

ECONOMIC ZONING AS THE BASIS FOR DEVELOPMENT OF INFRASTRUCTURAL SUPPORT FOR REGIONAL AGRICULTURAL MARKETS IN UKRAINE: THEORETICAL APPROACH

Vasyl Chemerys¹✉, Vitaliy Krupin²

¹Lviv National University of Veterinary Medicine and Biotechnologies named after S.Z. Gzhytskyi

²Institute of Rural and Agricultural Development of Polish Academy of Sciences

Abstract. The article explores the existing approaches to regional economic zoning in Ukrainian scientific circles, which would aid in compilation of suitable and efficient approach toward development of infrastructural support for agricultural markets on a regional level. As the infrastructure in Ukraine is underdeveloped, the regional economy in many cases suffers from its absence. Yet development of such infrastructure, due to insufficient volumes of available state and local funds, should be thoroughly substantiated and target the exact needs of particular regions, as they differ greatly in the socio-economic conditions and therefore – the preconditions for various types of economic activities. In order to clarify and structure this issue the main factors of forming and developing of infrastructural support for agricultural markets on a regional level are defined, as well as classification of regions according to the type of their infrastructural development for agricultural markets are substantiated.

Key words: economic zoning, infrastructure, agricultural market, regional economy, Ukraine

INTRODUCTION

Infrastructural support is one of the weakest links in the chain of agricultural production and distribution in Ukraine. The old infrastructure, state-managed and

inefficient, came to decline and destruction, being outdated and unable to survive the times of economic crisis and transformation to market economy. The new infrastructure is slowly being formed, yet due to issues of rural and agricultural development in Ukraine, there are still many unresolved matters, both in theoretical and practical dimensions.

Generally infrastructure of regional agricultural markets is an integral part of regional economy. Therefore the lack of efficient and complex infrastructural support for agricultural markets has an ability to disrupt the development of agricultural production and regional economy as a whole. Theoretical basis for infrastructural support of agricultural markets evolved greatly, developing together with market relations in the agrarian sector of economy. By creation of proper preconditions for intensification of trade processes of agricultural commodities, which has appeared long before formation of market economy, such infrastructure has in many means defined and still defines the character and quality of economic relations in agriculture and related areas of economic activity on a regional level.

The type of evolution of infrastructural support for agricultural production and market allows us to come to a conclusion about the heterogeneity of its development, both in dimensions of time and location. Even though

✉Vasyl Chemerys, PhD, Lviv National University of Veterinary Medicine and Biotechnologies named after S.Z. Gzhytskyi, Pekarska St. 50, 79010 Lviv, Ukraine, e-mail: chemerus64@gmail.com

there was a strict logic in formation of particular elements of this infrastructure during different periods of time under the influence of dominant factors of external market environment, the speed of their formation in different regions (parts of the world, continents and particular countries) have varied. Therefore we can state that different elements of infrastructural support of agricultural markets have evolved in a different way in different regions under different circumstances.

Closer look shows that a strong relation exists between the type of development of infrastructure for regional agricultural markets and socio-economic conditions in particular areas of their allocation. This brings the conclusion about the need for research of issues and peculiarities in forming and functioning of infrastructural support of regional agricultural markets in Ukraine in the context of regional economic complexes, which differ greatly.

MATERIALS AND RESEARCH METHOD

Problems of regional economic zoning and regional development have been researched in Ukraine in the context of many aspects (Shevchuk, 2011; Maniv et al., 2009; Shults et al., 2010; Shults, 2010), as well as the problems of rural and agricultural development have been targeted in numerous publications, among which we have chosen the most appropriate (Pavlov, 2013; Borshchevskiy et al., 2012) to serve as the grounds for our approach towards creation of typology of economic regions, which could help substantiating proper measures for development of infrastructural support for agricultural markets on a regional level. Therefore the research method shall include the systematization of research publications, analysis of their data and synthesis in the form of adjusted explanation and typology of regions in the context of development of their infrastructural support for regional agricultural markets.

RESEARCH RESULTS

A need exists to define the key characteristics of regional economies from a standpoint of priorities in development of infrastructural support for regional agricultural markets, as well as the necessity of formulating their typology according to various criteria, since those characteristics can potentially have a stimulating, neutral or restrictive influence upon the evolution of various elements of such infrastructure.

