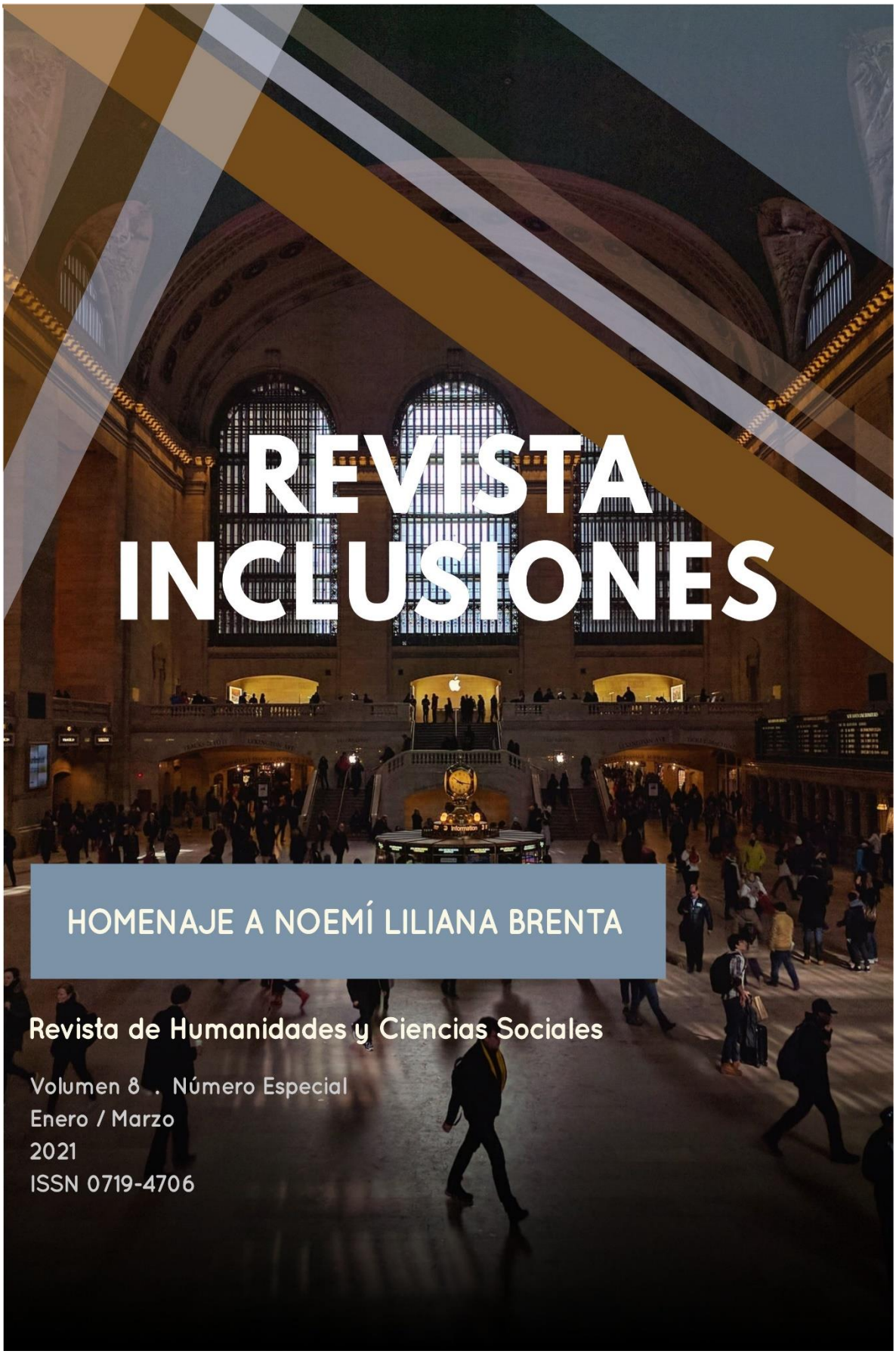

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METHODOLOGICAL ASPECTS OF REGIONAL RESEARCHES

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Abstract

In this study, it's tried to make the connection between the regional paradigm, the spatial approach, localization studies and regional researches clear. It accentuates on the theoretical basis of contemporary methodological aspects and concepts. The authors focused on the principles and the methods for realizing geographical analysis and terrain researches.

