



# RISK ASSESSMENT OF THE SOCIAL SPHERE DEVELOPMENT ON THE EXAMPLE OF AREAS OF THE CARPATHIAN-PODILLIA REGION (UKRAINE)

## OCENA RYZYKA ROZWOJU SFERY SPOŁECZNEJ NA PRZYKŁADZIE OBSZARÓW REGIONU KARPACKO-PODOLSKIEGO (UKRAINA)

Andrii Kuzyshyn<sup>1</sup>, Aleksander Kuczabski<sup>2</sup>, Inna Poplavska<sup>1</sup>, Serhii Zadvornyi<sup>1</sup>

<sup>1</sup> Ternopil Volodymyr Hnatiuk National Pedagogical University, M. Kryvonosa st., 2, Ternopil, 46027, Ukraine,

AK  <https://orcid.org/0000-0003-3879-7337>, e-mail: [kuzyshyn\\_a@tnpu.edu.ua](mailto:kuzyshyn_a@tnpu.edu.ua),

IP  <https://orcid.org/0000-0002-0881-475X>, e-mail: [inna18@tnpu.edu.ua](mailto:inna18@tnpu.edu.ua),

SZ  <https://orcid.org/0000-0003-3467-3273>, e-mail: [serhijzadvornyj90@gmail.com](mailto:serhijzadvornyj90@gmail.com)

<sup>2</sup> University of Gdańsk, ul. Jana Bażyńskiego 8, 80-309 Gdańsk, Poland,

 <https://orcid.org/0000-0003-1271-0782>, e-mail: [aleksander.kuczabski@ug.edu.pl](mailto:aleksander.kuczabski@ug.edu.pl) (corresponding author)

### Abstract

The article is devoted to the problem of the functioning of the social sphere in the areas of the Carpathian-Podillia region. Emphasis is placed particularly on the differences between the levels of its individual components, the dynamics of their changes and the complex analysis of functionality. Territorial boundaries of the research are confined to Zakarpattia, Lviv, Ivano-Frankivsk, Chernivtsi, Vinnitsia, Khmelnytskyi and Ternopil regions, among which economic, labor-resource and informational-communicative connections are established, which also should be considered as a strength of such cooperation. Several basic components of the social sphere (education, culture, medicine, housing and communal services, trade and mass catering, communication) were selected for studying the differences between the elements of the social sphere in the areas of the Carpathian-Podillia region; for each several criteria were chosen (in general over 20). Residents of the study regions were also surveyed on their satisfaction with the functioning of the social sphere elements. To assess the risks of the functioning of the social sphere,

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the following criteria have been adopted: the identification of problematic regional areas, the identification of problematic areas of functioning within a certain component of the social sphere and the creation of appropriate grouping. Use was made of the information from the State Statistics Service of Ukraine.

**Keywords:** Carpathian-Podillia region, social sphere, components of social sphere, risks of social sphere, level of social sphere functioning.

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### **Streszczenie**

Artykuł poświęcony został problemowi funkcjonowania sfery społecznej regionu karpacko-podolskiego Ukrainy, ze szczególnym uwzględnieniem zróżnicowania takich jej elementów, jak: poziomy rozwoju, dynamika ich zmian oraz kompleksowa analiza funkcjonowania. Obszarem badań były obwody: zakarpacki, lwowski, iwanofrankowski, czerniowiecki, winnicki, chmielnicki i tarnopolski, wśród których rozwinęły się powiązania gospodarcze, pracownicze i informacyjno-komunikacyjne, co również należy uznać za mocną stronę kooperacji regionalnej. W celu analizy zróżnicowania sfery społecznej regionu karpacko-podolskiego wybrano ponad 20 jej podstawowych komponentów (m.in. edukacja, kultura, ochrona zdrowia, mieszkalnictwo i usługi komunalne, handel i gastronomia zbiorowa, komunikacja). Zbadano również satysfakcję mieszkańców badanych regionów z funkcjonowania elementów sfery społecznej. Ryzyka działania sfery społecznej w ramach określonego komponentu zostały ocenione według kryteriów identyfikacji problemowych obszarów regionalnych i funkcjonalnych, jak również poprzez ich odpowiednie grupowanie. Badania oparto na informacjach pochodzących z Państwowej Służby Statystycznej Ukrainy.

**Słowa kluczowe:** region karpacko-podolski, sfera społeczna, komponenty sfery społecznej, zagrożenia sfery społecznej, poziom funkcjonowania sfery społecznej.

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## **INTRODUCTION**

The current stage of Ukrainian society development is focused on the formation of a comfortable living environment. This, in turn, requires an appropriate approach to the formation of a range of social services. In this segment of the economy there are certain risks that directly affect the economy and culture of the country. The key components of services (education, health, culture, housing and communal services, etc.) are a litmus test for the functioning level of a particular area and the formation of the corresponding well-being of the local population. With appropriate analysis, emphasis in regional development can be adjusted to the needs of the local population. It is important that the development of the social sphere determines the issue of risk assessment, which affects most regional processes.

In this way, we want to focus on the essence of risks in the functioning of the economy in general as well as the social sphere in particular. The modern population is faced with a number of situations related to the expansion of social prob-

lems, issues of educational, cultural, medical and household nature. All this requires sustainable and effective solutions. In order to understand socio-economic factors of local communities, a detailed component analysis of indicators should be carried out to compare them and provide a representative characteristic. In our study, we made a comparison between the absolute indicators of the components of the functioning of the social sphere and a sociological survey regarding the satisfaction with the provision of certain types of services within large administrative units of Ukraine. This article examines the spatial dimension of risks in the functioning of the social sphere, focusing on special methodological aspects of representative indicators used in the multidimensional analysis of risks that generally affect the well-being of the local population.

