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CLUSTER DEVELOPMENT ECONOMIC POLICY IN GEORGIA

Abstract: *Since the second half of the 20th century, many works have been devoted to the process of agglomeration of industries and the economic benefits obtained from it. The concept of an industrial district appears for the first time since 1890, when Alfred Marshall calls this term a geographical concentration of specialized industries in the territory of a region. In industrial districts, industries apply vertical integration, create subsidiary industries and specialize according to individual branches of the economy. Geographical concentration of specialized industries can be accompanied by additional economic benefits, through the reduction of production and transportation costs. Convergence effect makes possible the formation of various educational and cultural institutions around the industries, as well as the development of entertaining, recreational, residential spaces and etc. Finally, the process of localization becomes the reason for the formation of such a structural-dynamical entity as an urban agglomeration. As a rule, one or more scientific-research centers are located in urban agglomerations and knowledge and innovations are spread in horizontally integrated industries. In such conditions, the development of "creative industries" takes place. The area where "creative industries" are developed is referred to as "creative region". In "creative regions" the convergence effect combines knowledge and innovation, which creates a completely new dimension for industrial development. Michael Porter, professor of Harvard University, focuses on the importance of the effect of convergence in the spread of knowledge and innovation in industries. Professor Porter proposes a diamond rule for industrial competitiveness, which is based on the dissemination of knowledge and experience accumulated in educational institutions and scientific-research centers and in this process state institutions, central government and local self-government play a key role. In this way, a Triple Helix model of cooperation is created, which Professor Porter calls a diamond of competitiveness, or a Cluster in another way.*

Keywords: *International trade, basic rules of WTO, trade without discrimination*

JEL classification: *A1, B1*

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კლასტერების განვითარების ეკონომიკური პოლიტიკა საქართველოში

აბსტრაქტი. *ცივილიზებული საზოგადოება მუდმივად ისწრაფვის სარგებლიანობის დონის მაქსიმიზაციისკენ, რაც შეზღუდული რესურსების პირობებში, შეუზღუდავი მოთხოვნილებების დაკმაყოფილებას გულისხმობს. აღნიშნული საკითხი წარმოადგენდა მუდმივ მსჯელობის საგანს ინტელექტუალურ წრეებში. კლასტერების განვითარების სტრატეგიული მნიშვნელობა მთელს მსოფლიოში დაკავშირებულია სოციალური, ეკონომიკური და ეკოლოგიური გარემოს გაუმჯობესებასთან, რაც საბოლოო ჯამში საზოგადოების სარგებლიანობის მაქსიმიზაციას განაპირობებს. 1947 წელს, ეკონომიკურ პოლიტიკაში გარდამტეხი ცვლილებები მოხდა, მეორე მსოფლიო ომის კრიზისის შემდეგ, როდესაც აშშ-ს სახელმწიფო მდივანმა ჯორჯ მარშალმა, დასავლეთ ევროპის რეკონსტრუქციისა და განვითარების გეგმა წარადგინა. გეგმის მიხედვით, პირველ რიგში სამეცნიერო-კვლევითი ცენტრების აღდგენა უნდა მომხდარიყო, რომლებიც სახელმწიფო ინსტიტუტებთან თანამშრომლობის შედეგად, ეკონომიკის ცოდნაზე დაფუძნებულ განვითარებას უზრუნველჰყოფდნენ. 1990 წელს აღნიშნული გეგმის ფარგლებში შეიქმნა კლასტერების "Triple Helix"მოდელები.*

