**Abstract**

In this article the research of theoretical and methodological approaches to ensuring the sustainable development of the agrarian sector within the region based on the methods of state regulation was conducted. Regulatory and legal measures of the agrarian sectors sustainable development within the regions in crisis where conditions have been developed.

The structural scheme of the system of state regulation for pricing of the products in the agrarian sector has been developed. The algorithm for the state regulation of prices for the agrarian market is proposed.

It is proposed to construct of an effective management system of sustainability agrarian sector development of the region to combine all actions of management subjects of agrarian relations by the following elements: state regulation, market self-organization, management of agrarian sector. Currently the most optimal agrarian sectors of the region have an innovative development scenario in which innovative resources are used, shifting resource-technological equilibrium in the direction of production growth through more efficient use of natural, financial and other resources as an additional source of sustainable development of the regional agrarian systems.

A targeted model of sustainable development of the Vinnitsa region agrarian sector has been developed on the basis of an innovative scenario that envisages achieving this by giving the agrarian sector of the region the main and basic guidelines of development by means of organizational and rational interaction of agroindustrial regional system with the external environment, ensuring its ability to self-development, efficiency of functioning, flexibility and adaptability.

**Keywords**

agrarian production, sustainable development, state regulation, state support, Ukraine

**JEL Classification**

E230, Q180

**INTRODUCTION**

**Problem statement.** In the conditions of increasing urbanization, for many countries, including Ukraine, the problem of sustainable development within the agricultural complex of the country is more actual, especially its agrarian sector. The problem of sustainable and complex development of the agrarian sector is the most acute pronounced in rural regions of the country where this form of territorial organization of population and production is prevailing. Considering that the priority areas of Ukrainian economic policy are supplying the population with quality food products in a wide range and sufficient quantity, and also a significant increase of agrarian sector export opportunities, the scientific issues of agrarian sector development are actual.
The solution of this problem largely depends on the position and conditions of functioning within agriculture, which, although it has undergone a significant transformation due to changes as a result of economic reforms during the 90s, it is still in a difficult financial and economic situation. Instable functioning of the agrarian sector, low economic efficiency of the sector, unsatisfactory level of income of the population and other economic difficulties faced by agricultural producers are causing instability in supplying the population with domestic food products from selected product groups and aggravation of many socio-economic problems, especially in rural employment.

1. LITERATURE REVIEW

Today, the issue of studying the problems of ensuring the sustainability of the agrarian sector is studied quite actively, but some aspects of the problem highlighted are still understudied.

Analyzing the concept of “agrarian sector of the economy” it should be noted that there are different approaches to its definition. According to I. Suray (2003), the agrarian sector in the broad sense covers all enterprises of Ukraine irrespective of the form of ownership and the organizational-legal form of management, which produce agricultural products and products of its primary processing, as well as related service enterprises and organizations (institutions) engaged in the development and implementation of state agrarian policy.

Analyzing the concept of “sustainability”, it is worth noting that the term “sustainable development” appeared for the first time in the “World Strategy for the Protection of Nature”, which was developed by the International Union for the Conservation of Nature and published in 1980.

The concept of the sustainability of economic systems development is fundamental, because without it, it is not possible to provide either economic growth or sustainable development of the society. For further analysis, expanded interpretations of the concept “sustainability of development” made by scholars for the macro, meta- and micro-levels of economy are presented.

So, N. Alekseenko (2008) suggests to understand the sustainability of development as “the state of material, economic and labor resources, their distribution and use, which ensure the development of the enterprise on the basis of growth of profits and capital while maintaining solvency and creditworthiness under acceptable risk levels”.

V. Buhai (2008) offers the following interpretation: “sustainability of development is the ability of an enterprise to absorb external and internal destabilizing factors through the efficient use of its resources by improving economic potential”.

A. Vasilenko (2005) considers the sustainability of development from the point of view of the system’s efficiency and believes that “the sustainability of development is the ability of the system to maintain its able-bodied condition to achieve the planned results in the presence of various changing impacts”.

