

**Prospects of Participation of Scientific Institutions and Higher Education
Institutions in Targeted Regional Programmes of Odesa Region
in the Context of Economic Recovery**

Tetiana V. Neboha*

PhD in Economics, Senior Researcher, ORCID: <https://orcid.org/0000-0002-5025-7299>

*State Organization "Institute of Market and Economic and Environmental Research
of the National Academy of Sciences of Ukraine", 65044, 29 Frantsuzkyy bulvar, Odesa, Ukraine*

Abstract. The article presents a generalising analysis of targeted regional programs of the Odesa region in the context of identifying direct participants in their implementation, analyses the data on the possible integration of the results of research work carried out by scientific institutions and higher education institutions (HEIs) within the regional target and comprehensive programmes of the region. The study was based on such information resources as regulatory legal acts of Ukraine, analytical materials of the State Statistics Service of Ukraine, Strategic and Programme Documents of the Odesa Regional Council, analytical data on the scientific activities of scientific institutions and higher education institutions of Odesa region. According to the author, the post-war rehabilitation of the country is impossible without scientific, technical and innovative development, which is manifested in the practical application of scientific developments. Therefore, it is important to study the prospects of participation of scientific institutions and higher education institutions in the regional development programmes of the Odesa region in the context of economic recovery. It was found that the amount and share of funding for the activities of the programmes implemented with the participation of scientific institutions and higher education institutions of Odesa region are insignificant in the total funding of individual programmes. The article shows that the engagement of scientific institutions of the National Academy of Sciences of Ukraine (NAS of Ukraine) and higher education institutions of Odesa region in the realisation of the regional targeted and complex programs will allow optimising the costs of research works and avoiding double funding since most of the operations are carried out at the expense of state funding. Participation of scientific institutions in the process of development, elaboration and implementation of regional target programs will contribute to their credibility, will allow for detailed planning. This, in turn, will ensure effective implementation with the achievement of the set tasks and goals, thus influencing the development of the market, (including innovation infrastructure), integration of science, education, small and medium business and public authorities

Keywords: scientific research, science development, science funding, regional development programmes, post-war reconstruction of the national economy

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*Corresponding author

Introduction

At the present stage of the formation of the information society, achieving competitive advantages in socio-economic development is impossible without the development of knowledge, science, technology, and scientific personnel. Scientists of the leading countries of the world have identified a correlation between the dynamics of investment in research and innovation and the growth rate of gross domestic product. That is, with the constant role of traditional factors of production, scientific knowledge becomes the main driving force and factor of economic development, including in the context of economic recovery. And in the post-war economic recovery of Ukraine, the elaboration of regional development plans should rely on the results of scientific research and development, where science is the key. Increasing the efficiency of the implementation of regional target programmes in the Odesa region should be supported by effective mechanisms of cooperation and interaction of scientific and educational potential, business, and government, which will ultimately ensure the effective implementation of economic and social policies of the national economy.

In 2021, scientific and educational institutions in Odesa region of the country conducted world-class fundamental research in the following areas of scientific activity: physics and astronomy, chemistry, mathematics, computer science and cybernetics. Research of the state all-Ukrainian level was carried out in the field of agro-industrial complex, economics, environmental protection and in the field of jurisprudence. Regional studies were conducted in the field of pedagogy, cultural studies, archaeology, and history. Some world-class developments have been achieved in the field of modern biotechnology and medicine.

The negative trend of reducing the volume of scientific research in Odesa region, and in the southern regions in general, requires an urgent solution, as the scientific sphere is part of the statehood, and even more so – in the period of martial law and economic recovery after the war. The above set the author the task of researching the target regional programmes of the Odesa region in the context of identifying the direct participants in their implementation and determining the possibilities and prospects for the participation of scientific institutions and higher education institutions of the Odesa region in them in the conditions of economic recovery (martial law economy). Scientific institutions of NAS of Ukraine and higher education institutions can be included in the implementation of more regional targeted and comprehensive programmes of Odesa region, and most importantly – as direct participants.

The purpose of the study is to conduct a generalised analysis of the target regional programmes of the Odesa region in the context of identifying the direct participants in their implementation and to determine the prospects for the participation of scientific institutions and higher education institutions (HEIs) of the Odesa region in them during economic recovery (economics of martial law).

The issues of financial support of research works, and prospects for effective use of intellectual capital in

Ukraine were studied by such scientists: L. Burdonos [1], V. Geitsa [2], L. Ovcharova & V. Bodeko [3], V. Koval & L. Geiko [4], I. Novikova, O. Zhylinska, V. Osetskyi & O. Bediukh [5], G. Ostrovska, V. Demianyshyn, L. Maliuta, R. Sherstiuk, T. Kuz & N. Reznik [6] and others.

