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**GEO-DEMOGRAPHIC STUDY OF  
POPULATION QUALITY  
IN THE REPUBLIC OF MOLDOVA**

**154.01 SOCIAL AND ECONOMIC GEOGRAPHY**

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## 1. CONCEPTUAL REFERENCES OF RESEARCH

**The actuality and importance of the study of population quality** derives from the social, demographic and economic realities through which today's society passes, both globally and nationally. In the context of the demographic, economic and social changes that take place, the modern society is faced with the need for changes, more precisely, the transformation of quantity into quality. This process occurs because many of the world's states have undergone economic and demographic transition processes. On the one hand, the evolution of technologies involves the employment fewer people, but with qualification requirements; on the other hand, stopping the population growth in most of the highly developed states implies increasing the attention towards the quality of the society members, first of all, in order to cover the economic needs.

The importance of this study also lies in the geographical approach to population quality, ie the assessment of the qualitative level from the territorial perspective. Although the territory of the Republic of Moldova is not so large, there are differences in the population quality components and in the quality level as whole. Knowing the level of population quality is very important for the regional development of the state, that is one of the key factors, which will favor the growth of the country economic and social level. The territorial study includes the determination of the population qualitative level at district level, which represents the administrative-territorial units of the second level of the country. This fact allows conclusions to be drawn on several existing problems in different regions of the state, on different categories of the population quality components, also on the population quality as a whole. Knowing the situation from a territorial point of view serves, first of all, in the elaboration of regional development policies and, subsequently, of the national one.

The evolution study is conducted for the reference period between 1990–2017 - when important changes took place on different fields in the Republic of Moldova, starting with the declaration of independence and continue with the transit of the state key periods in demographic, but also economic aspects. The reference years used for the territorial study are 2010 and 2016. Knowing the territorial situation, close as a period of time, is argued by the need to see the current changes, with the purpose of elaborating regional development policies of perspective.

**The purpose of the research** is the complex evaluation of the population quality level and size in the Republic of Moldova, dynamically and territorially.

The research objectives are:

- Theoretical and methodological foundation of the population quality study and determining the place of "population quality" within human geography;

- To analyze the changes in the population quality components: demographic, health, education, culture, by determining the structural indices on each component;
- To evaluate the level of population quality of the Republic of Moldova in the dynamic and territorial aspects;
- To classify the administrative-territorial units of the Republic of Moldova by category of population quality;
- To recommend ways of maintaining and increasing the quality level of the Republic of Moldova population.

**Theoretical-scientific and methodological support of the paper.** After consulting several bibliographic sources of different aspects, by including literature from abroad, namely from European, American and Russian space, it was possible to deduce general conclusions about the scientific concept of "population quality" and its structure. Here the studies of the Russian economists A.A. Sagradov, B.N. Butov, E.V. Foteeva, but also of the geographers M.A. Julina, N.M. Rimașevscaia. Economists approach the population quality mainly as an economic driving force, ie from the point of view of the workforce human potential. A large work, carried out within the Club of Rome, by Aurelio Peccei, drew attention to the population quality, specifying more details of this concept. In the American space, H.P. Fairchild approached the population quality through its relation with quantity, still in the first period of the twentieth century. US economist C. Mosk has studied the quality of Japan's population, one of the notable states in this regard today. From a demographic point of view, population quality studies were conducted by V.B. Moșcov, M. Narkulov etc.

**The novelty and the scientific originality of the work.** This work is unique in the Republic of Moldova. Its novelty and originality consists in the fact that such studies on population quality have not yet been carried out, but also the way in which the level of population quality has been evaluated is different from other abroad authors, who have investigated population quality.

First of all, the study takes into account several component categories of population quality: demographic, health, education and culture. Other research excludes the demographic component, which, in fact, is the basic one for development or evolution of the other three categories mentioned above. Here the statistical method is used in order to evaluate the level of population quality, by applying several formulas, which have unified a series of demographic indicators into a single index - *the population quality index*. This represents the measurable reference value of the quality level of the Republic of Moldova population. The methodological basis created in this investigation and the method of its application serves as a methodological

support in assessing the population quality at national and territorial level within the state or even in other regions or states.

**The important scientific solved problem** consists in substantiating the conceptual framework of the term "population quality" from a scientific and methodological point of view, which contributes to the knowledge of the qualitative level of the Republic of Moldova population.

**The theoretical significance and the applicative value of the thesis** is a valuable one, because the applied method for the territory of the Republic of Moldova can be used for such a study of any other geographical area, especially for the geographical space of the Republic of Moldova. The theoretical study can serve as a support for the identification of mechanisms to increase the effectiveness in the process of formation, preservation, and also raising the population quality level (or of particular components of population quality). Knowing the existing human potential, some conclusions can be drawn and proposed ways to improve and solve the existing problems, so that this human potential participates actively in the development of the state (economic, social, cultural, etc.) and not against it.

The methodological basis elaborated in this study, as well as the constructive proposals to increase the qualitative level of the population, can be used by the state administrative bodies in the process of elaborating social-economic development policies for the near future, but also in planning the perspective development of the state.

Some of the investigation results have already been applied in the research conducted within the project for young researchers "The geodemographic evaluation of the population quality in the Republic of Moldova", carried out between January 2015 - December 2016, but also at the courses: Geodemography and Human Geography of the Republic Moldova, taught at the Faculty of Geography of the Tiraspol State University.

**Approval of research results.** The research results were presented and discussed at more than 10 National and International Conferences, but also published in specialized journals. So as: International Geographic Seminar „Dimitrie Cantemir”, the 37th edition, 13-15 october 2017, „Al. I. Cuza” University of Iași, Romania, The 7th International Conference on Regional Development and Territorial Disparities, 15-16 october 2016, University „Babeș-Bolyai” Cluj-Napoca, Romania; Colloque International „Migrations et mobilités. Tendances, stratégies migratoires et impacts”, 27-28 may 2016, University „Ștefan cel Mare” Suceava, Romania ; National Scientific Conference with International Participation „Mediul și dezvoltarea durabilă”, 25-28 october 2018, Tiraspol State University, Republic of Moldova; Scientific Symposium of young reseachers, XVI Edition, 27-28 april 2018, Academy of Economic Studies of Moldova, Chișinău, Republic of Moldova; International Scientific Conference „Competitivitate și inovare

în economia cunoașterii”, 22-23 september 2017, Academy of Economic Studies of Moldova, Chișinău, Republic of Moldova etc.

Participation in Conferences was completed with the publication of the presented materials, in number of 15 scientific articles. Some of the most important are: publication of the article "Health status of the population in the Republic of Moldova: a territorial perspective" in the scientific journal "Works of the Geographical Seminar Dimitrie Cantemir, Vol. 46, Issue 2" (2018); scientific article from „Economica” scientific and economic journal no. 3 (105) / 2018, entitled "The demographic quality of population in the Republic of Moldova"; one of the paragraphs published within the collective monograph - "Formation of the population of the Republic of Moldova (historical-demographic study)" (2017), entitled "Quality of the population - a new direction in geographical research".

**Implementation of results.** Some results of the research are used, first of all, in research within the project for young researchers "Geodemographic evaluation of population quality in the Republic of Moldova", carried out between January 2015 - December 2016 (implementing act no. 230 of May 29, 2019). Another direction of the research implementation is the inclusion of theoretical and practical elements in the teaching the courses: Geodemography and Human Geography of the Republic of Moldova, at the Faculty of Geography of the Tiraspol State University, by including theoretical and practical information within teaching process, also the realization of a lesson topic entitled "The quality of the population in the context of human development" (implementing act no. 231 of May 29, 2019).

**Volume and structure of the thesis.** The thesis is composed of: introduction, 3 chapters, general conclusions, bibliography with 100 titles, 164 pages of basic text, 33 tables, 32 figures and 33 annexes.

## **2. THE CONTENT OF THE THESIS**

**The introduction** defines the purpose of the research, which represents the complex assessment of the population quality level of the Republic of Moldova in the dynamic and territorial aspects. It is completed by 5 objectives, specific to each stage of the research. The actuality and importance of the study, the scientific problem solved is specified, also the applicative value of the thesis.

**Chapter 1. „Theoretical and methodological basis of geographical studies of population quality”.** This chapter represents a review of different approaches to the concept of "population quality" and complementary terms. At the same time, a structure of indicators attesting to the population quality is created. Also, the research methods and the information base used in the study are argued.