Keywords

Methodology – Regional researches – Regional geographical analysis

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Introduction

The interdisciplinary nature of theory leads to certain difficulties in creating a generalized methodology for studying and analyzing the territorial organization of space. The possible approaches and methods of examination can have different application, depending on the main goal of the study, which has to do with the theoretical level of knowledge or with the concrete empirical study.

The diversity of forms of spatial organization of society and their components define the necessity of planning and realizing a system of regional researches. The results from them prove the functioning of complex and diverse by their nature territorial systems with a certain inner structure, spatial configuration of objects and phenomena and main regularities of interaction.

A characteristic trait of the scientific instruments of geography as science, which is most closely related to regional researches, is the possibility of studying the subjects, the phenomena and the processes simultaneously in their horizontal and vertical hierarchy. When forming and argumenting the vertical section the global, the national and the local levels are used, while the distinguishment between territorial systems in the horizontal section is done by searching for geographical borders, based on certain similarities, based on the characteristical traits of one or another parcel of land. When combining vertical and horizontal hierarchy of the territorial systems, studied by geography, we create a possibility for planning and carrying out regional researches on different levels, which are of great importance for contemporary geography science.

If we start with the geographers of antiquity who studied the individual "*horos*" and come to modern regional researches, we will take into account the long journey that geography has taken to explore near and far away territories. There, the scientifical researches transform from descriptive regionalism to regional analysis. In this process, we note searching, finding and development of different research paradigms, approaches and methods, which have built the methodological base of regional studies. In connection with the statement above, the main goal of a study is a try to enrich the methodology of regional researches by accentuation on the connection of the following main categories: regional paradigm – spatial approach – localization theories – contemporary regional researches, as well as an analysis of the main methodological approaches and concepts of regional studies, of the principles and the methods from realizing a regional geographical analysis.

Regional paradigm

The regional paradigm, implemented in the American and Western European scholars, is of great importance in studying territory in 19th and 20th century. The use of the term "region" and the studies related to it derives from the regional paradigm. Places of a limited space have a leading role in spatial studies, which are formed based on natural and societal factors. The spatial paradigm is related to the names of Richard Hartshorne (1899-1992), Torsten Hägerstrand (1916-2004), Walter Isard (1919-2010), William Bunge (1928-2013), Richard Chorley (1927-2002), Peter Haggett (1933-). In 1939, in his study "The Nature of Geography", Richard Hartshorne stated that the main goal of geography as science was to examine the aerial differences of the landscape[1].

[1] P. Haggett, Geography: AGlobal Synthesis (London: 2001).

He introduced the term "*region*" as a spatial unit and an object of study and understood the world as a collectivity of economically argumented regions, each of which is a complex unity of objects and subjects that are related with one another.

The Swedish geography scholar Torsten Hägerstrand[2] enriched the regional paradigm with his theory about the spatial diffusion of innovations. It examines the space-time areal of reality in the form of human, natural, technological and political populations and sees time and space as resources and parameters, which limit reality. The author points out the comfortability of the areals in rendering taking into account environmental conditions and social circumstances as his main motives for regional researches.

The American Walter Isard, who is famous as the "father" of regional studies, created the regional school, where he applied the method of regional analysis through the created "index of localization".

William Bunge, as a typical representative of theoretical geography, pointed out the spatial connections of the phenomena for determining certain regularities and prognosing their changes as its main subject. He applies mathematical methods of analysis of spatial phenomena and aims for presenting spatial processes through mathematical models.

The British geography scholar Richard Chorley uses quantity methods and works on the models in geography.

Peter Haggett classified the regions by one or by a few characteristics based on the ratio of the totality of human occupation of space in his study „Geography: A Global Synthesis". He thinks that the most important thing in geography is studying the common between the phenomena and finding similarities between the different groups, classifying those communities and creating typologies. He reviewed the matter about the statistical nature and the techniques for analyzing territorial structures.

