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FEATURES OF EFFECTIVE CLUSTERING IN MINING REGIONS OF UKRAINE

Introduction. The present stage is meeting the development of Ukrainian regions regulated in accordance with the relevant programs, legislative acts and new state strategy elaborated for the regional development up to 2020. The main objectives of the strategy defined by public authorities in the long-run include economic restructuring of Ukraine's regions. Especially, it concerns regions and industrial centers having excessively concentrated heavy industry and suffering from environmental problems. Mining regions entirely meet all the features of the regions expected to be restructured.

Thus, the main objective of the state regional economic policy of Ukraine is to increase the national wealth through the efficient use of natural resources, labor, scientific and technical potential of the regions, as well as the improvement in the system of their local interaction for achieving internal regional balance.

However, modern regional economies, especially those of the mining regions, are functioning under the growing social and economic differentiation of the economic situation and future prospects, industry fragmentation and instability of the state support, which certainly block the rapid achievement of the sustainable development countrywide.

Consequently, the future economic development of Ukraine should be based on the conceptual changes in the policy being elaborated and adopted for the effectively functioning regions, as integrated systems. The development of regional economy should include signs of continuous positive dynamics of general vector of the regional development and strategic strengthening of regions in the short term.

Analysis of recent research and publications based on the problem under consideration. The problems of productive forces distribution were discussed by V.V. Kovalevsky, A.L. Mikhailyuk and V.F. Semenov (13). Financial aspects of the regional development were investigated by M. Kovalenko (6) and N.L. Krem-pova (7). The innovation infrastructure in the region was the core issue highlighted in research циклі by Z.V. Herasymchuk (3) and N.T. Rud. The dynamics of the investment potential of regions was analyzed by V. Lischuk (8) and the scientific rationale of regulating the regional economy was presented in the works by M.S. Pashkevych (10).

The course of the European Union to an active regionalization of the economy, that is shifting the emphasis and empowering regions in making decisions on spatial development, indicates that overcoming the crisis of the productive forces development is the challenge of not only national or local level, but the global one. Thus,

research aimed at the development of the conceptual basis and elaboration of the effective mechanisms to stimulate regional economic growth, especially in mining areas in Ukraine, is extremely important.

The aim of the article is to analyze and to make recommendations about some features of effective clustering in ukrainian mining regions.

The main part. Effective growth and development of a region is a complex process that leads to solving the problems of the population at the regional level, improvement in the living conditions of the inhabitants of the region by balancing social, economic and environmental development that is based on the rational use of all resource potential of the region, including geographical features of the region, and also features of the economy, infrastructure and industry of small cities belonging to the region.

We must emphasize that conditions are changing, and problems of how to create conditions for effective development of the region, enhance innovations, improve the structure of the regional economy and improve competitiveness of products and services are becoming increasingly important.

Modern society shows that the integration of the Ukrainian economy into the global economic system is not possible while ignoring the trend towards consolidation resulting in the appearance of cluster associations.

Foreign experience also proves that the cluster approach is the necessary condition not having alternatives for a significant increase in competitiveness of countries and their regions. The deepening global integration processes and worsening territorial competition necessitate updating mechanisms to ensure the development of Ukraine's regions, particularly through the cluster approach.

The cluster approach is a new view of the regional economy, the essence of which is a combination of benefits of cooperation achieved by closely related economic agents located within a single area, which allows the region to get economic benefits in one or more field of business and industrial branches.

The problem of conceptual foundations for the formation of the spatial production clusters to encourage the development of mining territories under social and economic depression has special relevance to Ukraine because, unlike the EU, there are no specific legal documents governing the formation, operation and liquidation of clusters in our country.

The analysis of conceptual approaches to defining the essence and models of cluster and factors analysis of regional economic development revealed that presently

existing cluster models cannot be adopted to mining regions in Ukraine.

This is connected with the following reasons. Firstly, in general, clusters are specialized and refer to a specific branch. It means that they bring together businesses producing goods and services relating to a particular industry. However, the mining industry, which is undergoing the slum stage of its life cycle, cannot be the basis for creating specialized competitive clusters.

Secondly, under modern conditions, the effectively functioning specialized cluster is supported by the established and well-adjusted system for supplying a wide range of resources at the lowest cost - that is the cluster is working due to the highly developed infrastructure servicing industrial processes. However, a mine in Ukraine is a separate industrial facility located on a large territory without developed infrastructure and with limited set of available sufficient resources. Therefore, the project of creating the cluster spatially located in the mining region, as well as its further performing almost from a zero starting point, require a huge amount of investments and make it virtually impossible to implement.

