

their prices. The measures to eliminate each cause have been suggested, most of which involve service providers and other stakeholders to solve these problems on their own. The results of research have provided scientific novelty, based on the primary use of strategic analysis tools to separate causes and effects of the main problem in regional tourism development. The practical significance of the results is determined by relevance of proposed recommendations to providers of tourist services in Luhansk region.

Key words: *tourism, development problem, resources, conflict, measures, cause-effects analysis.*

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FORMATION OF INNOVATION INFRASTRUCTURE IN THE CROSS-BORDER SPACE AS AN INSTRUMENT FOR IMPROVING THE MECHANISMS OF SUBJECTS' INTERACTION WITHIN ITS BORDERS

This article provides a comprehensive study of the current state of cross-border innovation infrastructure in Ukraine, existing cluster initiatives have been generalized and systematized. It has been determined that on the current stage of development of Ukraine formation of cross-border innovation infrastructure is in its infancy. The purpose of the article is the study of the current state of cross-border innovation infrastructure in Ukraine and systematization of promising cross-border cluster initiatives. The processes of formation of cross-border clusters, technical parks, industrial parks in different regions of Ukraine have been characterized, problems of their development have been found. Poland offers the most costly cross-border financial innovative structures, the Belarusian-Russian partners offer quite diversified infrastructure projects, Romania, Moldova and Slovakia, with non-existent projects are outsiders. In addition, analysis of the innovative cross-border infrastructure showed that sectored dimension of its development refers to the following areas: tourism, logistics, construction and forestry, transport, energy, pharmaceutical industry, finance, and most often found tourism (prevalent in the West and North of Ukraine) and logistics (predominant in the South and East of the country). It has been proved that the formation of innovative infrastructure in the cross-border space is an effective instrument for improving the mechanisms of interaction inside it. Prospects for further research in a given direction lie in monitoring the dynamics of the state of cross-border innovation infrastructure in the future, and also in finding of effective mechanisms for establishing close cooperation between local authorities in cross-border space with cross-border innovative structures of various types.

Keywords: *cluster, technological park, cross-border innovation infrastructure, industrial park, cross-border space, cross-border region, tourism cluster, subjects of interaction, logistical cluster.*

INTRODUCTION

Problem. Innovative development, the latest technological advances, the introduction of new management techniques in business together with the implementation of the cross-border cooperation potential form a powerful incentive for increased integration and modernization of the entire economic complex of Ukraine. In this context it is necessary to focus on the problems of forming cross-border innovation infrastructure that needs a strong push in its development, because without it one can not talk about full competitiveness of the national economy.

Analysis of recent research and publications. The issues of development of innovative infrastructure of cross-border cooperation, establishment of cooperation in such cross-border area have been considered by Ukrainian and

foreign scientists P. Byelyen'kyi, A. Veber, Yu. Viznyak, O. Honta, Fr. Hur, V. Zahors'kyi, M. Lendyel, N. Lutsyshyn, Yu. Makohon, N. Mikula, R. Oleynyk, O. Pasternak, Z. Petrenko, A. Rozenblyum, A. Khirshmen, H. Chernichenko, V. Chuzhykov, I. Shkola and others. Much less attention compared to these issues has been devoted to the problems of cross-border establishment of innovation infrastructure in Ukraine. For example, V.V. Hoblyk has studied the possibility of forming cross-border science parks in western Ukraine, including «Rzeszów-Lviv», «Chernivtsi-Suceav-Botosani», «Lutsk-Lublin», Ukrainian-Slovak-Hungarian-Romanian cross-border logistics cluster [1, p. 230-231]. Kirova L.L. has researched the possibility of forming a number of agricultural clusters, Mikula N.A. and Skotnyy P.V. - clustering directions of Ukrainian-Polish border [3, p. 148-149]. However, a comprehensive study of the current state

of cross-border innovation infrastructure is not reflected in scientific works, as well as a systematic approach to its formation has not been developed. Actually this gap caused a choice of research topic that is relevant and timely.