Some aspects of the implementation of state and regional programmes, issues of regional governance efficiency, assessment of the place and role of the programme-targeted approach in the management of regional development, and outsourcing as a tool for strategic planning in public administration are studied in the works of N. Stolbunenko [7], E.A. Ivchenko, M.M. Buchniev, I.V. Morgachov and N.O. Derzhak [8], R. Kostiukevych, L. Melnyk and A. Kostiukevych [9], P. Mykytyuk, I. Semenets-Orlova, K. Blishchuk and G. Skoryk [10] and others.

However, the question of the need to involve scientific institutions and higher education institutions in the substantiation and implementation of targeted regional programmes has not been sufficiently studied.

Materials and Methods

The study was conducted from May to July 2022 in the following stages:

- 1) important scientific research carried out by scientific institutions and universities of Odesa region;
- 2) analysis of target regional programmes of Odesa region in the context of identification of scientific institutions of NAS of Ukraine and higher education institutions involved in their implementation;
- 3) identification of prospects for the participation of scientific institutions and higher education institutions in regional targeted and comprehensive programmes of Odesa region.

The framework of the study were such information resources as regulatory legal acts of Ukraine, analytical materials of the State Statistics Service of Ukraine, Strategic and programme documents of the Odesa Regional Council, publications of Ukrainian and international scientists on the subject of research, analytical data on the scientific activities of scientific institutions and higher education institutions of the Odesa region, namely, the existing programmes of regional development of Odesa region in the field of science, education, culture, agrarian development and health protection system, the youth of the region according to the reference list [14], generalised information on the results of scientific research in the southern regions of Ukraine, and important achievements of scientific institutions of the southern region of Ukraine in the field of fundamental, applied research and innovation, etc.

The author used the following scientific methods as part of the research: empirical (description, comparison), theoretical (analysis, synthesis, generalisation) and systematic.

Results and Discussion

The scientific potential of the Southern region of Ukraine is generated by the scientific institutions of the National Academy of Sciences of Ukraine, higher education institutions and sectoral institutions of Odesa, Mykolaiv and

Kherson regions. Results of scientific activity in the Southern region are represented by an array of annual scientific achievements which in 2021 amounted to 210 studies in various fields.

The volume of scientific research is characterised by the dynamics of the total number of important scientific

research both in the Southern region as a whole and in Odesa region. Analytical data on the dynamics of scientific research carried out in scientific institutions of NAS of Ukraine, and in higher education institutions of Odesa region are presented in Table 1.

Table 1. Analytical data on important scientific research carried out by scientific institutions and higher education institutions in Odesa region

Research	Number of scientific researches					
	2016	2017	2018	2019	2020	2021
Total number in the Southern region	362	320	343	313	284	210
including in Odesa region	260	197	207	178	183	161
share in the total number, %	71	61	60	57	64	77
Fundamental research	236	216	240	198	188	135
including in Odesa region	174	127	141	114	126	96
share in the total number, %	74	58	59	57	67	71
Innovative developments	126	104	103	115	96	75
including in Odesa region	86	70	66	64	57	65
share in the total number, %	68	67	64	56	61	87

Source: compiled by the author according to [11-13]

As shown in Table 1, Odesa region for six years lost 38% of the total number of research (Southern region – 42%), including 45% of fundamental research (Southern region – 43%), and 24% of innovative developments (Southern region – 40%).

At the same time, the volumes of implemented innovative developments both in the southern regions and in the Odesa region have had a negative trend over the years. The analysis of priority innovative proposals and basic and applied research conducted by scientific institutions of the Southern region of Ukraine shows that in 2020 there were 284 proposals, and in 2021 – by 74 proposals less compared to the previous year, and amounts to 210 proposals, of which 75 are innovative developments and 135 are fundamental and applied research [12; 13]. Innovative developments in 2021 were dual in nature, as there was a decrease in the quantitative value of innovative developments by about 29% compared to 2018-2020, while the number of implemented completed developments increased. In 2018, 60% of all completed innovative developments were implemented in the economic complex, and in 2019-2020, they decreased to 45% and 37%, respectively. In 2021, innovative developments were implemented at a rate of 55% of the total volume of complete developments. Meanwhile, the number of implemented innovations in the field of economics (74%) – 25 developments out of a total of 34. Replication has decreased – only 4 developments at 16 enterprises, 7 of them are in the field of art. Fundamental research in the southern regions of the country is largely implemented at the expense of national funds, namely: state budget funds by 42% in 2020 and 65% in 2021, at the own expense of enterprises – 2% in 2020 and 6% in 2021. The implementation of initiative research projects on a pro bono basis is 13% in 2020 and 20% in 2021 [12; 13].