Thirdly, mining companies (independent mines) are complex geological objects. Some of them principally cannot cease to function - that is to be closed, given the need, for example, of mine water continuously to be pumped. In fact, such mines have to be constantly working in the mode of water pumping facility to prevent flooding of the surrounding areas. Also, underground cavities of some mines contain methane gas. It hides the threat of explosion and leads to the need of permanent measures to ensure the ecological conditions of these regions at the minimum level.

Hence, these mines are constantly in need of significant financial resources for maintenance, which, respectively, is a financial burden for the state and local budgets. At the same time, the potential cluster organized on the territory, will have to compensate the cost of maintaining such mines through the allocation of a certain percentage of its funds for these purposes. If the amount of expenses necessary for the maintenance of mines that cannot be abandoned exceeds the profitability of cluster operations, it could lead to no reduced costs saved by companies working in regional clusters.

Fourthly, specialized industrial cluster usually requires highly qualified experts to be employed through the creation of favorable labor climate, motivation system and appropriate and well-developed social infrastructure. For example, if you compare the Silicon Valley cluster having high internal standards of corporate culture, team work behavior, social responsibility of government and business and social infrastructure, with possible clusters in the territory of mining regions being areas of environmental, economic and social depression, it becomes clear that it will be extremely difficult and almost impossible to effectively implement the project of establishing the specialized regional cluster expected

to ensure high environmental, economic and social standards in these regions.

Fifthly, we need to emphasize that as a rule, industrial clusters are integrative units of high energy and water consumption. These basic resources are to be supplied from the outside of the cluster, which, respectively, affect the level of total costs and have the dynamic of growth under conditions of global energy and water deficit. At the same time, today there are no energy and water generating clusters - that is structures with a closed energy and water cycles, which would operate independently in terms of vital resources and have a certain level of resource and, consequently, production autonomy. Thus, these clusters would have their own resource center and provide autonomy in energy and water consumption.

Conclusions. All said above allowed the conclusion that the process of implementing the cluster mechanism for effective regional development is to be studied properly. Cluster structures represent spatial forms of production organization focused on innovation and regional development. Cluster development, as a factor of activating the regional economic development, is a characteristic feature of the current style of economic management in the administrative territorial formations.

The world experience in economic clustering has shown that it makes a decisive influence on the process of strengthening competitiveness and fosters innovations. Presently emerging innovative economy is focused on the priority of cluster development which proved to be one of the most effective production systems of the era of globalization. This is a new economic phenomenon that allows us to face the onslaught of global competition and properly comply with national and regional development standards.

To deepen the understanding of the mechanism of implementation and the effective implementation of clusters in Ukraine, we should systematize the main factors of the regional economy development. However, modern scientific basis for the establishment of effective forms of cluster regional development and regional economic growth is not fully formed. Its implementation needs to be improved especially for the mining regions which have specific nature of mono industrial economy and are in a condition of economic depression.

In order to improve the theoretical and methodological bases of the creation of spatial industrial cluster forms for the optimization of the regional economy, especially in mining regions, we offered to consider the factors of territorial organization of productive forces, organizational culture, dynamic changes and the level of economic agents' integration.

Thus, the authors pointed out the need of creation of new clusters for mining regions, taking into account factors that are adaptive, dynamic and regulated in the context of economic changes. It is these factors of the regional development that are the levers for efficient clustering, especially in mining regions having their in-

dustrial characteristics. It will give impetus to the stabilization of the economic, social and environmental regional processes.