მთელი მსოფლიოს მასშტაბით, სოციალური და ეკონომიკური განვითარების ტემპების დასაჩქარებლად, გაეროს 2000 წელს შეიმუშავა ათასწლეულის გამოწვევის პროგრამა, სადაც განისაზღვრა რვა მიზანი გაეროს წევრი ქვეყნებისთვის, მიზნები 2010 წლამდე უნდა განხორციელებულიყო, თუმცა, ეს წარმატებით ვერ მოხერხდა ყველა ქვეყნის მიერ. აქედან გამომდინარე, 2015 წლის 25 სექტემბერს, გაეროს გენერალური ასამბლეის მიერ, ათასწლეულის გამოწვევის მიზნების ფარგლებში, მიღებული იქნა ახალი მდგრადი განვითარების კონცეფცია, სადაც მდგრადი განვითარების ჩვიდმეტი მიზანია განსაზღვრული.
მიზნების განხორციელება უნდა მოხდეს 2030 წლამდე პერიოდში. მიზნები მოიცავს 169 ამოცანას, რომლებსაც აქვთ განსაზღვრული ინდიკატორები. საქართველო, როგორც დამოუკიდებელი სახელმწიფო, გაეროს მდგრადი განვითარების დღის წესრიგს 1992 წელს შეუერთდა. 2000 წელს საქართველომ ვალდებულება აიღო ათასწლეულის გამოწვევის მიზნების განხორციელებაზე, ხოლო 2015 წელს შეუერთდა მდგრადი განვითარების კონცეფციას.

კვლევის მიზანი: *კლასტერების განვითარების ეკონომიკური პოლიტიკის შესწავლა საქართველოს სოციალური, ეკონომიკური და ეკოლოგიური მდგომარეობის გაუმჯობესების თვალსაზრისით.*

კვლევის მეთოდოლოგია: *ნაშრომში გამოყენებულია ანალიზისა და სინთეზის, ინდუქციისა და დედუქციის, ისტორიულისა და ლოგიკურის, შედარებისა და სხვა მეთოდები.*

საკვანძო სიტყვები: *კლასტერი, "Triple Helix"; ცოდნაზე დაფუძნებული ეკონომიკური განვითარება, ტექნიკური პროგრესი.*

JEL კლასიფიკაცია: *A1, B1*

Introduction and Literature Review.

Since the second half of the 20th century, there has been a particularly intensive spread of scientific and technical progress (Belussi & Caldari, 2008). The main reason for the mentioned event is usually the rapid development and growth of natural, technological and human resources. Through technological progress, the possibilities of efficient utilization of resources have become diverse and as a result, enterprises, industries and sectors of the economy as a whole have become competitive and achieve success in their economic activities (Belussi & Caldari, 2008).

By the end of the twentieth century, the entire scientific world witnessed the unprecedented scale of industrialization that developed in China and became known as the Chinese miracle (OECD, 2023; The WB, 2023; WEF, 2023; IMF, 2023). Since 1992, China has started the process of creating free economic zones, which should bring additional benefits to the country's economy. The creation of favorable legislation for industrial development and, first of all, cheap labor, led to the mass concentration of industries in the Chinese provinces. Convergence effect created as a result of the concentration of industries allowed these industries to achieve economies of production scale (OECD, 2023; The WB, 2023; WEF, 2023).

In addition to economic growth, the direct result of the industrialization process is the development of urban agglomerations at an unprecedentedly fast pace (UN, 2023; UNDESA, 2022; UNDP, 2023). By 2030, the world is predicted to have 43 urban agglomerations with more than 10 million inhabitants, most of them in developing regions. However, it should be noted that some of the fastest growing urban agglomerations include cities with less than 1 million inhabitants, most of which are located on the Asian and African continents (UN, 2023; UNDESA, 2022; UNDP, 2023). As a rule, urban agglomerations are sources of scientific and technological progress. Industrial sectors in urban agglomerations are distinguished by their creativity and diversity (Dervojeda, Nagtegaal, Lengton, & Datta, 2013). "Creative industries" create "creative regions" as a result of the increase in the diversity of urban economic activities. In this direction, Finland is an unrivaled country in the world (Altonen, 2007; Chapain, Cooke, De Propris, MacNeill, & Mateos-Garcia, 2010).

