

UDC 332.02
AGRIS E10
JEL classification: A10; C03

<https://doi.org/10.33619/2414-2948/61/34>

IMPROVING THE ECONOMIC EFFICIENCY OF AGRICULTURAL PRODUCTION BY ITS DIVERSIFICATION IN THE REPUBLIC OF KARAKALPAKSTAN

©*Jiemuratov T.*, Karakalpak State University, Nukus, Uzbekistan, Zhiyemuratov77@inbox.ru
©*Baijanov S.*, Ph.D., Karakalpak State University, Nukus, Uzbekistan, sbx2112@mail.ru

ПОВЫШЕНИЕ ЭКОНОМИЧЕСКОЙ ЭФФЕКТИВНОСТИ СЕЛЬСКОХОЗЯЙСТВЕННОГО ПРОИЗВОДСТВА ПУТЕМ ЕГО ДИВЕРСИФИКАЦИИ В РЕСПУБЛИКЕ КАРАКАЛПАКСТАН

©*Жиемуратов Т.*, Каракалпакский государственный университет, г. Нукус, Узбекистан, Zhiyemuratov77@inbox.ru
©*Байжанов С.*, канд. экон. наук, Каракалпакский государственный университет, г. Нукус, Узбекистан, sbx2112@mail.ru

Abstract. The article describes the importance of diversifying in the agriculture production. The main directions of diversification of production have been identified due to the production capacity of each region of the Republic of Karakalpakstan. The directions of diversification of agricultural production in the Republic of Karakalpakstan are determined on the basis of the production potential of the regions. The statistical analysis of the production of basic agricultural products has been carried out. We can see from the analyzes that the production of vegetables, melons and dairy products corresponds to the level of consumer demand in the Republic of Karakalpakstan. However, the needs of the population in fruits, berries, eggs, grapes, fish, honey and potatoes remain unsatisfactory. The degree of the diversification in agriculture production is very low. Analyzing the composition of arable land in the Republic of Karakalpakstan, 75% of the total arable land is allocated for cotton and grain crops. Despite significant growth in the vegetable, melon and livestock sectors in the country, the service infrastructure, material resources and most research and educational institutions are intended to grow raw cotton and cereals. But availability of natural lakes, convenience of growing fodder for poultry, availability of labor force allow to raise the degree of the agricultural diversification in the Republic of Karakalpakstan. The level of use of land, water, labor and other opportunities varies in different regions of the Republic. Therefore, the territory of the Republic of Karakalpakstan is divided into 4 conditional zones and the main directions of the agricultural diversification are determined for each region separately.

Аннотация. В статье показана необходимость диверсификации сельскохозяйственного производства. Направления диверсификации сельскохозяйственного производства в Республике Каракалпакстан определены исходя из производственного потенциала регионов. Проведен статистический анализ производства основных сельскохозяйственных продуктов. Из анализа видно, что производство овощей, дынь и молочных продуктов соответствует уровню потребительского спроса в Республике Каракалпакстан. Однако потребности населения во фруктах, ягодах, яйцах, винограде, рыбе, меде и картофеле остаются неудовлетворительными. Степень диверсификации сельскохозяйственного производства очень низкая. Анализируя структуру посевов сельскохозяйственных культур в Республике

Каракалпакстан, 75% всех пахотных земель отведено под хлопок и зерновые культуры. Несмотря на значительный рост в овощном, бахчевом и животноводческом секторах страны, инфраструктура услуг, материальные ресурсы и большинство научно-исследовательских и образовательных учреждений предназначены для выращивания хлопка-сырца и зерновых культур. Но наличие природных озер и излишка трудовых ресурсов позволяют повысить степень диверсификации сельского хозяйства в Республике Каракалпакстан. Уровень использования земельных, водных и трудовых ресурсов варьируется в разных регионах республики. Поэтому, территория Республики Каракалпакстан разделена на 4 условные зоны и основные направления диверсификации сельского хозяйства определены для каждого региона отдельно.

Keywords: economic efficiency, agricultural production, diversification, statistical analysis, land.