Spatial approach

When studying the spatial organization of society, there is a close link between the ideas that lie in the regional paradigm and the ideas of the supporters of the *spatial approach*. According to Stoyanov, spatial theories can be divided into "traditional" and "new" ones and static and dynamic theories are included in both groups[3]. "Localization (standort) theories" belong to the oldest static theories and are focused on location. The same author classifies the theories of Johann von Thünen (1783-1850), Carl Wilhelm Launhardt (1832-1918), Alfred Weber (1868-1958), Walter Christaller (1893-1969) и August Lösch (1906-1945) into the traditional static spatial approach, and into the traditional dynamic theories – those of the growth and polarization.

The new ideas in the spatial approach include the spatial economic theories of the last two decades of the 20th century, that accentuate on transport expenses and the growing aspects of the scale.

[2] T. Hägerstrand, Innovation Diffusion as a Spatial Process (Chicago: University of Chicago Press, 1967).
[3] P. Stoyanov, German "organization of the space" (Sofia: Atlasi, 2009).

Localization (standort) theories

Although that the main ideas, that lie into them are distant in time, knowing them is important in order to determine how much different ideas have passed the check of time and can be partially applicable in analyzing contemporary regional studies.

In his study "The Isolated State" from 1826 Johann von Thünen made an analysis of the spatial configuration of agriculture production based on many years of studies on spatial regularities of agriculture. He presented a model of concentrical circle zones, which reflect the material income from the goods, and draws the borders in which each goods brought the highest income[4].

Carl Wilhelm Launhardt created a model for optimal placement of industrial factories with a triangular shame. He took into account the minimal transport expenses as a complex function of the ratio between consumption and material resources.

The studies of Alfred Weber are aimed at industrial production while accentuating on minimizing transport expenses between the place of the materials and the place of sale[5]. He sees the achievement of minimal production expenses as a main criterion and the optimal location is closer to the place of the materials, the more the end product has the material in itself.

The models of Walter Christaller, who supposes that each location is a result of a certain hierarchy, play an important role in the development of spatial theories. He built the base of the theory about the hierarchy of populated territories, that is aimed at bringing out "ideal" settlement and market systems. He proved that the way of organization of settlement networks is related to the most effective use of natural resources and the location advantages of the territory. In his study, Christaller developed a model of explanation of the regularities in the distribution in the so-called central places, based on market, transport and administrative characteristics[6].

Christaller's ideas were further developed by August Lösch, who made changes in the spatial orientation of hexagons and defined the values of the relation. He thought that for building a network of central places that is close to the real one, it is necessary to develop many hexagon networks of different sizes and spatial orientation that are placed on one another with a center of the network the so called metropolitan. This way, Lösch's network presents a much more connected hierarchical organization of centers[7].

The development of regional studies nowadays is connected with the recognition of the *information-problem paradigm.* The categories are of general scientific importance and are aimed at regional problems, regional development and progress. The accent is more and more put on the behavioral base of regional development, which has to do with behaviorist logic. The aim of the studies is the most important modern factors and unused potential for the development of territorial units – spreading knowledge and qualified working force, to be recognized.

[4] K. Stoychev, Localization approaches for regional development. Sofia: St. Kliment Ohridsky, 2012).
[5] A. Weber, Theory of the Location of Industries (Chicago: The University of Chicago Press, 1909).
[6] W. Christaller, Die zentralen Orte in Süddeutschland (Jena: Gustav Fischer, 1933).
[7] A. Losch, The Economics of Location (New Heaven and London: Yale University Press.,1954).

Methodological approaches and concepts in regional studies

Methodological approaches in regional studies stand out with their complex nature. This has to do with the wide variety of different elements, which make up the profiles of the different regions and the complex combinations that are formed due to their interaction. Because of this, studying with the goal of examining and rational use of different taxonomical territorial units is related to a number of scientific branches. At the same time, the achievements of each of the scientific branches can be used in the fields of other regional studies when necessary conditions are available – regional economics, regional planning, regional geography, regional statistics and others.