It is known that the changes that occurred in the normal rhythm of life as a result of some risky events cause serious concern for the population and society. They can have irreversible and direct consequences for society, generating large-scale prejudice, depending on the cultural, political and economic context in which the phenomenon manifests itself. The understanding of the complexity of the risks of the social sphere elements in view of the sources of risk, the frequency of manifestations, the impact or the types of side effects is a component of the process of assessing potential dangers, as well as adopting the most effective measures of response and adaptation to socio-economic changes, and to the environmental changes.

## **ANALYSIS OF THE RESEARCH**

The problem of risk assessment of the social sphere is a new direction of development and functioning of the constituent elements in the social sphere. To some extent, this problem has been solved by modern national and foreign scientists.

The assessment of territorial development in connection with elements of the social sphere is the objective of modern studies of human geography. In particular as a result of the study by Pachura, Nitkiewicz, Matlovicova and Matlovic, the need for a dynamic comparison of the research results of the regional development factors was emphasized (Pachura et al., 2018). Although at the turn of the 21st century the main attention was given to the study of the microscale phenomena of social orientation (Bontis, 2004), the early 21st century begins the period of expanding the study space to regions and states (Cooke et al., 2005; Stahle, 2008). Most frequently this area of scientific interest involves the use of regional endogenous potential and the assessment of competitive advantages (Malhotra, 2000).

In a broader format, this problem was addressed within the studies of Kuczabski, who suggested a new unique technique of assessing the economic efficiency of national governments (Kuczabski, 2021). The assessment is based on the indicator of gross free product per capita – one of the contextual issues of the as-

assessment is a social sphere. The author evaluates the government as an instrument of social policy. The regional assessment of the components of the social sphere of the Carpathian-Podillia region was carried out by Kuzyshyn (2018), Poplavska, Tsaryk (2021).

In the studies of Oliinyk and Stepanenko, the social sphere is assessed from the standpoint of the common locality of territorial communities (Oliinyk, Stepanenko, 2012). The spatial-temporal organization of the society is crucial in assessing the social sphere in light of globalization, according to Niemec. She proves that the innovation and investment image of the territories, model development and socio-geographical zoning in order to optimize the territorial organization of society and ensure optimal living conditions are the most crucial to regional development (Niemec, 2002).

Studies by Kaczmarek-Khubnaia (2021) note the risks of territorial development, including the risks in the social sphere, due to ethno-cultural, natural, historical and political features. At the same time, the researcher believes that the financial opportunities of the population play a significant role in the development of various areas of the region's economy, including the social sphere.

Śleszyński (2021) proposed in his study a detailed method of studying the quality of life in terms of small administrative units. In particular, he assesses this feature with regard to the availability of social services depending on the location of small administrative units. These studies are a continuation of the study of social services availability on the example of the capital region (Śleszyński, 2004).

An interesting and important issue from the point of view of planning and regional policy, according to Winiarczyk-Raźniak (2008), is the diversification of service delivery in an urban region and differences in the level and quality of life associated with the availability of services (or lack thereof). The aim of this study was to demonstrate the relationship between the availability of services and the life quality of residents, including their spatial correlates in a large urban region (in this case, the city of Krakow).

The nature of socio-economic development of the social sphere was studied by Chojnicki (2010) in an axiological perspective.

The current studies in this area also include more specific topics, like: the specifics of medical services (Jaszczuk, 2018), educational services (Ge He, Qinshi Huang, 2021), cultural services (Ettliger, 2003), housing services (Kok et al., 2011), communication services (Brunn, 2001; Adams, 2011), as well as trade and restaurant services (Gheribi, Voytovych, 2018).

With regard to the concept of risks in the functioning of the social sphere, it is worth noting its interdisciplinary nature. Lupu's research analyzed a special dimension of social risks, as well as some modern methodological aspects concerning the models and main indicators used in the multidimensional assessment of social risks at local, regional, and national levels (Lupu, 2019). The author defines

that social risk is a combination of the probability of some dangerous or harmful factors and the development of some social disorders due to vulnerability. Also, this problem is considered from the standpoint of assessing the quality of life, where the factors that have a maximum impact on the environment of a comfortable life are analyzed (Ivanová et al., 2022). In this study, the variables are projected onto the factor space, which makes it possible to get an idea of their meaning, as well as the corresponding correlations. In particular, it emphasizes that the quality of life is improved by intangible values, such as a healthier and more active lifestyle as a result of physical activity or the need for adequate education.

Therefore, we think it is appropriate to study the risks that may play a crucial part in the functioning of the social sphere. In this way, it is possible to identify problematic segments that require special attention of the local authorities. At the same time, the question arises concerning the need to develop and invest in certain components of the social sphere in order to form a quality social space. Thus, the study of the Carpathian-Podillia region's social sphere through the system of relevant indicators will form a relevant comprehensive view. We have chosen a method of rating assessment of risks in order to minimize them in the future. Our vision of the meaning of risks in the social sphere in the context of modern scientific discourse is based on the nature of their manifestations: individual (related to the individual requests of a specific resident of the settlement), local (reflecting those unstable manifestations of the social sphere functioning that are characteristic of the entire region), national (related to the nationwide features of the social sphere functioning). In contrast to individual, a national form of risks in the social sphere represents the perception of such a risk in the context of society. Public perception makes it possible to study different risks and their impact on public interests, taking into account their individual nature. This form represents an objective perception of risks arising in the social environment, expressing the point of view of a specific society or state regarding the presence and intensity of social risks concerning its members (Kampová, 2010). We consider risks in the functioning of the social sphere of the studied territory from the various points of view, including:

- relevance of services;
- service availability;
- the need for a service;
- perception of services as an element of the level of local population well-being;
- perspective of service functioning.