References

1. **Porter, M.** (1998) Clusters and the New Economics of Competition. Harvard Business Review.
2. **Batchenko, L.V.**, Gurenko, A.V. and Mann, R.V. (2013) Klastery v systemi strategii' i taktyky rozvytku regionu. Donec'k: «VIK».
3. **Gerasymchuk, Z.V.** (2010) Innovacijna infrastruktura regionu: metodologija formuvannja i rozvytku. Aktual'ni problemy ekonomiky, № 3, pp. 197 - 207.
4. **Derzhavna strategija regional'nogo rozvytku na period do 2020 roku** (2014) [online]. – Available at: <http://zakon5.rada.gov.ua/laws/show/385-2014-%D0%>.
5. **Zakon Ukrainy «Pro stymuljuvannja rozvytku regioniv» №2850–IV vid 08.09.2005: stanom na 10.06.2012** [online]. – Available at: <http://zakon.rada.gov.ua/cgi-bin/laws/main.cgi?nreg=2850-15>.
6. **Kovalenko, M.** (2010) Finansy regionu. Herson: Oldi-pljus.
7. **Krempova, N.L.** (2011) Formuvannja finansovoi' strategii' social'no-ekonomichnogo rozvytku regioniv. Formuvannja rynkovykh vidnosyn v Ukraini, № 5, pp. 200 - 204.
8. **Lishhuk, V.** (2011) Dynamika investytsijnogo potencialu regioniv Ukrainy ta ekonomichnyj cykl. Ekonomist, № 3, pp. 14-16.
9. **Papizh, Ju.S.** (2015) Pryncypy stvorennja terytorial'no-vyrobnychyh klasteriv dlja rozvytku girnychodobuvnyh regioniv. Visnyk Mariupol's'kogo derzhavnogo universytetu, Vyp. 9, pp. 38 – 48.
10. **Pashkevych, M.S.** (2012) Naukovi zasady reguljuvannja regional'noi ekonomiky. Dnipropetrovs'k-Donec'k: NGU.
11. **Poznjakova, O.I.** (2010) Klasteri jak rezul'tat transformacii' vlasnosti v systemi innovacijnyh struktur. Visnyk Nac. un-tu «L'vivs'ka politehnika», № 8 (668), pp. 135-141.
12. **Proekt rozporjadzhennja Kabinetu Ministriv Ukrainy «Pro shvalennja Konceptii' stvorennja klasteriv v Ukraini»** [online]. Available at: http://www.me.gov.ua/control/uk/publish/printable_article?art_id=121164.
13. **Semenov, G.A.** and Bogma, O.S. (2008) Stvorennja klasternyh ob'jednan' v umovah novoi' ekonomiky. Zaporizhzhja: KPU.
14. **Tarasenko, V.** (2011) Strategii' razvitiia territorial'nykh klasterov. Ekonomicheskie strategii, № 11, pp. 82– 92.
15. **Chernelevs'ka, O.L.** and Chernelevs'kyj, L.M. (2012) Stvorennja klasteriv – odyz naprjamiv zrostantnja ekonomiky. Naukovi praci NUHT, №46, pp. 144-148.

Папіж Ю. С. Особливості ефективної кластеризації гірничодобувних регіонів України

Гірничодобувні регіони мають певні особливості, які повною мірою трансформуються в основу розробки стратегії забезпечення їх гармонійного розвитку. Формування методологічних засад концепції відновлення та забезпечення сталого роз-

витку цих регіонів має здійснюватися шляхом використання інструментарію кластеризації. На основі аналізу визначення сутності та моделей кластерів виявлено причини, за якими існуючі моделі кластерів не можуть бути використані для гірничодобувних регіонів України. Наголошено на необхідності створення для гірничодобувних регіонів кластерів нової форми із урахуванням факторів територіальної організації продуктивних сил, організаційної культури, динамічності змін та рівня інтеграції суб'єктів господарської діяльності.

Ключові слова: гірничодобувний регіон, кластер, ефективність, розвиток.

Папіж Ю. С. Особенности эффективной кластеризации горнодобывающих регионов Украины

Горнодобывающие регионы имеют определенные особенности, которые в полной мере трансформируются в основу разработки стратегии обеспечения их гармоничного развития. Формирование методологических основ концепции восстановления и обеспечения устойчивого развития этих регионов должно осуществляться путем использования инструментария кластеризации. На основе анализа определения сущности и моделей кластеров выявлены причины, по которым существующие модели кластеров не могут быть использованы для горнодобывающих регионов Украины. Отмечена необходимость создания для горнодобывающих регионов кластеров новой формы с учетом факторов территориальной организации производительных сил, организационной культуры, динамичности изменений и уровня интеграции субъектов хозяйственной деятельности.

Ключевые слова: горнодобывающий регион, кластер, эффективность, развитие.

Papizh Yu. Features of effective clustering in mining regions of Ukraine

Mining regions have specific features that should be fully integrated into the strategy ensuring their harmonious development. Methodological principles and concepts for the recovery and sustainable development of these regions should be elaborated by means of tools for clustering. The analysis of the cluster concept and patterns allowed identification of the reasons for not employing cluster models existing in various regions for mining areas in Ukraine. The article stresses the necessity of creating specific clusters for mining regions that will have new design given the factors of the spatial allocation of productive forces, organizational culture and dynamic changes in the integration processes undertaken by economic agents.

Keywords: mining region, cluster, efficiency, development.

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