With the spread of innovation and knowledge, knowledge-based economic (KBE) development begins, which leads to the improvement of the competitiveness of enterprises, industries, economic sectors and the region as a whole (Chapain, Cooke, De Propris, MacNeill, & Mateos-Garcia, 2010). Since the 1980s, Professor Porter has been proposing a specific way of knowledge-based economic development, the cluster concept (Porter, 1998; Porter, 2001; Delgado, Porter, & Stern, 2014; Delgado, Porter, & Stern, 2012; Delgado & Porter, 2021).

The Cluster's Triple Helix structure brings together scientific research centers, state institutions and industries, the result of which is knowledge-based economic development (Persson, Sabanovic, & Wester, 2002; Solvel, 2008; Solvel, 2009). Within the Cluster's Triple Helix structure, the ongoing knowledge-based economic development process creates cluster dynamics, resulting in the introduction of innovative technologies into the industries' economic activities (Solvel, Lindqvist, & Ketels, 2003).

Economic development based on knowledge makes it possible to achieve the maximum level of welfare of the society in the conditions of limited resources. Today, available statistical data and ratings on public welfare show that the most successful Cluster Development Economic Policy model is in the Nordic countries (Altonen, 2007; Burger, 2015; Klasová, 2015; Korobaničová, 2015).

Due to the fact, that Georgia belongs to the group of small countries and at the same time aspires to Euro-Atlantic integration, it is desirable to develop the same model of Cluster Development Economic Policy in Georgia, as the Nordic countries have. According to this, sharing the experience of the Post-Soviet Baltic countries will also be very useful for Georgia in the mentioned direction. Countries in which knowledge-based development is taking place are universal welfare states, where society has the highest level of welfare. Such countries include developed countries, among which the Nordic countries are leading (Sachs, Lafortune, Kroll, Fuller, & Woelm, 2022). The reason for the Nordic countries' success over the years has been knowledge-based economic development. Nordic countries are a clear example of how clusters improve a country's competitiveness (Burger, 2015; Altonen, 2007; Klasová, 2015; Korobaničová, 2015).

The Nordic countries are the closest to achieving the UN's Sustainable Development Goals (17). Finland is the leader among them, with 86.5% of the goals implemented and 13.5% remaining. Then comes Denmark, Sweden and Norway, which are slightly behind Finland (Sachs, Lafortune, Kroll, Fuller, & Woelm, 2022).In the Nordic countries, it became possible to create universal welfare. This is manifested in the improvement of people's living standards, which means free education and health care, social security, including pensions and social insurance, opportunities for decent employment, self-realization and e.t.c. (Sachs, Lafortune, Kroll, Fuller, & Woelm, 2022).

The process of knowledge-based economic development in the Nordic countries, began in 1947 during the Post-World War II crisis, within the American State Secretary, George Marshall's framework plan for the Reconstruction and Development of Western Europe (EBRD, 2023; EC, 2023; EU, 2023). Within the framework of the Marshall Plan, the restoration of scientific and research centers and the establishment of educational institutions began for the first time (EBRD, 2023; EU, 2023; EC, 2023). 2 years after the implementation of the Marshall Plan, the North Atlantic Treaty Organization (NATO) was created. The North Atlantic Council is chaired by Norway. An organization is a military and political union that has its own goals and objectives (NATO, 2023).

In 1988, in connection with the 900th anniversary of the University of Bologna in Norway, 382 universities adopted a joint charter aimed at creating a single European space for higher education (EUA, 2023). After the establishment of the Nordic Council in 1991, the irreversible process of development of state institutions in the Nordic countries begins. This process included the development of systems and bodies of self-government characteristic of democratic governance (Altonen, 2007; Burger, 2015; Klasová, 2015; Korobaničová, 2015).

In 1992, the European Union was established on the basis of the Maastricht Treaty, and in 1993, a summit was held in Copenhagen, the capital of Denmark, where the political, economic and environmental criteria for association with the European Union were adopted. Association criteria are also referred to as Copenhagen criteria (EP, 2023; EC, 2023). The Copenhagen criteria are a framework of UN declarations, including the Millennium Challenge and Sustainable Development CITATION UND22 \l 1079 Consept (UNDESA, 2022). Sustainable Development Concept contain Political, Economic and Environmental Goals.