The measurable criteria of the functioning of the social sphere elements used in the study allow determining possible risks as well as directions of prospective improvement.

## RESULTS AND ANALYSIS

To assess the risks of the social development sphere we have selected a system of indicators that analyze the current state of its basic elements and provide a generalized analysis of the survey results of social services consumers within the study region. While working on this issue, we set the task to identify risks that are inherent in the social sphere within the large macro-region of Ukraine. Is there a social demand for such entities? What is the public opinion at the local and sub-regional level on the functioning of certain elements of the social sphere to create comfortable living conditions?

The following research methods were used during the study: descriptive and comparative, as well as descriptive-vector methods. The decision on the choice of research methods was influenced by the research issues, while taking into account the quality and quantity of available research material. Thus, the descriptive method was used to characterize the concepts associated with the presence of social sphere components and their accessibility to the local population; the comparative one – when comparing the functional level of individual components of the social sphere and their comprehensive review; while the descriptive-vector method is important from the point of identifying the most important factors influencing the subjects functioning in the social sphere, along with indicating the most important activities.

The author's method of Kuzyshyn and Poplavska on component-by-component risk assessment of the components functioning in the social sphere and the general level of its formation was offered for the conducted research. It allows them to be ranked using the example of areas of the Carpathian-Podillia region. Based on the method of matrix analysis, a study of the functional level of the social sphere elements in terms of these areas was carried out (Kuzyshyn, Poplavska, 2018; Kuzyshyn, 2019). It should be noted that we partially compared our methodology with the methodological approaches developed by Czyż (2016) and Śleszyński (2021).

To study the risks within each element of the social sphere that was analyzed, a ranking was performed (from 1 to 7). It constituted the basis for the identification of potentially problematic areas of the social sphere for each region (oblast).

A higher number of points denotes a higher rating position, and accordingly – higher risks of the functioning of the social sphere in general as well as its individual elements.

For the holistic perception of the situation, several blocks of criteria with appropriate grouping were identified: cultural sphere, sphere of health care, housing and communal services, trade and mass catering, connection. They made it possible to form an appropriate matrix of risk assessment. At the same time, in each region a sociological survey was conducted to find out more about the satisfaction when it

comes to the provision and the level of functioning of the mentioned social sphere elements. The survey involved from 50 to 70 residents in each of the regions (a total of 440 people took part in the survey), representing people of working age from different settlements according to the administrative status as well as nature of the settlement, which allows us to confirm the representativeness of the conducted survey. The formulated questionnaire presented 10 questions that determine the status of a person (age, gender, nature of professional employment, nature of the settlement type, marital status), as well as 35 questions regarding the analysis of satisfaction with the functioning of the social sphere in the territory of their settlements.

Traditionally, elements of the social sphere are characterized by local influence and limited operational capabilities. Despite their different functional purposes, their common goal is to identify and meet local needs of the society. Unfortunately, despite a strong motivation, many needs go unnoticed or may not be met because the subjects have limited resources or very specialized (or too fragmented) application. The main task of these actors is to prevent social stratification and maintain social harmony (concern for the availability of socially important goods and services leads to 'social balance').

We view social sphere objects as the entities that focus on solving social problems and meeting social needs in an innovative way, while serving the common interest, which means that they are focused primarily on social impact, not profit. In general, social actors operate on the basis of and in combination with local roots traditions, taking advantage of joint management. Their functioning is marked by a direct correlation dependence – a decrease in interest in their supply due to lower incomes and lower financial costs of local governments to support social sphere organizations. At the same time, we would like to note that social actors are perceived as reliable partners that will have even greater responsibility in the context of meeting social needs.

The subjects of the social sphere are special units, the distinguishing feature of which is a socially defined purpose and method of using profits. However, it should be borne in mind that these entities are also subject to market legislation that face similar barriers to enter the market or barriers to develop at the later stages. However, these are very important institutions from the point of view of the excluded individuals or threatened with exclusion, as they are often the only opportunity to take a paid job or have a product or service designed for such people.

The Carpathian-Podillia region is located in the central-western part of Ukraine and covers Vinnytsia, Khmelnytskyi, Ternopil, Zakarpattia (Uzhhorod is the seat of the region's government), Lviv, Ivano-Frankivsk, Chernivtsi regions. In general, they account for 19.1% of Ukraine's territory and are home to 23.5% of the country's population. Despite the generally heterogeneous history and economic ties, this territory has a fairly compact location that allows inhabitants to communicate and form well-established relationships.

The unity of this region is characterized by established information and communication, as well as economic and labor relations. During the 20th century, people were employed predominantly in industry, agriculture and forestry. However, at the same time, there was a tradition of great interest in education, culture and tourism (many families in Western Ukraine have a tendency to spend time together on weekends, visit cultural and other mass events and provide the younger ones with proper education). In the late 1990s these areas of the economy have intensified their development in the region, but only tourism can be associated with the income industry. The proximity to the border with the European states and the facilitated communication with the European space also had its positive effects (the features of globalization and Europeanization in the areas of the region under study have increased due to personal visits to the EU countries).