The aim of the article (problem). The aim of the article is a study of the current state of cross-border innovation infrastructure in Ukraine and systematization of promising cross-border cluster initiatives.

RESULTS

In 2008, the Ministry of Regional Development in cooperation with the National Academy of Sciences of Ukraine pursuant n. 6 CMU of 10.09.08 № 1214-p. developed the project «National Strategy for the creation and development of cross-border clusters». The strategy was aimed not only at building Ukrainian network of cross-border clusters, but also to improve the competitiveness of cross-border regions, improving the quality of life in them, the development of national export-oriented industries, overcoming the backwardness of the peripheral border areas, improving the mechanisms of state-private partnership. The authors of this project define cluster initiative in a cross-border dimension as «... the organized efforts of participants and / or of cross-border cooperation for the establishment of cross-border cluster formation in order to obtain synergistic effect, competitive products (services), use of available local resources and social and economic development of territories» [9]. There were sixteen such initiatives at that time: in the western part of Ukraine – construction, logistics, forestry, engineering, eco energetic, two cross-border tourist clusters; East Ukraine – financial, logistics, pharmaceutical, construction, nano technological clusters; in the south of Ukraine – transport and logistics and logistics clusters, mega-cluster «Sevastopol»; in northern Ukraine – cluster of green tourism on the basis of the Euroregion «Dnipro».

It is estimated that currently there are about 21 innovative forms of cross-border cooperation in cross-border area of Ukraine, of which 15 are clusters and cluster initiatives that are actively implemented, the remaining 6 are industrial zones and parks.

Today, there are two cross-border cluster initiatives under development in Ivano-Frankivsk region: 1) transboundary forest cluster (as a part of the Carpathian border regions of Ukraine and neighboring countries); 2) cross-border tourism and recreation cluster (as in the Carpathian border of Ukraine and neighboring countries). However, neither of them is operational.

Ukrainian-Romanian resource center for tourism and business plays role of effective cross-border cooperation at Prykarpattya, and recently - also Carpathian Resource Center.

There is a cluster of green tourism «Dnipro» in Chernihiv region, Ukrainian-Belarusian cross-border industrial park «Innovative Technologies 3000» and the NGO «Center for cross-border cooperation».

Cluster of cross-border rural tourism «Dnipro» is localized in six adjacent border areas (Dobrushskyy, Homel, Loyevskyy, Gorodnyansky, Chernihiv, Ripkinsky) of Homel and Chernihiv regions (2010). The

structure of the cluster includes 300 natural, historical, cultural and archaeological sites. In addition, there is quite a wide network of partners participating in the cluster - 44 residents (including travel agencies, agricultural estates, museums, hotels, health resorts, nature reserves and sanctuaries, rural schools). The system of tourist ring and radial routes (hiking, biking, horse-riding) is developed in the cluster, which run through the territory of the cluster. The cluster also provides services bike- and extreme-tourism.

In 2007 cross-border activity of Ukrainian-Belarusian industrial park «Innovative Technologies 3000» within the Euroregion «Dnipro» was launched. NGO «Center for cross-border cooperation» operates in Chernihiv which coordinates the processes of setting up cross-border cooperation in the region.

In March 2008 the building cross-border cluster of Kharkiv and Belgorod regions within Euroregion «Slobozhanshyna» was created (1 cluster). In the same year transboundary tourism cluster (cluster 2) was formed on the basis of Kharkiv National Economic University (Department of Tourism), OJSC «Kharkiv Regional Support Fund», Belgorod State University (Department of Tourism), Belgorod Oblast Fund for Small Enterprise pilot project of which is introduced in Zolochiv (Ukraine) and Hrayvoronskyy (Russian Federation) areas. Cross-border Pharmaceutical Cluster (Cluster initiative) is under development - the border areas of the Kharkiv region of Ukraine and the Russian Federation Belgorod region.