Ключевые слова: экономическая эффективность, сельскохозяйственное производство, диверсификация, статистический анализ, земля.

Introduction

In a market economy, the most competitive are organizations that adapt as quickly as possible to various changes in market conditions. World practice shows that organizations with diversified production are the most adapted to these changes. There are many definitions of diversification in the economic literature. Different scientists interpret this concept differently, an important point is the ability to recognize and interpret this concept in relation to specific circumstances [1].

The relationship between diversification and development has been addressed by a number of theories with different implications about the sign and direction of causality. First, among theories that predict a positive effect of diversification on income levels, a well-known group emphasizes risk and volatility. In Acemoglu and Zilibotti (1997), risky projects with high returns are only be carried out when economies have the possibility of entering a wide array of projects (sectors); thus, higher diversification goes hand in hand with a higher expected rate of return. A somewhat related theory is advanced by Koren and Tenreyro (2013), who develop a model in which diversification dampens the adverse effects of sector-specific negative shocks by limiting the direct impact of a negative sector-specific shock and facilitating substitution away from the negatively affected sector.

One of the authors describing the concept and features of the diversification process is G. I. Nemchenko. From her point of view, diversification is one of the forms of capital concentration associated with the penetration of previously specialized enterprises (industrial, transport, construction, financial, etc.) into other branches of production, services [2].

Another theory is that higher levels of diversification reflect a wider availability of productive capabilities, implying under the assumption that capabilities are complementary a positive effect diversification on income and subsequent growth [5]. A somewhat related idea connected with urbanization economies, in particular those operating through increased flows of knowledge goes under the name of Jacobs externalities: diversity can foster technological dynamism, i.e. innovation and adoption of new technologies [7].

It is well known that from an economic point of view, diversification is the simultaneous development of several or many non-interrelated technological types of production and services, expansion of the range of manufactured products and services [3].

Diversification enables organizations to "hold on afloat" in a difficult economic environment

due to the release a wide range of products and services. Losses from unprofitable products are covered by profits from other types of products.

First of all, diversification is the penetration of organizations into an industry that does not have a direct production link or functional dependence on the main branch of their activity. Secondly, in a broad sense, the expansion of economic activity into new areas (expansion of the nomenclature of products, types of services provided, etc.). Diversification production and entrepreneurial activity, being a tool for eliminating imbalances in reproduction and redistribution of resources, pursues, as a rule, various goals and determines directions of individual organizations and the economy as a whole. This process concerns, first of all, the transition to new technologies, markets and industries, to which the company previously had nothing to do. In addition, the products of the enterprise themselves must also be completely new and new financial investments are always needed [4].

The main criteria for the socio-economic efficiency of diversification of agricultural production include:

- increase in production volume;
- employment of the rural population; [7]
- rational use of natural resources;
- increase in living standards and sources of income of the rural population;
- improvement of the demographic situation;
- formation of competitive markets;
- inflow of investments into rural areas.
- ensuring food security;

Materials and methods

When developing diversification strategies, it is necessary to take into account the large differentiation of the natural, economic and social conditions of rural administrative regions of the Republic of Karakalpakstan. The Republic of Karakalpakstan is located in the northwestern part of Uzbekistan on an area of about 166,600 km². The overwhelming part of the territory of Karakalpakstan is lowlands (from 50,200 m above sea level), and flatness is its most noticeable feature. Most of the population lives and works on irrigated river plains in the Amu Darya River Delta. Socio-economic stability in the region is largely dependent on the living standards of all segments of the population and, above all, on meeting their food needs. One of the principles underlying the strategic directions of regional development is the principle of food self-sufficiency. Local producers of the Republic of Karakalpakstan are able to meet the needs of the population of the republic with melons, vegetables, and dairy products. However, the needs of the population in fruits, berries, eggs, grapes, fish, honey and potatoes remain unsatisfactory (Figure 1).

Grape growing in the country does not exceed 28% of the market potential, fruits and berries — 39%, and egg products — 55%, potatoes — 66%. As a result, in order to meet the needs of the population, these products are imported to the Republic of Karakalpakstan from other regions. This, in turn, once again justifies the need to increase the volume of these products as a priority in the diversification of agricultural production [5].