From a retrospective point of view, it is known that this region was not formed as a single unit. During the 19th and 20th centuries these areas remained parts of the Republic of Poland, Romania, the Czech Republic, the Russian Empire, and the Soviet Union, and each of the states had different views on the formation of this territory, including the positions of the social space. While western states promoted the upmarket character of this direction, the Russian Empire did not consider it necessary to develop the social sphere in the colonized territories.

To some extent, such a territorial connection affected the rather diverse ethnic composition of the population of the studied areas. Within the limits of not only the investigated region, but also Ukraine in general, the most polyethnic regions include Zakarpattia and Chernivtsi (the share of ethnic Ukrainians reaches 60–75%). Monoethnic areas with the domination of ethnic Ukrainians include Ternopil, Ivano-Frankivsk regions (the share of ethnic Ukrainians is over 95%). The indicators described above have become a factor for leveling or exacerbating the risks of the social sphere functioning in the region.

Risks regarding the level of the functioning of the social sphere of a certain region are determined by the demand social sphere services, and those, in turn, change according to the real capabilities of society at a particular stage of development. Low incomes and lack of confidence in the future economic growth have led to a decline in interest in many services, although there are some exceptions (information, advertising, recreation and tourism, health care, etc.).

In our previous studies (Kuzyshyn, Poplavska, 2018), we have already noted the role of education in the structure of the social sphere and its importance for the development of individual territories. Owing to education, the foundations of spiritual development and long-term prospects of intellectual growth are formed. Therefore, it is important to assess the risks of the functioning of the educational space of the Carpathian-Podillia region. We think it is appropriate to assess the risks of accessibility of preschool education for the corresponding age group (Criterion 1 in Table 1), estimate the number of children in secondary schools



**Table 1.** Rating of the areas of the Carpathian-Podillia region according to indicators of the functioning of social sphere elements, 2016–2020

Regions	Criteria for evaluation/rank				Rating of region	Criteria for evaluation/rank				Rating of region									
	Educational sphere					Medical sphere													
	1	2	3	4		5	6	7	8		9	10	11	12	13				
Chernivtsi	2	3	5	3	13	4	6	4	6	5	4	25	1	2	5	5	7	19	3
Ivano-Frankivsk	6	2	5	5	17	2	5	4	5	4	7	25	1	1	1	4	6	12	5
Khmelnyskyi	1	6	4	6	17	2	2	1	4	3	3	13	5	5	4	3	3	15	4
Lviv	5	4	1	1	11	5	4	5	1	1	1	12	6	3	3	1	5	12	5
Ternopil	3	5	3	2	13	4	3	3	3	6	18	3	4	2	2	2	4	12	5
Vinnytsia	1	7	2	4	14	3	1	2	3	6	5	17	4	6	6	6	2	20	2
Zakarpattia	4	1	6	7	18	1	7	6	2	4	2	21	2	7	7	7	1	22	1

  

Regions	Criteria for evaluation/rank		Rating of region	Criteria for evaluation/rank		Rating of region	Overall rating of risks of social sphere functioning								
	Housing and communal services			Trade and mass catering			Communication								
	14	15		16	17		18	19	20	21	20	21			
Chernivtsi	5	6	11	1	6	3	5	14	1	4	7	2	13	3	2
Ivano-Frankivsk	3	3	6	4	2	5	2	9	4	2	6	4	12	4	4
Khmelnyskyi	2	3	5	5	4	4	4	12	2	5	5	7	17	1	3
Lviv	7	2	9	3	1	1	6	8	5	1	2	3	6	7	6
Ternopil	4	1	5	5	3	7	2	12	2	6	4	5	15	2	5
Vinnytsia	1	5	6	4	7	6	1	14	1	2	1	6	9	5	3
Zakarpattia	6	4	10	2	5	2	3	10	3	3	3	1	7	6	2

Source: Statistical Collection «Regions of...» Part 1 (2017), Statistical Collection «Regions of...» Part 2 (2017), Statistical Yearbook of Ukraine for 2016 (2017), Statistical Yearbook of Ukraine for 2020 (2021).

(Criterion 2), the level of interest in professional (working) education (Criterion 3) and higher education (Criterion 4). During 1995–2020 in the Carpathian-Podillia region there was a positive trend for increasing coverage of children in preschools (from 31 preschoolers per 100 children in 1995 up to 60 preschoolers per 100 children of the corresponding age in 2020), which is a lower figure compared to the average Ukrainian one (Statistical Collection «Regions of...» Part 1, 2017; Statistical Collection «Regions of...» Part 2, 2017; Statistical Yearbook of Ukraine for 2016, 2017; Statistical Yearbook of Ukraine for 2020, 2021). A higher level of security is characteristic of the Podillia regions. If from the 1995/1996 academic year until the 2013/2014 academic year, the number of pupils in secondary schools per 10 thousand people decreased (from 1,464 to 1,039 students per 10 thousand population), there was a tendency afterwards to increase the number of pupils per capita (1,227 students per 10 thousand population). This indicator is significantly higher than the average in Ukraine, which is the result of stabilization trends in demographic policy and is rather of a temporary nature, which is associated with demographic waves.