The economic effect of the establishment of Ukrainian-Russian construction cluster is seen in the production of new types of building products through the establishment of international cooperative ties, reducing the cost of production of the existing product range of Belgorod and Kharkiv construction enterprises, the full implementation of international quality systems, the effect of scale.

Currently, a project of transport, trade and logistics cluster of national importance «Gate of Ukraine-Russia» is being created, which is managed by the Kharkiv regional center of investment and development. We believe that Kharkiv Trade and Economic Institute of the Kyiv National Trade and Economic University should conduct the scientific substantiation of the project and its staff support, which is a core in training specialists in this sphere in Kharkiv region.

It would not only contribute to the successful implementation of the above-mentioned large-scale project, increasing its impact on the region, but also ensure effective rational use of educational and scientific potential of Kharkiv and development of the latter.

Transboundary Ukrainian-Russian techno-park «Slobozhanshyna» has been operating since October 2011. Its founders on the Ukrainian part were V. Karazin Kharkiv National University, Science Park «FED» and Kharkiv National University of Radio Electronics and the Russian - Belgorod State National Research University [6].

Venture fund «Slobozhanski Innovations», exhibition of innovation «Growth energy», Investment Seed Fund «Business start», International Center for Technology Transfer «Integro», Center of patent research and benchmarking, and various laboratories, business incubator and recruitment agency are involved in its

activity. In the future industrial park is to become one of the key pillars of building innovation-investment model of development of Kharkiv region that actively involves local scientific, innovative and educational potential to its operation. Exchange of experience and the possibility of introducing their innovative ideas within this innovative structure is a priority for the Belgorod region of Russia.

URTTTP «Slobozhanshyna» actively deploys international scientific cooperation. For example, the industrial park officially takes part in the International Scientific and Technical Fair «Dunhuan China» (in 2013 it was agreed to open a branch of the Ukrainian-Russian cross-border industrial park in the Chinese city Dunhuan), it has established cooperation with the Science and Technology Park of the Belarusian National Technical University «Polytechnic» (including Ukrainian-Belarusian center of scientific-technical and innovation cooperation). In addition, it participated in the realization of national project «City of the Future» at the Technopolis «Pyatyhatka», but sub-project was closed by order of the Head of Kharkiv Regional State Administration № 53 of 02.02.2015 in 2015 [7].

Ukrainian-Russian technopark «Slobozhanshyna» is not only a generator of innovative ideas which implements them into production, but also provides active investment activity and is the organizer of innovative science and effective stimulator of scientific and innovation creativity and spreads innovation culture among the population of the region.

Initially launched cross-border cluster initiative on formation in Kharkiv and Belgorod of cross-border financial cluster eventually altered and transformed into the concept of cross-border mega cluster Euroregion «Slobozhanshyna». As a result of expert surveys and public discussion of the results at the Round Table «Prospects for the financial services market development of Euroregion «Slobozhanshyna» in 2009 in Kharkiv it was found that scenario «Mega cluster: banks, financial institutions and universities» out of four possible is the most probable to implement. It is also assumed that the formation of mega-cluster will begin with sub-cluster «Factoring».

Cross-border innovation and structural processes are also activated in Vinnitsa region. Vinnitsa food-processing cluster was established in 2011 under the Project Sustainable Regional Development (SSRD), funded by the EU. In addition, in 2009 the county Board Yas'ko in Romania in partnership with the Vinnitsa region Ukraine, districts Falesti and Ungheni Moldova, prepared the project proposal «TransAhropolis - Support for cross-border agribusiness».

Now let's consider the contribution of Mykolayiv region in the process of forming national cross-border clusters. In 2013 transnational corporation «Bunge» (specializing in the production of food and agribusiness) in Mykolayiv began to form the first cluster on the territory of Ukrainian Commercial Sea Port (agro-industrial cluster). In particular, we are talking about the construction of ultra-modern plant for processing oilseeds and expanding logistics facilities of already functioning grain terminal «Bunge».