There are 17 Goals overall. Political Goals are: 1) Peace, Justice and Strong Institutions; 2) Partnership for The Goals; Economic and Social Goals are: 1) End of Poverty and Hunger; 2) Good Health and Well-Being for Everyone; 3) Quality Education for Everyone; 4) Gender Equality; 5) Decent Work and Economic Growth; 6) Industry, Innovations and Infrastructure; 7) Reduced Inequalities; 8) Responsible Consumption and Production;Environmental Goals are: 1) Clean Water and Sanitation; 2)

Affordable and Clean Energy; 3) Sustainable Cities and Communities; 4) Climate Action; 5) Life below Water; 6) Life on Land. The object of the research is the study of the importance of the cluster development strategy in increasing the competitiveness of the country. And, the subject of research is the cluster development strategies of those countries that have achieved the greatest success in this regard. Based on the formulation of the research goal, the research uses analysis and synthesis, induction and deduction, historical and logical, comparison and other methods.

As a source of statistical and methodological information, the research uses publications and official websites of international organizations, as well as scientific works and thematic Internet resources. In addition, the materials used in the work are obtained from international agreements and strategic documents.

Methodology

The Nordic countries have always been in the lead in terms of compatibility with the Copenhagen criteria, as evidenced by their economic indicators and the level of social and political stability. Nordic countries have been leading the Human Development Index ranking for years. In the 2022 Sustainable Competitiveness Index ranking, the first four countries include the Nordic countries: Finland (86.5), Denmark (85.6), Sweden (85.2) and Norway (82.3). Estonia (82) ranks tenth in that ranking.

Administrative Regions in Nordic Countries are specialized according to Political, Economic and Environmental Goals of Sustainable Development. In Finland, Sweden, Iceland and Denmark, Self-Governments are responsible for achieving these goals until 2030. In Norway there are specialized Centers of Expertise on national and global levels, which are supposed to improve achievements of the goals.

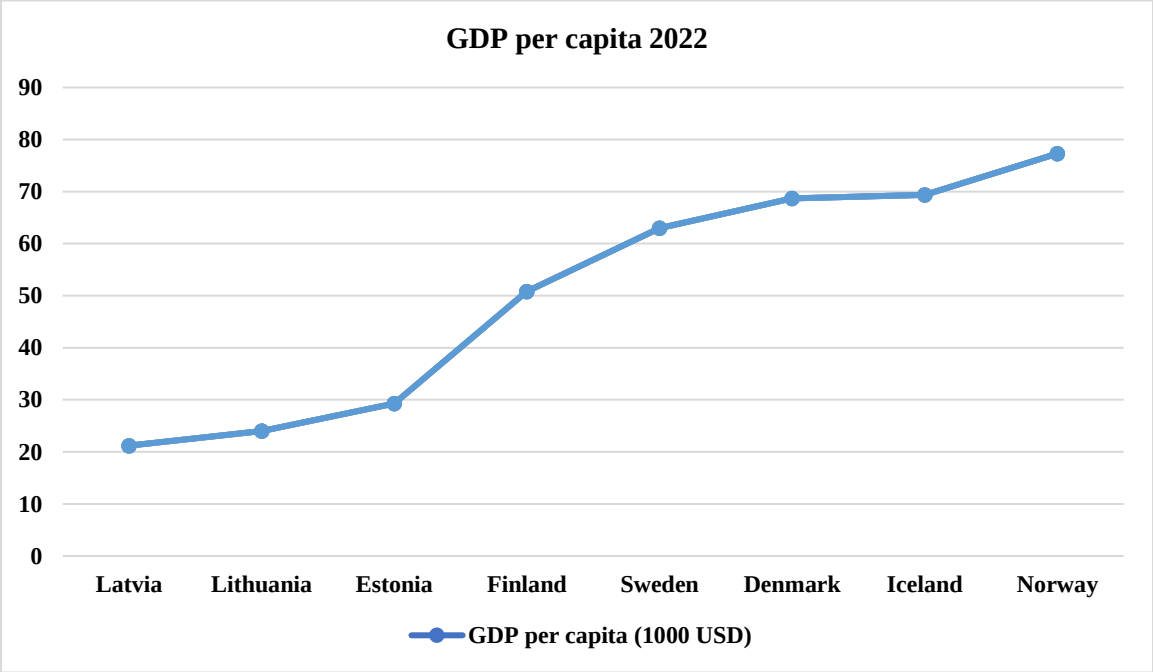
The territory of Finland involves five City Clusters, which are capable to develop "Creative Industries" at first and then “Creative Regions", where the diversity of urban economic activities is very increased. Each of the administrative regions of Sweden, Iceland and Denmark are Regional Clusters in the same time. Sweden and Iceland have 8 Regional Clusters. Denmark has 6 Regional Clusters, which are called "Regional Growth Forums". Norway has not Cluster development strategy on the regional level.