Vocational education is a problematic area of educational activity. Since 2000 there has been a steady decline in the number of students in such educational institutions. For example, if in 2000 there were 104 students per 10 thousand population, by 2020 their number had decreased to 69 students. Although a decreasing interest in working professions is a usual phenomenon in Ukraine, the areas of the Carpathian-Podillia region display slighter tendencies in this respect. Against the general background, the Lviv region stands out (in 2020 there were 83 students of vocational schools per 10 thousand people). Over the recent years, interest in higher education has been declining in all areas of the Carpathian-Podillia region, due to the outflow of young people to European universities and the general leveling of education as a component of well-being. There are fewer than 300 students per 10 thousand local residents, which is 20% lower than the average Ukrainian indicator. As a result of a long-standing tradition of interest in higher education and branding of universities, the number of students per capita in Lviv and Ternopil regions remains relatively high (the city of Ternopil is the all-Ukrainian leader in the number of students per capita) (Statistical Collection «Regions of...» Part 1, 2017; Statistical Collection «Regions of...» Part 2, 2017; Statistical Yearbook of Ukraine for 2016, 2017; Statistical Yearbook of Ukraine for 2020, 2021). At the same time, the number of people with higher education declines. In the areas of the Carpathian-Podillia region, on average, up to 25% of people have higher education (in Ukraine – more than 29%) (Statistical Collection «Regions of...» Part 1, 2017; Statistical Collection «Regions of...» Part 2, 2017; Statistical Yearbook of Ukraine for 2016, 2017; Statistical Yearbook of Ukraine for 2020, 2021). This trend is a negative signal, a form of risk of losing established educational traditions in the region.

Among the surveyed residents of the region there is an opinion that higher education is not in demand, which reduces its prestige (this idea is supported by more than 70% of respondents). Another problem is the reduction of the possibility of receiving educational services at the place of residence (90% of respondents). Almost 60% of respondents consider educational institutions to be the basis for the development of the settlement.

If we comprehensively assess the risks of the educational environment of the region, it should be noted that the problems appear in the development of Ivano-Frankivsk, Zakarpattia, Khmelnytskyi regions. These territories are characterized by a reduced enrollment of children in preschool educational institutions, a decrease in the number of students and trainees in secondary and vocational schools. In all areas of the Carpathian-Podillia region there is an accelerated rate of reduction in the number of students in higher educational institutions. This can be justified by the outflow of students to European, mostly Polish educational institutions.

The components of cultural space formation include libraries, theaters, clubs, museums, film studios, television, radio, newspaper and magazine publishing houses. They produce cultural goods, offer spiritual values and so on. There is a clear relationship between the concentration of cultural sites and the population number. There are more than 5.3 thousand libraries and 6.0 thousand clubs in the Carpathian-Podillia region (Statistical Yearbook of Ukraine for 2020, 2021). Their placement is characterized by the application of the principle of territorial or industrial affiliation (traditionally, they are located in the centers of territorial administration or associated with specific institutions like enterprises, universities, educational institutions, etc.). The adoption of this approach limits the possibility of providing such services to a wide range of consumers, especially in rural areas, and this in turn is one of the indicators that contributes to depopulation in rural areas and the outflow of the reproductive-age population. The cultural sites are located in accordance with the administrative division (in settlements – centers of administrative-territorial units, in urban neighborhoods) and production – on the basis of enterprises, educational institutions and more. In our study, we evaluated the quantitative indicator of the availability of cultural institutions, as well as the frequency of public visits.

In general, in the Carpathian-Podillia region there is a fairly high quantitative indicator of libraries as well as art and cultural institutions. It significantly exceeds the average Ukrainian indicator. However, since 2000 their number has been decreasing and they are either closing or changing their functional purpose. Admittedly, the availability of libraries and appropriate funds does not always reflect the interest in this type of cultural and intellectual development. It should be noted that in 2020 in Vinnytsia, Lviv, Ternopil and Khmelnytskyi regions the libraries had up to 700 books per 100 people, whereas in other regions, this figure

exceeds the threshold of 700. The most negative trend in the reduction of library resources is observed in Vinnytsia, Zakarpattia and Khmelnytskyi regions (the number of publications decreased by almost 30% there). At the same time, attention was paid to the issue in question in the Lviv region and the number of books in libraries even increased (by almost 25% of book copies per inhabitants). This could be probably related to an increase in the number of students in higher educational establishments of Lviv, which are the main users of libraries (Criterion 5 in Table 1).

Club establishments of most regions of this territory have 15 seats per 100 people (this is 50% higher than the average in Ukraine). Thus, in Ternopil region it is 19, in Khmelnytskyi region it reaches 25). Another positive thing is that during 2000–2016 the availability of club facilities in almost all regions remained at the same level as in 2000 (except for the Zakarpattia region only, where this indicator decreased to 10 places per 100 local inhabitants) (Criterion 6 in Table 1). Of course, a more qualitative picture of the assessment of this indicator would be possible if the employment rate of club facilities and their use in terms of regional areas were evaluated, and at present, such statistics are not available.