If we stem from epistemology, we will notice a few conventional *scientifical research approaches* – historical, genetic, complex, systematic and spatial. In connection with this, the localization approach, as most closely related with the geography of certain territory, is viewed as an invariant of the spatial one[8].

In contemporary conditions, with the general approaches of economical regional studies we can point out the dialectical, the systematical, the processual, the situational and the reflective one, which have enough common points with regional geographic studies[9]. In practice, the researches and the assessment of efficiency of regional development is on a lower degree based on the dialectical and the processual approach, which often leads to the absence of objective information when making management decisions. Certain approaches are widely applied in the economical practice: the situational approach, where new typical procedures of examination are used, and the reflexive approach, which is based on an analysis of systematized and accessible objective information for the outer environment of the territorial units.

Regional geographic analysis creates good preconditions for the application of the systematical approach and its main trends: systematically-structural, territorially-structural and hierarchical. The systematically-structural trend examines the manifestation of the functional and the structural regional subsystems, as well as their relation to one another. The territorially-structural trend has to do with a sectoral-concentric differentiation of regional systems with highlighting functions of the type center-periphery. The hierarchical approach examines the manifestation of taxonomical ranks of functioning regional systems, which are counted based on the analysis and the synthesis of the system-making connections. Certain trends and methodological concepts, that can help the conduction of regional geographical studies, can be distinguished in the methodology of regional economic studies. In connection with this, three trends can be set apart in the field of the regional studies of economics – localizational, regional and complex[10]. All of them can be taken into account when conduction geographical researches, in accordance with the concrete aim of the research, as it is expected that the most in-depth results and deduction of tendencies will be gotten by applying the complex trend. In Figure 1, the main problems that the different trends examine and the territorial units in a taxonomical manner are shown, which in most cases coincide.

[8] K. Stoychev, Localization approaches for regional…

[9] I. Skopina; O. Skopin y A. Grabar, “Basic approaches to research and evaluation of the effectiveness of the development of social infrastructure in the region”, Regional economy: theory and practice, num 21 (2010): 9-12.

[10] A. Guseynov, “The main directions of development and approaches in the theory of regional economics in developed Western countries”, Fundamental research num 8 (2014): 124-132.