More complete is the definition of the category of sustainable development, which is proposed by V. Ivanov (2005): “sustainability is the ability of the economic system not to deviate from its state (statistical or dynamic) with various internal and external destabilizing influences through effective formation and use of financial, production and organizational mechanisms”.

Also, the interpretation of V. Medvedev (2001) is worth the attention “sustainability is an equilibrium state of economic resources that provides stable profitability and normal conditions for extended reproduction in the long term, taking into account the influence of the most important external and internal factors”.

The analysis of the statements of leading economists regarding the interpretation of the concept of “sustainability of economic systems development” as stated above shows that the overwhelming majority of them relate to determining the sustainability of the development of the economy as a whole or that of individual enterprises.

However, in spite of many developed conceptual approaches to date, in the economic science, there has not been a single idea of what should be un-
derstood under the notion of “sustainability of the regional economic system”.

A detailed analysis of existing approaches to understanding the concept “sustainability of the regional economic system development” was proposed by L. Gurieva (2007). Adding this analysis to such an approach as “preserving the economic ties and traditions of the region”, which can include agricultural, industrial, financial, etc., ties and traditions, we will receive a more generalized approach to the interpretation of the concept “sustainability of the regional economic system development” is the state of the economic system in which, based on the implementation of the strategic plan for the development of the region, developed taking into account both quantitative and qualitative factors of development, and the availability of good management, optimal use of the economic potential of the region is ensured while maintaining effective economic ties (financial, industrial, agricultural, foreign economic, etc.) and traditions of the region.

Recognizing the scientific and practical value of researches by Ukrainian scientists, it should be noted that a number of aspects of sustainable development of the regional agrarian sector requires further, more systematic study.

The purpose of the research. The purpose of this work is a theoretical research of approaches to ensuring sustainable development of the agrarian sector in Ukraine.

2. MAIN RESULTS OF RESEARCH

According to the state enterprise “State Information and Analytical Monitoring Centre of External Commodity Markets”, a priority direction for Ukraine in the structure of the export commodity turnover is CIS countries. Ukraine exports to CIS countries about 36% of goods. Ukraine supplies 10% less produce to EU countries. Among the leading importers of Ukrainian products are also the Middle and Far East. They buy, respectively, 18% and 8% of products that are exported. Approximately the same is the structure of import goods to Ukraine. Ukraine buys most of the goods in the CIS. The total indicator makes 37%. The next is EU, which accounts for 35%, the Far East – 15%, Middle East – 3%.

Last year the largest share of total export performance was by agrarian sector. Ukraine has exported agri-food products in 2013 for 17 bln. US dollars. At the same time, import has increased by almost 9% and amounted to 8,2 billion US dollars. Two-thirds of exports of agro-food products in 2013 ensured five types of products: corn – 13%, wheat – 11%, rapeseed – 7%, sunflower oil – 19% and sunflower meal – 5% (IMF). However, negative economic phenomenon is that these goods have a low added value (in the years 1660–1685 in England under King Charles the Second a law was adopted, which prohibited the export of raw materials. Even then smart people know that the raw materials (such as wool) will be processed abroad and imported into the country at a higher price). Accordingly, Ukraine should work at diversification of exports structure of agro-food products and increase exports of goods with high added value.

Increasing the sustainability of the agricultural sectors development is not possible without a significant correction of course of agrarian reforms. It is important to note that issues of sustainable development of the agricultural sector of the regions is a part of the general problem of stabilization and development of agricultural sector (Borkhukov, 1998). Therefore, such a system should be a complex of interrelated administrative and organizational, legal and economic mechanisms.

Administrative and organizational measures should include the formation in of the elements of market infrastructure of the region (a network of wholesale food markets, commodity exchang-
problems, enterprises of service maintenance), control of their work, licensing of agricultural activities, development and improvement of rural territories, veterinary and quarantine control, as well as control of farming and preservation of national agricultural land fund. Ensuring the sustainability of the agricultural sector development in the region by administrative methods also involves monitoring compliance with quality standards for agricultural products and foodstuffs; establishment of quotas, customs duties on imports or exports of agricultural products and foodstuffs for the protection of domestic commodity producers and food market; monitoring parity prices for agricultural and industrial products for timely adjustment of prices (threshold, target, marginal); identification of priority directions of subsidies and investments.