The Nordic Countries has successful experience of Cluster Development, which is repeatable by Baltic Countries. Baltic Countries are Post-Soviet Countries as Georgia, but they are much more advanced by knowledge-based economic than our country.

Baltic Countries has Cluster Development "Triple Helix" model. Estonia has 4 Regional Cluster, one of them is Tallinn Cluster, the capital city cluster (Jürgenson, 2007). Lithuania has Vilnius Cluster, the capital city cluster and Latvia also has Riga Cluster, the capital city cluster. Baltic Countries are specialized by bio-science, ICT, forestry and maritime (Vangas, 2007).

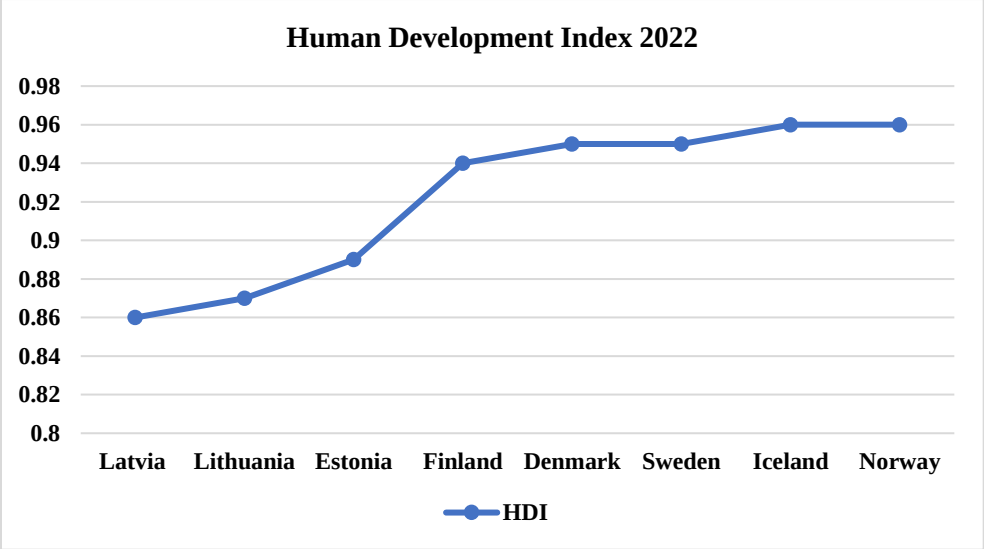
The Nordic countries have the highest human development index, which is due to the level of income, average life expectancy and, most importantly, the expected duration of education. Baltic countries follow the experience of the Nordic Countries, which was reflected in the increase of human development index and income level of these countries.