The share of the total number of scientific researches conducted by scientific institutions and higher education institutions in Odesa region in the total volume of the Southern region has increased and showed the maximum level for this period, namely – 77%. Similarly, the rate of innovative developments has increased over six years – it amounted to 87% of all research conducted in the Southern region. Odesa region plays a directly dominant role among other regions of the Southern region. It accounts for an average of 60% of the total number of scientific research, including 41% of basic and applied research and 19% of innovative developments.

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The essential differences between fundamental and applied research are in their meaning, purpose and nature. Thus, fundamental research expands the theoretical foundations of existing scientific knowledge and at the same time acts as the basis for further theoretical research, and is universal in nature. Applied research is aimed at solving a specific problem in practice, that is, it has a limited field of application.

In 2021, scientific and educational institutions of Odesa region carried out fundamental research in the

following areas: physics and astronomy, mathematics, chemistry, computer science and cybernetics. Research of the state all-Ukrainian level was carried out in the field of agro-industrial complex, economics, environmental protection and in the field of jurisprudence. Research at the regional level (Odesa region) was conducted in the field of pedagogy, cultural studies, archaeology and history.

The given statistical data (Table 1) indicate that the negative tendency of decrease in the volume of scientific research in Odesa region, and in the Southern region as a whole, requires an urgent solution, since the scientific sphere is part of the statehood, and even more so – during the period of martial law and economic recovery after the war. The above set the author the task of researching the target regional programmes of the Odesa region in the context of identifying the direct participants in their implementation and determining the possibilities and prospects for the participation of scientific institutions and higher education institutions of the Odesa region in them in the conditions of economic recovery (martial law economy).

The main body of research works by scientific institutions of NAS of Ukraine and higher education institutions of Odesa region is carried out at the expense of the state or local budget. There are relevant topics, for example, in the agricultural sector, which have no funding and are implemented free of charge. There is an insufficient amount of work that could be implemented in the field of

digitalisation, which is especially relevant under martial law. No information is available on the scientific research of the Filatov Institute of Eye Diseases and Tissue Therapy of the National Academy of Medical Sciences of Ukraine, which is a unique scientific institution not only in the region but also in the country. The ultimate goal of each study is its direct implementation in the economic system, which is possible, according to the author, through their engagement in regional targeted and comprehensive programmes.

Effective implementation of targeted regional programmes is the key to ensuring the socioeconomic development of the region and promoting the welfare of the inhabitants of its villages and towns. At the same time, the participation of scientific institutions in the process of development, elaboration and implementation of regional target programs will contribute to their credibility, will allow for detailed planning. This, in turn, will ensure effective implementation with the achievement of the set tasks and goals, thus influencing the development of the market, (including innovation infrastructure), integration of science, education, small and medium business and public authorities.

Each programme provides for specific priority tasks, the solution of which should contribute to overall socio-economic development (recovery). The list of programmes involving representatives of the scientific and educational sphere of Odesa region is provided in Table 2.

Table 2. List of programmes, which involve representatives of the scientific and educational sphere of Odesa region

Areas of the programme, in the implementation of which scientific institutions and higher education institutions of Odesa region are involved	Implementers from the scientific and educational sphere of Odesa region	Funding, UAH million		
		Total for the event (approved/adjusted)	including regional budget (approved/adjusted)	funds from other sources
The agricultural development programme of Odesa region for 2019-2023 "Agrarian Odesa region"				
Measures aimed at the introduction of the System of Geographical Indications for viticulture products and the Vineyard Cadastre	NSC V. Ye.Tairov Institute of Viticulture and Winemaking of NAS of Ukraine	3.6/1.95	3.6/1.95	–
Development and implementation of molecular marker technologies in the selection process to create varieties of cereals and legumes	Odesa State Agricultural Research Station of NAS of Ukraine	1.3	0.6	0.7
Implementation of a programme to create soft and durum winter wheat varieties with high grain quality that will adapt to global climate change	Breeding and Genetics Institute – National Centre of Seed Science and Variety Research of NAS	1.7	0.9	0.8

