strengthening the rural resilience, primarily because of its contribution to ensuring food security, as well as its important role in providing raw materials for processing industries.

Agriculture also represents the branch that provides jobs for a large part of the rural population, a statement argued by the data of Figure 3, which denotes a share of approx. 37% of the rural population employed in the respective branch in the period 2019-2023 from the total number of rural population engaged in economic activities.

By assessing the agriculture performance, we estimate the extent to which the sector is able to fulfill its multiple roles and, implicitly, its contribution to overall rural resilience.

In this context, the dynamics of agricultural output obtained in the Republic of Moldova in the period 2019-2023 is further examined (Fig. 4).

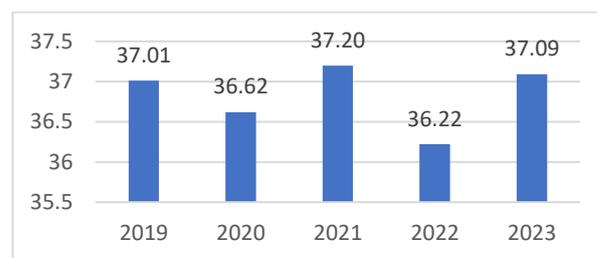


Fig.3. The share of the rural population of the Republic of Moldova employed in agriculture, forestry and fishing in the total number of the rural population employed in economic activities over the period 2019-2023, %

Source: Developed by the author based on: [41].

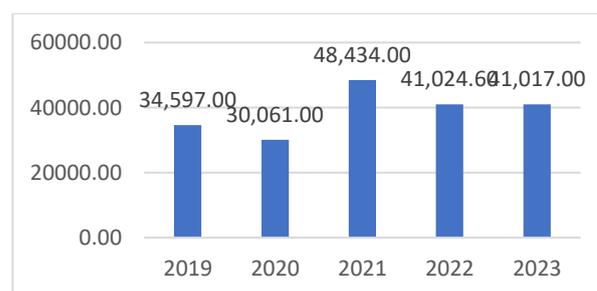


Fig. 4. The agricultural output obtained in the Republic of Moldova over the period 2019-2023, million lei
 Source: Developed by the author based on [42].

Figure 4 shows fluctuating trends in the evolution of the value of agricultural output over the period examined, while in order to positively assess the contribution of agriculture in ensuring the rural resilience, it would have been necessary to model stable growth trends in the analyzed indicator.

As the researchers' opinions on the important role of the agriculture are unanimous [13, 33, 35], at the same time the need to focus efforts on the activities` diversification is emphasized, thus creating the premises for eliminating the dependence of the rural environment on a specific branch [13, 39], by creating multifunctional regions, the latter being considered more resilient compared to those that are heavily dependent on agriculture [14, 29, 39]. In order to assess the situation regarding activities diversification in

rural areas, we will refer to official data on the employed population by economic activities. Thus, the data presented in Figure 3 show the absence of positive trends in the process of diversification of activities, this fact being proven by the insignificant variation of the share of the population employed in agriculture during the examined period. The distribution of the rural areas` labor force by economic activities presented in Table 1 confirms the above statement.

Table 1. The distribution of the rural areas` labor force by economic activities in the Republic of Moldova over the period 2019-2023

Indicators	2019		2020		2021		2022		2023	
	thousand people	%								
Economic activities, total	467.7	100.00	456.6	100.00	464.3	100.00	468.8	100.00	474.8	100.00
inclusive:										
Agriculture, forestry and fishing	173.1	37.01	167.2	36.62	172.7	37.20	169.8	36.22	176.1	37.09
Industry	67.5	14.43	64.4	14.10	61.5	13.25	67.6	14.42	66.1	13.92
Construction	33.6	7.18	35.2	7.71	36.8	7.93	37.0	7.89	35.5	7.48
Wholesale and retail trade, accommodation and catering activity	56.7	12.12	52.7	11.54	51.2	11.03	50.3	10.73	49.6	10.45
Transports and storage, information and communications	17.2	3.68	18,0	3,94	17,4	3,75	17,0	3,63	19,1	4,02
Public administration, education, health and social assistance	97.8	20.91	100.6	22.03	105.0	22.61	106.8	22.78	105.2	22.16
Other activities	21.7	4.64	18.5	4.05	19.7	4.24	20.2	4.31	23.2	4.89

Source: Developed by the author based on [43].