Fig.1. How is it possible to be increased GDP per capita by Cluster Development "Triple Helix" model in Nordic and Baltic Countries



Source: Eurostat, 2023

Fig.2. How is it possible to be increased Human Development Index by Cluster Development "Triple Helix" model in Nordic and Baltic Countries



Source: Eurostat, 2023

Results

It will be useful for Georgia to share the experience of the Baltic Countries, in terms of specialization by the sectors of the economy, improvement of the quality of education and strengthening of state institutions. The Baltic Countries already have significant successes in knowledge-based economic development. Georgia has very good opportunities for knowledge-based economic development, as evidenced by the Human Development Index of Georgia, which is 0.812 as of 2022. Also, GDP per capita has increased and amounts to 6,769.73 USD.

The structure of sectors of the Georgian economy has also changed. In 2022, significant growth was observed in certain sectors of the economy. From the second half of 2021, the post-pandemic crisis recovery of economic sectors began, they returned to pre-pandemic levels and, in addition, they increased the volume of output.

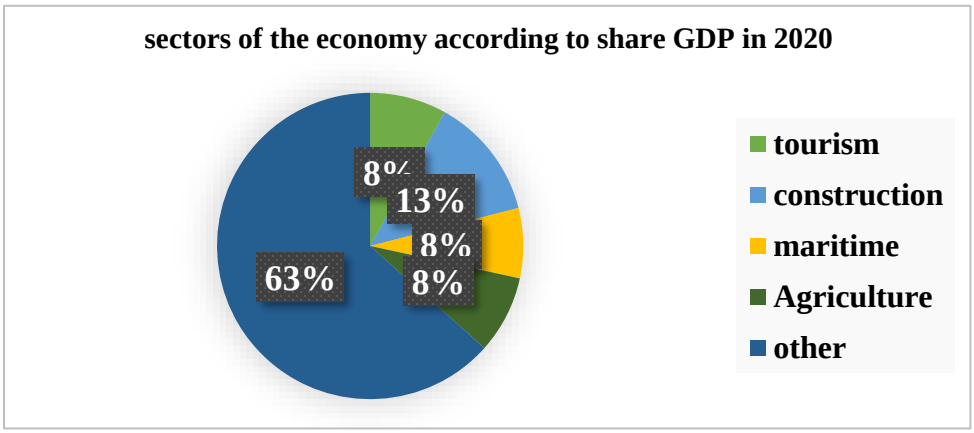
Georgia has joined the Bologna process since 2005. Tbilisi State University plays the biggest role in terms of harmonization with the European education system. Tbilisi State University implements Erasmus and Erasmus + exchange programs, and it is among the best universities in Europe. Taking this into account, the capital of Georgia, Tbilisi, has significant opportunities to become an economic and scientific hub.

Clusters in the Nordic Countries are specialized in education, health care and social welfare, which ensures that society is satisfied with all the resources necessary for human development. The Baltic Countries are also moving away from the Nordic Countries and prioritize the development of such sectors of the economy, which are based on knowledge, among them are bioscience, forestry, industry, agriculture, transport, maritime and tourism.

As we have already mentioned, it is useful for Georgia to share the experience of the Baltic Countries on the path of European integration, therefore, those branches of the economy, which are a priority in the Baltic Countries, should become a priority in Georgia. As of today, the government of Georgia has declared tourism and agriculture as priority sectors of the economy. Also transport, maritime and construction.