There are 161 museums in the Carpathian-Podillia region. The thematic nature is dominated by historical and local lore. It should be noted that almost a third of museums in Ukraine are situated in this area. Naturally, the maximum concentration of such institutions is typical of the city of Lviv, and in terms of regional areas, most of them are located in the Ternopil region (35). Tourism and recreational orientation of most areas of the region led to an increased museum attendance. If in 2016 the figure was 46 visits per 100 people, by 2020 it increased to 49. Particularly high interest in museums can be observed in Lviv (82 visits per 100 people) and Zakarpattia regions, while the minimum attendance is typical of the Chernivtsi region (35 visits per 100 inhabitants) (Statistical Collection «Regions of...» Part 1, 2017; Statistical Collection «Regions of...» Part 2, 2017; Statistical Yearbook of Ukraine for 2016, 2017; Statistical Yearbook of Ukraine for 2020, 2021). The reason for such a significant amplitude can be both quantitative indicators of museums as well as practical interest of tourists and recreationists in this form of leisure (Criterion 7 in Table 1). If we evaluate the trend of museum attendance in 2000–2020, it should be noted that in all areas there was an increase in interest in this type of recreation (particularly, in the Zakarpattia region this indicator has more than tripled, in Lviv and Khmelnytskyi has grown by 2.5 times).

The areas of the Carpathian-Podillia region are not marked by a high number of urban settlements, so theaters are rather poorly represented. In total, there are fewer than 30 of them, nine of which are located in the Lviv region. This segment of the cultural sphere can be more clearly assessed through the attendance of the population. It should be noted at this point that this type of entertainment is of little interest, hence the attendance is quite low, e.g., 12 visits per 100 inhabitants.

However, there is an increased activity in the Lviv region (20 visits per 100 inhabitants), but in most cases this is due to tourists who visit theatres in Lviv (Statistical Yearbook of Ukraine for 2020, 2021) (Criterion 8 in Table 1). In terms of the dynamics of the Melpomene center attendance, the Khmelnytskyi region demonstrated the most positive dynamics during 2000–2020 (attendance has increased almost twice), and in the Zakarpattia region the same indicator has deteriorated almost twice.

Concert and festival activities today are an integral part of cultural leisure. In the region, however, the indicators of interest in this type of organized entertainment fluctuate significantly. In general, the interest in concert events has a growing tendency – if in 2000 such events were visited by 5 people per 100 local residents, in 2016 this figure increased to 7. There are different fluctuations though, depending on the region. While in the Lviv region, during this period, there is actually an increase in attendance at concert events (from 5 to 11 visits per 100 local inhabitants), these indicators remain stable in the Ivano-Frankivsk region (1–3 visits per 100 local inhabitants). In other areas, attendance rates are within the range of 6–8 visits per 100 local residents, which is higher than in Ukraine generally (Criterion 9 in Table 1).

While assessing the functioning level of cultural sphere components, it should be noted that the lowest indicators of their balanced functioning are typical of Zakarpattia, Ivano-Frankivsk and Chernivtsi regions. In all areas of the region under study, the library service segment is problematic, and concert and exhibition activities are underdeveloped in the vast majority of regions (with the exception of the Lviv region).

When interviewing respondents, minimal changes in the perception of cultural institutions as a modern leisure segment have been observed (on average – more than 55% of respondents). Up to 45% of respondents do not consider it necessary to visit museums, the same applies to clubs – 70%, and libraries – 72%. On the other hand, for 40% of respondents, the problem is a small number of concerts and festivals, limited access and promotion of theatrical events (the opinion of 45% of respondents). Less than 10% of respondents would like to work in this field.

In our previous studies (Kuzyshyn, Poplavska, 2018), we have noted the importance of medical and health facilities for complete relaxation, recreation and health of the population. The quantitative potential of specialists, meaning doctors in the Carpathian-Podillia region is more than 50 thousand people, which is more than 28% of the Ukrainian indicator. In terms of percentage, the same number of middle medical staff works here, but the absolute figure reaches about 100 thousand people. The region is characterized by quite a large number of doctors with an increasing trend: in 2000 there were 45 specialists per 10 thousand population, in 2016 – 50, and in 2020 – 52 (Criterion 10 in Table 1). Positive trends are observed in a high-level provision of middle medical staff, e.g., 101 per 10 thousand population

in 2016, 105 – per 10 thousand population in 2020 (Criterion 11 in Table 1). The concept of general consolidation of hospitals did not affect the number of hospital beds in 2020, which means that per 10 thousand population there were 81 hospital beds available (Criterion 12 in Table 1). Higher availability of these services is characteristic of Ivano-Frankivsk, Lviv and Ternopil regions. The formation of the institution of family physicians leads to a certain redistribution of the workload of patients between general practitioners and specialists. In present circumstances, local communities emphasize the provision of their residents with hospital services within the average territorial accessibility (Criterion 13 in Table 1).

What should be considered as the health indicator of the region's population is the share of people who have a normal body weight (body mass index) and the number of people who exercise at least once a week. While on average more than 42% of the population meet this criterion in Ukraine, in the region under study it is kept within 40.5% (the minimum is in the Chernivtsi region – 38%). Men (31%) are more active than women (18.5%) when it comes to physical activity. The exception is the Chernivtsi region, where women are more active, but the general interest in physical culture is one of the lowest in Ukraine.

According to the selected criteria, the lowest indicators in the Carpathian-Podillia region have been observed in Vinnytsia, Zakarpattia, Chernivtsi regions.

As a result of the population survey in this segment of services, the following trends were identified: high level of dissatisfaction with the provision of medical services (45–63%), insufficient availability of medical services (35–50%), limited access to health and recreation services (35–43% of respondents).