In the period of instability, development of the agricultural sector within the region legal regulation requires special importance. It is necessary to develop and adopt at legislative, regional level, rules and regulations for all participants of market relations, legal and regulatory framework of inter-regional wholesale markets functioning, exchange trading, organization and conducting competitive bidding of agricultural products in state and regional funds, conducting commodity and procurement interventions, pledge operations, etc. In addition to developing new legal and regulatory documents, it seems necessary to verify agrarian legislation, removing contradictory norms, uncertainty and also to ensure relative stability of laws and control of their implementation. The measures of normative and legal regulation on ensuring sustainable development of the agrarian sector of the regions and the state in general are as follows:

- to abolish mandatory certification of grain quality;
- to simplify the process of land lease agreements registration;
- to abolish mandatory technical inspection of agricultural machinery;
- to abolish mandatory participation of granaries in the grain Guarantee Fund;
- to remove the concept of “regional grain resources” from legislation;
- to guarantee for agrarians the freedom to choose: to sell agrarian products on the exchange or outside;
- to eliminate the State Agriculture Inspectorate;
- to eliminate mandatory development of land projects that provide ecological and economic justification of crop rotation;
- to ensure publicity of data about owners and users of land on the electronic cadastral map.

Some measures have been adopted by the Verkhovna Rada of Ukraine as Law of Ukraine No 2436 as of September 4, 2014. This law is aimed at improving conditions for business activity by eliminating unnecessary restrictions in the performance of economic activity by reducing the amount of approval documents.

The most important prerequisite for ensuring sustainability of the agrarian sector development in conditions of market and economic crisis is the availability of economically justified price system and pricing, as the price mechanism is the main thing in the regulation of relations between producers, packers, processing enterprises, trade and the state, and also serves as a stabilizing factor of sustainable development of the agrarian sector.

The analysis of foreign experience shows that in countries with a developed market, price relations is also the most important mechanism of agricultural market regulation. For example, the level of agriculture state support as a percentage to production value in Austria is 44%, in Canada – 45%, Finland – 72%, Sweden – 47%, Japan – 72%, Switzerland – 76%, in the European Union – 38%, in the United States – from 27 to 40%. Within the EU for basic types of agrarian sector products, guaranteed, indicative, threshold prices, are established in the US – targeted and pledged. So, in any conditions – drought, natural disasters, adverse market conditions, etc., farmers in the Western countries created conditions necessary for ecor
economic activity on an extended basis that has a fundamental significance for the effective development of the agricultural sector. Unfortunately, the necessary state support measures at this level are absent in Ukraine.

The analysis of economic situation in Vinnytsya region, general economic situation in the country, formed in 2000–2013, and taking into account the content of the adopted legal and regulatory documents and methodological foundations, price relations in agriculture should be based on the following principles:

1) rational combination of free pricing or self-regulation by its consumers and producers, market prices of agricultural products to be regulated by public authorities;

2) ensuring equivalent commodity-money exchange and income parity between all participants of production, processing and sales of agricultural products;

3) creating equal economic conditions for all commodity producers regardless of property form and economic activity form;

**Figure 1.** The system of pricing regulation on the products of agrarian sector of the region in order to ensure sustainability of its development
Among these principles, pricing is fundamental to establish the necessary ratio between the free market pricing and state regulation of prices as a general regulatory system of price relations for the agricultural market (see Figure 1).

The market mechanism or self-regulation of prices means predominance on the market of purchases and sale of products at free prices. In modern conditions, agricultural products market is predisposed to the influence of negative consequences of various factors of instability, which makes its state regulation not only necessary, but also inevitable. State regulation influences the subject of regulation – market, its mechanism (demand, supply, prices, etc.), quality of goods, competition, infrastructure – by creating organizational, legal and economic conditions for its formation and development.

