The role of the "reference University" in the socio-economic development of the Murmansk region

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Abstract. The article describes the role of "reference universities" in the socio-economic development of the region. The analysis of the branches of the economy of the Murmansk region in need of personnel, as well as a list of areas of training of specialists at the Murmansk Arctic State University, which need to carry out a target set of students.

1. Introduction
The transition to a new quality of economic growth, or "innovation economy", is strongly influenced by the scientific, technical and educational components. In the conditions of the XXI century, Russia is obliged to follow the strategic course of innovative and technological development in all spheres of life of our state and society. The development of science is also an element of national security. One of the most important areas of implementation of this course is the sphere of higher education. Training of innovative thinking and active specialists is a key task of sustainable innovation and technological development in Russia. University students themselves are a strategic resource for the further development of all areas of industry and economy [12].

2. The main directions of research
In 2016, the program for the development of "reference universities" was launched as part of monitoring the activities of Russian universities. The need to create "reference universities" in the regions was due to the high heterogeneity of University development in the country's regions with a pronounced trend towards the concentration of intellectual and financial resources in the capitals.

The reference University in Russia is a University created in the region based on the combination of existing higher educational institutions, focused on supporting the development of the Russian Federation's constituent entity through the following measures:
- assistance in solving urgent problems of the regional economy;
- ensuring an influx of highly qualified specialists for the local labor market;
- implementation of various innovative and educational projects together with regional enterprises.
[2].

The main goal of the program was to create competitive modern universities in various regions of the country. The main purpose of establishing such universities is to increase the attractiveness of the regions as research and educational centers among the local population of the region, as well as to reach a new level of scientific and educational activities of universities.

The program for creating "reference universities" in each constituent entity of the Russian Federation involves the reorganization of about 50 ineffective universities throughout the country, in the period
from 2017 to 2022. According to the Ministry of education and science, there should be about 100-120 reference universities in Russia. Other universities should turn into good colleges with a level of training, usually no higher than a bachelor's degree.

It is assumed that the reference universities will become the basis for creating strong regional universities based on combining scientific bases, human and financial resources and will be focused on solving the problems of regional economies. The program of changes in the reference universities covers the following areas of activity:

- modernization of educational activities;
- development of human resources;
- modernization of the material and technical base and socio-cultural infrastructure;
- modernization of research and innovation activities;
- modernization of the University management system;
- development of local communities, urban and regional environments [3].

The key reasons for creating and developing a network of reference universities are the following:

- the outflow of talented applicants to the Federal centers;
- concentration of master's and postgraduate studies in Federal centers;
- lack of strong scientific bases focused on the regional research agenda;
- lack of drivers of positive changes in the urban and regional environments. We can highlight such opportunities of the reference university for the development of the region as:

- contribution of the University to regional development as a major employer;
- technological development of the region's industry through technology transfer, namely technoparks, business incubators;
- professional training and professional development;
- creation of a regional research and innovation center in the region;
- formation of the regional elite [1].

The reorganization of higher education institutions should contribute to the socio-economic development of the Federal subject. The Ministry of science and higher education of the Russian Federation assumes the creation of scientific and educational complexes that can increase the intellectual potential of the regions, which, in turn, should lead to an increase in the number of graduates who have continued their studies in their region.

Vladimir Lysak, research Director of Volgograd state technical University, head of the Department of welding Equipment and technology, commented on the program that the creation of reference universities will help prevent the leakage of applicants to Moscow, St. Petersburg and abroad: "the Strongest teachers in one area will be able to gather together, and this will make studying in the regions more attractive for students."

The program of the Ministry of education and science of Russia, which involves the formation of reference universities, is aimed at creating strong universities in the Russian regions, which, by combining scientific bases, human and financial resources, will be able to transform the system of personnel training, attract strong students, create research laboratories and ensure cooperation with large industrial enterprises in the region. Universities should become centers for the formation of an innovative culture of breakthrough knowledge.