Table 3 shows the following:

1. The share of the population employed in economic activities other than agriculture did not show an upward trend in its evolution during the analyzed period, and even a slight reduction in 2023 compared to 2019 is noted (this can also be seen from Fig.5);
2. Among non-agricultural activities, 170.3 thousand persons were employed in income-generating activities in 2023, compared to 175 thousand persons in 2019. This fact denotes the reduction of human potential in the branches with economic benefits in rural areas, benefits that undeniably also have social impact.

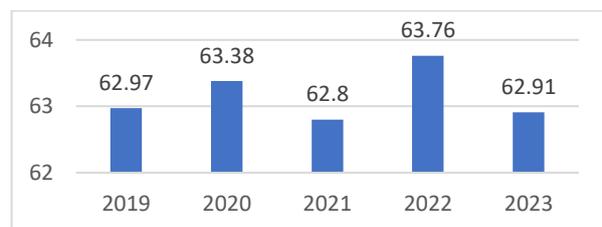


Fig.5. Evolution of the share of the rural population employed in activities other than agricultural in the period 2019-2023,%

Source: Developed by the author based on [43].

The economic growth stability is another important factor afferent to the resilience economic dimension [1], which can be examined by assessing the macroeconomic indicators` evolutionary trends. Thus, we could qualify economic growth as stable if there is a continuous upward trend in the evolution of gross domestic product, the latter

being a representative economic indicator in this sense. Based on the data of Figures 6 and 7, we note that both the total gross domestic product and the gross domestic product per capita did not have stable growth trends during the analyzed period (2015-2022).

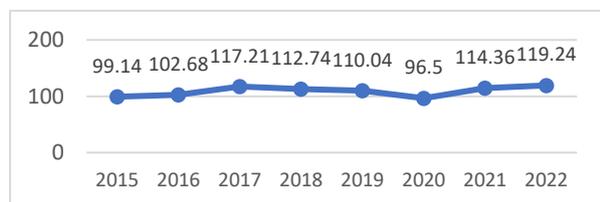


Fig.6. The dynamics of the growth index of the gross domestic product in the Republic of Moldova in the period 2015-2022, %

Source: Developed by the author based on [44].

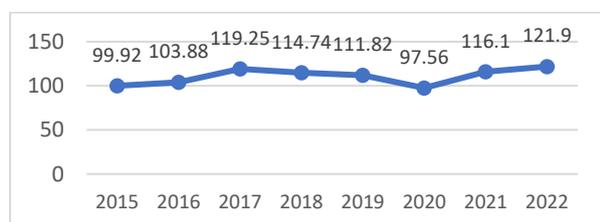


Fig. 7. The dynamics of the growth index of the gross domestic product per capita in the Republic of Moldova in the period 2015-2022, %

Source: Developed by the author based on [44].

Having observed a general positive trend of both indicators, we cannot overlook the extremely low level of gross domestic product per capita compared to the average in the European Union, where, in 2022, the indicator had a value of 29.030 Euro. The same indicator in the Republic of Moldova constituted only 5.433 Euro, being 5.34 times lower. In the same context, we note that the gross domestic product per capita in the Republic of Moldova in 2022 was 1.41 times lower than the minimum recorded in the EU (in Bulgaria) and 15.8 times lower than the maximum recorded in the EU (in Luxembourg) [47].

The economic growth instability in rural areas is also confirmed by the fluctuating trends in the value of agricultural output shown in Figure 4 and undeniably has an impact on the level of per capita income - another factor indicator of the economic resilience.

With reference to the disposable income per person in rural areas (Table 2), we can note a continuous rise in the period 2019-2023, as

well as the predominance of the wage income throughout the period in the total income. At the same time, their level is very low, constituting only 3,928.7 lei in 2023, which is equivalent to about 203 Euro. In comparison with the level of consumer expenditure recorded in the same period (Table 3), we can see that, even though slightly decreasing, the share of consumer expenditure remains at a very high level, constituting more than 86% of the monthly income in 2023.

