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## **PROBLEMS OF FORMATION OF REGIONAL INNOVATION SYSTEMS IN UZBEKISTAN**

**Annotation.** This article examines the issues of the formation of the national innovation structure (NIS) and the regional innovation structure (RIS), based on the study of the theory and practice of the formation of such structures in a number of foreign countries. Also, the tasks and directions of improving the regional higher education system, as one of the main elements of the regional innovation system, taking into account the modernization and technological re-equipment of the real sector, the development of knowledge-intensive industries in the regions, are considered.

**Keywords:** regions, competitiveness, national innovation system, regional innovation system, triple helix model, modernization.

The patterns of globalization processes influence the formation and determination of the specific status and place of each state and region in the structure of the international division of labor [1]. The occupation of more effective niches in the international division of labor and specialization, ensuring sustainable development and competitiveness of the economies of most developed countries and their regions, are ensured through the intensification of innovation processes.

As world experience shows, the development of innovation processes in many countries is carried out on the basis of the formation and development of national innovation systems (NIS) [2], the countries of the Baltic region are no exception, where NIS (national innovation systems) have been created with varying degrees of efficiency [3]. A number of Uzbek researchers identify five blocks in the structure of the NIS: I - a creative block producing knowledge; II - a

block of technology transfer; III - a block of commercialization of innovations (the market of scientific and technical products); IV - block of financing (bank loan, venture financing and sale of innovations); V - block of personnel training for the innovation sector. But such a structure of NIS is mainly typical for developed countries with very powerful industrial, technological and human resources potential [4]. At the same time, they differ significantly both in the model of economic and innovative development of the country, and in the principles of organization and functioning. The application of systemic and other approaches to the analysis of the evolution of the concept and concept of the "national innovation system", in general, allows us to characterize the national innovation system of Uzbekistan as a formed but developing system [5].

In turn, the developing national innovation system (NIS) of Uzbekistan should become the basis of the regional innovation system (RIS), which is becoming crucial in ensuring sustainable development and competitiveness of the regional economy. Developed at the beginning of the XXI century in England and Holland, the theory of the "triple helix" (TripleHelix) symbolizes the union between government, business and the university. This model of the "triple helix" justifies a certain level of interaction between the listed institutions at all stages of the innovation process [6].

At the present stage of development, this model of the "triple helix", under the influence of the processes of globalization and transformation of the economies of countries, is undergoing changes towards balance, in which all institutional spheres, in addition to their traditional mission, try to perform the functions of other institutional spheres [7].

As research shows, in Russia, the innovative triple helix model is still in the process of formation. The main feature of the Russian triple helix model is that the state dominates science and business. In addition, the bulk of scientific research of a fundamental nature falls not on universities, as in most countries of the world, but on institutes of the Russian Academy of Sciences [8].

The prerequisites for the development of this model in Uzbekistan, in order to develop a regional innovation system (RIS), are still weak. Problems with the development of higher education, the weak industrial base of some regions, the lack of infrastructure for innovative development, etc. can be cited as problems.

In order to overcome the technical and technological backwardness of industry, which is an important element of the "triple helix", large investment projects for the development and modernization of industry are being implemented in the regions of the country, within the framework of Investment programs and sectoral programs of technical and technological modernization. In our opinion, in the very near future, the technical and technological backwardness of industry in the regions will be overcome and the weakest element in the formation of the regional innovation system (RIS) remains the higher education system, which does not meet the requirements of the "triple helix" model.

**Conclusions.** In our opinion, the main constraints on the development of the higher education system of Uzbekistan in the regions are:

- low level of higher education coverage, which is lower than in developing countries of the world, where incomes are below the average level of this group;
- excessive focus on training specialists for the field of education, among university graduates, a greater proportion are specialties in the field of education (44.2%), a low proportion of graduates in the field of industry (19.1%) [9].
- weak interaction of higher education with science and the private sector, underdevelopment of the research component in the educational process, etc.

Taking into account the processes of accelerating industrialization, technical re-equipment and technological modernization of industry in the regions, and creating prerequisites for the formation of a regional innovation system (RIS), we propose a number of directions for solving the above tasks:

- first, gradual provision, transition to an egalitarian approach to higher education and increasing the level of coverage of the population with higher education;

– secondly, to strengthen the specialization of regional universities, based on the specialization of this region in the interregional division of labor;

– Thirdly, to create conditions (financial, infrastructural, etc.) to enhance research components in higher education institutions and strengthen the link between science and enterprises.

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