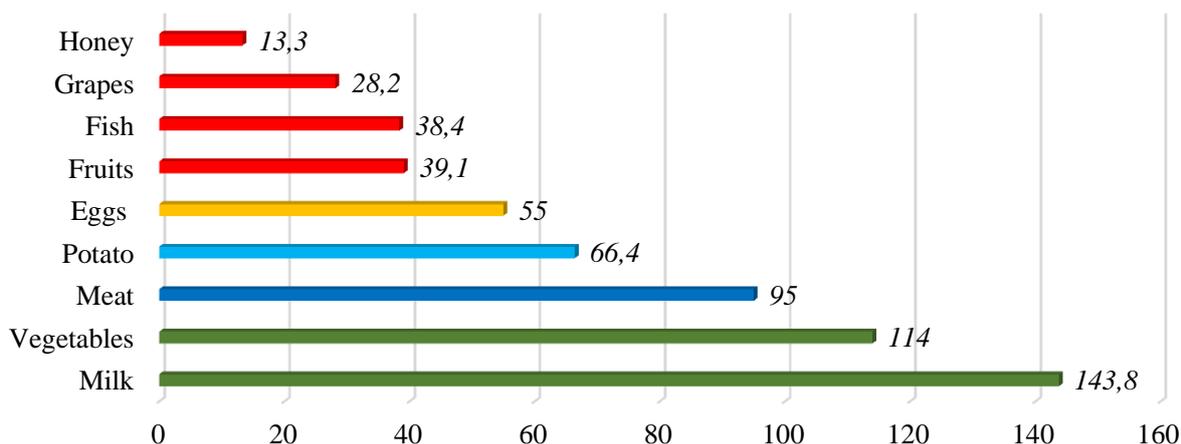


Figure 1. The level of provision of the population of the Republic of Karakalpakstan with the main types of agricultural products

In 2019, the sown area of Karakalpakstan amounted to 232.1 thousand ha, accounting for 7% of the total sown area of Uzbekistan. In Karakalpakstan, cotton has the largest sowing area of 88 560 ha which is 38.1% of the total sown area. Second place by sown area is wheat. It occupied 85 767 ha., which equals 36.9% of the total sown area. 75% of the total arable land is allocated for cotton and wheat (fig 1).

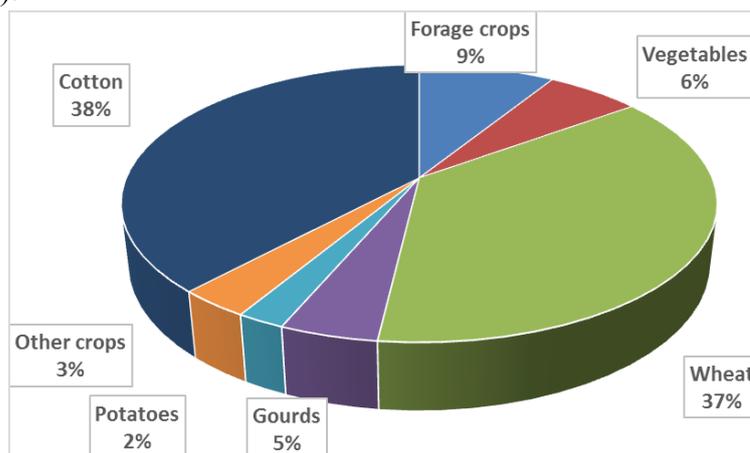


Figure 2: The proportion of planted area of Republic of Karakalpakstan [6]

Analyzing the composition of arable land in the Republic of Karakalpakstan, 75% of the total arable land is allocated for cotton and grain crops. Despite significant growth in the vegetable, melon and livestock sectors in the country, the service infrastructure, material resources and most research and educational institutions are intended to grow raw cotton and cereals.