Table 2. Evolution of the per capita income of the population in rural areas of the Republic of Moldova in 2019-2022, lei

Indicators	2019	2020	2021	2022	2023
Monthly income per person in total	2,457.2	2,702.3	2,985.0	3,528.4	3,928.7
Wage activity	936.1	1,095.6	1,195.1	1,421.0	1,621.8
Individual agricultural activity	408.5	410.8	456.6	531.7	534.6
Individual non-agricultural activity	155.9	164.1	200.1	198.1	202.0
Property income	6.6	-	0.2	0.8	1.9
Social benefits	503.3	558.5	624.9	840.8	1,006.0
Other income	446.7	473.3	508.1	562.2	562.2

Source: Developed by the author based on [45].

Table 3. Evolution of the average monthly consumption expenditure per capita in rural areas in the Republic of Moldova in 2019-2023 in relation to the average monthly income

Indicators	2019	2020	2021	2022	2023
Monthly income per person, lei	2,457.2	2,702.3	2,985.0	3,528.4	3,928.7
Monthly consumer expenditure per person, lei	2,335.7	2,331.3	2,517.0	3,004.0	3,388.8
The share of consumption expenditure in monthly income, %	95.06	86.27	84.32	85.14	86.26

Source: Developed by the author based on [46].

CONCLUSIONS

Today the rural resilience is a topic increasingly addressed by researchers and policy makers. At the same time, there is a lack of a generally accepted framework of indicators to measure rural resilience and, implicitly, a lack of a methodology for carrying out evolutionary and comparative investigations. Under these circumstances, recognizing the complexity of the process of assessing rural resilience and the need for a multidimensional and holistic approach, we deduce on the relevance of assessing resilience, including rural resilience, through separate diagnostics of each dimension.

The assessment of the economic dimension of Moldova's rural resilience through the lens of four first-order factors revealed the absence of visible improvement trends, this conclusion being supported by the following:

- the absence of the continuous upward trends in the agricultural output;
- the low level of the economic activities' diversification;
- the unstable and slow economic growth;
- the low level of gross domestic product per capita compared to the EU average;
- the low per capita income.

On the basis of these findings, there is a clear need to strengthen measures to support the economic development of the rural areas through actions focused primarily on mobilizing the second-degree factors, namely:

- facilitating access to various external sources of financing;
- promoting innovation and its benefits more actively;
- streamlining the state mechanisms for monitoring the quality of the agricultural land;
- improving the system of staff training by bringing the educational offer in line with the needs of the labor market in terms of quantity and quality;
- improving the supply chain by facilitating rural producers' access to the necessary material resources;
- improving managerial skills through continuous training activities.

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REFERENCES

- [1]Adger, W.N., 2000, Social and Ecological Resilience: are They Related? *Progress in Human Geography*, Vol. 24: 347–364. https://www.researchgate.net/publication/235737390_Social_and_Ecological_Resilience_Are_They_Related Accessed on May 03, 2024.
- [2]Aldrich, D.P., Meyer, M.A., 2015, Social Capital and Community Resilience, *American Behavioral Scientist*, Vol. 59(2):254-269. https://www.researchgate.net/publication/281601274_Social_Capital_and_Community_Resilience. Accessed on May 02, 2024.
- [3]Alexander, D.E., 2013, Resilience and disaster risk reduction: an etymological journey, *Natural Hazards Earth System Sciences*, Vol 1(2): 2707–2716. https://www.researchgate.net/publication/258806515_Resilience_and_disaster_risk_reduction_an_etymological_journey_Nat_Haz_Earth_Syst_Sci_Discuss_11257-1284. Accessed on April 24, 2024.
- [4]Altherr, L.C., Brötz, N., Dietrich, I., Gally, T., Geßner, F., Kloberdanz, H., Leise, P., Pelz, P. F., Schlemmer, P., Schmitt, A., 2018, Resilience in Mechanical Engineering – A Concept for Controlling Uncertainty during Design, Production and Usage Phase of Load-Carrying Structures, *Applied Mechanics and Materials*, Vol. 885: 187-198. <https://www.scientific.net/AMM.885.187.pdf>, Accessed on March 23, 2024.
- [5]Anholt, R., Dullemen, C., Carvalho, J.S., Rijbroek, J., Sieckelinc, S., Slooman, M., 2021, Understanding Societal Resilience: The Case for Engaged Scholarship, in: Ungar, M. (Ed.), *Legal, Policy and Economic Systems*. Oxford University Press: 551-564. <https://academic.oup.com/book/41117/chapter/350425663>. Accessed on May 18, 2024.
- [6]Apostol, A.C., Cristache, N., Năstase, M., 2022, Societal resilience, a key factor in combating hybrid threats, *International Conference „Knowledge-based organization”*, Vol. 28 (2): 107-115. <https://intapi.sciendo.com/pdf/10.2478/kbo-2022-0057>. Accessed on June 12, 2024.
- [7]Assarkhaniki, Z., Rajabifard, A., Sabri, S., 2020, The conceptualization of resilience dimensions and comprehensive quantification of the associated indicators: A systematic approach, *International Journal of Disaster Risk Reduction*, Vol. 51.