### **1. 1. Conceptual approach to population quality and complementary terms**



The notion of "population quality" appeared for the first time in the scientific literature of the eighteenth century. F. Engels (1820-1895) used for the first time the concept of "population quality", and related the quality of the population, together with its quantity, to the material and economic conditions, the technique and the development level of means of production being on the opposite side. An increased interest in scientific research on population quality began only in the twentieth century, mostly in high-developed countries. In the most frequent cases, the problem of population quality was approached from two points of view: biological (social-biological), economic (social-economic). Apart from these two basic directions, the concept has also been researched from the perspective of political and demographic directions.

In the Western literature, the concept of "population quality" was widely used in the light of eugenics. Some scientists of that period tried to explain the social inequalities from a genetic (biological) point of view and the possibility to solve social problems through improving the genetic nature of people. Proponents of this idea consider that population is only a part of nature and the notion of "population quality" is understood by them only through the biological aspects of people. S.F. Galton was the first who used the term of „eugenics”, and considered: "the desired qualities are based on the hereditary history of a person", also called "moral character" [1, p. 6].

The second way of approach to the concept of "population quality" is the social-economic one, appeared in Western literature in the 1960s - early 1970s, by outlining the essential element of production, namely man. The ideas of investing in man and human capital (health, education, qualification, etc.) gained a great popularity. One of the most important studies on population quality at that time was conducted by US economist T.W. Schultz, who notes that "the economic role of using natural resources and intermediary products is smaller than the role of human services in the production and consumption processes" [9, p. 4]. This approach came as a result of the awareness of the human role in the process of society development, based on the study of the social-demographic processes.

Another approach to population quality is from the politico-economic point of view. One of the authors who studied population quality from this point of view was the Russian philosopher I.A. Bjileanskii, who examined the workforce quality and the type of worker as a logical problem for analyzing the population quality.

The population quality begins to be treated from demographic point of view later, by soviet specialists, who mention in one of the monographs published still in 1976, that the population quality is regarded as one of the basic concepts of population theory, as "a set of essential characteristics of the population, which expresses its nature, its specificity and its certainty" and "is closely linked to the significant relationships that appear in the production process" [19, p. 72].

Although the concept of "population quality" has been used in scientific literature in the past, its content has not been fully disclosed, so we can consider that a theoretical-methodological basis of this problem has not been formed, as a result of modest studies in this field. The importance of the researches of this subject increased due to the modernization of the society, the decrease of the population numerical potential and, respectively, the transformations of their quality.

### **1. 2. Analysis of indicators attesting to the quality of the population.**

Synthesizing the opinions of different scientists regarding the population quality structure, it was possible to achieve a comprehensive structure, which serves as basis of the study. Thus the basic components of population quality are: demographic component, health, education and culture. Indicators were selected for each component category, which demonstrates the population qualitative part as eloquently and comprehensively.

Thus, the demographic component is analyzed from the perspective of the following indicators: the natural increase rate, the age structure with elements such as: the dependency ratio and the elderly / young age dependency ratio.

In turn, within the health component are included indicators such as: morbidity rate, mortality rate, infant mortality, maternal mortality, life expectancy at birth.

The education component is evaluated according to the following indicators: the number of the population according to the level of education (higher, specialized, professional, high school, general), the number of scientists, researchers with a scientific degree of different level (doctors, habilitated doctors, academician), school life expectancy, school enrollment rate, literacy rate.

The culture component is analyzed using the following indicators: provision with cultural institutions (theaters, museums, libraries, cinemas, cultural houses), number of users / library, number of visitors to museums, ratio between number of cultural institutions and number of spectators, number of books and booklets published, including per capita.

These indicators will highlight the qualitative characteristics of the population from different points of view. The population quality will be possible to assess only by reaching a general analysis of all indicators. The differentiations of the population quality level, both in time and space, will be possible to achieve with the help of the general approach and the calculation of *the population quality index*.

### **1. 3. Methodological and informational basis of studies on population quality.**

A number of traditional methods, such as observation, analysis, synthesis, deduction, etc., have been used to carry out this study, but also a series of specific methods, such as cartographic and statistical. A detailed analysis of the indicators taken into account for each component of

population quality was performed. Then, the structural indices were determined, so that all the indicators are quantified in the same unit of measure.

Thus, they were determined:

- Indices of life expectancy at birth, mortality, infant mortality;
- Indices of natural increase rate, the dependency ratio and the elderly / young age dependency ratio;
- Indices of literacy rate, school life expectancy, school enrollment rate;
- Indices of visits to museums / 1000 inhabitants, number of active users of libraries / 1000 inhabitants.

The determination of these indices was performed using the following formula:

$$J_{ij} = 1 - \frac{X_{j, \text{opt.}} - X_{i,j}}{X_{i, \text{opt.}} - X_{i, \text{min.}}}, [18, \text{p.61}]. \quad (1.1)$$

where,  $J_{ij}$  – the structural index of a quality indicator in a region,  $X_{i,j}$  – the indicator value in a region,  $X_{i, \text{opt.}}$  – the indicator optimal value,  $X_{i, \text{min.}}$  – the indicator minimum value.

The data obtained are measurable in units, each index has the value from 0 to 1, 00 units, respectively 0 units represent the minimum possible, and 1.00 units the maximum.

Based on these data, general indices are determined for each component of population quality, namely: the demographic development index, the health index, the education index and the culture index.

The calculation of these indices is done by determining the arithmetic mean of the mentioned above indices values, according to the following formula:

$$I_{AN} = (I_x + I_y + I_z + \dots + I_n) / N \quad (1.2)$$

The choice of this method of calculation is based on the argument of the author A. A. Sargadov, who mentions in one of his works, that: „the arithmetic mean is a much more relevant value when analyzing the qualitative level of the population, because it will describe the key aspects of the vital activities of the population more completely and will reflect the components of population reproduction much more clearly” [7, p.181].

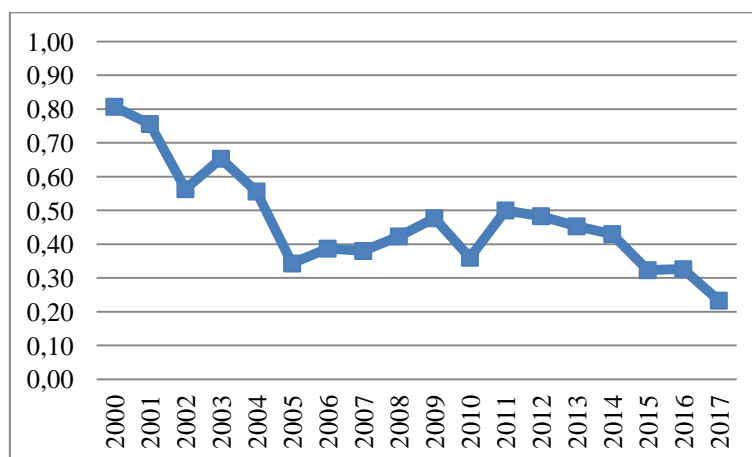
Geographical works require specific research methods in order to assign a certain process or phenomenon to a space. Therefore, the population quality study uses a number of specific methods, such as the cartographic one. The indices of population quality mentioned above are determined using the statistical method. In territorial aspect, they are determined at the level of territorial administrative units of the Republic of Moldova. The determined indices are represented on maps, specific to each index and the population quality index.

The case study is another method, used to integrate both types of population quality assessments – objective and subjective ones. Therefore, for its realization, 4 rural localities were taken as reference, from different development regions of the country: North - Sănătăuca, Center- Chiperceni, Bălănești and South - Iargara. In each of these localities, a demographic survey was applied, in order to obtain data directly from the source, which reflects the level of population quality.

## **Chapter 2. „Dynamic analysis of the population quality indicators in the Republic of Moldova”.**

### **2. 1. The demographic component of population quality**

The demographic component is fundamental in the formation of a population. As the academic V. Trebici mentions, "the demographic characteristics are called the fundamental characteristics" [11, p. 74]. According to G.V. Ridevskii one of the basic characteristics of population quality, in addition to health, education and culture, are also the demographic characteristics, based on which the demographic development index is determined [16, p.542].



**Figure 1. The demographic development index, in the Republic of Moldova, 2000-2017, units**

Following the detailed analysis of the quality demographic indicators, selected for this study (natural increase rate, the dependency ratio and the elderly / young age dependency ratio), the structural indices of each demographic indicator were determine, which served as convertible values (from value 0 to 1 units) for determining the demographic development index. The value of this index shows, in a complex way, the evolution of demographic stability or instability in the country.

Analyzing the chart above, it could be observed a downward evolution of the demographic development index. This process of decline presents, rather than anything else, the demographic realities in which the Republic of Moldova is found for the last period of time. From the point of view of the population quality, this decrease determines the deterioration of

the qualitative functional basis, that is the population as a unique system of functioning in a state. The need to increase the number of the population, but also their quality, ie maintaining an inter and intra - generational equity, using different techniques and modalities, must be one of the basic national priorities.