The task of state regulation is to use the price instruments to bring the system of supply and demand to an equilibrium state, to guarantee agricultural commodity producers receive income sufficient for farming on an extended basis that has fundamental importance for the effective development of agricultural sector. To solve this problem, according to several known economists, producers should operate the system of state indicative prices, government purchase prices, wholesale and threshold prices (Solopov & Zhidkov, 2002).

For formation of conditions of sustainable development of agricultural sector based on the self-regulation of commodity producers through selling the products at free market prices and contractual prices. The state can ensure the sustainability of the sector through contractual and free market prices only indirectly, developing infrastructure, increasing the level of competitiveness within the market and helping to increase production volumes of the village, etc. A variation of indirect regulation is recommended (indicative) prices. They are determined by an agreement between all interested organizations, including the public who serve as a guideline for market subjects and applied voluntarily by them. The most important prices are exchange prices, which should be determined as a result of trading on the regional commodity exchange not only by the influence of supply and demand, but also taking into account the overall situation of Ukrainian and global food markets. They serve as a guide for the formation of other prices: contractual, market and the state.

The second group forms the state price system and price targets, the most important element of which is the targeted (maximal, control) prices for major agricultural products. A targeted price is a desired level of equivalent prices which provide with non-price forms of state support obtained by agricultural commodity producers where targeted income is sufficient for conducting simple reproduction in the most unfavorable, from the standpoint of existing objective factors, production conditions.

To ensure the reproduction process of the conditions of inflation, it is expedient to lay in the control prices on products in accordance with customer demand and total rate of profit at the level of 45-50%, including crop production 65-70%, in livestock 30-35% (Kozlovskyi, Kozlovskyi, Burlaka, 2014). However, recalculation of income to fund accumulation should be calculated by the average index of industry price growth; to fund of consumption – by the index of consumer prices. Obtained total values of cost price and profitability level determine the value of the control prices. As an indicator, they are not guaranteed by the state, but are the maximum limit, which should not cross market prices on agricultural products (Kaletnik, Kozlovskyi, Kireeva, Pidvalna, 2015).
Especially important is to justify the level of guaranteed prices, which should act as a guarantor of profitability, to protect agricultural producers from bankruptcy and stimulate the development of agrarian enterprises. The basis of the determination of the guaranteed price is the cost given kind of production and a normal level of profitability that provides expanded reproduction of production. The size of profitability is determined taking into account an effective activity and required development of agrarian enterprises. Furthermore, in calculating the guaranteed prices, the level of contractual and current prices in the given and neighboring regions, market conditions, and amount of financial resources provided for procurement to state funds. Guaranteed prices determine the minimum allowable limit of prices for agricultural products that provides commodity producers profitability sufficient for expanded reproduction. Their level is recommended to install 5-10% below the control prices. They are applied by the calculation of supplements to market prices, if the latter are omitted below the level of guaranteed prices. At guaranteed prices, the government, within the established volumes (quotas), buys products from agricultural producers.

In order for agricultural enterprises, peasant farms and other participants of market relations to develop a strategy of behavior for the future and to plan their production, they need to consider it appropriate, for basic types of agricultural products of the region to establish indicative guaranteed procurement prices (Kozlovskyi et al., 2016). They should be formed in the negotiating process and based on the agreement between commodity producers, processing enterprises, wholesale buyers, trade exchanges, and wholesale markets, on the one hand, and representatives of the state, on the other hand. Such prices should be determined considering forecast of crop capacity, productivity and market conditions and must be declared a few months before the harvesting, cattle slaughter, etc. The impact of these prices on the efficiency of agricultural sector consists in the fact that regardless of the market conditions, the state guarantees to producers, primarily, sales and a minimal income and their protection against market fluctuations. Commodity producers decide themselves whether to sell their products to the state at a lower guaranteed price, or on the open market at higher prices, but with a certain commercial risk. In order to reduce fluctuation in prices and incomes of agricultural producers and ensuring production efficiency, the state must conduct procurement and commodity interventions with intervention prices. Their level should be 10-20% lower than the guaranteed procurement prices. Procurement interventions are carried out in the form of organization of procurement and conducting pledge operations of agricultural products, raw materials and food. They are carried out in those cases when market prices fall below a minimum level, and when the commodity producer in the sphere of agroindustrial production is unable to realize agricultural products, raw materials and food because of the demand reduction.