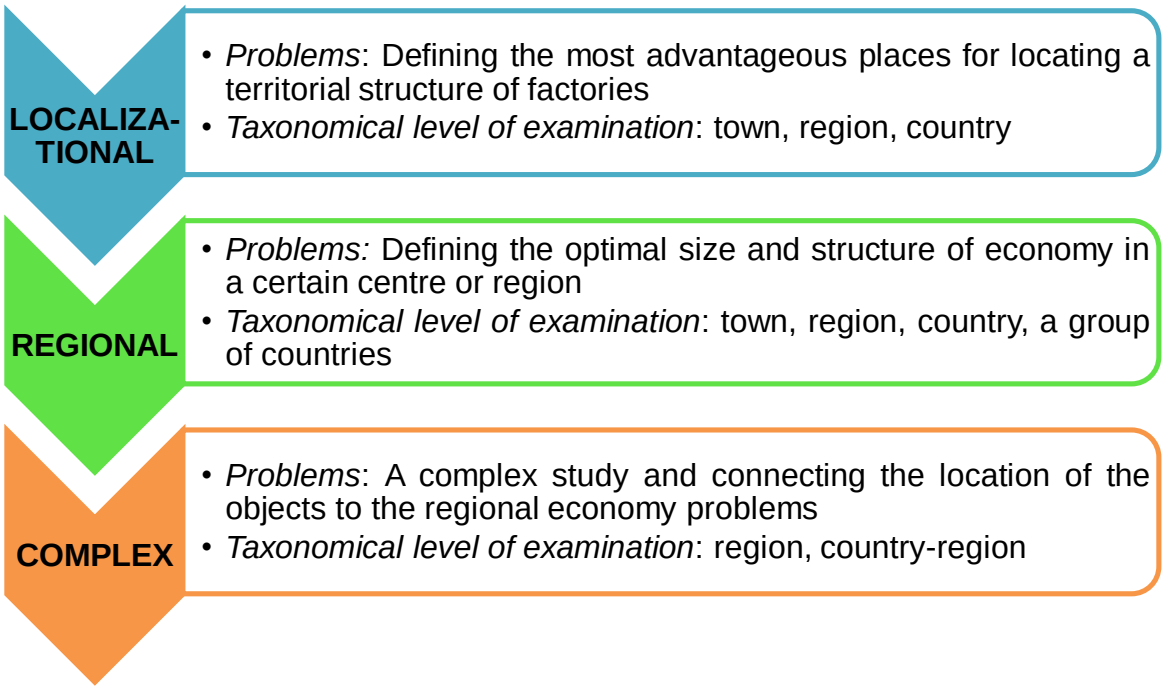

Figure 1
Main trends of regional studies
Source: A. Guseynov, 2014

In terms of methodological conceptions, seven can be pointed out in the same field of study (Figure 2). All of them concern different points of view of research, analysis and examination of territorial units of a different taxonomical rank.

Each one of the *methodological conceptions* mentioned has the aim to complete a certain task for solving the following problems:

- The conception of diffusion of novels – analysis of the formation and the spread of innovations that are connected to regional development;
- The conception of the poles and the centers of growth – defining the poles and the centers of economic growth and the connections between them;
- The conception of the axis of development – examining the transport channels, which create the conditions for communication between the main industrial centers;
- The conception of infrastructures – defining the necessary level for the development of infrastructure;
- The conception of agglomerations – studying the territorial concentration of the production forces around the main agglomeration cores;
- The conception of accumulational growth – analysis of the imbalanced regional growth;
- The conception of regional growth – researching and explaining the growth of economics in the regions.

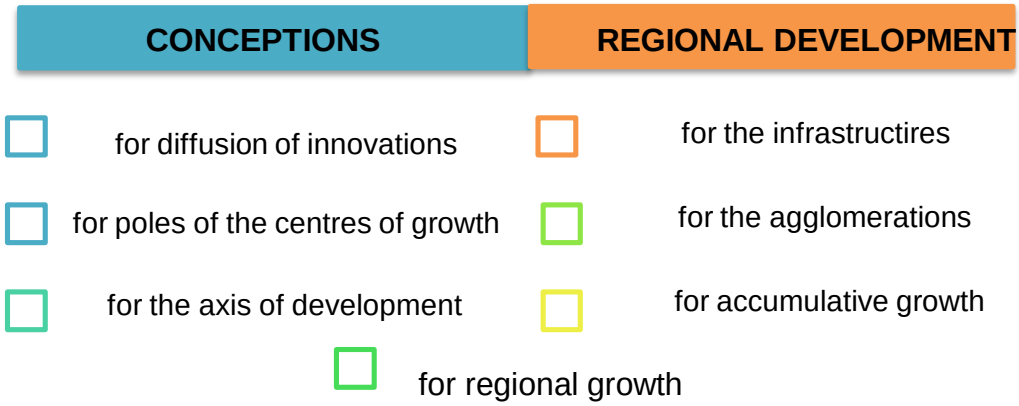

Figure 2
Main conceptions of regional researches
Source: A. Guseynov, 2014

In the field of geographical regional studies, the conception of the axis of development, the conception of infrastructures, the conception of agglomerations and the conception of regional development can be applied.

Principles of regional geographic analysis by using regional researches

The main principles of regional geographic analysis though geographical researches come down to basic rules and a complex of activities when realizing cognitive activity, which are based on the principles of scientifical studies:

- Purposefulness for reaching the set goals;
- Orderliness when realizing the stages of the study and when interpreting the nature of territorial units as self-independent systems;
- Objectivity which is connected with unbiasedness, scientifical correctness and coincidence with reality when making up hypothesizes; using suitable methods of study; choosing indicators that reflect the state of the system and its elements; choosing an informational database for comparison when conducting a study; adequate assessment of the results of the study;
- Taking into account different legislature norms and acts;
- Scientificness, in which regional studies are done based on modern achievements of science, technologies and practice when taking in to account the existing laws and models of systematic management of cognitive processes;
- Complexity for realizing coordination of all activities, elements, subsystems, stages of the vital cycle, hierarchical levels and the whole set of methods for achieving the goals of knowledge;
- Continuity when accounting and upgrading the experience collected in the certain field of study;
- Autonomy, so each study had a relatively independent nature;
- optimality where a multi-version study is in the plans of the research work in accordance with a certain criteria for finding a suitable option for conducting the regional study;
- Coordination, according to which the studies should match the goals, the tasks, the strategy, the tactics, the time of the study and the management levels;