Table 2, Continued

Areas of the programme, in the implementation of which scientific institutions and higher education institutions of Odesa region are involved	Implementers from the scientific and educational sphere of Odesa region	Funding, UAH million		
		Total for the event (approved/adjusted)	including regional budget (approved/adjusted)	funds from other sources
The agricultural development programme of Odesa region for 2019-2023 "Agrarian Odesa region"				
Creating a cluster for the production of secondary products of winemaking in the region	Institute of Market Problems and Economic and Environmental Research of the National Academy of Sciences of Ukraine; Association "Winegrowers and Winemakers of Odesa Region"; Agro-ecological and recreational cluster "Frumushyka-Nova"; Odesa National Academy of Food Technologies	3.4/3.1	0.8/0.5	2.6
Measures to assess the land and soil status in Odesa region. Optimisation of costs for measures to preserve and protect soil fertility	Odesa I. I. Mechnykov National University	3.0	3.0	–
Total funding of the programme activities, which involve scientific and higher education institutions of Odesa region, UAH million		13,0/11,05	8,9/6,95	4,1
Total funding under the programme, UAH million		114,2/138,4	92,8/117,0	21,4
The share of financing of programmes, in the implementation of which scientific and higher education institutions of Odesa region are involved, in the total amount of financing of the programme, %		11.38/7.98	9.59/5.94	19.16
Programme "Youth of Odesa Region" for 2021-2025				
Activities aimed at forming an understanding of the need for lifelong learning among young people in the region	Izmail State Humanitarian University	0,902	0,540	0,362
Total funding of the programme activities, which engage representatives of the scientific and educational sphere of Odesa region, UAH million		0,902	0,540	0,362
Total funding under the programme, UAH million		6,187,5	3,792,00	2,395,5
The share of financing of programmes, in the implementation of which representatives of the scientific and educational sphere of Odesa region are involved, %		0.015	0.014	0.015

Source: compiled by the author [14]

As evidenced by the data in Table 2, the amount and share of funding for the activities of the programmes implemented with the participation of scientific institutions and higher education institutions of Odesa region are insignificant in the total funding of individual programmes.

A generalising analysis of regional targeted and integrated programmes of the Odesa region in the context of identifying direct participants in their implementation showed the following.

Regional Programme for the development of the agro-industrial complex of the Odesa region for 2019-2023 "Agrarian Odesa Region" (decision of the Regional

Council of December 21, 2018, No. 837-VII) [14]. Among the directions and activities of this Programme are: increasing the competitiveness of the agricultural sector of the region through the use of advanced agricultural production technologies; creation of modernised selection and seed bases of agricultural production; organisation of information and exhibition events; introduction of waste-free production technologies [14]. Each of these areas can and should be implemented through the direct support of scientific institutions of academic level and higher education institutions, namely – the State Institution "Institute of Market and Economic and Environmental Research of

the National Academy of Sciences of Ukraine” (SI IMEER of NAS of Ukraine”), Odesa National Economic University, Danube Biosphere Reserve (Vylkove), Odesa State Agrarian University (OSAU). At the same time, the OSAU is not only not listed among the executors of the Programme but also carries out its research work on the basis of initiative, that is, pro bono [14].

Section 3 of the Programme, which deals with the substantiation of ways and means of solving problems, sources and volumes of financing, states that the development of the agro-industrial complex will be ensured, inter alia, through scientific and methodological support of agricultural production, application of information and communication technologies, exhibition activities and advisory services. The expected result should be the process of introducing the results of scientific developments into agricultural production applying the best world experience, entering the foreign market with competitive products and conducting training and educational work in rural areas.

Section 4 of the Programme “Activities and events of the Programme” provides for the organisation and holding of scientific and practical conferences, agricultural events, such as exhibitions or fairs, the purpose of which is to promote and introduce Ukrainian products to domestic and world markets [14].

These provisions can be implemented through participation in the program, and this is determined by the programme itself – district state administrations, agrarian policy departments of regional state administrations, the Breeding and Genetic Institute – National Centre for Seed Science and Variety Studies of the National Academy of Agrarian Sciences of Ukraine (NCSS NAAS of Ukraine), SRC V.Ye. Tairov Institute of Viticulture and Winemaking of NAS of Ukraine, “Odesa State Agricultural Research Station” of NAS of Ukraine, Institute of Market Problems and Economic and Environmental Research of the National Academy of Sciences of Ukraine, Municipal Enterprise “Odesa Regional Fund for Support of Individual Housing Construction in Rural Areas”, Association “Winegrowers and Winemakers of Odesa Region”, agro-ecological and recreational cluster “Frumushyka-Nova”, Odesa National Academy of Food Technologies, Odesa Mechnykov National University.