Discussion

The level of use of land, water, labor and other opportunities varies in different regions of the Republic. In order to increase the level of diversification, it is expedient to study the territory of the Republic of Karakalpakstan by separating into 4 conditional zones: South-eastern, Central, Northern, North-western.

South-eastern and Central zones: Currently, relatively favorable conditions for the development of agricultural production exist in the South-eastern and Cenral zones. Despite the fact that the total land area of South-eastern region is 10.7%, 43.2% of the planted land of the Republic is located in this area and 40 % of the population of Karakalpakstan lives in this area. The share of

the region in agricultural production is 52.9%. This means that the use of available resources and opportunities in the region is well established. It is expedient to strengthen the system of processing of agricultural products in this region, to strengthen services in the sale of products, to organize the sale of surplus products to other regions.

Table 1.

INDICATORS OF USE OF AVAILABLE RESOURCES IN DIFFERENT ZONES
 OF THE TERRITORY OF THE REPUBLIC OF KARAKALPAKSTAN

<i>Conditional zones</i>	<i>Total land area (%)</i>	<i>Irrigated land (%)</i>	<i>Planted land (%)</i>	<i>Percentage of population living in the area</i>	<i>Share in gross agricultural output</i>
South-eastern	10.7	27,1	43,2	40,1	52,9
Central	2.5	22,8	21,4	34,6	17,9
Northern	17.5	24,2	17,5	11,1	15,1
North-western	69.3	25,9	17,8	14,2	14,1

The level of water supply in this area is relatively stable. The degree of the saturation of the local market with the main agricultural products is higher than in other zones. The early arrival of spring is favorable for the cultivation of the main types of agricultural products in the region, including: cotton, wheat, melons, fruits and vegetables.

Northern and North-western zones: The degree of the saturation of the local market with the main agricultural products is lower in these zones. The main reasons for the relatively low indicators are the level of water supply in the region, the quality of land and low crop yields and high salinity of lands. There are favorable conditions for the development of animal husbandry in these zones. Despite the fact that 52.1% of the republic's hayfields and pastures are located in this region, only 14% of cattle, 26.3% of sheep and goats, 31.3% of horses and camels account for this region.

Table 2.

DIRECTIONS FOR DIVERSIFICATION OF AGRICULTURAL PRODUCTS
 IN THE ECONOMIC ZONES OF THE REPUBLIC OF KARAKALPAKSTAN

<i>The economic zones</i>	<i>Production potential</i>	<i>The main directions of diversification of agricultural production</i>
South-eastern	Favorable natural climate, water supply, availability of labor force, development of rural infrastructure	Processing, storage, transportation of agricultural products, organization of clusters of beekeeping, leather and dairy products, cultivation of fruits and vegetables indoors
Central	Favorable natural climate, water supply, availability of labor force, cultivation of vines for horticulture	Creating an intensive garden, planting fast-ripening varieties of fruit, beekeeping, viticulture
Northern	Availability of natural lakes, convenience of growing fodder for poultry, livestock	Fisheries, building materials, cattle breeding, camel breeding, pig breeding, rabbit breeding, cultivation of fodder base for cattle breeding
North-western	availability of hayfields and pastures, availability of large land resources, availability of resources for building materials	Growing of plants growing in arid, fishing, drought-resistant and sand-desert zones, introduction of water-saving technologies, cultivation of construction materials from local resources

Due to the availability of pastures and fodder base for livestock in Northern zone, it is possible to start processing of livestock products, including dairy products, leather products in this zone.

Summarizing these analyzes, we can see in the table below the main directions of diversification of agricultural production, based on the production potential of each region.

Conclusion

In conclusion, it should be noted that the process of diversification of production at an agricultural enterprise is a factor in increasing its competitiveness in the agri-food market. Based on the capabilities of the regions, the identification of areas for diversification of agricultural production and the development of strategies for its implementation will serve to increase the competitiveness, financial efficiency and effectiveness of agricultural enterprises in the future.