- adaptivity – adapting to the variable factors of the environment, that have an impact on the organization of the research work;
- Consultativity, in order to create conditions for consulting experts (Figure 3).

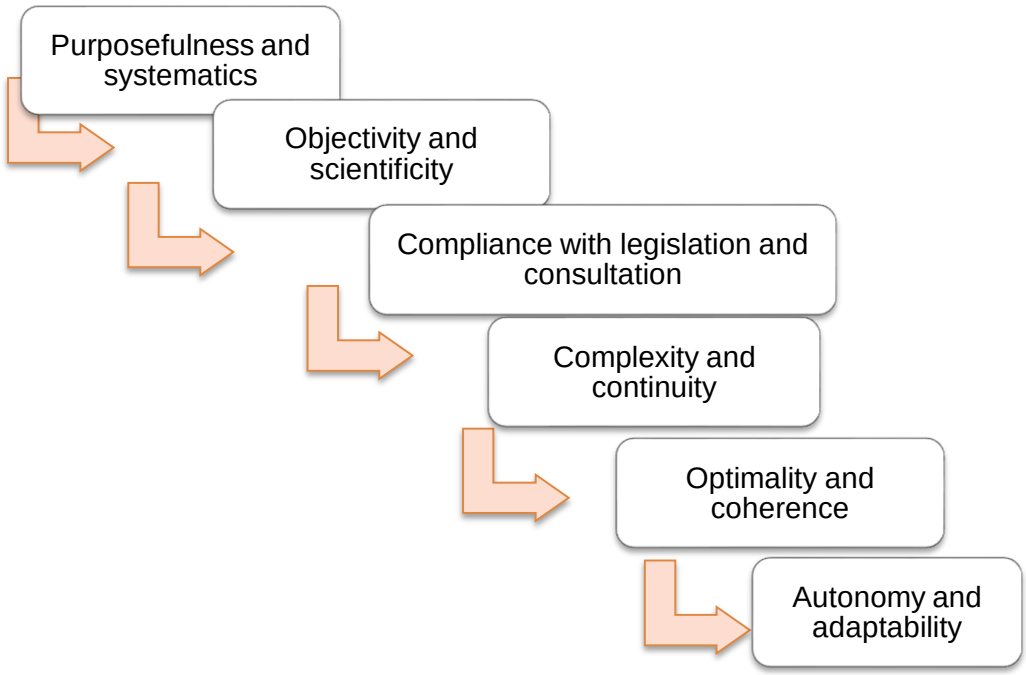

Figure 3
Main principles for conducting regional researches

Methods for regional geographical analysis by using regional researches

When realizing the separate geographical studies, regional geographical analysis is used and it can be defined as:

- A diagnostic regional geographical analysis for prognosing the direction in which the state of the territorial geographical systems will change in future;
- An analysis for influencing making clear the mechanisms for solving a certain regional geographic problem in the studied territorial geographical systems.

Through the characteristics of geographical analysis that were pointed out, we can examine the quality and the quantity aspect the different correlations between the processes of territorial location of natural resources, the population and the settlement network, the structure of the material and non-material production, the infrastructure, the ecological status of the territory and phenomena of different nature that stem from it.

Regional geographical analysis is used through a complex of diverse methods, the defining of which is done in the preparation stage of regional studies (Figure 4).