Special attention is being paid to the Arctic zone of the Russian Federation in terms of modernizing the higher education system and training personnel for economic sectors.

The Arctic zone of the Russian Federation differs greatly from other regions of the Russian Federation in its demographic and natural-economic conditions. Let's note the main distinctive features of the Arctic zone:

- extreme natural and climatic conditions;
- the remoteness of the territories from the main industrial centers, as well as the extremely high resource intensity and dependence of economic activity and life support of the population on the supply of fuel, food and essential goods from other regions of Russia;
extremely low population density (1-2 people per 10 km²), as well as the "focal nature" of the development of territories in industrial areas.

The state program "Socio-economic development of the Arctic zone of the Russian Federation until 2020" establishes the concept of "reference development zones" in the Arctic, which are the main mechanism of state policy in the development of the Russian Arctic [6] according to the text of the program, reference zones are complex projects of socio-economic development, which imply the simultaneous application of territorial and sectoral development tools, as well as mechanisms for implementing investment projects, including on the principles of public-private and municipal-private partnership. The reference zones are formed mainly on the basis of the existing administrative division, but taking into account the Arctic issues and geography, which allows us to focus on infrastructure projects even in those areas that are not fully included in the azrf. [7].

Murmansk region, which is also part of the Arctic zone, is the leader in terms of state support for infrastructure projects (28% of investment comes from the Federal budget). The projects implemented in the region are of Federal significance for servicing the Northern sea route zone and the entire Arctic region. For this reason, the creation of a "reference University" within the Murmansk region to train personnel for all the main areas of the region's economy is a priority task.

The Murmansk region has a rich and diverse natural resource base. The main branches of industrial specialization in the region are mining, chemical and metallurgical industries, energy, and marine transport. Due to the abundance of water resources, the fisheries sector is also the largest industry, accounting for about 20% of the Russian fish catch. Fishing in the Murmansk region, along with other basic industries and activities, determines the region's specialization. This is one of the most developed mining regions in Russia. Large-scale development of the Kola Peninsula has led to the creation of a powerful mining complex, which includes enterprises of non-ferrous and ferrous metallurgy, mining and chemical industries, and the construction materials industry.

Thus, it is worth noting that the Kola mining complex is of major economic and social importance for the Murmansk region, as well as for the economy of the North-Western Federal district and for Russia as a whole. That is why the regional Government considers one of its main tasks to ensure the sustainable operation and effective development of the mining industry in the long term.

The development of ore base and substantial capital investment in the construction of new facilities for the extraction of ore instead of retiring in JSC "Apatite", the production concentrates on the GOK "deer Creek", working out of deposits of Kvodor open pit mine JSC "Kvodor GOK" will allow in the near future to increase the production of Apatite, nepheline and iron ore concentrates. Further growth in extractive production can be achieved by increasing production as a result of exploring the possibility of mining the instrument subcarrier reserves of the Nyorkpahskoye field in an open method at the Kirov branch of JSC Apatit, reconstructing the production capacity of the Kvodorsky GOK processing complex, operating the facilities of JSC North-West Phosphorus Company, as well as upgrading the production of Lovozersky GOK, focused on a significant increase in prices and increasing demand for loparite concentrate in our country and abroad. JSC "Kola MMC" plans to implement projects aimed at developing the company's mineral resource base, in order to constantly replenish the retiring capacity and maintain the achieved indicators of Nickel production in ore at the level of 52-53 thousand tons per year. In the future, the company's development projects will be mainly aimed at maintaining the achieved level of production, and not at increasing the output of metals into finished products. Kgmc JSC implemented the project "Cobalt production for the production of 3000 tons per year", which allowed to organize effective and competitive production of 99.8% pure electrolytic cobalt at the Monchegorsk site and ensured the growth of cobalt production.