Local cluster system «Mykolaiv-1» (the core of which is Mykolaiv port and sea transshipment complex

EVERI) already exists, a modern shipbuilding cluster Mykolaiv (Initiative) is being created.

A number of researchers identify the Black Sea mega cluster that is localized around the Black Sea coast of Ukraine (including mega cluster «Sevastopol'» which has been operating since 2004 and contains 64 enterprises) as functioning. However, its own maritime cluster, cluster system «Mykolaiv -1», as mentioned, really functions in Mykolaiv.

In addition, cross-border inter-regional tourism cluster «Southern Tourist Ring» (is a voluntary association of local governments Voznesensk, Hola Prystan', Yuzhny Izmail, Belgorod-Dniester, Alupka, Illichiv's'k, Tsjurupinsk) is successfully operating.

There is cross-border transport and logistics cluster (cluster 1) in Odessa region, transport cluster - an appropriate decision August 26, 2011 approved by the Odessa Regional Council - was established on the base of Odessa Commercial Sea Port. Also cross-border tourism cluster «Southern Tourist Ring» (2 cluster) and cluster «Transit potential of Ukraine» (cluster 3) operate in Odessa.

Polish-Ukrainian cross-border tourist and recreational cluster in the frame of Programme «Poland-Belarus-Ukraine» (2007-2013) acts in Volyn' and Cross-border innovation cluster, created in February 2015 on the base of the Lesya Ukrainka Eastern National University and Chelmsko Chamber of Commerce. Volyn' tourist cluster was first formed in 2014, Brest tourism cluster and Lublin Regional Tourism Organization. A network of tourist information centers and rental points of tourist accessories was formed within the cluster. Cluster itself is a logical continuation of projects «Development of agro-tourism in the Euroregion» Bug» and «Tourism without borders - promotion of tourist destinations of Euroregion «Bug», both performed in the framework of «Neighbourhood Programme Poland-Belarus-Ukraine Interreg IIIA / Tacis CBC 2004-2006».

Cross-border Lutsk-Chełm innovation cluster is a cooperative association, in which Ukrainian and Polish enterprises, scientific and educational institutions, NGOs, business infrastructure, local authorities on both sides of the border may participate.

Objectives of the cluster are:

- 1) promoting commercialization of innovative scientific research;
- 2) joint special events (conferences, forums, seminars, trainings, round tables), dedicated to innovation activities;
- 3) creating databases on innovation in the commercial sector;
- 4) broad involvement of academia and the public to the issues and increasing the use of scientific, educational and innovative potential of the Volyn region, cooperation with other universities and research institutions.

In 2013 in Transcarpathia Ukrainian-Hungarian cross-border industrial park with elements of logistics «Bereg-Karpaty» on the territory of Beregovo Transcarpathian region of Ukraine and the region Szabolcs-Szatmar-Bereg Hungary with a total area of 400 hectares began to operate. Transcarpathian Regional Council and Transcarpathian Agency for Investment, Innovation and Development, «Zahony and Vicinity

Development Limited Company» and Mission of the European Commission strived to create it and facilitated implementation of the «Cross Border Cooperation Programme Hungary-Slovakia-Romania-Ukraine 2007-2013». The project provides mission as an international industrial park, economic and trade, transport and logistics zone with storage areas near the Schengen border. In the future industrial park will include companies producing electronics, television and computer technology, more than that it will be only the environmentally friendly production facilities.

There are two formed cross-border clusters in Chernivtsi region, firstly, Ukrainian-Romanian «First Agrarian Cluster» and, secondly, tourist cross-border cluster based on regional winners of the contest «Seven Wonders of Ukraine». The first of these is a major center of agricultural cooperation, implementation of agricultural innovation, improving the investment climate in the territory of coverage.

