

DEMOGRAPHIC POTENTIAL OF THE REGION: SPATIAL ANALYSIS

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ABSTRACT

Under existing socio-economic conditions which are characterized by tough competition the region resource base is given particular attention. The importance of natural wealth declines and the significance of hidden resources steps forward. Hence the humankind is facing the problem how to bring out their potential. In this regard, the demographic potential of the region (geodemographic potential) along with the economic, geopolitical and others are among the leading indicators that determine region competitiveness and form its socio-economic situation. Like natural resources, population has spatial differentiation, and therefore territorial differences in quantitative and qualitative terms. The article considers terminological approaches to the concept of "demographic potential", reveals the necessity to consider the spatial component, formulates the concept of "geodemographic potential" and proposes methodology to assess it. At the moment there is a growing awareness of the need to resolve demographic problems at all levels of the government, and tools to improve demographic and family policy are considered. Ultimately, development of proper and timely decisions to ensure sustainable socio-demographic development should have a positive impact on socio-economic growth indicators. Therefore, one of the most important components to guarantee sustainable socio-economic development of the country, in our view, is to take into account its geodemographic potential.

Keywords: geodemography, territorial paradigm, territory, potential, the Republic of Tatarstan.

INTRODUCTION

The recent trend within the scientific community focuses on regional development from the territorial paradigm perspective. It is stated that region geographical position plays great role in its development. There are many scientists who point out lack of thorough studies on this issue and as a result insufficient use of geodemographic potential to foster regional development [1]. The main concept of territorial paradigm is to define some positive factors contributing to socio-economic development, such as favorable geographical position [3], developed infrastructure, diversified economy etc. There are also some negative ones to be taken into account: the heterogeneity of economic, social and cultural environment, a significant territorial differentiation of socio-economic and demographic development within the macro-region.

The essence of the territorial paradigm is based on the concept that the territory is considered to be an arena of nature and society different driving forces and components interaction [2]. It is a resource, but at the same time it is a specially organized environment. Location leads to the formation of special socio-economic landscape [5], which is the outward expression of this concept content. From the conceptual point of view the location is the territorial opportunity where natural resource potential is the basis of the integral or complex potential [4].

DISCUSSION

In modern economic geography, the main subjects of study are territory, society and economic territorial organization and their interaction as a necessary condition for proper functioning [9]. Geographers consider the territory by two main aspects: as a spatial basis for activities and as a container of resources.

According to some researchers society can be considered as a territorial system of the highest level where all the elements are functionally interrelated. Moreover these ties could be mediated by the territory [4].

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The relationships between nature and society are among these ties. The significant part of scientific and practical problems in geography is devoted to the large integrated systems study. Vishnevsky A. G. considers the concept of "population" and the term – "demographic system" to be synonymous ones. This approach indicates the population systemic nature [11]. Based on this approach, material objects of study in geography are territorial systems.

There is a demand to study regional demographics. To meet this demand the authors formulated the concept of territory geodemographic analysis [3]. It is based on the perception that it is necessary to consider not only demographic characteristics but also numerous socio-economic ties and relations between administrative-territorial units at different levels [8]. The theory of potential is currently widely discussed. It is described as aggregate resources to be used for region development with the view to trends in science and technology progress. We can further come to the concept of economic, social, natural resource and other capacities.

METHOD

The main objective of this study is to describe demographic potential since we consider it to be an important part of the national wealth. Variety of approaches to the demographic potential interpretation requires a detailed consideration of existing definitions. In the works of American scientist R. Fisher [2] the concept of demographic potential is described as the concept of reproductive potential. Later in his studies P. Leslie [7] developed a discrete theory of reproductive potential. The potential of population growth was first proposed by the French demographer P. Vincent [10]. The consolidated list of approaches to the demographic potential interpretation was proposed by M. V. Igoshev (see Table.1).