## **2. 2. Health indicators as a component of population quality**

Analyzing the opinions of different scientists on the concept of "population quality", it is noteworthy that the characteristic "health" is found in all approaches. It follows that health is one of the main characteristics of population quality. The importance of the analysis of health as one of the population qualitative aspects results from the fact that it represents the qualitative foundation for the future achievements of the young population, the longevity of the population's life, the possibility of creating an entire family, the productive activity in the professional sphere, and also the creative and social-political activity. For this component, the following quality indicators were selected: the mortality rate, infant mortality rate and life expectancy at birth. These indicators, in our opinion, are the most relevant in analyzing the quality of population health, because they include more aspects of population health. For example, the mortality rate includes morbidity; the infant mortality rate, the living and feeding conditions of the population – aspects of the population quality of life that have a direct impact on the population quality.

The data of the basic indicators of population health (mentioned above) serve as a basis in determining the main indicator of population health called *the health index*. This indicator, along with other indicators (the demographic development index, the education index and the culture index) is used for assessing the population quality of the Republic of Moldova.

Based on the graph data, we can observe the progressive evolution of the population health of the Republic of Moldova, starting with 1995 year. This situation confirms an improvement in both the setting up of the health system and the broadening of the services range it offers. Other causes that led to the improvement of the population health are the improvement of living conditions, including food and water supply.

In the evolution of the health index, 3 distinct periods are visible, with a periodicity of 4-6 years, namely:

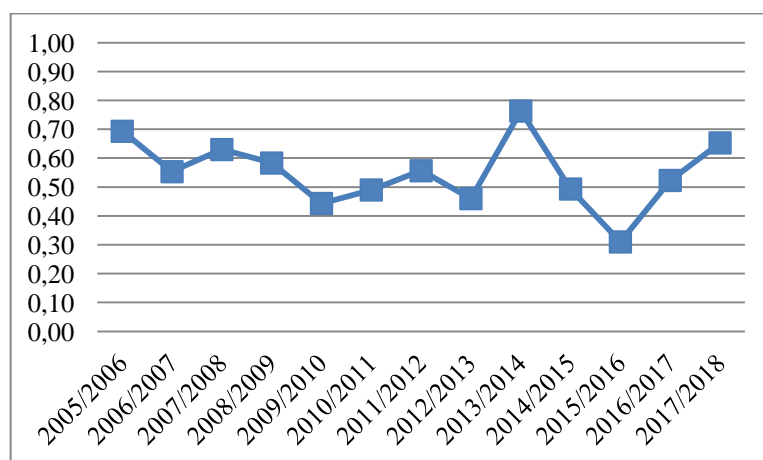
- 1) Period of decline of population health - 1900 – 1995;
- 2) Periods of slow growth of the population health index - 1996 – 2010;
- 3) The period of advanced growth - 2010 – 2017.

## **2. 3. Education - an essential factor in the formation of population quality**

This category is very important for determining the population quality level, because the intellectual level of a person and even of society as a whole, can determine the economic and social prosperity of the state. Besides the fact that education is an important factor in the

economic evolution of a state, together with the cultural level, it lead to increase or decrease in the population quality level.

Within the category "education", a series of social indicators, which talk about the population qualitative level of the Republic of Moldova are analyzed, out of which three indicators were considered to be the most outstanding in the education component analysis as part of the population quality, and namely: the literacy rate, the school life expectancy and the school enrollment rate. Following their analysis, but also the quantification of the raw data in convertible data (units) by determining their indices, *the education index* is determined. The mentioned index represents the value that presents the qualitative level of the population through the "education" component.



**Figure 2. The education index in the Republic of Moldova, 2005-2017, units**

In the chaotic evolution of this index, several basic characteristics can be distinguished, namely:

- The education index contains unstable values from one year to another, recording large differences for the period of only one-year (for example, 2014 compared to 2013 or 2016 compared to 2015);
- The education index values range from low to medium limits (from 0.301-0.763 units);
- The general trend of the education index evolution is decreasing, by over 24% for the last analyzed year (2017) compared to the first analyzed year (2005).

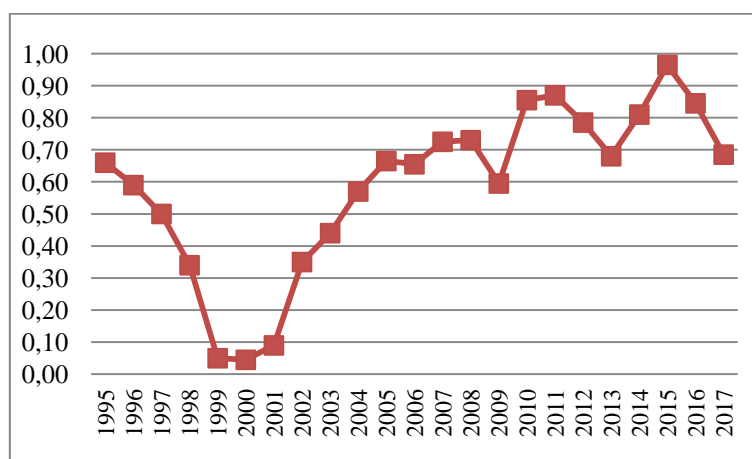
#### **2. 4. Culture - part of the population quality.**

Culture as a component of population quality encompasses the higher limit of a healthy, educated and integrated society. This aspect of population quality is much more difficult to assess, due to lack of detailed qualitative data. At the same time, due to the diminution of the importance of this social aspect in the country, by poor state of many cultural institutions.

However, it is necessary to mention that the cultural aspect, as part of the population quality, is indispensable for this study. So only the available statistical data will be analyzed in order to reflect as much as possible the cultural aspect of the population quality of the Republic of Moldova. The following indicators will be analyzed: the number of users per library, the number of visitors to museums / 1000 inhabitants, the number of theaters spectators / 1000 seats.

Taking into account the demographic indicators from the „culture” category mentioned above, their structural indices are determined. These data serve as values for the most complete and correct identification of the population cultural quality level of the Republic of Moldova by determining *the culture index*.

Analyzing the evolution of the culture index data, during the period of 1995-2017th years, we observe a rapid decrease of the cultural activity during the years 1995-2000, when the culture index decreases by approximately 93% less for the year 2000 compared to 1995. After 2000th year, the culture index shows rising values, with some short periods of alternation with decreases (2009, 2013, 2017). This increase is due to the beginning of the economic and social stabilization processes in the country, which has a direct impact on the cultural quality level of the Republic of Moldova population.



**Figure 3. The culture index in the Republic of Moldova, 1995-2017, units**

We conclude that the activity and cultural level of the population is constantly increasing, but this growth is unstable for the whole period. The same trend was observed also to the health (fig. 2) and education indices(fig. 3), less to the demographic development index (fig. 1).

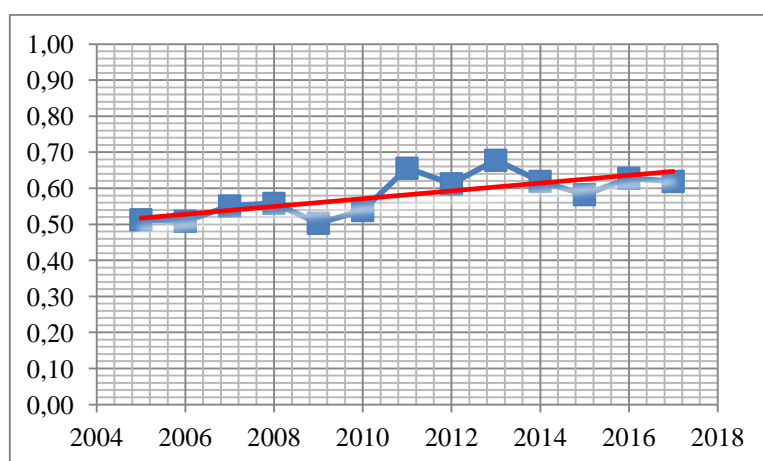
## **2. 5. Population quality index - measurable trends of evolution**

Based on the data obtained from the determination of the four indices: the health index, the demographic development index, the education index and the culture index, the population quality index is determined. Its value represents one of the aims of the study, because this index shows us the population qualitative level. The index represents the arithmetic mean of the other

four indices, determined by formula 1.2 (see paragraph 1.3). The arithmetic mean is more truthful in measuring the population quality level, because it elucidates the population quality much more complex and correct.