There are at least two cross-border clusters in the Lviv region, including cross-border eco energy cluster Lublin and the Polish-Ukrainian cross-border statistical cluster.

Polish-Ukrainian cross-border information-statistical cluster established in 2013 is at the stage of active development in the Lviv region. The purpose of this cluster is to unite common efforts to provide statistical information and the development of Ukrainian-Polish cross-border region, using the potential of cross-border cooperation, information, marketing, financial and other opportunities to create preconditions to make grounded management decisions. [8] Its participants are: Department of Statistics in the Lviv region, SI «M.I. Dolishniy Institute for Regional Studies of NAS of Ukraine», Ivan Franko Lviv National University, Lviv Regional Association of Economists of Ukraine, Statistical Office of the Podkarpackie Voivodeship (Rzeszow), Center for Statistical Research and Education HUS Poland (Warsaw), Rzeszow University.

Lublin eco energy cluster (Lubelski Klaster Ekoenergetyczny), which specializes in renewable energy sources, became cross-border one due to participation of the two Ukrainian companies: JV «LLC KomEkoLviv», «Center for the introduction of alternative and renewable energy sources». The impetus for the development of this cluster is EU funding. In general there are [10] 31

companies, 3 scientific organizations, 3 business support institutions, 3 research centers, 5 specialized laboratories in the cluster. It should be noted that in the future in case of attraction of Ukrainian participants it will be possible to talk about the formation of cross-border cluster «Aviation Valley» (Dolina Lotnicza) and «Valley of Organic food» (Dolina Ekologicznej żywności).

Military and political events of 2014 thwarted the performance of projects of the creation of cross-border nano cluster in the Donetsk and Lugansk regions of Ukraine (the same applies to Lugansk cross-border machine-building, medical clusters and agro cluster) and Rostov region of Russia, the concept of which has been developed by the Institute of Industrial Economics of National Academy of Sciences of Ukraine, and mega cluster «Sevastopol», which was to be localized in the Black Sea region, primarily the Crimea.

CONCLUSIONS AND PROSPECTS FOR FURTHER RESEARCH

The study of the functioning of cross-border innovation infrastructure at the present stage of development in Ukraine showed that it, despite some local successes, is still in its infancy. The main factor is the inefficient state policy in this area, or rather its implementation, it is only declarative. At the same time cross-border policies of partner countries play very important role. As can be seen from the study, Polish party offers the largest cross-border financially costly innovative structures, the Belarusian-Russian partners offer quite diversified infrastructure projects, Romania, Slovakia and Moldova (no projects) remain outsiders. In addition, analysis of the innovative cross-border infrastructure showed that sectorized dimension of development concerns the following areas: tourism, logistics, construction and forest industry, transport, energy, pharmaceutical industry, finance, and tourism (prevalent in the West and North of Ukraine) and logistics (predominant in the South and East of the country). Prospects for further research in a given area are to monitor the dynamics of cross-border innovation infrastructure in the future, and finding effective mechanisms for establishing close cooperation between local authorities in cross-border space with innovative cross-border structures of various types.

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ФОРМУВАННЯ ІННОВАЦІЙНОЇ ІНФРАСТРУКТУРИ В ТРАНСКОРДОННОМУ ПРОСТОРІ ЯК ІНСТРУМЕНТУ УДОСКОНАЛЕННЯ МЕХАНІЗМІВ ВЗАЄМОДІЇ СУБ'ЄКТІВ В ЙОГО МЕЖАХ