The share of non-ferrous metallurgy in the structure of manufacturing production is the most significant. The largest enterprise in the Murmansk region, JSC Kola mining and metallurgical company, belongs to the non-ferrous metallurgy industry [4].

These sectors of the economy are key to the economic development of the region, which makes it necessary to provide high-quality training of the region's personnel reserve.
Therefore, the creation of a multidisciplinary regional University in the Murmansk region is due to the region's needs to increase the pace of economic development, the level of innovation activity, as well as the need to prevent the outflow of talented young people to Federal centers. Thus, the main activity of the reference University in the region should be aimed at increasing the competitiveness of priority sectors and spheres of the economy by concentrating intellectual, human, methodological and technological resources around it.

Taking into account the migration statistics of the Murmansk region, we can conclude that over the past 20 years, the region has experienced a steady outflow of population.

A distinctive feature of the migration movement of the population in the Murmansk region is the difference in the direction of migration flows by territory and age. Every year, the region actively loses its population, which actively migrates to other regions of the Russian Federation. The influx of population in the Murmansk region is ensured by migration of citizens from cities and districts of the Murmansk region, as well as labor migration of citizens from CIS countries. The influx of population from the cities and districts of the Murmansk region is more related to the educational migration of young citizens of the region, and the influx of citizens from the CIS countries is directly related to the labor migration of men of working age. The outflow of population to other regions affects all age groups in the region, but mainly refers to citizens of 20-40 years. It is young people who, after finishing school or College, begin to think about getting the next level of education and, unfortunately, their choice is not always directed to regional universities. The main problem for the higher education system in this region, as well as for the economy of the region as a whole, is the outflow of talented young people, their migration to other, larger cities and universities. These problems should be resolved by creating a reference University in the Murmansk region. The main purpose of this Association is training for enterprises located in the Arctic zone; in the walls of the University will train specialists for the industries developing in the area of the Arctic, such as tourism, transport and logistics, mining industry, etc. Despite the increase in budget places for admission of applicants over the past few years (5 thousand places over the past two years), many graduates leave the region and go to Federal centers, which increases the need to take measures to retain them in their region through measures aimed at improving working and leisure conditions.

As part of this study, it was revealed that the main problem of the region is the outflow of students and graduates to other regions. The increase in budget places for destinations within the region allowed attracting more applicants, but did not allow them to stay in their native region. The solution to this problem should be to increase the target places for admission to the main educational programs. It is necessary to increase the number of target places in areas that are strategically important for the region's economy to 80-100%; for other educational programs-based on the needs of the region in specialists. Targeted training will allow talented students to enroll in higher education institutions, as part of the training, students will undergo practical training at enterprises where they will work in the future. Graduates of the University will have not only theoretical knowledge, but also knowledge based on practices at enterprises. A huge advantage of this approach is the fact that the graduate is guaranteed to get a job with a decent salary immediately after graduation, and the employer, having paid for the student's education and trained him, gets a specialist for the next 10 years.

The main reason why University graduates leave the region is the low level of wages, as well as difficulties in finding the necessary job. To reduce migration to other regions, we should reduce the budget intake for those programs where the number of graduates annually exceeds the needs of the region for these specialists. In such areas, you should leave the "contract" form of training. Thus, the economy of the region will get a balance between the needs of the region and the necessary number of specialists.

Taking into account the specifics of training personnel for the Arctic zones, the development of specialized departments focused on practical disciplines in the reference University and the center for additional education should be effective. It can be noted that any engineering specialties in the development of the Arctic will be in demand, including builders, geologists, electricians, etc. Also, do not forget about other sectors of the economy, such as health and education. The lack of doctors and
teachers in the region is also a big problem, which suggests the need to organize targeted programs in these areas.

In the educational structure of Murmansk Arctic State University (MAGU), there are educational units that must switch to a fully targeted admission of applicants. These are areas of knowledge that are necessary for the smooth operation of the economic and social spheres of the region. Let's look at the main areas of training for undergraduate programs that need to be targeted.