The analysis of the population quality index evolution in the Republic of Moldova confirms an unstable situation for the period 2005–2017, with values between 0.503 and 0.678 units. In this unstable situation, the medium values demonstrate the positive impact of some areas on the population quality in the country. At the same time, the instability indicates the existence of gaps in different areas of population life and activity.

The general trend of the population quality evolution shows a slow growth (figure 5), which constitutes about 19% or 0.107 units. The ascendancy is determined, in particular, by the increase of the health and education indices values, while the demographic development index registers values in depreciation, and the culture index is unstable.



**Figure 5. The population quality index in the Republic of Moldova, 2005-2017, units**

The analysis and calculation of the Republic of Moldova population quality index permit to conclude the following:

- For the period of 2005-2017th years, the population quality index falls within the limits of medium values (0.503-0.678 units). These values present the fact that the population of the Republic of Moldova is at the median level of demographic, social and economic development;
- The dynamics of the population quality index values is unstable, with variations from one period to another or from one year to another;
- Three distinct periods can be noted in the evolution of the population quality index:
  - 1) 2005-2010 - decrease in value by 0.010 units;
  - 2) 2010-2013 - increase in value by 0.175 units;



3) 2014-2017 - decrease in value by 0.059 units.

- The general trend for the concerned period is a slow growth in the population quality, which is due, in particular, to improving the population's health and intensifying the cultural activity of the Republic of Moldova population;
- The period of the last years (2014-2017) presents an unstable period of changes in the population quality index, with an increase for 2016, compared to 2015 and a slight decrease for 2017. This variation is of interest to follow the coming years trends, in order to come up with rigorous conclusions for future changes.

**Chapter 3. „Territorial differentiation of population quality in the Republic of Moldova”.** The continuous and sustainable spatial development of a state is very important, accompanied by social, economic and cultural development. Therefore, every time, the territorial component represents one of the highest priority, especially, in establishing the geodemographic differences, which represents an indispensable knowledge framework of the specific characteristics of the population.

The territorial study of the population quality includes the analysis of each component of the population quality at the level of administrative-territorial units and highlights the strengths and weaknesses for each administrative-territorial unit. This fact will serve as a basis in determining and investigating the causes that have led to such differentiations

### **3.1. Demographic implications in population quality**

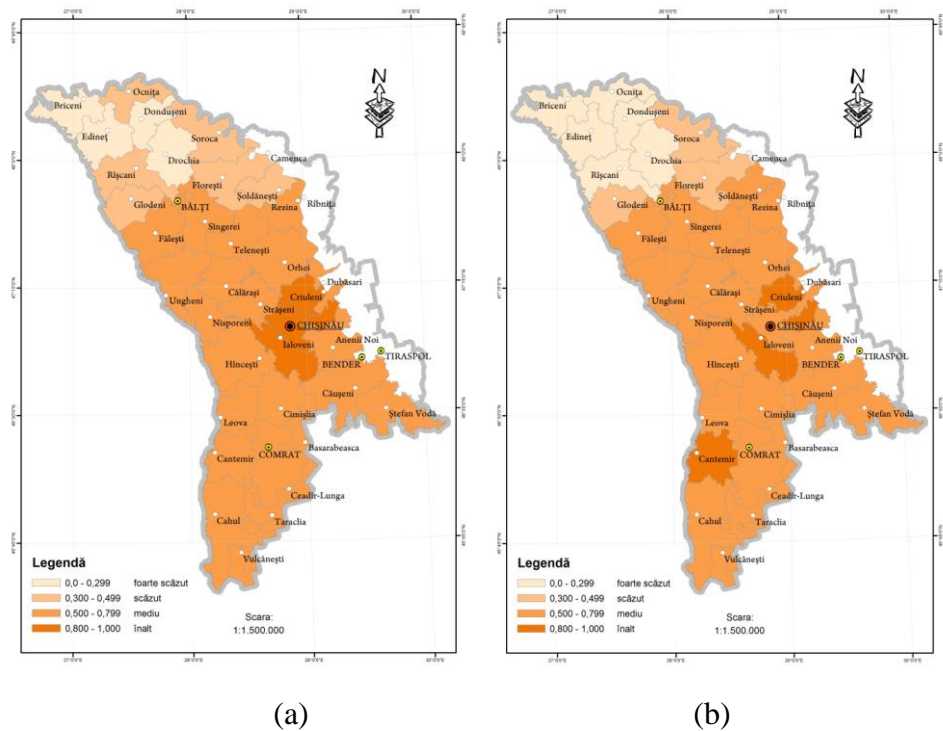
The territorial analysis of the population demographic quality was carried out with the help of three demographic indicators, the same as in the case of the evolutionary analysis, namely: the natural increase rate, the dependency ratio and the elderly / young age dependency ratio.

In order to carry out a more conclusive territorial analysis, two reference years were taken for this stage of the study, the 2010 and 2016 years. The territorial study carried out for these two years, offers the possibility of observing current changes in the territorial administrative units. The year 2016 was the last year available with data, during the period of the study, which is why it represents one of the reference years, and the year 2010, in order to have a sufficient period to find the changes.

The regional and district differences of the demographic indicators evolution are significant. Although the territory of the state is not so large, the disproportionalities are visible from one region to another.

Comparing the territorial aspects of the demographic development index values for years 2010 and 2016, it is observed that, a large number of administrative-territorial units (20) register decreases of the demographic development index values and the other 15 record insignificant

increases. The Northern area is noted with the increase in the administrative-territorial units number with very low values of the demographic development index (6: Briceni, Ocnița, Edineț, Dondușeni, Drochia, Râșcani). Other three neighborhood administrative units note low values of the demographic development index: Soroca, Florești, Glodeni. The index values increase to the center and south of the republic, registering medium values of the demographic development index (figure 6).



**Figure 6. The demographic development index in the Republic of Moldova 2010 (a), 2016 (b), units**

There are 3 administrative units (Criuleni, Ialoveni, Cantemir) with high values of the demographic development index within the central and south development regions, for year 2016. The Criuleni and Ialoveni districts were noted for year 2010, the cause being the proximity to the economic, cultural and social center Chișinău, which attract the population (especially the young) with more possibilities of promotion. The higher number of young people than in other regions of the country, determines a better demographic situation.

Summarizing the results of the study, several administrative units with the increasing index value can be observed within the central region of the country. This fact is conditioned, as in the other cases, by the higher level of living and economic development of the central region of the country, with the polarization of Chișinău municipality and the nearby administrative units, which favors the internal migration to the central districts of the country. In particular, young population, in the reproductive age migrate. These facts determine a higher birth rate and a lower mortality rate in the central districts, compared to the other areas. These are determining

factors in constituting the higher values of the demographic quality index taken into account in this study, namely the natural increase rate, the demographic dependency ratio and the elderly / young dependency ratio.

### **3. 2. The territorial particularities of the health status and its impact on the population quality in the Republic of Moldova**

The health component is analyzed at the territorial level, using three demographic indicators as in the case of the dynamic study, namely: life expectancy at birth, mortality rate and infant mortality rate.

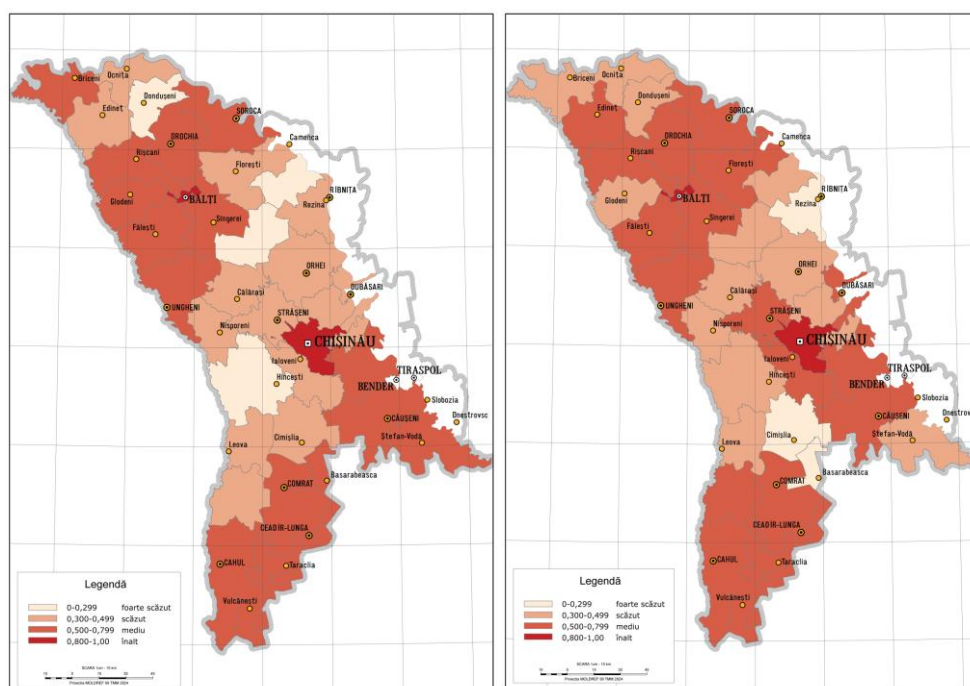
Analyzing the evolution of the health index between 2010 and 2016, some districts with significant increases (for example Șoldănești - 344% for 2016 compared to 2010), or others with decreases, as significant (for example Basarabeasca - 37% for 2016 compared to 2010) are noticed. 21 districts registered increases in the population's health level among the 32 districts, 2 municipalities and the Gagauzian Territorial Unit. These include Dubasari, Cantemir, Hâncești, Telenești etc. (fig. 7). Other 14 registered decreasing values of the population health status, including: Cimișlia, Ocnița, Rezina, Ștefan Voda. (fig. 7). On this line it can be deduced the fact that about 60% of the country territory has registered an improvement of the population health, and other 40% a decrease of the health level.