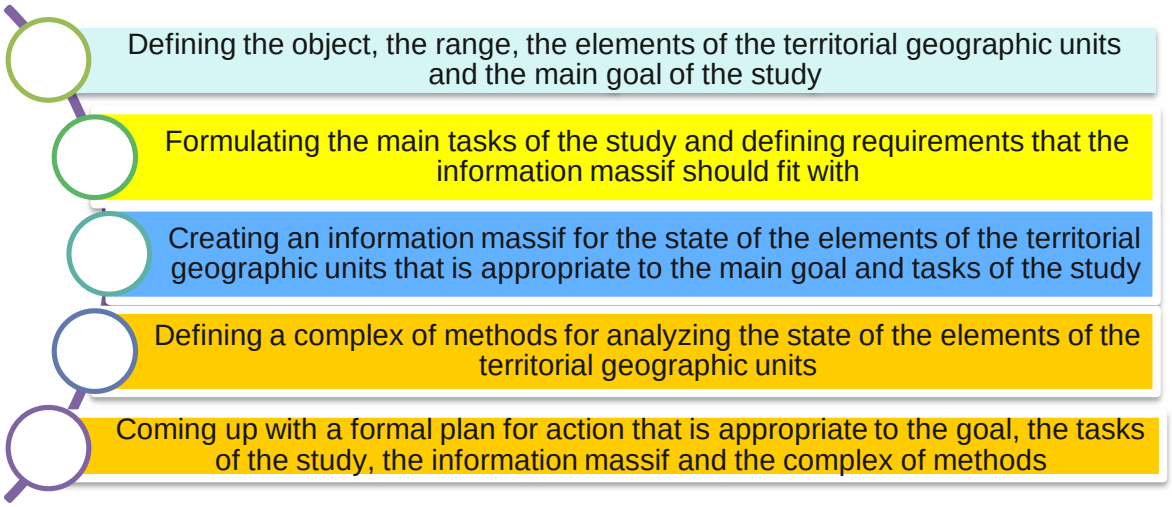

Figure 4
The preparatory stage of conducting geograpical studies

Five complexes of activities can be set apart in the preparatory stage. The first one is of key importance, as it sets apart the studied object and gives an idea about its substance, the territorial range and the main goal of the study.

The next complex is related with defining the main tasks of the study and the requirements for creating an information massif about the state of the elements of the territorial units. The creation of an information massive includes concrete statistical information of the indexes that were set up in the previous stage about the state of the geographic territorial units.

The complex of activities that is about defining diverse methods for conducting a regional geographical research is greatly important for the preparatory stage of the studies. When choosing the methods, we should take into account the possible researching methods, the specifics of the object and the main goal of the research.

The preparation state finishes with a plan for action, which operationalizes the main goal of the study by defining the potential activities, periods and executors.

In the complex of methods for regional studies we can include methods of different groups from the example of the classification of the methods for regional economical analysis of the middle groups – general scientific, mathematically-statistical, intuitively-logical.

From *general scientific methods* to the needs of regional geographical researches, we can use the traditional methods for analysis, synthesis, induction, deduction, systematization, classification, as well as to conduct a certain type of experiment and questioning a sample of the population which has something to do with the problems researched. As well as the methods mentioned we can also use the methods of variation analysis, structural analysis, factual analysis, taxonomical analysis, prognostic analysis, SWOT analysis when conducting a regional geographical study. The group of *mathematical and statistical methods* is related to mathematical analysis, mathematical programming, statistical processing of the information massif and

charting the results. In addition to the indicated tabular and graphical method, all methods for statistical processing of data on indicators for studying the state of the elements of the territorial geographical units for a certain period can be applied.

The group of *intuitive-logical methods* includes brainstorming, expert evaluation method, Delphi method, morphological analysis. For territorial geographical studies, the method of expert assessments is applicable and it's about asking for the opinion of certain experts in a certain problem field.

When conducting regional geographical studies, a part of the *methods of sociological studies* can also be applied. This has to do with the fact that the tasks that are studied by applied sociology depend on the analysis and the regulation of the concrete social-economic processes of prognosing, planning, management in the sectors and the fields of life of the separate territorial units. The methods of sociological studies include standartized and individual interviews with regional experts (expert surveys), content analysis, interviews and public statements of scholars, specialists and others.