- <https://www.sciencedirect.com/science/article/abs/pii/S221242092031342X>. Accessed on June 14, 2024.
- [8]Barr, S., Devine-Wright, P., 2012, Resilient Communities: Sustainabilities in Transition, *Local Environment*, Vol. 17: 525–532.
- [9]Burgess, J.P., 2022, From `social` to `societal`: Resilience politicized, *Socio-economy & New Tech*, <https://axa-research.org/get-research-insights/what-is-societal-resilience>. Accessed on April 05, 2024.
- [10]Eltrah, M., 2017, Societal resilience: from theory to policy and practice, in: Linkov, I., Palma-Oliveira, J. (Eds), *Resilience and Risk*, NATO Science for Peace and Security Series C: Environmental Security. Springer, Dordrecht. https://doi.org/10.1007/978-94-024-1123-2_10. Accessed on April 12, 2024.
- [11]Göbbling-Reisemann, S., Hellige, H.D., Thier, P., 2018, The Resilience Concept: From its historical roots to theoretical framework for critical infrastructure design. https://media.suub.uni-bremen.de/bitstream/elib/4775/1/217_paper.pdf. Accessed on June 03, 2024.
- [12]Haavik, T.K., 2020, Societal resilience – Clarifying the concept and upscaling the scope, *Safety Science*, Vol. 132. https://www.researchgate.net/publication/343848155_Societal_resilience_-_Clarifying_the_concept_and_upscaling_the_scope. Accessed on June 15, 2024.
- [13]Heijman, W., Hagelaar, G., Heide, M., 2007, Rural resilience as a new development concept, *EU Bioeconomy Economics and Policies*, Vol.2: 195-211. https://link.springer.com/chapter/10.1007/978-3-030-28642-2_11. Accessed on June 16, 2024.
- [14]Hernández, A.A., Harteisen, U., 2019, A Proposed Framework for Rural Resilience - How can peripheral village communities in Europe shape change? *Journal of Depopulation and Rural Development Studies*: 7-42. https://www.researchgate.net/publication/353604892_A_Proposed_Framework_for_Rural_Resilience_-_How_can_peripheral_village_communities_in_Europe_shape_change. Accessed on June 18, 2024.
- [15]Institute of Societal Resilience. The ISR. <https://www.resilience-institute.nl/en/the-isr/> Accessed on April 19, 2024.
- [16]ISDR, International Strategy for Disaster Risk Reduction, 2009, UNISDR Terminology on Disaster Risk Reduction. https://reliefweb.int/report/world/2009-unisdr-terminology-disaster-risk-reduction?gad_source=1&gclid=CjwKCAjwT-OwBhBnEiwAgwzrUgnPw-dP9A-ddSkTKyB12QEOPGrV19w1KwDnZB978_JnaVve2NfgxoCf9IQAvD_BwE. Accessed on July 19, 2024.
- [17]Klein, R.J.T., Nicholls, R.J., Thomalla, F., 2003, Resilience to natural hazards: How useful is this concept? *Environmental Hazards*, Vol 5 (1-2): 35–45. <https://www.sciencedirect.com/science/article/abs/pii/S1464286704000105>. Accessed on April 12, 2024.