In scientific researches of domestic (Ukrainian) and foreign authors much attention is devoted to the peculiarities of socio-economic development of economic complexes of various countries and regions, definition of their classification characteristics and formulation of their typologies.

Many Ukrainian scientists are grounding their regional economy research upon the paradigm of economic order by Walter Eucken (Eucken, 1995). Eucken researched the peculiarities in functioning of socio-economic systems depending on the character of relations between bodies of central authority, society and entrepreneurial environment. According to Eucken the economic order consists of aggregation of relations, by which businesses and households are interconnected, and by which the economic processes are occurring.

This approach has been implemented in the works of Ukrainian researchers, devoted to classification of regions according to the type of their socio-economic development and determination of key directions towards their farther development, both mentioning the forming of regional infrastructure in general, as well as for infrastructure for regional agricultural markets in particular.

Writing on peculiarities of economic differentiation of regions (economic zoning) and determination of their typology Liubov Shevchuk (Shevchuk, 2011) stressed that the process of formation of regions is in fact a reflection of objective and subjective factors, and during this process relatively independent units are being created, which are called regions. Developing this idea a team of researchers from Ivano-Frankivsk (Maniv et al., 2009) state that the division of areas into regions according to various attributes has an important practical meaning since it is the foundation for the creation and implementation of state regional policy, is helpful during regional management and aids during the selection of locations for new industries and creation of favourable conditions in particular regions for selected types of economic activities. Division of territories into economic regions is a scientific method of territorial organization of society and is one of the tools for rational allocation of industrial and agricultural production, improvement of the area's specialization and intensification of its socio-economic development. During this process main objectives and indices for socio-economic development of regions are being substantiated. Therefore economic zoning is devoted to:

- ensure gradual regional convergence of socio-economic development in Ukraine on the basis of rational allocation of productive forces;
- assist intensification of integration processes in economic development of regions based on specialization and cooperation, efficient utilization of natural resources and labor potential;
- stimulate the growth of domestic production of various goods and the replacement of those foreign goods on the domestic market, which can be produced in Ukraine;
- work toward the increase of living standards and welfare of society.

A team of scientists from the Institute of Regional Researches of National Academy of Sciences of Ukraine (Shults et al., 2010) thinks that a new paradigm in economic zoning could lead to the formation of perfect economic regions, if it is conducted according to stages of technological development of a country, among which they outline three: agricultural, industrial and informational, with each country currently dwelling in one of them. They emphasize that during each stage of their development the dominance of one of the following sectors of the economy is present: primary (production of “materials”), secondary (production of “energy”), tertiary (“production” of capital) and quaternary (production of information and knowledge). A dominant sector of economy is the foundation, while other sectors play a secondary (servicing) role or are a nucleus of a new upcoming economic order. The same approach could be used in the division of economic regions, since the regional development preconditions and their differences are usually similar.

Additionally, Svitlana Shults (Shults, 2010) points out that the regional development in the conditions of globalization and implementation of post-industrial paradigm can be treated as a process, which requires efficient utilization of present potential and consideration of conditions of external environment. This gives us all grounds to declare intensification of relations and mutual influences among systems of different taxonomic levels with the external environment, meaning the geoeconomic approach to outlining of regional systems. This approach fills the social relations with a new meaning and means identification of stratified local systems. These systems are formed based on spatial localization of particular types of economic activities, a center of which is the management of finances and property,

development of new technologies and products, as well as the creation of necessary informational-communicational infrastructure. Geoeconomic approach to distinction of regional systems allows the claim about their orientation on the needs of national economy with the simultaneous need of their adaptation to global economic processes.

As we have reviewed the main thoughts of Ukrainian research towards economic zoning, let us take a closer look at existing classifications of economic regions, which are used in substantiation of regional development. First, the State Regional Development Strategy till year 2020 in Ukraine (State..., 2013) differentiates the regions of the country according to five economic attributes:

- regions with industrial type of economy (the share of industry is above 30%);
- regions with agricultural type of economy (the share of agriculture exceeds the share of industry, while the share of services is less than 50%);
- regions with dominance of services in the economy (the share of services is 60% or higher);
- regions with a focus on services (the share of services is between 50 and 60%);
- regions with industrial-agricultural type of economy (the share of industry exceeds or is equal to the share of agriculture, and the share of services is less than 50%).