The regulation is carried out in the following manner. With significant increasing market prices and aggravation of agricultural products deficit on the market, the state carries out commodity intervention, which means sale of products, raw materials and food at realization prices from previously accumulated stocks. Increased aggregate supply is leading to decline in prices to the previous level. As a result, position on the market is stabilized, price fluctuations and incomes of commodity producers are reduced. In a market economy, the use of procurement and commodity interventions should be one of the main instruments increasing the efficiency and sustainability of agricultural production at the level of the region and the state as a whole (see Figure 2).

Given that the effectiveness of the agricultural sector’s functioning is to a large extent dependent on changes of weather conditions over the years (Zhurakivskyi, 2015), it is considered appropriate to differentiate the procurement prices to the state and regional funds. A stable procurement price in the unstable conditions gradually reinforces the instability of economic development. Prices should be such that in every weather situation to cover an objectively justified production costs, to create income that allows providing normal conditions of expanded reproduction. To smooth the sharp differences in conditions of reproduction due to weather conditions, commodity producers believe that prices for products procured to the state fund should be lower in favorable and higher in unfavorable years. Receipts will fluctuate much
less than volume of products, the financial sustainability of enterprises will be higher than agro-technical sustainability and ensure the overall stability of agrarian sector.

It is well known that the degree of state intervention in any sphere of society is directly proportional to the level of sustainability of given sphere of activity. When sustainability of the agricultural sector is low, the state to a greater extent intervenes in agricultural economics, by directing its development in the right direction.

In the agricultural policy of developed countries, the state takes an active position in supporting their agrarian sector, which allows them to compensate the negative impact of natural risks on the agrarian sector’s development. To ensure sustainable development of Ukrainian agrarian sector is also impossible without the participation of the state.

To construct an effective management system of sustainability of Ukrainian agrarian sector development and ensure its stable growth requires a rational combination of all actions of management subjects of agrarian relations, as shown in Figure 3.

The interaction of the state, market self-regulation and sectoral self-government is implemented in the following way: the state regulates and stimulates the development of the agrarian sector, promotes to organization of sectoral self-government; market self-regulation forms the economic interests of the agricultural market subjects; sectoral self-government “complements” the state, indicates the agricultural business goals, directions and prospects of development.

When improving management of the agrarian sector’s development of the region, is necessary to ensure a reasonable balance of economic interests between the state, market self-regulation

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**Figure 2.** State regulation of prices on agricultural market to ensure the sustainability of its development

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and sectoral self-government, to introduce public control over the activities of the state authorities and local self-government. Research, conducted in Vinnytsya region, convincingly proved the importance of public control and civil initiatives for making the appropriate management decisions.

It should be emphasized that the importance of the agrarian sector for economic development requires a purposeful effort not only from the state, but also from private business. An important instrument in this case could be development forecasting scenarios of agricultural development for long periods of time, the use of which will allow agricultural producers to be better oriented in market situations on the agricultural market and more effectively implement modern achievements of agroindustrial production in their activities thus contributing to the improvement of production, social and economic components of sustainability in agrarian sector development.

Currently, the most optimal for agrarian sectors of the region is an innovative development scenario in which innovative resources are used, shifting resource-technological equilibrium in the direction of production growth through more efficient use of natural, financial and other resources, is an additional source of sustainable development of the regional agrarian systems.

For this purpose, an innovative scenario was introduced to develop a target model of sustainable development within the agrarian sector of the Vinnytsya region of Ukraine. It envisages achieving this by giving the agrarian sector of the region the main and basic guidelines of development by means of organization and rational interaction of agroindustrial regional system with the external environment, ensuring its ability to self-development, efficiency of functioning, flexibility and adaptability (see Figure 4).