1. Institute of creative industries and entrepreneurship.
   To provide training for the economy of the region, it is necessary to create a fully targeted set for the following areas of training:
   - Economics of enterprises and organizations;
   - state and municipal service;
   - tourism.
2. Psychological and pedagogical Institute.
   To provide training for the economy of the region, it is necessary to create a fully targeted set for the following areas of training:
   - pedagogical education (pre-school, primary);
   - special (defectological) education (speech therapy).
3. Social and humanitarian Institute.
   To provide training for the economy of the region, it is necessary to create a fully targeted set for the following areas of training:
   - pedagogical education (secondary, specialized disciplines with a humanitarian bias).
4. Faculty of mathematical and natural Sciences.
   To provide training for the economy of the region, it is necessary to create a fully targeted set for the following areas of training:
   - pedagogical education (secondary, specialized disciplines with a technical and natural science bias);
   - ecology and nature management.
5. Faculty of physical culture and life safety.
   - pedagogical education (physical culture);
   - medical business.

Thus, it can be noted that the social sphere prevails in the educational programs of MAGU in Murmansk. It is important to train personnel for social institutions, such as state committees, schools, kindergartens, and social services. Attention should also be paid to the economic development of the region, which means that there is a need for specialist economists, so it is also necessary to organize a targeted reception in the direction of "enterprise Economics".

In addition to the main Department of the University in Murmansk, there are also branches of MAGU in Kirovsk and Apatity. They have more specific areas of training that are focused on the specifics of the region's economy. The branch in Kirovsk provides secondary professional education in the following areas: 1) installation, commissioning and operation of electrical equipment for industrial and civil buildings; 2) computer systems and complexes; 3) programming in computer systems; 4) power supply (by industry); 5) technical operation and maintenance of electrical and Electromechanical equipment (by industry); 6) installation, maintenance and repair of industrial equipment (by industry); 7) maintenance and repair of ventilation and air conditioning systems; 8) surveying; 9) underground mining; 10) mineral processing; 11) hotel business [10].

Based on the specifics of the region's economic structure, it can be suggested that technical specialties, whose graduates will be able to work in the main industries of the region, should be fully transferred to the target audience. Admission figures should be limited by the economy's need for specialists in each industry separately. Thus, the state services of the region should create a General list of enterprises that need employees by industry, then based on the data obtained, form the number of target admission places for key areas of training for the region's economy.

A branch of the MAGICIAN in Apatity are 5 departments providing higher education: 1) Department of mining engineering, Earth Sciences and environmental engineering; 2) Department of physics,
biology and engineering technologies; 3) Department of computer science; 4) Department of Economics, management and sociology; 5) Department of General subjects. Special attention is required for technical departments that train specialists for the main areas of industry in the region. [9]. If necessary and possible, the number of applicants entering these specialties should be targeted. Such measures can help the region to reproduce the necessary personnel for itself, as well as get high-quality specialists who are required to work at enterprises in the region for a certain number of years.

3. Results of research

1. Within the framework of the "support universities" education program throughout the country, and in the Murmansk region, in particular, it is necessary to organize targeted admission to educational programs that are strategically important for the region's economy.

2. The organization of target places in the "native" region will help solve the problem of lack of engineering personnel and qualified labor resources, and, as a result, will affect the demographic problems in the region. Students who have signed a contract for targeted training at the University, stay at home for 5-10 years, which means that during this time there is a possibility of creating a family. The mobility of such former applicants is significantly reduced.

3. Having the opportunity to immediately apply knowledge in practice, many graduates of regional universities will be interested in staying in their region, going up the "career ladder", getting additional education and competencies, and will be able to self-actualize.

All this is the basis for the successful socio-economic development of this region.

In the course of further research, it will be necessary to emphasize the economic role of the so-called "reference universities", to show the connection of the knowledge economy with the economy of the whole country.

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