At the same time, outlining of various types of regions according to economic attributes has its peculiarities depending on specificity of economic activity of regional economic systems. Some scientists researching the issues of rural areas are offering similar classifications, which can be helpful in our understanding of existing approaches to regional economic zoning.

Pavlov O. (Pavlov, 2013) presents his typology of rural areas according to various development factors:

- utilization of local possibilities (high, medium, low);
- socio-economic development (high, medium, low, depressive, degraded);
- availability of resources (high, medium, low);
- economic specialization (agricultural, industrial, transit, construction, service);
- functional complexity (monofunctional, bifunctional, polyfunctional);
- geographic reachability (reachable, average, hard to reach);
- investment attractiveness (high, relatively attractive, unattractive);

- economic intensity (high, medium, low);
 - technogenic pollution (clean, relatively clean, polluted);
 - urbanization (urbanized, urban-rural, rural);
 - ethnic complexity (monoethnic, biethnic, polyethnic).
- Borshchevskiy V. and his colleagues (Borshchevskiy et al., 2012) differentiate three dimensions in approach to typology of rural areas:
- according to the demographic criterion (regions with positive demographic situation, with satisfactory demographic situation, with unsatisfactory demographic situation and with critical demographic situation);
 - according to the criterion of specialization (with mainly agricultural specialization, with tourist and recreational specialization, multifunctional regions);
 - according to the spatial criterion (suburban, transit, borderline, peripheral, foothill and mountainous).

Therefore, synthesizing the main approaches toward the understanding of a regional economy, regional development, typology of regions and rural areas according to different attributes, ideas on localization and development of agricultural markets, we can conclude that the most important in formation and development of infrastructural support for regional agricultural markets have the resource, geographic, institutional, organizational, economic, social and mental factors. By their combination according to selected groups we can come up with a bipolar systematization of factors influencing formation and development of infrastructural support for agricultural market in the context of regional economy, based on outlining of economic and social preconditions in development of regional economy and definition of the type of their specialization (Fig. 1).

The first pole, being an economic one, is formed by: natural and resource potential of regions (rural areas), localization of industrial capabilities in those selected areas, spatial and geographic location of economic agents of these regions or rural areas.

The mentioned factors define the level of self-sustenance of the region (rural area) by natural resources, show its investment attractiveness (which is represented by natural and resource potential, as well as by spatial and geographic location), sectoral specialization of regional economy (shown by localization of industrial capabilities), innovativeness of present technologies (natural and resource potential, localization of industrial capabilities), presence of labour resources.

Under the influence of these factors the specialization of regional economy is being formed, the peculiarities and the type of its development are being defined, which is crucial during the definition of specificities in functioning of regional markets, including regional agricultural market. Infrastructural support of the latter, as it was mentioned before, is evolving in close relation to the parameters listed. Therefore, those regions, where a high concentration of agricultural land exists and numerous agricultural companies or households exist, are having the agricultural type of specialization. The highest investment attractiveness in such regions have the plant production and related types of economic activities, which define the sectorial priorities in development of these areas, as well as directions for future innovative projects. Specialization of labour resources is becoming primarily agriculture-oriented. All this causes concentration on the development of production infrastructure for agricultural regional market, as well as concomitant communal, institutional, social and innovative infrastructural support for regional agricultural markets.

Yet in those regions with agricultural land deficit, but with present deposits of natural (extractive) resources, or with substantial tourist and recreational potential, other types of economic specialization are being formed. In this case the agricultural market plays the secondary role and priorities in development of its infrastructure have such elements as marketing and sales, transport and logistics, information and communication.

The influence of social pole in the system of factors is similar to the influence of economic pole upon the development of infrastructural support of regional agricultural market. Social polar includes such fundamentals as historical and cultural heritage, socio-demographic condition, mental and psychological environment. For example, in those regions, which tend to specialize in agriculture, during the process of economic evolution a strong culture of efficient land-use is being formed, which has been evolving and developing from generation to generation. Along with its development a particular corresponding mentality, traditions and customs of rural population are being formed, that influence creation of an adequate organization of rural life, a peculiar type of socio-demographic environment develops. This creates particular social foundation for the development of infrastructural support of regional agricultural market, which enhances and intensifies the agricultural specialization of a region.