The development of the agro-industrial complex of the Odesa region is a priority and is a kind of foundation of the national economy in the conditions of martial law or post-war reconstruction of the country. The integration of science, education and business can become a reliable guarantee of food security in the region. Science provides theoretical and applied foundations for the introduction of the latest technologies necessary for the cultivation of agricultural crops or the production of livestock products in the industry. Together, science, education and business form the basis for creating effective conditions for the development of market infrastructure, providing new opportunities for the growth of small and medium-sized businesses in the agricultural sector.

Regional programme for the development of education in Odesa region for 2022-2024 [14]: there is

no higher education institution or scientific institution of academic level among its participants. The responsible executor of the Programme is the Department of Education and Science of the Regional State Administration, and the current control is carried out by the Standing Commission on Education, Science, Youth Policy, Sports, Culture and Tourism. The participants of the Programme are – Training and Methodological Centre of Vocational Education in Odesa region, Odesa Academy of Continuing Education of Odesa Region Council, Richelieu Lyceum, Odesa Region Specialised Children and Youth Sports School of Olympic Reserve, G.S. Bolgrad Gymnasium Rakovskyi, Municipal Extracurricular Educational Institution “Black Sea Flotilla of Young Sailors”.

The activities of the **regional comprehensive programme “Culture of Odesa region – 2020-2022”** should address the issues of building a successful community in Odesa region with the formation of its own model of cultural development. The programme covers such types of cultural activities as educating with the formation of the information space of the region, creating the image of the Odesa region at the international level. Among the activities of the Programme are cultural and educational, namely – popularisation of the history of the Ukrainian state; organisation of events to disseminate the positive experience of art education institutions; research, cultural and educational activities, acquisition of museum collections, exposition, restoration work; improvement of museum management and marketing [14]. However, there are no academic institutions or higher education institutions in the region among the participants of the Programme.

Programme of implementation of the EU Strategy for the Danube region for 2020-2022 in Odesa region [14].

Section 3 of the Programme “Promotion of culture and tourism development, communication between people” envisages the creation of a museum eco-centre in Vylkove, and the promotion of green tourism in the Danube sector of the Black Sea basin, respectively, the executors are designated as Vylkove and Reni City Councils. According to the author, such areas of the programme should be covered directly, and not on the basis of outsourcing, by the scientific and practical work of competent specialists of the State Institution IMEER of NAS of Ukraine”, Odesa Archaeological Museum, Odesa I.I. Mechnykov National University, Odesa State Environmental University.

Among the executors of Section 5 of the Programme “Environmental Risk Management” (including a comprehensive solution to the environmental disaster of Lake Sasyk as part of the Lower Danube protected area) are the Department of Transport and Communications Infrastructure of the RSA, the State Agency of Water Resources, the Basin Water Resources Administration (BWRA) of the Black Sea and Lower Danube rivers, Vylkove and Reni city councils. At the same time, according to the author, the implementation of subsection 51, which refers to the creation of complexes for wastewater treatment, “Ecoport” thermal disposal of waste in the waters of Reni and Izmail seaports, the responsible executor of which is the Department of Transport

and Communications Infrastructure of the RSA, should be based on scientific developments and justifications with the direct determination of scientific and educational institutions of the region among the executors.

Measures of Section 6 on the protection of biodiversity, air quality, soils, and landscapes include: water exchange between the Tuzly Estuaries and the Black Sea; conservation of biodiversity of the Tarutino Steppe, and the executors are the National Park "Tuzly Estuaries", the Department of Agrarian Policy of the RSA and the Department of Ecology and Natural Resources of the RSA [14]. Scientific institutions or higher education institutions are not listed among the implementers of this programme.

Section 7 "Creation of an integrated educational platform" as one of the measures provides for the creation of an integrated educational platform with the expected result in the form of cooperation between higher education institutions, organisation of scientific and practical conferences within the framework of the implementation of the EU Strategy for the Danube Region [14]. The executor is the Department of Education and Science of the RSA. The estimated amount of funding is not defined by the Programme.

The estimated amount of funding is not defined by the Programme. However, the analysis of the **comprehensive programme for the restoration and preservation of the Akkerman fortress and infrastructure development in Bilhorod-Dnistrovskiyi for 2018-2022** [14] showed that among the participants of the Programme there is not a single scientific institution or higher education institution, but only the Odesa Regional Council, Bilhorod-Dnistrovskiyi City Council, and the Municipal Enterprise "Fortress". One of the main tasks of this Programme is the implementation of a complex of scientific research works, proper scientifically grounded protection by conservation, restoration and rehabilitation works [14]. Section 3 of the Programme provides for historical-architectural, archaeological and hydrological research. Section 4 among the priority measures includes providing scientific and methodological support for the implementation of restoration works. In particular, it is to engage such scientific institutions and higher education institutions of Odesa region as the Odesa Archaeological Museum of the National Academy of Sciences of Ukraine, the State Institution IMEER of NAS of Ukraine", Odesa I.I. Mechnykov National University, Odesa State Academy of Civil Engineering and Architecture.