- [18]Li, Y. A., 2023, A Systematic Review of Rural Resilience, *China Agricultural Economic Review*, Vol.15 (1): 66–77. <https://www.emerald.com/insight/content/doi/10.1108/CAER-03-2022-0048/full/html>. Accessed on July 12, 2024.
- [19]Lyon, C., 2014, Place Systems and Social Resilience: A Framework for Understanding Place in Social Adaptation, Resilience and Transformation, *Society & Natural Resources*, Vol. 27(10): 1009–1023. <https://www.tandfonline.com/doi/abs/10.1080/08941920.2014.918228>. Accessed on July 19, 2024.
- [20]Martin, R., 2012, Regional Economic Resilience, Hysteresis and Recessional Shocks, *Journal of Economic Geography*, Vol.12 (1): 1–32. https://www.researchgate.net/publication/227464875_Regional_Economic_Resilience_Hysteresis_and_Recessional_Shocks. Accessed on May 01, 2024.
- [21]Martin, R., Sunley, P., 2015, On the Notion of Regional Economic Resilience: Conceptualization and Explanation, *Journal of Economic Geography*, Vol. 15 (1): 1–42. https://www.researchgate.net/publication/275319615_On_the_notion_of_regional_economic_resilience_Conceptualization_and_explanation. Accessed on April 29, 2024.
- [22]National Consortium for Societal Resilience, Our definition of societal resilience. <https://www.alliancembs.manchester.ac.uk/research/recovery-renewal-resilience-from-covid-19/national-consortium-for-societal-resilience/>. Accessed on April 01, 2024.
- [23]NATO Public Diplomacy Programs, 2022, Increasing societal resilience: innovative ways to counter disinformation and hostile information activities. <https://www.nato.int/structur/pdd/2022/220411-ResilienceContentGuidelines.pdf>. Accessed on April 07, 2024.
- [24]Pells S., 2023, Resilience – definitions, concepts and measurement, A literature review, CEU Working Paper. <https://www.mbie.govt.nz/dmsdocument/26810-resilience-definitions-concepts-and-measurement-a-literature-review-pdf>. Accessed on April 24, 2024.
- [25]Rapaport, C., Hornik-Lurie, T., Cohen, O., Lahad, M., Leykin, D., Aharonson-Daniel, L., 2028, The Relationship between Community Type and Community Resilience, *Disaster Risk Reduction*, Vol. 31: 470–477. <https://www.sciencedirect.com/science/article/abs/pii/S2212420918301791>. Accessed on July 12, 2024.
- [26]Roberts, E., Farrington, J., Skerratt, S., 2015, Evaluating New Digital Technologies Through a Framework of Resilience, *Scottish Geographical Journal*, Vol. 131 (3-4): 253–264. https://www.researchgate.net/publication/283775958_Evaluating_New_Digital_Technologies_Through_a_Framework_of_Resilience. Accessed on July 18, 2024.
- [27]Rose, A., 2007, Economic resilience to natural and man-made disasters: Multidisciplinary origins and contextual dimensions, *Environmental Hazards*, Vol.7(4):383-398.