The territorial transformations of the health state for 2016, as compared to 2010, are the following:

The number of administrative-territorial units with the medium level of population health in the northern region of the Republic of Moldova remains the same (7 districts), with small differences. Edineț and Floresti districts note increasing of the health level, the others keep the same medium limits of the population health level.

The improvement of the population health status is noticed within the center of the Republic of Moldova, by recording a higher number of administrative units with low and medium values of the population health index. However, the reduced level of population health for the districts in the center of the republic, compared to those in the north or south, cannot be omitted. This applies to both years analyzed.

The Cimișlia and Basarabeasca districts note very low level of population health index within the Southern Development Region, the causes being explained above. Also, Ștefan Vodă district records declining values, caused by the decrease of all three indices, especially of the life expectancy at birth index.



(a)

(b)

**Figure 7. The health index in the Republic of Moldova, 2010 (a), 2016 (b), units**

The high level of population health can be observed only in the of Chișinău and Bălți municipalities, for both 2010 and 2016. The problem of regional development in the Republic of Moldova is present, including for the health field (and also of other social and economic aspects that influence the population health status), which is maintained, over the years, by monopolizing the regions of Chișinău and Bălți municipalities.

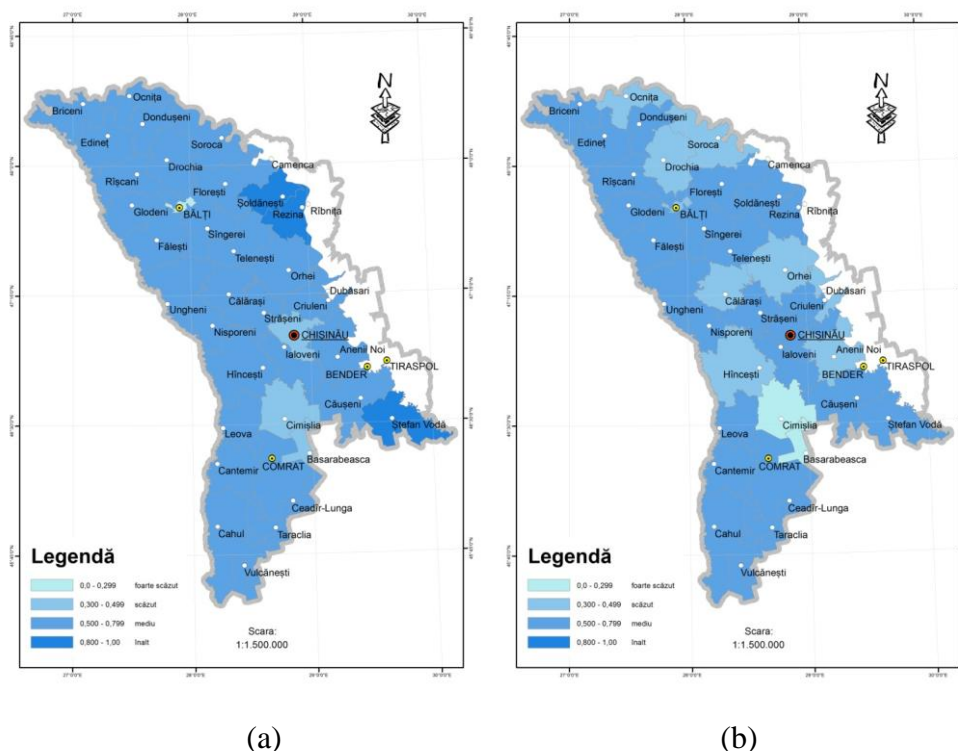
### **3. 3. Differences and disparities in education and population quality**

The education index is calculated at the level of the administrative-territorial units in order to make a territorial evaluation of the education in the Republic of Moldova. The presentation of the education territorial aspects presents a greater difficulty, because the data base used for the calculation of the education index at the country level partially is missing at the level of administrative-territorial units. The used indicators are different than at country level, due to unavailability, and also the irrelevance of some of them at territorial level. Thus, based on available territorial data, the following indicators are used for this part of the study: number of students / 10 000 inhabitants and number of students / 1 teacher.

Most districts register medium values of the education level in the country. The values of the education index range from 0.285 to 0.841 units, for both mentioned years. Another remarkable feature is that, only 3 administrative units registered increases in the value of the

education index, between 2010 and 2016 (Chişinău, Bălţi municipalities and Criuleni district), others registering declining values.

The North Development Region mostly records medium values of the education index. Bălţi municipality is remarkable, where it registered low value. This fact is caused by a higher number of students corresponding to a teacher, exceeding the recommended average. This fact is also determined by the schools optimization for the last years. The changes for 2016 are the increasing number of administrative-territorial units with low values of the education index: Ocniţa, Drochia, Soroca and Balti.



**Figure 9. The education index in the Republic of Moldova, 2010 (a), 2016 (b) units**

The Center Development Region records a large number of medium values of the education index, highlighting two administrative-territorial units, which record high values: Şoldăneşti and Rezina, where the values are at high level for 2010 and medium for 2016.

The Southern Development Region records medium values of the education index. The Ştefan Vodă administrative-territorial unit scores high values for the index for 2010, but decreasing towards 2016. Cimişlia district notes low value of the education index for 2010 and very low for 2016.

### **3. 4. Discontinuities in the evolution of culture and the population quality.**

The demographic indicators used to evaluate the cultural quality of the population from a territorial point of view are different from those used at the country level, because the data used in that case are missing. Moreover, some of these are not relevant at the territorial level., The

following indicators were used for the territorial study : the number of active users of libraries / 10 000 inhabitants and the number of visits to museums / 1000 inhabitants. Their structural indices and subsequently, the culture index are calculated using the data of the mentioned above indicators.

The culture index has less dynamic values, compared to the health index, for example. However, some changes may be noted during the 6 year period, between 2010 and 2016.

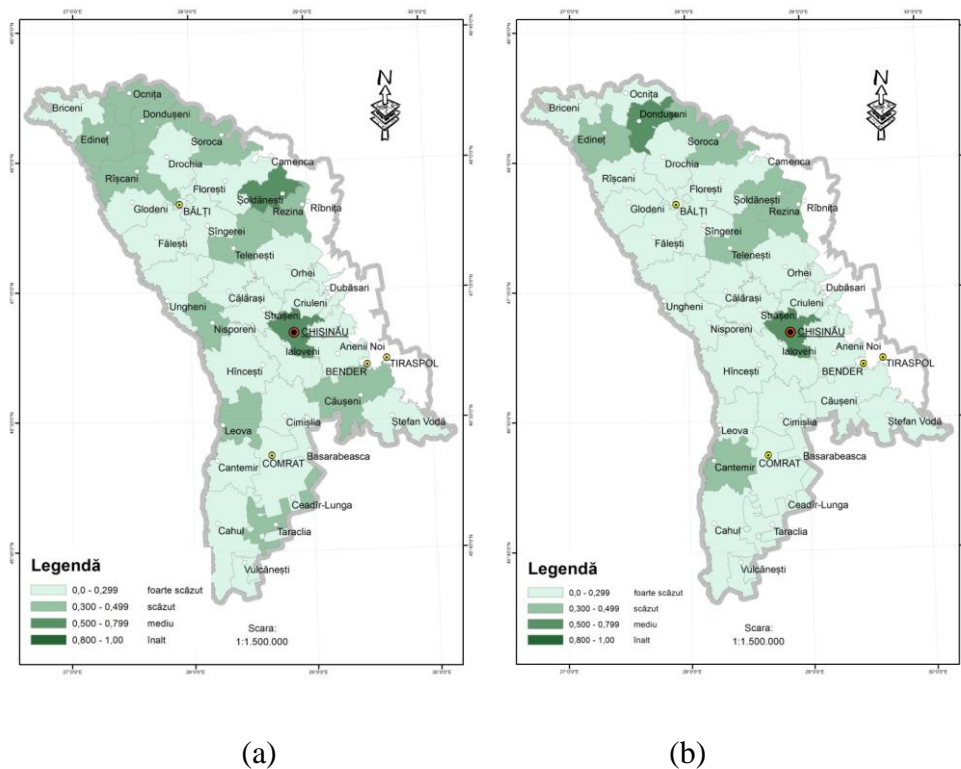
The culture index value grows within 7 districts (Dondușeni, Florești, Sângerei, Soroca, Telenești, Cantemir) and Chișinău municipality for 2010. The other territorial administrative units note reductions of the culture index value. The culture index in the Republic of Moldova does not register high values neither in a territorial-administrative unit of the country, even in the capital of the country. Most of the territorial-administrative units in the country have "very low" and "low" values of the culture index, respectively 22 and 11 administrative-territorial units. This fact denotes, once again, the reality level of the population culture, in the rural localities the cultural activity is practically stopped. Within other localities its value is quite modest (except for Chișinău municipality).