The sixth section of the Programme states that the expected results of its implementation should be thorough historical, architectural and archaeological information, data on engineering, geological and hydrogeological conditions in the protected area [14]. However, it is not clear how such a result can be achieved without the participation of local scientists.

Besides, according to the author, scientific institutions and higher education institutions of the region can be integrated into the implementation of such directions of the Programme as monitoring of the environment and facilities, creation of a data bank, and organisation of scientific seminars and conferences.

Akkerman fortress is one of the largest monuments of archaeology and architecture of Ukraine, and therefore its preservation should be carried out with the direct participation of scientific institutions and universities of Odesa region.

The passport of the regional target programme **Health of Odesa Region for 2021-2023** [14] also does not contain any scientific institution or higher education institution among its participants, although the Programme itself in its content requires the participation of scientists in the implementation of such areas as providing the necessary financial and social conditions for attracting young medical specialists; improving information support of health care institutions in the region. Potential participants in the implementation of the Program, according to the author, may be: Odesa National Medical University, the State Institution Ukrainian Research Institute of Medical Rehabilitation and Balneology of the Ministry of Health of Ukraine, the Filatov Institute of Eye Diseases and Tissue Therapy of the National Academy of Medical Sciences of Ukraine.

Regional Programme for the Conservation and Restoration of Water Resources in the Kuialnyk Estuary Basin for 2019-2023 [14]. Part 3 of the Programme "Scientific support and survey of changes in the hydro-ecological state in the basin of the Kuialnyk estuary" envisages scientific research of the hydro-ecological state of the Kuialnyk estuary (hydrological and medical-biological survey); scientific research of the impact on the hydrobiological state of the Kuialnyk estuary of its long-term filling with seawater from the Black Sea; filling the Kuialnyk estuary with fresh water. Among the executors of these initiatives are the Department of Ecology and Natural Resources of the Odesa Regional State Administration, institutions according to the results of public procurement, business entities [14]. The scientific institutions and universities are not among the direct participants of the programme implementation. Although the programme envisages educational activities through the organisation and holding of scientific and technical conferences, but, for some reason, only with the help of public organisations and through the publication of educational and scientific printing products on environmental issues of the Kuialnyk estuary basin.

Regional target energy efficiency programme of Odesa region for 2020-2022. The key objective of the Programme is the implementation of projects to replace traditional fuels with alternative energy sources, the development of an energy management system, and the formation of a new format of consciousness of the population with energy-saving skills, organisational events of informational and educational nature – round tables, forums, meetings [14]. Among the direct participants of the Programme implementation, there are no scientific institutions or higher education institutions of Odesa region.

Programme of legal education of the population of Odesa region for 2019-2022. Among the ways and means of implementing this Programme is the recognition of the importance of legal education among the population as one of the necessary factors in the formation of legal

consciousness and legal culture; methodological and coordination activities; a high level of teaching legal disciplines in educational institutions; a set of educational and educational activities for young people [14]. The participants of the Programme are structural subdivisions of the Odesa Regional State Administration, including: the Department of Education and Science; the Department of Social and Family Policy; the Main Territorial Department of Justice in Odesa Region; youth NGOs.

Programme for promoting the development of international and investment activities of Odesa region for 2021-2023. The purpose of the programme is to create a competitive regional investment product with its further promotion on the world market. Participants of the Programme: Odesa Region Council, Department of International Relations of Odesa Region State Administration, Odesa Regional Development Agency (by agreement), executive committees of village, settlement and city councils. One of the expected results of the Programme implementation is the development of partnerships, cooperation, and conclusion of agreements with other regions or countries of the world economy [14]. There are no scientific institutions and higher education institutions of Odesa region among the participants of the Programme.

Programme of tourism and resort development in Odesa region for 2021-2023. The key objective of the Programme is to create the basis for the development of domestic tourism in the region, which is possible through the creation of a set of favourable conditions: social, economic, environmental, investment, infrastructure. Responsible participants in the implementation of this Programme are the Department of Tourism, Recreation and Resorts of the RSA, Odesa Regional Council, NGOs, and local authorities [14].

According to the author, Section 3 of the Programme "Promoting the development of recreational and resort potential of the region" can be implemented with the support of scientific institutions and higher education institutions of the Odesa region, since such measures as assessment of the territory, formation of grounds for determining the prospects for the development of resort areas with their subsequent declaration as resorts of local or national importance cannot be implemented without their scientific substantiation.