Table.1. The basic approaches to demographic potential interpretation [6]

Definition	Approach (author)
The number of inhabitants in the country	Vishnevskiy A. G. Vasin S. A. Zayonchkovskaya Zh. A.
The number of inhabitants of a particular territory	Center for strategic research of the Volga Federal District
The size and age-sex structure of the population	Motrych E. L.
A set of quantitative and qualitative indicators of population groups at present and in the near future	Filimonova N. Krasnolobov V.
The number of people taking into account their cumulative time lived	Petrakova Yu.N.
Life potential	Vielrose E. Hersch L.
The quantitative and qualitative potential of population reproduction in a certain territory (state)	Fedotovskaya T. A.
The total number of the population, its demographic composition, the dynamics of growth (decline) of the population, migration processes	Shalmuev A.

The reproductive capabilities of the ethnic groups, community	Koreshkin A.
An indicator of potential population growth on the basis of already existing age-sex structure and fertility dynamics, nuptiality and other private indicators	Romashova T.V.
Index of population reproduction dynamics and its demographic prospects at the aggregated level	Ediev D. M.

FINDINGS

We can say that there are two components in the demographic potential concept. The objective component contains aggregate intangible, human, material and natural resources involved and not involved for any reason in production, and having the chance to participate in it. The second component which is a subjective one includes the ability of people, groups and society as a whole to use resources and create maximum volume of material goods and services, and the ability of the administrative apparatus of the enterprise, organization, industry, economic system in general to the optimal use of all resources available. The structure of demographic potential, as well as the general scheme of demographic and socio-economic potential interaction in this context, and with reference to available resources and existing capacity is shown in Fig.1.

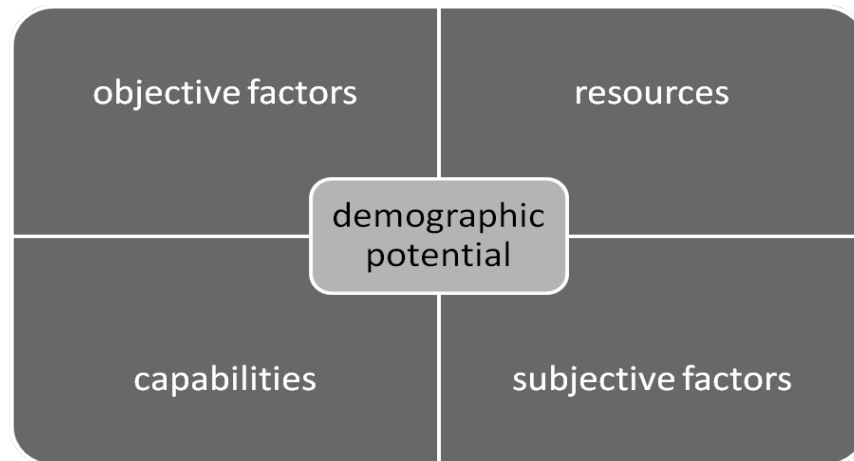


Fig.1. The structure of demographic potential.

If we consider Geography with its subject of the study, its approach (territorial paradigm) we see that it looks at the concept of demographic potential deeper and in addition to the above-described components highlights the spatial features of this potential formation.

This approach leads us to a relatively new geographical science. It appeared in the 70-ies of XX century and is called geodemography - "the research which is based at the intersection of human geography and demography and deals with the geodemographic situation study." Fedorov G.M. formulated the fundamental concepts for geodemography. These are "geodemographic system", "geodemographic situation" and "geodemographic setting" [1].

Geodemographic system is the model connecting demographic processes to the socio-economic factors reflecting the structure and dynamics of links that have been developed for a specific territorial level. Geodemographic situation is the geodemographic state of the system at the moment defined by a set of

external, socio-economic factors. Geodemographic setting is the sequence geodemographic situations following each other and typical for specific territory, which develops under the influence of both external and internal socio-economic factors.

CONCLUSION

Taking all the issues into consideration we can state that territorial component should be added to the existing definitions of demographic potential. We believe geodemographic potential of the territory to be the set of human resources of the territory, formed under existing geodemographic situation, and which can be used in the territory development considering its geodemographic setting.

The geodemographic potential assessment should be done as follows: grouping of individual indicators [9] on a five-point scale; the scoring (maximum score is assigned to the optimal (best) indicator, minimum to the worst); the summation of scores in blocks of geodemographic studies using the method of multidimensional classification and interpretation of results based on the particular indicators importance. The level of the integral indicator in the blocks was determined as high, increased, medium, decreased and low.