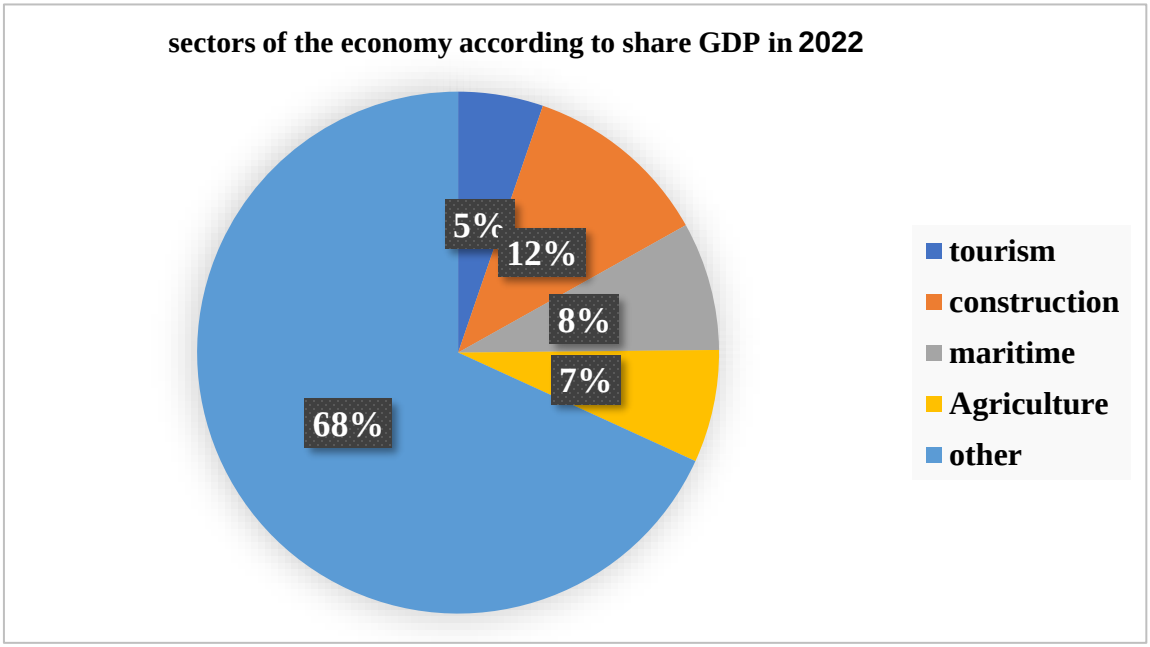
The crisis caused by the Covid-19 global pandemic has taken a heavy toll on tourism revenues, which have actually declined by more than 90%. From 2021, the recovery of tourism began, and in 2022 there was a 60% recovery of tourism. The global pandemic affected other sectors of the economy as well, however, from the second half of 2022, these sectors also began to return to normal levels.

Fig.3. How the structure of sectors of the Georgian economic was looking during the peak period of the global pandemic crisis.



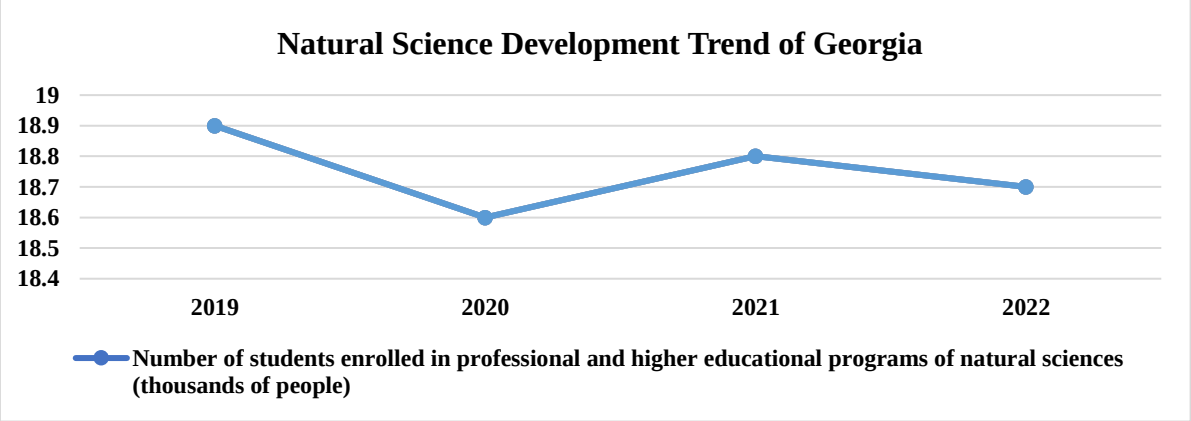
Source: Ministry of Economics and Sustainable Development of Georgia, 2023

Fig.4. How the structure of sectors of the Georgian economic was looking in the end of 2022



Source: Ministry of Economics and Sustainable Development of Georgia, 2023

Fig.5. How is going on the process of interesting in Natural Sciences and spreading of knowledge in Georgia



Source: Ministry of Education and Science of Georgia, 2023

Despite the positive trends in the economy of Georgia, the development of science-intensive fields such as information and communication technologies, bioscience, medicine and other industries are under question. However, the government, within the framework of the strategy of renewed regions adopted in 2021, announced the development of artificial intelligence, biosciences and other scientific fields as a priority.