- <https://www.sciencedirect.com/science/article/abs/pii/S1747789107000555>. Accessed on April 21, 2024.
- [28]Rudiarto, I., Handayani, W., Wijaya, H., Insani, T., 2019, Rural Livelihood Resilience: An Assessment of Social, Economic, Environment, and Physical Dimensions, MATEC Web of conference 280, 01002. https://www.researchgate.net/publication/332937673_Rural_Livelihood_Resilience_An_Assessment_of_Social_Economic_Environment_and_Physical_Dimensions. Accessed on July 21, 2024.
- [29]Scott, M., 2013, Resilience: a conceptual lens for rural studies? *Geography Compass*, Vol. 7 (9): 597–610. <https://compass.onlinelibrary.wiley.com/doi/abs/10.1111/gec3.12066>. Accessed on July 11, 2024.
- [30]Shaw, K., Maythorne, L., 2013, Managing for Local Resilience: Towards a Strategic Approach, *Public Policy and Administration*, Vol. 28 (1): 43–65. https://www.researchgate.net/publication/258179696_Managing_for_local_resilience_Towards_a_strategic_approach Accessed on July 11, 2024.
- [31]Simmie, J., Martin, R., 2010, The economic resilience of regions: towards an evolutionary approach, *Cambridge Journal of Regions, Economy and Society*, Vol. 3: 27–43. https://scholar.google.com/scholar?q=The+economic+resilience+of+regions:+towards+an+evolutionary+approach&hl=ro&as_sdt=0&as_vis=1&oi=scholart. Accessed on May 01, 2024.
- [32]Southwick, S.M., Bonanno, G.A., Masten, A.S., Panter-Brick, C., Yehuda, R., 2014, Resilience definitions, theory, and challenges: interdisciplinary perspectives, *European Journal of Psychotraumatology*, Vol.5 (1). https://www.researchgate.net/publication/266946332_Resilience_definitions_theory_and_challenges_Interdisciplinary_perspectives. Accessed on March 21, 2024.
- [33]Suleimany, M., Mokhtarzadeh, S., Sharifi, A., 2022, Community Resilience to Pandemics: An Assessment Framework Developed Based on the Review of COVID-19 Literature, *Disaster Risk Reduction*, 80(1). <https://pubmed.ncbi.nlm.nih.gov/35991617/>. Accessed on July 18, 2024.
- [34]Truffino, J.C., 2010, Resilience: An approach to the concept, *Revista de Psiquiatria y Salud Mental (English Edition)*, Vol.3 (4):145-151. Community resilience to pandemics: An assessment framework developed based on the review of COVID-19 literature - PMC (nih.gov). Accessed on March 23, 2024.
- [35]Wang, H., Xu, Y., Wei, X., 2023, Rural Resilience Evaluation and Influencing Factor Analysis Based on Geographical Detector Method and Multiscale Geographically Weighted Regression, *Land*, 12(7). <https://doi.org/10.3390/land12071270> <https://www.mdpi.com/2073-445X/12/7/1270#B13-land-12-01270>. Accessed on July 03, 2024.
- [36]Ward, N., Brown, D. L., 2009, Placing the Rural in Regional Development, *Regional Studies*, Vol. 43(10): 1237-1244. https://www.researchgate.net/publication/46527559_Placing_the_Rural_in_Regional_Development. Accessed on July 04, 2024.
- [37]Weldegebriel, Z. B., Amphune, B. E., 2017, Livelihood resilience in the face of recurring floods: an empirical evidence from Northwest Ethiopia, *Weldegebriel and Amphune Geoenvironmental Disasters* Vol. 4(10). https://www.researchgate.net/publication/314489650_Livelihood_resilience_in_the_face_of_recurring_floods_an_empirical_evidence_from_Northwest_Ethiopia. Accessed on July 04, 2024.
- [38]Wilson, G., 2010, Multifunctional ‘Quality’ and Rural Community Resilience, *Transactions of the Institute of British Geographers*, Vol 35 (3): 364–381. https://www.researchgate.net/publication/229921605_Multifunctional_'Quality'_and_Rural_Community_Resilience. Accessed on July 04, 2024.
- [39]Wilson, G.A., 2012, Community resilience, globalization, and transitional pathways of decision-making, *Geoforum*, Vol. 43 (6):1218-1231. <https://www.sciencedirect.com/science/article/abs/pii/S0016718512000681>. Accessed on July 01, 2024.
- [40]Zwolinska-Ligaj, M.A., Guzal-Dec, D.J., 2024, Rural Area Resilience during the COVID-19 Pandemic as Exemplified by Urban–Rural Communes in Poland, *Sustainability*, Vol 16 (12). <https://www.mdpi.com/2071-1050/16/12/5073>. Accessed on July 02, 2024.
- [41]**www.statistica.md. Statistica socială / Forța de muncă și câștigul salarial / AFM - Ocupare și șomaj / Populația ocupată (Social statistics / Labor force and wage earnings / AFM - Employment and unemployment / Employed population)
- [42]**www.statistica.md. Statistica economică / Agricultura / Principalii indicatori în agricultură (Economic statistics / Agriculture / The main indicators in agriculture).
- [43]**www.statistica.md. Statistica socială / Forța de muncă și câștigul salarial / AFM - Ocupare și șomaj / Indicatori principali (Social statistics / Labor force and wage earnings / AFM - Employment and unemployment / The main indicators)
- [44]**www.statistica.md. Statistica economică / Conturi naționale / Principalii indicatori macroeconomici (serii revizuite) (Economic statistics / National accounts / The main macroeconomic indicators (revised series))
- [45]**www.statistica.md / Statistica socială / Nivelul de trai al populației / Veniturile populației (Social statistics / Living standards of the population / Incomes of the population).
- [46]**www.statistica.md/ Statistica socială / Nivelul de trai al populației / Cheltuielile populației (Social statistics / Living standards of the population / Expenditures of the population).
- [47]**Eurostat. https://ec.europa.eu/eurostat/databrowser/view/sdg_08_10/default/table?lang=en. Accessed on July 02, 2024.