The next component of the risk assessment of the social sphere functioning is a housing and communal services sector. It is a set of versatile housing-related services that meet the needs of people; it ensures the functioning of residential buildings, hotels, small businesses and institutions. In general, the housing stock of the Carpathian-Podillia region exceeds 270 million m<sup>2</sup>, which is 27% of the housing stock of the state. Traditionally, housing in cities has a wider range of utilities, including gas, water, hot water, centralized drainage and sewerage. But this region is characterized by a larger share of living space in rural areas, which is more than 56% of the regional average. This is natural, taking into consideration the large number of rural settlements and a relatively low urbanization that is typical of these areas. On average, there are almost 27 m<sup>2</sup> of living space per capita in the region. If we evaluate this indicator in terms of regions, it is the highest in Vinnytsia (over 30 m<sup>2</sup> per person) and Khmelnytskyi (27 m<sup>2</sup> per person), while the lowest indicators are typical of the Lviv region (24 m<sup>2</sup> per person) (Criterion 14 in Table 1).

If we assess the type of housing in the Carpathian-Podillia region, what should be noted is a predominance of single-family houses (almost 64%). High rates of individual development are particularly common in Zakarpattia, Ivano-Frankivsk, Ternopil and Chernivtsi regions (over 65% of the housing stock). 36%

of dwellings have at least three rooms, which is generally consistent with the average Ukrainian trend.

In the consolidated assessment of indicators that ensure the quality of functioning of the housing and communal complex in these territories, the most problematic features are characteristic of Zakarpattia and Chernivtsi regions (Criterion 15 in Table 1).

On interviewing residents about the assessment of satisfaction with housing, when asked "Are you satisfied with your living conditions", almost 3% answered they were very dissatisfied, nearly 12% – dissatisfied, about 27% – not very satisfied, almost 58% – satisfied, and only 2% were very satisfied.

Catering companies and trade establishments create a system of enterprises that bring these services closer to the population.

The trade space has the highest level of availability per inhabitant in Lviv and Ivano-Frankivsk regions, high enough in Ternopil, Khmelnytskyi and Zakarpattia regions (Criterion 16 in Table 1).

The structure of turnover is incorrect and shows low purchasing potential of the local population. Food products and non-food products account for 65% and 35%, respectively. In the Lviv region, the retail trade per capita comprises 23.5 thousand UAH, which exceeds the average Ukrainian figure. In the Ternopil region, this figure remains the lowest in the Carpathian-Podillia region, that is 9.6 thousand UAH per person (Criterion 17 in Table 1). Over the last decade, there has been a significant increase in the network of specialized stores, supermarkets and fast food restaurants. The most dynamic retail turnover is developing within the Lviv region – over the research period, the indicator in this area has grown by more than 22 times (although there is a certain inflation component, but it is worth noting that this is also a sign of a welfare increase for the population of this territory). Also, a significant growth in retail turnover is characteristic of Ternopil, Khmelnytskyi and Chernivtsi regions.

The trade sphere across the areas of the Carpathian-Podillia region has almost the same level of development in all regions in terms of the number of trade establishments. The highest level of growth is characteristic of the areas of the Carpathian region (Lviv, Ivano-Frankivsk and Zakarpattia regions), and the lowest in Vinnytsia and Chernivtsi regions (Criterion 18 in Table 1).

Among the problematic areas in the field of trade, respondents noted frequent overpricing of services and goods (63% of respondents), low personal purchasing capacity (60%), territorial inequality in the location of trade and catering establishments (35% of respondents).

The comfort of modern family is associated with the availability of quality forms of communication. Not only do they ensure the transfer of information, but are also part of most economic activities, and therefore shape the welfare of the population. It is important to have different elements of the communication

sphere, meaning communication departments, telephone and telegraph stations, post offices, radio, television, etc., each of which is responsible for a particular type of information transmission.

The interaction between different forms of communication is quite complex. For example, the post office provides both channels for the press distribution as well as telecommunication channels that form the infrastructure necessary for the operation of computer networks. Some technologies focus on the transfer of information, while others – on their production and dissemination.

High communication technologies are presented first of all in the Lviv region, active development of mobile communication networks is typical of Zakarpattia and Vinnytsia regions. We monitored the dynamics of mobile users for the period of 2000–2020 (Criterion 19 in Table 1). Despite the intensity of development towards this direction, it had some significant positive dynamics only within the Lviv region, while in other regions the indicator remained practically unchanged over the estimated period. The number of cable communication users in all areas of the region is decreasing, which can be linked to two indicators – switching to satellite TV or using more affordable and inexpensive technologies (frequency tuners, internet technologies, etc.) (Criterion 20 in Table 1). Actually, Internet access is a direction of communication, which is actively progressing in all areas of the Carpathian-Podillia region. The development is most intensive in the Zakarpattia region – over 2000–2020 the number of users increased by almost seven times, in Ivano-Frankivsk – by 4.5 times, in other regions – by 2–3 times (Criterion 21 in Table 1).

In general, mobile operators inform that the number of users of their services in the region is 10% on the country scale, which is fully correlated with the number of inhabitants.

On the basis of the indicator, it should be noted that the most problematic among the regions of the area under study in the sphere of communication is the Khmelnytskyi region, and a significant imbalance is characteristic of Ivano-Frankivsk, Ternopil, Chernivtsi regions.

According to the respondents, there are significant discrepancies between the declared and actually provided communication services (65% of respondents) and insufficient attention is paid to the communication system in rural areas of the region (39%).