The situation does not change fundamentally for year 2016. The high values of the culture index are not recorded in any territorial administrative unit. Chișinău municipality and Dondușeni district remain at medium level (fig. 8). The number of administrative-territorial units with very low values increases (27 districts), due to the decrease of the number of those where low values are registered (6 districts). The trend is clear – the decline of the culture index value, ie worsening the cultural quality level of the population in the country. This situation is caused by the demographic, economic, but also social realities in which the country is found. Obviously, the necessity of implementing policies in order to raise the cultural level are strictly necessary. Policies must be viewed in accordance with other aspects, mainly demographic and educational ones.

The Northern Development Region enclose 7 territorial administrative units with very low values (0-0,299 units) of the culture index and 5 with low values (0,300-0,499 units) for 2010 (fig. 8 (a)). For 2016, the situation is changing and 2 territorial administrative units fall from the category of low to very low values (Ocnița and Râșcani) and Dondușeni district register increases and reach medium value of the culture index by 144% more for 2010 compared to 2016, (fig. 8 (b)).

For the year 2010, the central area of the country registers a number of 9 territorial administrative units with very low values of the culture index, 3 low and 2 with medium values (including Chișinău municipality). In 2016, the situation changes insignificantly, the number of administrative units with very low level increases to 10 (Nisporeni is added) (fig. 8), those with

low values remain the same – 3, and average values are registered only for Chisinau municipality.



**Figure 8. The culture index, 2010 (a), 2016 (b), units**

The Southern Development Region registers, for 2010, 5 territorial administrative units with very low values and 3 – low. For 2016 the number of those with very low values increases up to 8 (Căușeni, Leova and Taraclia districts pass in this category) and with low values, only the Cantemir district remains, which, moreover, registers an increase in the value of the culture index during this period.

### **3. 5. Territorial differentiations of population quality in the Republic of Moldova**

After determining the demographic development, health, education and culture indices for each administrative-territorial unit, for the reference years 2010 and 2016, *the population quality index* can be determined.

The result of this calculation is one of the key objectives of the study. A comprehensive assessment of the population quality in the Republic of Moldova is possible using the index value, because it comprises other 10 indices in a single one. These results serve as a detailed analysis of the situation at the territorial level (by administrative units), which helps to deduce the causes of the situation created in different regions of the country (these being different from one region to another), and to propose possible measures to maintain and raise the population quality level in all regions of the country.

From a territorial point of view, the population quality index is characterized by differentiations from one region to another, but also from one administrative-territorial unit to another. The medium and low values of the population quality index prevail, for both 2010 and 2016.

Low to medium values of the population quality index are registered within the Northern Development Region, ie most of the administrative-territorial units register values between 0.400 - 0.500 units for the year 2010. For the year 2016, the index values fall slightly in this region, registering, practically, in all the districts low values of the population quality index. The highest values in the region, ie medium values are recorded within Sângerei districts and Bălți municipality.

Towards the central area of the country, the population quality index value increases slightly, with the prevalence of administrative-territorial units where the index value notes medium limits, with the highest value registered in Chişinău - 0.734 units in 2010. The causes are obvious, the Chişinău municipality is the most important economic, cultural and social center in the country, with a large concentration of population in this area.

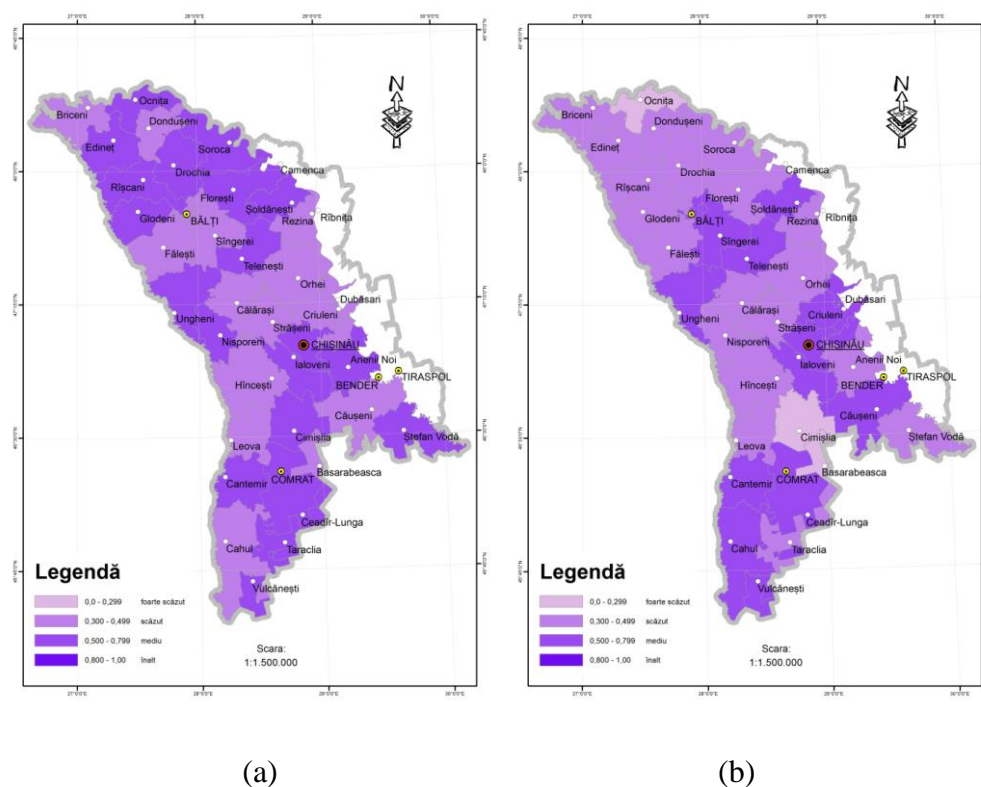
The population quality level is, in general, medium, with index values ranging from 0.500 to 0.799 units on the territory of the Southern Development Region. Only 2 districts registered low values in 2010: Basarabeasca and Cimişlia.

For 2016, all the districts in the region noted declining values, except for the Cantemir district (0.612 units), where the registered growth is due to the rise of the demographic development index. The demographic indicators, in this district, note increasing values of the birth rate, which determine a better correlation by the population age groups. Also, the culture index registers higher values for 2016 compared to 2010, determined by the promotion of new activities of valorization and conservation of cultural values for the last period of time.

Analyzing the territorial disparities of the population quality index, the following conclusions can be highlighted:

- the population quality is one of the most important future priorities of the Republic of Moldova, because the labor force and the human potential quality is one of the strictly necessary resources for the state evolution, in the context of the economic and social changes of the modern society;
- population quality index represents the reference value, which elucidates comprehensively the territorial differences of the population quality in the Republic of Moldova;
- Most administrative-territorial units fall within the limits of low and medium values (0.300-0.499 units) of the population quality index (0.500- 0.799 units)





**Figure 10. The population quality index, 2010 (a), 2016 (b), units**

- The population quality index of the Republic of Moldova registers increasing values only within 8 administrative-territorial units, the majority registering declining values;
- The results of the population quality territorial study offer the possibility to make a regional, differentiated analysis of the human potential quality and serve as data and information source useful in the elaboration of regional development policies of the country.