Regional target social programme Youth of Odesa Region for 2021-2025. This Programme provides conditions for the development and self-realisation of young people in Ukraine, their participation in public life. The executor is the Department of Education and Science of the RSA. Participants of the Programme – Odesa Region Council; Municipal Institution "Odesa Region Centre for Patriotic Education and Leisure of Children and Youth", executive bodies of city (cities of region significance) councils and councils of territorial communities, district state administrations, civil society institutions [14]. The Izmil State University of Humanities is indirectly involved in the Programme through the implementation of the findings of the research work "Theoretical and methodological foundations of the formation of professional identity of future

specialists in preschool, primary and special education". This research is fundamental, performed on a free basis, has no analogues in Ukraine and corresponds to such an important priority area of science and technology as fundamental research on the most important problems of development of scientific and technical, socio-economic, socio-political and human potential to ensure Ukraine's competitiveness in the world and sustainable development of society and the state.

Regional target comprehensive programme of national-patriotic education of children and youth for 2021-2025. The purpose of this Programme is to establish and further develop the system of patriotic education of young people; the principles of respect for the native tongue, state, history; awareness of the responsibility for the successful development of the country and self-welfare. The implementation of the Programme will allow, through the establishment of systematic training, educational, and awareness-raising work, to engage young people more and more in projects (activities) of national patriotic education. Among the participants of the Programme are the Department of Education and Science; the Municipal Institution "Odesa Regional Centre for Patriotic Education and Leisure of Children and Youth", executive bodies of city (cities of regional significance) councils and councils of territorial communities, district state administrations, civil society institutions [14].

The analysis of the existing regional target and complex programmes of the Odesa region in the context of their responsible executors and direct participants showed that the scientific and educational sphere is involved in the implementation of such programmes through the Department of Education and Science of the Odesa Region State Administration and the permanent commission on education and science.

Scientific institutions and higher education institutions of the region, according to the approved current target regional programmes of Odesa region, were directly included in participation only in the following programmes (Table 2): Regional Programme for the Development of the Agro-Industrial Complex of Odesa Region for 2019-2023 "Agrarian Odesa Region" for 2019-2023; Regional Targeted Social Programme "Youth of Odesa Region" for 2021-2025.

At the same time, from the data in the volume "Science in the Southern Region of Ukraine. Important Achievements of Scientific Institutions of the Southern Region of Ukraine in the Field of Fundamental, Applied Research and Innovation Activities" [13] on the subject of research and development, it can be concluded that scientific institutions of NAS of Ukraine and higher education institutions can be included in the implementation of more targeted regional programs of Odesa region, and most importantly – as direct participants. The data presented in the mentioned collection [13] show that a number of studies conducted by scientific institutions of NAS of Ukraine and higher education institutions of Odesa region correspond to the activities of regional targeted and integrated programmes, and therefore can be integrated into their implementation. This will optimise expenses for research works

and avoid their double financing, as most research projects are financed by public funds, or are initiative projects and are carried out free of charge.

In the conditions of martial law in the country, the participation of scientific institutions and higher education institutions of the Odesa region in the implementation of regional targeted and comprehensive programmes can be provided only if there is a set of material objects capable of ensuring the implementation of scientific and educational functions of higher education institutions and scientific institutions of the country while creating sufficient conditions for the activities of all subjects of such institutions. It is about the scientific and educational infrastructure, which is part of the social infrastructure of the country, performs the function of implementing social policy and is subject to state regulation. Today, economic recovery in science is interpreted as a system of measures aimed at restoring the economic advantages of the country, establishing production, improving the living standards of people and their effective demand. According to the author [15], the economic recovery after the armed conflict should be based on the development of special programmes for the “resuscitation” of the country’s economic activity, and on the development of measures necessary for the return of the population and ensuring decent living conditions, restoration of infrastructure in certain regions with its further integration with other regions of the country [15].

At the present stage of the formation of the information society, achieving competitive advantages in socio-economic development is impossible without the development of knowledge, science, technology, and scientific personnel. With the constant role of traditional factors of production, scientific knowledge becomes the main driving force and factor of economic development, including in the context of economic recovery.