Based on the component analysis of the constituents of the social sphere of the Carpathian-Podillia region, it is possible to assess what risks are inherent in their functioning and how they fulfill their functional purpose in each of the regions. To this end, a certain algorithm for generalizing risks has been developed, which includes the following stages:

1. identification of the basic groups of the social sphere components, which can be divided into two subgroups – indicators-stimulators and indicators-disin-



centives. If the first one should be considered as having a positive effect on the functioning of the social sphere of a certain territory (the number of pupils of general educational institutions per 10 thousand population, the provision of the population with the number of places in club institutions per 100 people, the provision of the population with doctors, average medical personnel, hospital beds per 10 thousand population and the planned capacity of outpatient polyclinic facilities per 10 thousand population), the second one plays a restraining role or even have a negative effect, reducing an interest in living in those territories (supply of living space, indicator of the level of improvement in private residences, share of households with access to the Internet);

2. each of the six groups of indicators is ranked according to the characteristics of absolute indicators, which are available in the relevant statistical databases;
3. in each of the assessed areas the sum of rating points is determined so that it reflects the success of the relevant elements of the social sphere.

On the basis of the analysis, one can observe (Fig. 1) that the greatest risks to the functioning of the social sphere are inherent in the Chernivtsi region. In



**Fig. 1.** Ranking of regions of the Carpathian-Podillia region, Ukraine, by risks of functioning of elements of the social sphere

Source: own study.

addition to the educational sphere, the functioning of other components of the social sphere is problematic. In most regions, including Vinnytsia, Zakarpattia, Ivano-Frankivsk, Ternopil, Khmelnytskyi, the overall level of the social sphere functioning is approximately the same. However, there are potentially hidden resources that need to be improved in certain components of the social sphere. Accordingly, there is a need to adjust those elements that are on the verge of activation. In the Vinnytsia region, there are significant risks to the functioning of the medical sector and there is an imbalance in the system of trade and restaurant services. The Zakarpattia region is marked by problematic areas in the field of education, medicine, culture as well as housing and communal services. The Ivano-Frankivsk region is characterized by unbalanced, and therefore problematic indicators in the system of education and culture. Within the Ternopil region there are significant risks in the functioning of housing and communal services as well as the communication system. The Khmelnytskyi region is characterized by unbalanced functioning of the educational sphere and communication system. Thus, the problem areas of the social sphere functioning within the areas of the Carpathian-Podillia region are outlined. The attention given to the segments of this sphere will provide their balanced development and general growth of the population well-being in the specified areas.

## CONCLUSIONS

The subjects of the social sphere are a constant and important element of the living environment. Some of them create permanent and strong ties with local communities, which is the manifestation of their social function, ensuring the development of the territory and creating conditions for the full life of the local population. In Ukraine, as in other European countries, the number of subjects of the social economy is gradually increasing, and their saturation, as well as the goals pursued, largely depend on the geographical and political context. However, despite this, the goals of the subjects of the social economy always have a social dimension. Most often this is due to: – drawing attention to problems or exclusion of those who are at risk; – measures to protect the environment; – the threshold of availability of received services based on the level of transport accessibility; – provision of a wide range of social services; – development of attitude to health and many signs of a comfortable environment – education, culture, well-being, etc. While taking into consideration the wide range of activities of social actors in the Carpathian-Podillia region, their economic importance (job creation, development of available services) in addition to social importance (preventing restrictions on the availability of social services, countermeasures against social exclusion, development and strengthening of local communities), it is necessary to pay attention to the risks that accompany their operation at regional and local

levels. It may be a good idea to create domestic and public policies that promote such initiatives. This is a very good time for businesses that work close to their consumers, because people pay more attention to the concept of accessibility of social goods and services, they willingly support local initiatives (e.g., launching new social establishments), which is key to local development.

In the process of consideration of each component of the social sphere of the Carpathian-Podillia region, we analyzed the main groups of the criteria. This allowed determining differences in the levels of social sphere formation of the region in general. The groups of indicators we selected for the study (education, culture, medical sphere, housing and communal conditions, communication, trade and mass catering) are a kind of markers, some indicators of which allow us to identify the level of the social sphere formation. In each of the suggested groups there were its own applicators, demonstrating the functionality of the corresponding component of the social sphere (in some cases, two of them, in others five).

The weakness of the social sphere of the Chernivtsi region according to the criteria we have chosen is based on the low positions of the cultural and medical spheres, as well as housing and communal services.

For most areas of the region (Vinnytsia, Zakarpattia, Ivano-Frankivsk, Ternopil, Khmelnytskyi) there is a very narrow amplitude of total indicators, which confirms that in the consolidated form, the social sphere does not show any significant differences in those areas. Thus, the Vinnytsia region is characterized by a high level of children's preschool coverage and the considerable number of students in the labor professions, the provision of the population with library funds per 100 inhabitants and club facilities per 100 people as well as residential areas. It also has the highest number of cable television and mobile users in the region. The Zakarpattia region is a leader in terms of the number of students in general educational institutions, museum attendance, the planned capacity of outpatient clinics and the availability of the Internet. The Ivano-Frankivsk region is characterized by a large number of students in general educational institutions, coverage of the population by medical care and average medical personnel, and the indicator of the number of mobile subscribers. The Ternopil region is characterized by a large number of university students of I-IV levels of accreditation; high rates of middle medical personnel and hospital beds, as well as a high level of welfare in private dwellings. The Khmelnytskyi region is a leader in children's preschool coverage, availability of library funds, the number of places in club facilities, and the availability of housing areas.

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