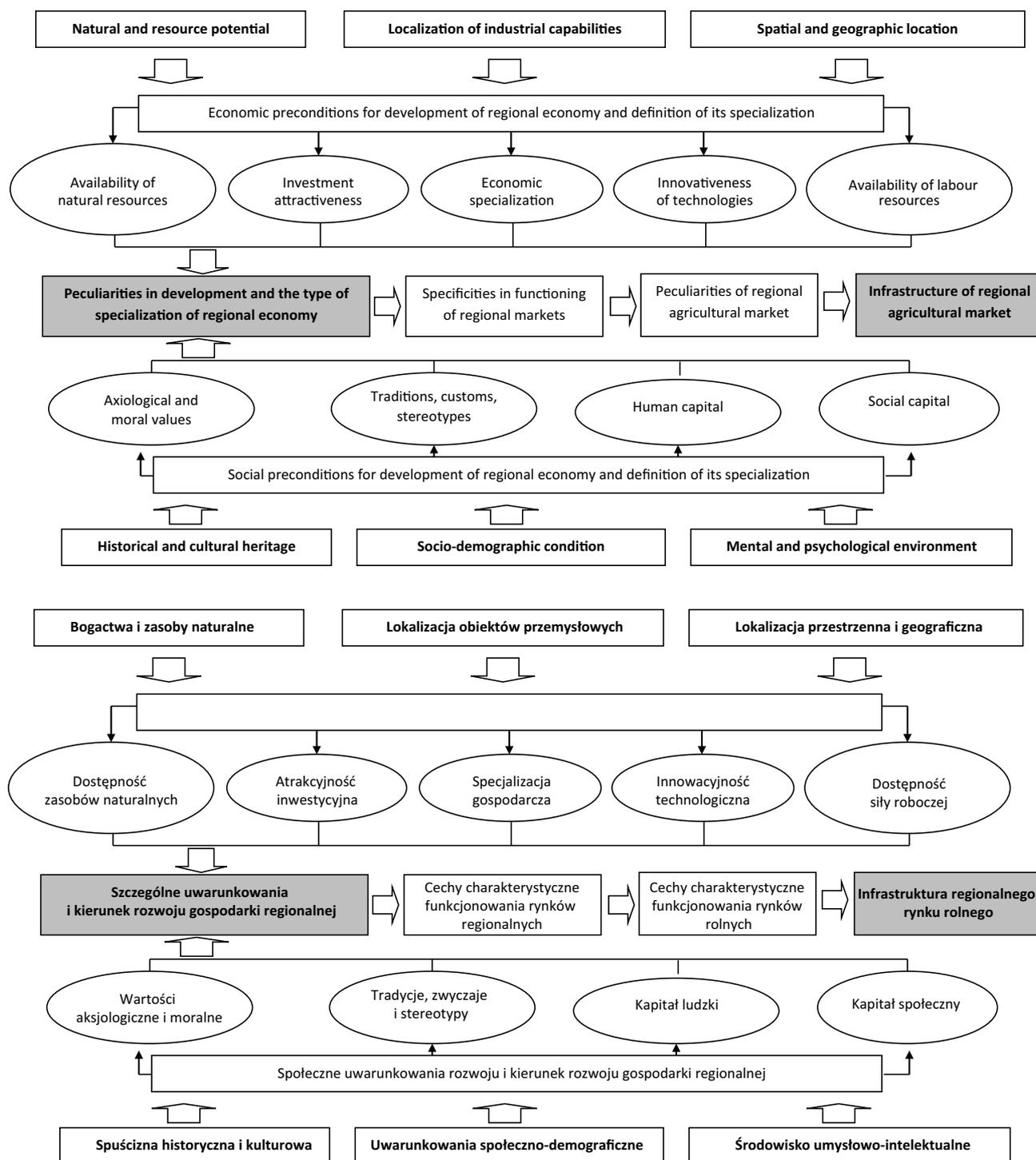


Fig. 1. Factors of forming and development of infrastructural support for regional agricultural market
Source: authors elaboration.