Methodological requirements for conducting regional terrain researches

Regional terrain researches are closely related with selecting methods for the conduction of the regional geographic analysis. In modern condition of realizing the education process in geography, there is a tendency for an unnecessarily making the terms and the causative relations difficult. This creates the necessity from conducting geographic educational practices, trips with an educational purpose, scientifical expeditions in schools and universities[11]. All of them are based on regional terrain studies which are special events and create a preposition for a new way of getting to know real objects and phenomena. Their implementation leads to the accumulation and acquisition of experience, formation and development of certain interests in the relevant scientific field[12]. Terrain researches are an element of education through experience, where teaching is aimed at increasing and deepening the knowledge obtained, forming and improving skills and competences, forming values and developing abilities[13]. Wish such type of teaching in an informal environment, we create conditions for individualization of communication, for the voluntary action and encouraging social interaction, which motivate the participants for improving the studying interest when studying local and regional phenomena. According to M. Michie, the application of terrain studies in the process of teaching can be provoked by some of the pointed main goals for their conduction:

- Getting familiar with materials, processes and phenomena for gaining experience;
- Stimulating and motivating of scientific interest;
- Creating an interest for learning and examining connections between the processes and the phenomena;
- Improving the skills for observation and perception;
- Encouraging personal (social) development[14].

[11] M. Penerliev, Field practices in human geography (Shumen: 2014).

[12] National Research Council. Learning science in informal environments: People, places, and pursuits (Washington, DC: The National Academies Press, 2009).

[13] Association for Experiential Education (AEE)., What is experiential education? http://www.aee.org/about/whatIsEE (20.09.2020)

[14] M. Michie, "Factors influencing secondary science teachers to organise and conduct field trips", Australian Science Teacher's Journal num 44 (1998): 43–50.

In most cases, through regional terrain studies, the materials and the data that are collected can be processed and systematized. In connection with the specifics of the regional geographical study, concrete samples or data can be examined – rock samples, hydrological data, data of soil examinations, the flora and the fauna and others.

The following can be pointed out as the main stages for conducting geographical terrain studies: preparation stage, realization stage, generalization stage. Each one of the stages mentioned stands out with the application of a complex of activities and methods.

In the preparation stage, the objects of study are chosen and their territorial range is outlined, the goal and the tasks of the regional study are formulated, a schedule of activities and methods is made, the necessary sources of information are defined.

In the realization study all of the planned activities are materialized in accordance with the set goal with the help of a complex of methods of study. The information, collected in different forms, is processed, analyzed and certain trends for making graphic images and models are defined.

The activities in the generalization stage are about formulating conclusions and recommendations about realizing the set goal, popularizing the results obtained through presenting them in different forms.

The main problems of planning and conducting regional terrain researches can stem from problems of different nature. Some of them can be closely related to the scholar documentation in which a lack of flexibility of the educational program can be noted, without possibilities for conducting terrain studies. Another group of problems can be of an organizational nature and to stem up during the planning and the conducting of the logistical service of the studies. One of the main problems is the lack of or the insufficient availability of financial means, as well as taking into consideration a suitable weather forecast for working on a terrain.

Conclusion

At the end, the results of regional researches can have a theoretical, as well as practically applicable nature. In the last years, a growth in their degree of applicability has been noted in the field of regional policies. This tendency has been noticed worldwide and, in the EU as well. The regional policies of the EU have a leading role and forms the structure-defining trends of regional policies of the member states and the regions in them. Nowadays, a certain spatial differentiation is created and it is an important factor for planning and conducting regional studies with the help of a complex of appropriate methods.

Nowadays, in the field of regional policies and planning, the matters of complex solving of tasks of regional development have become a question of the present day. Such problems are: the ratio between the speed of regional development and equilibrating the levels of development of the different regions; solving the disproportionalities in territorial structuring of production and the settlement network; solving matter of regional development with one's own inner resources and reserves. Matters about preserving the environment and regional prognosing also emerge. The difficulty of the new tasks makes us radically review the traditional methods of regional analysis and find the best ratio through "building bridges" between localization theories and the methods of regional analysis.

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