References:

1. Zaitsev, N. A. *Ekonomika promyshlennykh predpriyatii*. Moscow. (in Russian).
2. Nemchenko, G., Donetskaya, S., & D'yakonov, K. (1998). Diversifikatsiya proizvodstva: tseli i napravleniya deyatelnosti. *Problemy teorii i praktiki upravleniya*, (1). 107-113. (in Russian).
3. Kukartseva, A. V. (2010). Osobennosti diversifikatsii v APK. *Vestnik Altaiskogo gosudarstvennogo agrarnogo universiteta*, 7(69). 101–104. (in Russian).
4. Fomichev, A. V. (2011). Osobennosti diversifikatsii v agropromyshlennom proizvodstve. *Vestnik MichGAU*, (1). 2. 224–226. (in Russian).
5. Nurimbetov, T. U., Baltashov, J. M., Bayjanov, S. X., Ismailov, K. S., & Mirzanov, B. J. (2020). The Importance Of Agricultural Marketing Services In The Development Of Agriculture Of The Republic Of Karakalpakstan. *Journal of Critical Reviews. JCR*, 7(10). 2910-2914.
6. Bayjanov, S. X., Ismailov, K. S., & Nurimbetov, T. U., Bekbosinov K. K. (2020). Use of Marketing Methods in the Development of Strategies for Diversification of Agricultural Production in the Republic of Karakalpakstan. *Solid State Technology*, 63(4). www.solidstatetechnology.us
7. Kerimbergenovich, A. A., Kamilovich, S. S., Tursinbaevich, A. R., Jannazarovich, A. K., Kazievich, S. J., & Maksetovich, O. H. (2020). Ecotourism development in the republic of karakalpakstan: historical places and protected areas. *Journal of Critical Reviews*, 7(12), 1258-1262. <http://dx.doi.org/10.31838/jcr.07.12.220>

Список литературы:

1. Зайцев Н. А. Экономика промышленных предприятий. М.:ИНФРА-М, 2004. 439 с.
2. Немченко Г., Донецкая С., Дьяконов К. Диверсификация производства: цели и направления деятельности // Проблемы теории и практики управления. 1998. №1. С. 107-113.
3. Кукарцева А. В. Особенности диверсификации в АПК // Вестник Алтайского государственного аграрного университета. 2010. №7(69). С. 101–104.
4. Фомичев А. В. Особенности диверсификации в агропромышленном производстве // Вестник МичГАУ. 2011. №1. Ч. 2. С. 224–226.
5. Nurimbetov T. U., Baltashov J. M., Bayjanov S. X., Ismailov K.S., Mirzanov B.J. “The Importance Of Agricultural Marketing Services In The Development Of Agriculture Of The Republic Of Karakalpakstan // *Journal of Critical Reviews. JCR*. 2020. V. 7. №10 P. 2910-2914.

6. Bayjanov S. X., Ismailov K. S., Nurimbetov T. U., Bekbosinov K. K. Use of Marketing Methods in the Development of Strategies for Diversification of Agricultural Production in the Republic of Karakalpakstan // Solid State Technology. 2020. V. 63. №4. www.solidstatetechnology.us

7. Kerimbergenovich A. A., Kamilovich S. S., Tursinbaevich A. R., Jannazarovich A. K., Kazievich S. J., Maksetovich O. H. Ecotourism development in the republic of karakalpakstan: historical places and protected areas // Journal of Critical Reviews. 2020. V. 7. №12. P. 1258-1262. <http://dx.doi.org/10.31838/jcr.07.12.220>

*Работа поступила
в редакцию 18.11.2020 г.*

*Принята к публикации
22.11.2020 г.*

Ссылка для цитирования:

Jiemuratov T., Baijanov S. Improving the Economic Efficiency of Agricultural Production by its Diversification in the Republic of Karakalpakstan // Бюллетень науки и практики. 2020. Т. 6. №12. С. 306-312. <https://doi.org/10.33619/2414-2948/61/34>

Cite as (APA):

Jiemuratov, T., & Baijanov, S. (2020). Improving the Economic Efficiency of Agricultural Production by its Diversification in the Republic of Karakalpakstan. *Bulletin of Science and Practice*, 6(12), 306-312. <https://doi.org/10.33619/2414-2948/61/34>