### **3. 6. The typology of the administrative-territorial units in the Republic of Moldova by population quality**

The typology of the administrative-territorial units in the Republic of Moldova by population quality category is an important part of the study, as it presents a classification of all the administrative-territorial units of the country in 4 basic categories of population quality: health, demographic, education and culture.

Four intervals of the structural indices were taken as reference in order to make the typology:

- 1) 0 - 0.299 units – very low level;
- 2) 0.300 - 0.499 units – low level;
- 3) 0.500 - 0.799 units – medium level;

4) 0.800 - 1.00 units – high level.

The typology of the administrative-territorial units according to the population quality index is defined by the data determined at territorial level. So, the majority of administrative-territorial units register low and medium values of the population quality. The number of administrative-territorial units with low values increases from 16 for 2010 to 19 for 2016. This rise is explained by the decrease of the administrative-territorial unit number where medium values are registered in 2010 – 20, and in 2016 – only 12. Thus, the population quality of the Republic of Moldova is undergoing negative changes.

It is worth noting that the category with very low values, in 2010 there was no administrative-territorial unit, while for 2016 – 3 appear, of which 2 from the South development region and 1 from the North development region, which demonstrates the increased vulnerability of these regions compared to the Center one.

Another obvious feature is that no administrative-territorial unit registers high values of the population quality index, which demonstrates the need to draw major attention to the driving force of the state – „population”, and to implement various policies as soon as possible. They should be oriented towards raising the population quality level – one of few resources of the Republic of Moldova.

### **3. 7. The case study “Subjective evaluation of population quality”**

The objective evaluation of the population quality is performed by analyzing and interpreting the official data, provided by the specialized institutions, carried out in chapter 2 and the first two paragraphs of chapter 3.

The purpose of this paragraph is to highlight the population quality aspects through the results of the population survey carried out within 4 reference localities: Sănătăuca within the Northern Development Region, Bălănești and Chiperceni within the Center Development Region and Iargara within the Development Region South.

The sociological survey was carried out, supplementing the official data with unofficial ones. About 10% of the working population of each locality was investigated. The standardized questionnaire was used, applied by the “face-to-face” interview method at home, the households being randomly selected using the multistage method. Closed questions were used (with variants of simple answers, with more degrees of intensity).

The demographic component was evaluated using several questions. First of all, the interviewees mentioned the age limit in which they fall, as well as their spouses. It is observed that the average age of the interviewed persons is almost 52%, between 41-62 years (Chiperceni - 44.6%, Bălănești - 59%, Sănătăuca - 52.2% and Iargara - 53.4% ). Next is the age group

between 31-40 years – 24.2%, with a higher value in Sănătăuca (31.5%) and lower in the other localities.

The assessment of the health state as a standard of population quality, presented in this case, by the people culture to visit regularly a doctor (hence the connection between the health and culture components) in order to maintain a good health status, showed that the number of those who positively evaluate their health status is twice the number of those who evaluate it as negative.

One of the education aspects is the methods used to children's education which is related both to the parents level of education and culture, as well as to the education of a future society, which will contribute to the development of the state. Useful are the answers offered by the respondents to the question: "Which of the following components do you consider the most important in children's education (select at most three components)?" The majority of respondents stated that the most important role in the education of their children is played by the family and the school, respectively 96.2% and 82.7%.

The last area aimed in assessing the population quality is culture. The culture level evaluation is more subjective because this area is more sensitive, and it is linked with personal aspirations of the people, their civic behavior, and their attitude towards the social problems of the society in which they live. Subjectivism increases due to the lack of data for this field. Therefore, several questions which present different sides of the population culture were used in the process of population interviewing. Some of them are: "What cultural institutions do you have in the locality?" and "How often do you visit cultural institutions?". The answers to these questions differ in the same locality, although the number and type of cultural institutions are the same. The resident's knowledge or ignorance of the presence of such institutions in their native locality presents one of their personal cultural aspects.

### **3. GENERAL CONCLUSIONS AND RECOMMENDATIONS**

#### **Conclusions:**

Contemporary society is experiencing significant demographic, social and economic changes. Therefore, there is a need for new population studies, one of which is the study of population quality. This new direction of study will complete the scientific approaches of the past, and will open a direction of perspective research.

This study presents a valuable scientific approach, which includes the following conclusions:

- 1) The problem of "population quality" is quite old, the first notifications being registered in the eighteenth century, so that over time this term was approached from several points of view: biological (from the point of view of "eugenics"),

economic (through the term of "human capital"), social, and very little demographically and geographically;

- 2) Studying the specialized literature it was possible to achieve a structure of the concept "population quality", delimiting 4 basic components: demographic, health, education and culture. Each of these components includes a range of quality indicators;
- 3) The quantification of the population quality level is possible by adjusting the different values of 14 indicators cumulated into a single one, by calculating the structural indices of each individual indicator, the indices of the population quality component categories (the demographic development index, the health index, the education index, culture index), and the population quality index (cumulative reference value);
- 4) The determination of the demographic development index demonstrates continuously decreasing values of the demographic component for the period 1990-2017, and increasing values from the north to the center and south of the Republic of Moldova;
- 5) The health component presents increasing data since 1995, with the high values for Chişinău and Bălţi municipalities and medium and low values for the rest of the country;
- 6) The education presents an unstable situation, both dynamically and territorially, with the prevalence of medium and low values of the education index;
- 7) Culture is the most vulnerable component, being directly superimposed with the economic changes in the country. Territorially, Chişinău municipality is remarkable and the other regions of the country are undermined;
- 8) The assessment of the population quality level using the measurable values of the population quality index (units) confirms that, the population quality of the Republic of Moldova includes medium values, in the process of easy and unstable growth for the last period of time (2005-2017);
- 9) From a territorial point of view, the central region of the country is noted with a medium level of population quality, in slow process of increasing the population quality level, while the north and south regions are in the process of stagnation or diminution;
- 10) It could be concluded that the prospects in the evolution of population quality is unclear, therefore research in this field becomes a top priority. This fact will also

allow the trends forecasting in the evolution of population quality, which will serve in elaborating of long-term policies.

**Recommendations:**

- 1) The present conditions of the Republic of Moldova demographic evolution, to the detriment of the population number, draws a special attention on the qualitative part of the population, in order to achieve the social and economic evolution of the state;
- 2) The state competitiveness in conditions of globalization can be achieved only with the support of a qualitative human capital, therefore the population quality becomes one of the key forces in the competition of the international division of labor;
- 3) The results of the study can be used in elaboration of state development policies (demographic, social and economic), both at the country level and at the territorial one;
- 4) The perspective phase involves the development of demographic policies that combine two levels: of the demographic quantity and quality as one of the socio-economic system finalities; Policies focused on demographic quality will aim to maintain gender, generational and basic demographic groups balance;
- 5) Measures and mechanisms of the demographic policies must be centered on the economic quality of the population in order to diminish the compromise of the state economic development;
- 6) Social policies will delimit incomes through the workforce quality and productivity and will adapt to the economic qualification requirements of the young generation so as to contribute to progress and development;

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12. GODONOAGĂ, S., Population quality – the base of demographic security in the Republic of Moldova. În: *Scientific Symposium of young reseachers from 22-23 april 2016, Vol.I., XIV Edition, Chișinău, 2016, ASEM*, p. 259 – 264, ISBN 978-9975-75-821-5, 0,5 c.a.

13. GODONOAGĂ, S., MATEI, C., Health- population quality indicator in the Republic of Moldova. În: *Scientific Symposium of young reseachers from 28-29 april 2017, Vol.I., XV Edition, Chișinău, 2017, ASEM*, p. 101-106, ISBN 978-9975-75-877-2, 0,4 c.a.

## 6. ADNOTARE

**Suvac Silvia** „Calitatea populației Republicii Moldova. Studiu geodemografic”: Teză de doctor în științe geonomice, Chișinău, 2019.

**Teza este compusă din:** Introducere, 3 Capitole, Concluzii generale, Bibliografie cu 98 titluri, 158 pagini de text de bază, 33 tabele, 32 figuri, 33 anexe. Rezultatele obținute sunt publicate în 14 publicații.

**Cuvinte – cheie:** calitatea populației, demografie, sănătate, cultură, educație, indice.

**Domeniul de cercetare:** Geografie economică și socială.

**Scopul cercetării** reprezintă evaluarea complexă a nivelului calității populației în Republica Moldova, în aspect dinamic și teritorial.

**Obiectivele cercetării sunt:** elaborarea bazei teoretice și metodologice a studierii calității populației; determinarea locului „calității populației” în cadrul geografiei umane; evaluarea schimbărilor în componentele calității populației: demografică, sănătate, educație, cultură, prin determinarea indicilor structurali pe fiecare componentă; evaluarea nivelului calității populației dinamică temporală și în aspect teritorial în Republica Moldova; clasificarea unităților administrativ teritoriale ale Republicii Moldova pe categoria calității populației; recomandarea măsurilor de menținere și creștere a nivelului calității populației Republicii Moldova.