Rys. 1. Czynniki kształtowania i rozwoju wsparcia infrastrukturalnego regionalnego rynku rolnego
Źródło: opracowanie autorów.

Table 1. Classification of regions by infrastructural support for regional agricultural markets
Tabela 1. Klasyfikacja regionów według wsparcia infrastrukturalnego regionalnych rynków rolnych

Type of region Typ regionu	General characteristic Cechy ogólne	Economic preconditions for development Gospodarcze warunki rozwoju	Social preconditions for development Społeczne warunki rozwoju	Prevailing objects of infrastructure Przeważające obiekty infrastruktury
Agro-processing Przetwórstwo produktów rolnych	Agriculture is the primary economic specialization of a region and is performed both for local and export needs Rolnictwo jest podstawowym działem gospodarki regionu na potrzeby lokalne i na eksport	Large areas of high quality agricultural lands, favourable climate, adequate labour and financial resources Duże obszary gruntów rolnych o wysokiej jakości, korzystny klimat, odpowiednie zasoby siły roboczej i środków finansowych	Highly developed culture of agricultural production, traditional rural lifestyle, high social capital Wysoko rozwinięta kultura produkcji rolniczej, tradycyjny wiejski styl życia, duży kapitał społeczny	Supporting objects for agricultural production and processing, social infrastructure, transport and logistics Obiekty wspomagające działalność produkcyjną i przetwórstwo rolne, a także infrastrukturę społeczną, transportową i logistyczną
Agro-distributive Rolnictwo i dystrybucja	Agriculture is oriented on production of a rather narrow specter of goods, yet the companies in the region are primarily oriented on trade and transit of agricultural products Rolnictwo zorientowane jest raczej na wąski wachlarz towarów, a firmy działające w regionie zajmują się głównie handlem i transportem produktów rolnych	Favourable geoeconomic location, present important transit routes, trade is the traditional area of specialization Korzystne usytuowanie geograficzno-ekonomiczne, obecność tranzytowych szlaków komunikacyjnych; tradycyjnym kierunkiem działalności na tym obszarze jest handel	High mobility of population (especially rural), rooted traditions and experience in trade and marketing activities Duża mobilność ludności (szczególnie wiejskiej), ugruntowane tradycje i doświadczenie w handlu oraz działalności marketingowej	Supporting objects for marketing, transport and logistics, innovational, informational and communicational infrastructure Obiekty wspomagające marketing, transport i logistykę, a także infrastrukturę innowacyjną, informacyjną i komunikacyjną
Agro-service Rolnictwo i usługi	Agriculture is one of the key sectors of regional economy, but is not the main type of economic activity. Produced agricultural output is consumed primarily in the region Rolnictwo jest jednym z głównych elementów lokalnej gospodarki, ale nie stanowi głównego sektora aktywności gospodarczej; wytwarzane produkty rolne są w większości konsumowane na miejscu	Adequate availability of land, labor and financial resources, high level of diversification in regional economy Odpowiednia dostępność gruntów, siły roboczej i środków finansowych, wysoki stopień dywersyfikacji lokalnej gospodarki	High development level of human and social capital, entrepreneurship initiative, experience in cooperation Wysoki poziom rozwoju kapitału ludzkiego i społecznego, inicjatywy w dziedzinie przedsiębiorczości, doświadczenie we współpracy	Supporting objects of informational, communicational, financial, innovational infrastructure and transport Obiekty wspierające infrastrukturę informacyjną, komunikacyjną, finansową i innowacyjną oraz transport
Agro-tourist Agroturystyka	Agriculture is usually conducted in the conditions of agricultural land deficit. It is often oriented on ecological production and servicing of tourist-recreational sector of region's economy, which is the basis of its specialization Problemem rolnictwa jest zazwyczaj brak ziemi rolnej. Często jest ono zorientowane na produkcję ekologiczną i usługi na rzecz sektora turystyczno-rekreacyjnego danego regionu	Limitation of land resources and presence of favourable natural environment, large investments in the tourism sector, high development of touristic industry Ograniczone zasoby ziemi oraz korzystne warunki środowiskowe, spore inwestycje w sektor turystyki i znaczący rozwój przemysłu turystycznego	Traditional focus of population on tourism services, high culture of cooperation between entities of regional touristic and agricultural markets Ludność tradycyjnie świadcząca usługi dla turystów, wysoka kultura współpracy między podmiotami na rynkach agroturystycznym i turystyki regionalnej	Supporting objects of marketing, social, informational, communicational and transport infrastructure Obiekty wspierające infrastrukturę marketingową, socjalną, informatyczną, komunikacyjną i transportową
Agro-industrial Rolniczo-przemysłowy	Agriculture plays secondary role, it is mainly conducted to ensure the consumption needs of workers of industrial and/or extraction companies in the region Rolnictwo odgrywa wtórną rolę, prowadzone jest głównie z myślą o zapewnieniu wyżywienia pracownikom przemysłowym i innym firmom w regionie	Unique natural resources are present as well as a distinct industrial specialization of the region, labour resources are concentrated at towns Istnieją znaczące i unikalne zasoby naturalne oraz wyraźna specjalizacja regionalna, zasoby siły roboczej są skoncentrowane wokół miast	High level of urbanization, deficits of human capital in rural areas, "satellite" type of rural culture Wysoki poziom urbanizacji, deficyty kapitału ludzkiego na obszarze wsi, satelicki model kultury wiejskiej	Supporting objects of informational, communicational infrastructure, transport and logistics Obiekty wspierające infrastrukturę informatyczną i komunikacyjną, a także transport i logistykę