Conclusions

The purpose of the study is to show that the economic policy of cluster development has no analogues in terms of improving the standard of living of the society and it is unprecedented in its social, political, economic and environmental characteristics. For this purpose, in the research we have studied the indicators of the income level and the human development index of the Nordic and Baltic countries.

As can be seen from the graphs, the indicators are arranged in order of growth, which shows that knowledge-based economic development and improvement of the standard of living of society. The stronger the knowledge-based economic development continues, the better the level of public benefits are.

Based on this discuss and review, we can reveal some of these following situations:

It will be useful for Georgia to share the experience of the Baltic Countries, in terms of l specialization by the sectors of the economy, improvement of the quality of education and strengthening of state institutions;

Georgia has very good opportunities for knowledge-based economic development, as evidenced by the Human Development Index of Georgia, which is 0.812 as of 2022. Also, GDP per capita has increased and amounts to 6,769.73 USD;

Georgia has joined the Bologna process since 2005 Tbilisi State University plays the biggest role in terms of harmonization with the European education system;

Such branches of the economy, which are a priority in the Baltic Countries, should become a priority in Georgia. As of today, the government of Georgia has declared tourism and agriculture as priority sectors of the economy. Also transport, maritime and construction;

The government, within the framework of the strategy of renewed regions adopted in 2021, announced the development of artificial intelligence, biosciences and other scientific fields as a priority. As can be seen from the research, the trends of interesting in Natural Sciences and the process of spreading knowledge have been unchanged in recent years in Georgia.

Since the second half of the 20th century, there has been a particularly intensive spread of scientific and technical progress. By the end of the twentieth century, the entire scientific world witnessed the unprecedented scale of industrialization that developed in China and became known as the Chinese miracle. In addition to economic growth, the direct result of the industrialization process is the development of urban agglomerations at an unprecedentedly fast pace. As a rule, urban agglomerations are sources of scientific and technological progress. Industrial sectors in urban agglomerations are distinguished by their creativity and diversity. With the spread of innovation and knowledge, knowledge-based economic (KBE) development begins, which leads to the improvement of the competitiveness of enterprises, industries, economic sectors and the region as a whole.

Professor Porter proposes a diamond rule for industrial competitiveness, which is based on the dissemination of knowledge and experience accumulated in educational institutions and scientific-research centers and in this process state institutions, central government and local self-government play a key role. In this way, a Triple Helix model of cooperation is created, which Professor Porter calls a diamond of competitiveness, or a Cluster in another way.

The object of the research is the study of the importance of the cluster development strategy in increasing the competitiveness of the country. Countries in which knowledge-based development is

taking place are universal welfare states, where society has the highest level of welfare. Such countries include developed countries, among which the Nordic countries are leading. Nordic countries are a clear example of how clusters improve a country's competitiveness.

Clusters in the Nordic Countries are specialized in education, health care and social welfare, which ensures that society is satisfied with all the resources necessary for human development. The Baltic Countries are also moving away from the Nordic Countries and prioritize the development of such sectors of the economy, which are based on knowledge, among them are bioscience, forestry, industry, agriculture, transport, maritime and tourism.

As we have already mentioned, it is useful for Georgia to share the experience of the Baltic Countries on the path of European integration, therefore, those branches of the economy, which are a priority in the Baltic Countries, should become a priority in Georgia. As of today, the government of Georgia has declared tourism and agriculture as priority sectors of the economy. Also transport, maritime and construction.

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