Conducting fundamental, applied and innovative scientific research contributes to the formation of the information society and knowledge economy. However, during the war, a significant number of scientists went abroad. Therefore, in the conditions of economic recovery, it is necessary to implement the following priority directions of science development in Ukraine: restoration of scientific and educational infrastructure (educational institutions, laboratories, purchase of modern equipment, access to international scientific libraries, etc.); targeted direction of applied scientific research to solve the problems of economic recovery after the war; creation of mechanisms to facilitate the return of scientific personnel from abroad to Ukraine (financial incentives for highly qualified and competent personnel, availability of conditions for research); development of international scientific cooperation with

the possibility of free internships in European scientific and educational institutions; formation of mixed models of financing research (public, private, grant funding, foreign investment); scientific institutions supervision of the transformation of scientific research into innovative developments.

Conclusions

In the context of economic recovery, the efficient implementation of regional target programmes in Odesa region and the solution of socio-economic issues should be carried out with the active participation of the effective scientific potential of the region. And the implementation of the priority directions of science development in the country will contribute to the preservation of scientific potential and further development of fundamental and applied research both in the country and in the regions, which will ultimately contribute to the development of science in Ukraine in the context of economic recovery.

Increasing the efficiency of the implementation of regional target programmes in the Odesa region should be supported by effective mechanisms of cooperation and interaction of scientific and educational potential, business and government, which will ultimately ensure the effective implementation of economic and social policies of the national economy.

According to the author, greater efficiency in the implementation of targeted regional programmes can be ensured through the direct engagement (and not indirectly, through the Department of Education and Science) of scientific institutions of the National Academy of Sciences of Ukraine and higher education institutions of the region. At the same time, a positive externality will be the motivation of scientists, and the attraction of creative young people among university students to scientific research, which will contribute to their further scientific work and, ultimately, to the formation of public awareness of the importance of science in society. At the same time, it should be noted that it is through the education system, being the largest and most comprehensive social institution among the population, that culture is transmitted to society. Subsequently, through the scientific sphere, culture, which directly combines science, education, art, and worldview – through the mechanisms of integration processes reaches the global level and assumes the function of a transmitter of the country’s image.

Further research on the potential participation of scientific institutions and higher education institutions of Odesa region in the implementation of regional targeted and comprehensive programmes in the context of economic recovery can be focused on substantiating the state and prospects of integration of science, education and business in Odesa, Mykolaiv and Kherson regions of Ukraine.

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Перспективи участі наукових установ і закладів вищої освіти у цільових регіональних програмах Одеської області в умовах економічного відновлення

Тетяна Василівна Небога

*Кандидат економічних наук, Старший науковий співробітник,
ORCID: <https://orcid.org/0000-0002-5025-7299>*

*Державна установа «Інститут ринку і економіко-екологічних досліджень
Національної академії наук України», 65044, Французький бульвар, 29, м. Одеса, Україна*

Анотація. У статті представлено узагальнюючий аналіз цільових регіональних програм Одеської області у контексті ідентифікації безпосередніх учасників їх реалізації, проаналізовано дані щодо можливої інтеграції результатів науково-дослідних робіт, які виконуються науковими установами і закладами вищої освіти (ЗВО) до регіональних цільових та комплексних програм області. Базою дослідження стали такі інформаційні ресурси, як нормативно-правові акти України, аналітичні матеріали Державної служби статистики України, Стратегічні та програмні документи Одеської обласної ради, аналітична інформація щодо наукової діяльності наукових установ і ЗВО Одеської області. Післявоєнне відродження у країні, на думку автора, неможливе без науково-технічного та інноваційного розвитку, яке виявляє себе у практичному застосуванні наукових розробок, а тому актуальним є дослідження перспектив участі наукових установ і ЗВО в регіональних програмах розвитку Одеської області в умовах економічного відновлення. Встановлено, що сума та питома вага фінансувань заходів програм, які реалізуються за участю наукових установ і закладів вищої освіти Одеської області – незначні у загальному обсязі фінансування окремих програм. Показано, що залучення наукових установ Національної академії наук України (НАН України) та ЗВО Одеської області, до реалізації заходів програм регіональних цільових та комплексних програм, дозволить оптимізувати витрати на проведення науково-дослідних робіт, та уникнути подвійного їх фінансування, оскільки більшість робіт здійснюються за рахунок державного фінансування. Участь наукових установ у процесі розробки, обґрунтування та реалізації регіональних цільових програм забезпечить їх обґрунтованість, дозволить здійснити детальне планування, що, в свою чергу, забезпечить ефективне впровадження з досягненням поставлених завдань та цілей, що вплине на розвиток ринкової, (у тому числі інноваційної інфраструктури), інтеграції науки, освіти, середнього та малого бізнесу та органів державної влади

Ключові слова: наукові дослідження, розвиток науки, фінансування науки, програми регіонального розвитку, післявоєнне відновлення національної економіки