In Vinnitsa region, a strategy ensuring the sustainable development of the agrarian sector should provide the production of competitive agricultural products, which envisages realization of these priority tasks:

- increasing the competitiveness of products based on newest achievements of agrarian science, the use of modern forms and methods of management;
- development of cooperation and agroindustrial integration;
- strengthening control over the turnover of land shares;
- ensuring legal and economic equality of business entities of all forms of economic activity;
- preservation and stabilization of capacity of large commodity agricultural production;
- implementation of technical and technological re-equipment of agricultural enterprises by restoring integrated communications and re-orientation of own mechanical repair enterprises to produce a new modern technique that is in high demand;

![Figure 3. Interaction of management subjects of sustainability of agrarian sector development](image-url)
creating favorable conditions for recovery of investment activity in agroindustrial sector by improving the state investment policy and the introduction of market regulation instruments (subsidies and subventions, bank interest rates in lending, tax rates, etc.)

activation of innovative activity through forming sectoral, intersectoral and regional centers that integrate scientific, educational institutions, development of organizational and economic mechanisms of innovation demand by agricultural producers;
• change in the structure of land property in rural areas and creation on that basis of different forms of economic activity in agriculture, including joint stock companies, cooperatives of producers, formed from economically independent private farms, etc.

A necessary condition for the sustainable development of the agrarian sector of the region is the preservation and reproduction of land resources as the most important natural resource, creating legal, economic, organizational, technological and other conditions for increasing soil fertility, conservation and improvement of the natural environment. Solving this problem is possible through conducting such events:

• the introduction of constant control of the use of land and other natural resources;

• streamlining document flow and creating an effective regional system of monitoring the use of natural resources based on modern information systems.

The implementation of the economic strategy for sustainable development of the agrarian sector within the region requires a significant improvement of economic entities work, engaged in production of agricultural goods and the foodstuffs. The main task in this case is to ensure sustainability of reproduction processes and achieving real self-financing of development of agrarian sector of economy.

Creating conditions for ensuring sustainable development of agrarian sector of economy at the regional level in perspective needs to the implementation of such measures:

• creating in regional centers of credit institutions which can lend to agricultural producers. In the long run, it is expedient to supplement the existing system of commercial banks by mutual credit companies and cooperative banks, founders of which would be agricultural farms and the population of rural areas. It will allow credits to be cheaper, to prevent leakage of financial resources in unmanaged areas and will create competitive environment in the sphere of bank service in remote rural areas;

• formation of the consulting center, which would provide advisory, technical and informational services to agricultural commodity producers.

For ensuring sustainable development of the agrarian sector of the region, an important role to play is improving the social sphere in rural areas. For this, it is necessary implementation of such measures:

• increasing incomes of workers employed in agricultural farms of all types of property, and bringing incomes of the average by the state to the level of income of workers in the sphere of material production; growth the purchasing power of the rural population; promote achieving the most complete rural employment;

• improving the quality and availability of the necessary labor resources with in the agrarian sector; promoting self-employment and entrepreneurial activity of the rural population;

• exercise of control ensuring that rural areas are established by the state social guarantees in labor remuneration;

• improvement of living conditions of agricultural workers, the development of social infrastructure, services, expanding their number and improve the quality; strengthening health system, education, culture;

• strengthening and modernization of material-technical base of educational institutions, the creation of practical training centers of students;

• development of scientific and research work in educational institutions;

• creating integrated educational institutions of agrarian profile, ensuring effective interaction between science and production;

• improving the training system and retraining of personnel for agricultural enterprises, development of legal and regulatory bases of appointing young specialists in rural areas, etc.
CONCLUSION

The researches have established that without significant improvement of the methods of state regulation of the development of the agrarian sector on the basis of the application of administrative and legal instruments, it is impossible to ensure the sustainability of the agrarian development of the regions. State regulation of the agrarian sector should provide, first of all, the development of a rational system of pricing, the financial recovery of all spheres of the agroindustrial sector, the development of bank lending, etc. In order to solve this scientific problem, a structural scheme of the organization of state regulation of prices for agrarian products was developed in the work, which is based on the state's implementation of commodity interventions to ensure sustainable development of the agrarian sector in general.

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