**Noutatea și originalitatea științifică:** constă în faptul că, asemenea studii asupra calității populației nu s-au realizat încă, metodologia utilizată în evaluarea nivelului calității populației este una diferită de ale altor autori din afara țării, care au vizat studii ale calității populației. Originalitatea se reflectă prin realizarea măsurării calității populației și a abordării complexe originale a ideilor și componentelor cadrului metodologic și conceptual, ce au servit ca reper în elaborarea studiului dat și a conturării unei valori științifice de durată.

În primul rând, acest studiu ia în calcul mai multe categorii componente ale calității populației: demografică, sănătate, educație și cultură. Majoritatea altor studii omit componenta demografică, care de fapt reprezintă baza dezvoltării sau evoluției celorlalte trei categorii menționate mai sus. Acest studiu folosește metoda statistică pentru a evalua nivelul calității populației, prin aplicarea câtorva formule, care au unificat un șir de indicatori demografici într-un singur indice – indicele calității populației. Acesta reprezintă valoarea de referință măsurabilă a nivelului calității populației Republicii Moldova.

**Problema științifică soluționată:** constă în fundamentarea cadrului conceptual al termenului „calitatea populației”, din punct de vedere științific și metodologic, fapt care contribuie la înțelegerea și aprecierea rolului acestui concept în vederea cunoașterii nivelului calității populației Republicii Moldova.

**Importanța teoretică:** Acest studiu reprezintă unul cu o semnificație teoretică de valoare, deoarece metoda aplicată pentru teritoriul Republicii Moldova poate fi folosită pentru un astfel de studiu al oricărui alt spațiu geografic, dar și în detalii pentru spațiul geografic al Republicii Moldova. Studiul teoretic realizat poate servi ca suport pentru realizarea de mecanisme în vederea sporirii eficienței în procesul de formare, păstrare, dar și ridicare a nivelului calitativ al populației statului.

**Valoarea aplicativă a lucrării:** constă în integrarea propunerilor constructive de creștere a nivelului calitativ al populației pot fi utilizate de către instituțiile administrative de conducere a statului în procesul elaborării de politici social-economice de dezvoltare pentru perspectiva scurtă și medie, dar și în planificarea dezvoltării de lungă durată a statului.

**Implementarea rezultatelor:** Rezultatele studiului au fost folosite, în realizarea Proiectului pentru tineri cercetători ”Evaluarea geodemografică a calității populației în Republica Moldova” în perioada ianuarie 2015 - decembrie 2016. O altă direcție de implementare a studiului este includerea unor aspecte teoretice și practice în predarea cursurilor de ”Geodemografie” și ”Geografie Umană a Republicii Moldova”, la Facultatea de Geografie a Universității de Stat din Tiraspol.



## ANNOTATION

**Silvia Suvac „Population quality of the Republic of Moldova. Geodemographic study”, PhD Thesis in Geonomical Sciences, Chişinău, 2019.**

**The thesis consists of:** Introduction, 3 chapters, General conclusions, Bibliography with 98 titles, 158 base text pages, 33 tables, 32 figures and 33 annexes. The obtained results were published in 14 scientific papers.

**Key-words:** population quality, demography, health, culture, education, index.

**Field of research:** Economic and social geography.

**The aim of the research** was the complex evaluation of the population quality level in the Republic of Moldova, in dynamic and territorially.

**Objectives of the research:** to elaborate the theoretical and methodological base of the population quality studying; to determine the place of „population quality” in the frame of human geography; to evaluate the changes of the population quality components: demography, health, education and culture, through calculating structural indexes of each components; to evaluate the population quality level in evolution and territorially in the Republic of Moldova; the classification of territorial administrative units of the Republic of Moldova on the population quality category; to recommend ways of maintenance and increasing of the Republic of Moldova population quality level.

**Novelty and scientific originality:** This study is unrepeatable in Republic of Moldova. Its novelty and originality consists in the fact that such studies of population quality have not yet realized and the used methodology is a different one than of other foreign researches who did some population quality studies.

First of all, this study takes into account all the component categories of population quality: demography, health, education and culture. Most of other studies overlook the demographic component, which is of great importance, because it represents the base of the other three components development, mentioned above. This study used the statistic method in order to evaluate the population quality level, by applying of some formulas, which help to unify many indexes in a single one – *the population quality index*. This index represents the reference value of measuring the population quality level of Republic of Moldova.

**The solved scientific problem** consists of the conceptual frame fundamentation of the term „population quality”, from scientific and methodological points of view, which contributes to understanding and estimation of the concept role, in order to evaluate the Republic of Moldova population quality level.

**Application value of the work:** The methodological and applicative base that was elaborated in this work, and constructive proposals for future evolution of the population quality could be used by administrative governing bodies in elaborating of socio-economic politics for near future and for perspective development of the state.

**Implementing the results:** The results of the work were used in study process of the Project for young researches „Geodemographical evaluation of the Republic of Moldova population quality”, unfolded during the period of time january of 2015 – december of 2016. Another direction of implementation is including some theoretical research results in preparing curriculum and teaching university courses as: „Geodemography” and „Human Geography of Republic of Moldova”, at the Geography Faculty of the Tiraspol State University.

## АННОТАЦИЯ

**Сувак Сильвия** „Качество населения Республики Молдова. Геодемографическое исследование”: Диссертация на соискание ученой степени доктора геонимических наук, Кишинэу, 2019.

**Структура диссертации:** введение, три главы, общие выводы, список используемой литературы из 98 наименований, 158 страниц основного текста, 33 таблиц, 32 рисунков, 33 приложений,. Полученные научные результаты опубликованы в 14 научных статьях.

**Ключевые слова:** качество населения, демография, здравоохранение, культура, образование, показатель.

**Область исследования:** Экономическая и социальная география.

**Целью работы** является комплексное оценивание уровня качества населения в Республике Молдова в динамике и в территориальном аспекте.

**Задачи исследования:** разработка теоретико-методологических основ исследования качества населения; определение места «качества населения» в экономической и социальной географии; оценивание изменений в компонентах качества населения: демография, здравоохранение, образование, культура, путем определения структурных показателей по каждому компоненту; оценивание уровня качества населения в динамике и территориальном аспекте в Республике Молдова; классификация территориально-административных единиц Республики Молдова по категории качества населения; рекомендация мер поддержания и повышения уровня качества населения Республики Молдова.

**Научная новизна работы:** состоит в следующем: в Республике Молдова такие исследования по качеству населения еще не проводились; методология, используемая для оценивания уровня качества населения, отличается от других авторов за пределами страны, которые исследовали качество населения. Оригинальность отражается в измерении качества населения и комплексном подходе к идеям и компонентам методологической и концептуальной основы, которые послужили отправной точкой при разработке данного исследования и наброска долгосрочной научной ценности.

В данном исследовании рассматриваются несколько компонентов качества населения: демография, здравоохранение, образование и культура. В большинстве других исследований отсутствует демографический компонент, который фактически является основой для развития или эволюции трех других упомянутых выше компонентов. Это исследование использует статистический метод для оценивания качества населения, применяя несколько формул, которые объединили ряд демографических показателей в единый индекс - индекс качества населения. Это представляет собой измеримую контрольную величину уровня качества населения Республики Молдова.

**Полученный результат, который способствует решению важной научной проблемы:** заключается в обосновании концептуальной основы термина "качество населения" с научной и методологической точки зрения, что способствует пониманию и оценке роли этой концепции для знания уровня качества населения Республики Молдова.

**Теоретическая значимость исследования:** Это исследование представляет собой теоретическую значимость, поскольку метод, применяемый для территории Республики Молдова, может использоваться для такого исследования любого другого географического пространства. Проведенное теоретическое исследование может служить поддержкой для разработки механизмов повышения эффективности в процессе формирования, удержания, а также повышения уровня качества населения государства.

**Практическая значимость:** состоит в интеграции конструктивных предложений по повышению уровня качества населения, которые могут быть использованы учреждениями государственного управления в процессе разработки мер социально-экономического развития на краткосрочную и среднюю перспективу, а также при планировании долгосрочного развития государства.

**Внедрение научных результатов:** Результаты исследования были использованы в реализации Проекта для молодых исследователей «Геодемографическое оценивание качества населения в Республике Молдова». Теоретические и практические аспекты были включены в преподавание дисциплин "Геодемография" и "Экономическая и социальная география Республики Молдова", на Географическом факультете Тираспольского государственного университета.