Source: authors' elaboration.
 Źródło: opracowanie autorów.

At the same time those regions, which tend to specialize in other economic directions (natural resources extraction, tourism and recreation), rely on a social pole, which has historical and cultural heritage, socio-demographic condition, mental and psychological environment of a different type. Their main objective is the support of those traditions of economic activity, which ensures an efficient functioning of a regional economy according to the selected type of its economic specialization. In this case the infrastructure of the regional agricultural market is being formed as an element of regional economy, responsible for the servicing of the main types of economic activity (in the case of tourism and recreational specialization of a region – the wide spectrum of services for tourists, and in the case of natural resources extraction – servicing of the needs of corresponding industrial companies).

It is important to emphasize that along with mentioned agricultural, tourist and recreational, industrial or extractive regional specialization, there are also other, which have significant influence upon the development of infrastructural support of their regional agricultural markets. Such are transit, suburban, borderline, export-oriented and other regions and rural areas, depending on the approach.

Systematizing the factors of influence upon forming of an infrastructure of regional agricultural markets, we can outline the following types of regions according to their specialization, localization and level of concentration of particular infrastructural objects: agro-processing (with prevailing production of agricultural goods and presence of food-processing objects), agro-service (with developed sector servicing agricultural production), agro-tourist (focusing on creation proper conditions to attract and serve tourists), agro-distributive (playing an important role in logistics and transport of agricultural products, not only those produced in this particular region, but also serving as transit for other ones), and finally – agro-industrial (mixed agricultural and industrial production of non-agricultural type). Each of them shows peculiar economic and social preconditions for development, as well as specific relations among different entities of regional agricultural market, which is visible in prevalence of particular objects of their infrastructure (Table 1).

For agro-processing regions it is typical to have, except for agricultural production itself, more emphasis on development of basic objects for storage and processing

of these products. Agro-distributive regions focus more on objects of marketing and innovational infrastructure, transport and logistics (in order to play the role of transit regions), as well as on informational and communicational infrastructure. Agro-service regions emphasize infrastructural objects of service (both for agriculture and non-agricultural activities), informational, communicational, innovational and financial infrastructure, as well as transport. In agro-tourist regions there is a larger focus on marketing, social, informational and communicational and transport objects of infrastructure; in agro-industrial – on informational and communicational infrastructure, transport and logistics.

It is needed to point out that the defined types of regions are “clean” ones, yet in reality most regions combine characteristics of more than one type, which creates “mixed” types in the context of given typology. For example, the Carpathian region of Ukraine, although showing distinct attributes of an agro-tourist region, has the elements of agro-distributive region. At the same time the rural areas of Donetskyyi and Prydniprovskyyi economic regions in Ukraine show the features of agro-processing, and to some extent – features of agro-service region.