У статті проведено комплексне дослідження сучасного стану транскордонної інноваційної інфраструктури в Україні, узагальнено і систематизовано існуючі кластерні ініціативи. Визначено, що на сучасному етапі розвитку економіки України формування транскордонної інноваційної інфраструктури перебуває у зародковому стані. Мета статті – дослідження сучасного стану транскордонної інноваційної інфраструктури в Україні та систематизація перспективних транскордонних кластерних ініціатив. Охарактеризовано процеси формування транскордонних кластерів, технопарків, промпарків в різних регіонах України, виявлено проблеми їх розвитку. Найбільші фінансово затратні транскордонні інноваційні структури пропонує польська сторона, достатньо диверсифіковані інфраструктурні проекти пропонують білорусько-російські партнери, аутсайдерами залишаються Румунія, Молдова та Словаччина, з якими такі проекти взагалі відсутні. Крім того, аналіз стану інноваційної транскордонної інфраструктури показав, що галузевий вимір її розвитку стосується наступних сфер: туризму, логістики, будівельної і лісової промисловості, транспорту, енергетики, фармацевтичної галузі, сфери фінансів, причому найчастіше це туризм (превалює на Заході та Півночі України) та логістика (переважає на Півдні і Сході країни). Доведено, що саме формування інноваційної інфраструктури в транскордонному просторі є ефективним інструментом удосконалення механізмів взаємодії суб'єктів в його межах. Перспективи подальших досліджень у заданому напрямку полягають у моніторингу динаміки стану транскордонної інноваційної інфраструктури в майбутньому, а також пошук ефективних механізмів налагодження тісної взаємодії органів місцевої влади у транскордонному просторі з транскордонними інноваційними структурами різних типів.

Ключові слова: кластер, технопарк, транскордонна інноваційна інфраструктура, індустриальний парк, транскордонний простір, транскордонний регіон, туристичний кластер, суб'єкти взаємодії, логістичний кластер.

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ФОРМИРОВАНИЕ ИННОВАЦИОННОЙ ИНФРАСТРУКТУРЫ В ТРАНСГРАНИЧНОМ ПРОСТРАНСТВЕ КАК ИНСТРУМЕНТА СОВЕРШЕНСТВОВАНИЯ МЕХАНИЗМОВ ВЗАИМОДЕЙСТВИЯ СУБЪЕКТОВ В ЕГО ПРЕДЕЛАХ

В статье проведено комплексное исследование современного состояния трансграничной инновационной инфраструктуры в Украине, обобщены и систематизированы существующие кластерные инициативы. Определено, что на современном этапе развития экономики Украины формирование трансграничной инновационной инфраструктуры находится в зачаточном состоянии. Цель статьи - исследование современного состояния трансграничного инновационной инфраструктуры в Украине и систематизация перспективных трансграничных кластерных инициатив. Охарактеризованы процессы формирования трансграничных кластеров, технопарков, промпарков в разных регионах Украины, выявлены проблемы их развития. Самые финансово затратные трансграничные инновационные структуры предлагает польская сторона, достаточно диверсифицированные инфраструктурные проекты предлагают белорусско-российские партнеры, аутсайдерами остаются Румыния, Молдова и Словакия, с которыми такие проекты вообще отсутствуют. Кроме того, анализ инновационной трансграничной инфраструктуры показал, что отраслевое измерение ее развития касается следующих сфер: туризма, логистики, строительной и лесной промышленности, транспорта, энергетики, фармацевтической отрасли, сферы финансов, причем чаще всего это туризм (превалирует на Западе и Севере Украины) и логистика (преобладает на юге и востоке страны). Доказано, что именно формирование инновационной инфраструктуры в трансграничном пространстве является эффективным инструментом совершенствования механизмов взаимодействия субъектов в его пределах. Перспективы дальнейших исследований в данном направлении заключаются в мониторинге динамики состояния трансграничной инновационной инфраструктуры в будущем, а также отыскании эффективных механизмов налаживания тесного взаимодействия органов местной власти в трансграничном пространстве с трансграничными инновационными структурами различных типов.

Ключевые слова: кластер, технопарк, трансграничная инновационная инфраструктура, индустриальный парк, трансграничное пространство, трансграничный регион, туристический кластер, субъекты взаимодействия, логистический кластер.

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