Analysis conducted by the authors is based on the block system, each block of which includes a number of objective indicators. To process statistics results we used ArcGIS GIS software, on the basis of which authors created the database.

The result of the study represents the Republic of Tatarstan zoning, according to typological features of the geodemographic potential formation. On the basis of these typological features 4 zones were allocated: District, Sub-District, Petroleum and Industrial-Agricultural zones (Fig.2). Each of them is characterized by its own type of geodemographic potential formation.

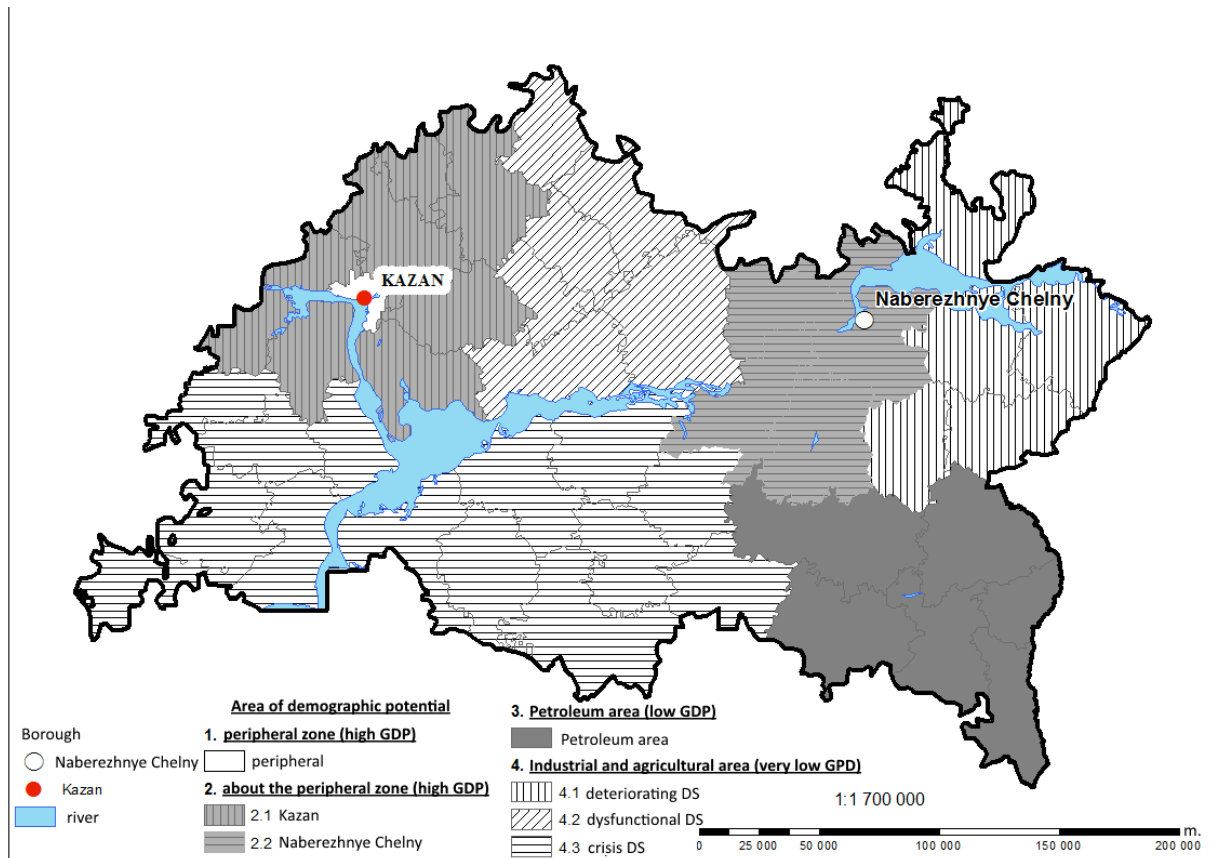


Fig.2. The Republic of Tatarstan demographic potential zones

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