This way it can be stated that every region (on any level of administrative-territorial division) has a set of features, which allows to consider it one of the predefined types (or a certain “mixed” type), which could be helpful for selection and development of proper infrastructural support for existing and planned agricultural markets in the analysed region.

CONCLUSIONS

Regional economic zoning can be a helpful tool for developing of proper and efficient infrastructure for regional agricultural markets if done properly. The most important aspect is the correct definition of regional peculiarities and planning to develop such objects of infrastructure, which would enhance and intensify economic activity of agricultural market, not only in the short-term, but also in a long-term perspective. Ukraine has much to do to make up for the years of inexistent regional development policy, and various aspects of development need to be taken into account, including the infrastructural support for agricultural markets on a regional level, which is crucial for sustainable development of agriculture in particular and rural areas in general.

REFERENCES

- Borshchevskiy, V., Prytula, K., Krupin, V. (2012). Formation of Competitive Advantages for Rural Territories (the Case of Lviv Region of Ukraine). *Kľučové kompetencie v oblasti podnikania: zborník vedeckých prác* (p. 110–118). Košice: Technická univerzita v Košiciach.
- Eucken, W. (1995). *Main Principles of Economic Policy*. Moscow: Progress.
- Maniv, Z., Lutskiy, I., Maniv, S. (2009). *Reghionalna Ekonomika: navchalnyi posibnyk*, Lviv: Magnolia.
- Pavlov, O. (2013). Regional Features of the Development of Rural Territories of Ukraine. *Region. Econ.*, 4, 16–23.
- Shults S. (2010). *Ekonomichnyi Prostir Ukrainy: Formuvannya, Strukturuvannya ta Upravlinnia*. Lviv: Institute of Regional Researches of National Academy of Sciences of Ukraine.
- Shults, S., Maksymchuk, M., Storonianska, I. (2010). The Paradigm Evolution of Districting and its Modernization in Conditions of Reformation of Spatially-Institutional Structure of Economy of Ukraine. *Region. Econ.*, 3, 20–28.
- State Regional Development Strategy till year 2020 (2013). Retrieved June 22th 2015 from: www.csi.org.ua/www/wp-content/uploads/2013/05/nsrdu2020_1.pdf.
- Shevchuk, L. (2011). *Reghionalna Ekonomika: navchalnyi posibnyk*. Kyiv: Znannia.

PODZIAŁ NA STREFY GOSPODARCZE JAKO PODSTAWA ROZWOJU WSPARCIA INFRASTRUKTURALNEGO REGIONALNYCH RYNKÓW ROLNYCH UKRAINY – PODEJŚCIE TEORETYCZNE

Streszczenie. W artykule przeanalizowano podejścia do regionalnego podziału na strefy ekonomiczne istniejące w ukraińskim środowisku naukowym. Mogą one być pomocne przy opracowaniu odpowiedniego i skutecznego podejścia do rozwoju wsparcia infrastrukturalnego dla rynków rolnych na poziomie regionalnym. Ponieważ infrastruktura na Ukrainie jest słabo rozwinięta, gospodarka regionalna w wielu przypadkach bardzo na tym cierpi. Rozwój takiej infrastruktury, z powodu niewystarczających środków państwowych i lokalnych, powinien być dokładnie przeanalizowany i ukierunkowany na konkretne potrzeby poszczególnych regionów, gdyż znacznie różnią się one warunkami społeczno-gospodarczymi, a zatem również czynnikami dla różnych rodzajów działalności gospodarczej. Dla wyjaśnienia i ustrukturywania tej kwestii w artykule zdefiniowano najważniejsze czynniki kształtowania i rozwoju wsparcia infrastrukturalnego dla rynków rolnych na poziomie regionalnym, a także uzasadniono klasyfikację regionów według typu rozwoju infrastruktury rynków rolnych.

Słowa kluczowe: podział na strefy gospodarcze, infrastruktura, rynek rolny, gospodarka regionalna, Ukraina

Accepted for print – Zaakceptowano do druku: 13.10.2015

For citation – Do cytowania

Chemerys, V., Krupin, V. (2015). Economic zoning as the basis for development of infrastructural support for regional agricultural markets in Ukraine: theoretical approach. *J. Agribus. Rural Dev.*, 4(38), 627–634. DOI: 10.17306/JARD.2015.66