

MODEL OF OPTIMIZATION OF LAND PRODUCTION OF FARMS THROUGH SPECIALIZATION

Makhammadjonov M.U.

Student at the ASTU Branch in Tashkent region

E-mail: mahammadjonovmuhammadillo032@gmail.com

ANNOTATION: This article highlights the issues of increasing the efficiency of land use in the development of farms in Uzbekistan. In particular, a model for optimizing land resources through the specialization of production is proposed. Based on the modeling, the agro-economic potential of the regions, climatic conditions, and factors of specialization corresponding to the types of products were taken into account. According to the research results, it is shown that the specialization of farms serves to increase their economic efficiency, rational use of land resources, and increase agricultural productivity. The article also discusses the proposed measures based on the model and their practical significance.

KEYWORDS: farming, specialization, land area, optimization, production model, agroeconomic potential, agriculture, efficiency, resource utilization, territorial specialization

Optimization of the land ownership system is also crucial for agricultural development in Uzbekistan, and structural constraints and strategic directions in the national economy play a significant role in this for developing countries. The reason for this is that agriculture remains the main source of livelihood for a large part of the population in developing countries. Nevertheless, many countries are facing problems of food security, high unemployment rates, and low agricultural productivity.[1] These problems are deeply related to the systems of land ownership, use, and management. The land ownership system - that is, the rights of ownership, lease, or use - directly affects farmers' decision-making, investment, and productivity. In this study, we explore the possibilities of further development through the specialization of farms producing agricultural products through the reform of the land ownership system. In this process, institutional reforms, resource redistribution models, and how infrastructure investments can be utilized are analyzed and proposals are made [2-6].

First, let's consider the issue of land ownership and agricultural efficiency. In any country, land ownership systems can take various forms, from formal property rights to lease and share ownership. The optimization of these systems is theoretically based on the principles of economic efficiency, especially in terms of the distribution of land, labor, and capital resources. Optimal resource allocation means ensuring the highest return within the available resources and their value. In a study conducted by Alam et al. (1995), existing practices and theoretically best options were compared using linear programming models. The security of land ownership is an important factor in promoting long-term investments - such as activities such as irrigation, tree planting, and soil conservation [7,8]. In this regard, the experience of the state of Bangladesh deserves attention. In Bangladesh, the practice of optimizing farmers' land areas through linear programming has been applied. The study in the Jessore region of Bangladesh is one of the examples that shows how to optimally use land resources. According to the research results, small farmers could not fully utilize land and labor due to a lack of capital. In the case of credit or debt, net profit grew by more than 30%, and the possibility of wider use of modern crops and mechanization arose. Conversely, in cases where capital is limited, the land remains vacant, and labor is not fully employed. This shows that the availability of financial resources is a decisive factor in increasing efficiency.

Indicators of efficient land use in agriculture in developing countries. The research conducted by Rao and Caballero examined the results in Bangladesh in a broader context. In some regions, such as East Asia, the transformation of agriculture stimulated industrial growth, but in regions such as sub-Saharan Africa, this process was slow due to structural constraints and political errors. In many low-income countries, the volume of food production per capita has decreased or remained unchanged. Through structural adaptation programs in the 1980s, many subsidies were cut, and small farmers were weakened. However, if structural reforms are properly directed, development based on agriculture can be effective.

Obstacles to optimizing land ownership in developing countries. The main obstacles to optimizing the land ownership system are: firstly, the unfair distribution of land. The presence of large landowners and landless populations reduces investment and exacerbates poverty. Secondly, the uncertainty of land ownership stops long-term investments. Thirdly, there is a shortage of capital - credit markets operate in favor of large landowners. Fourth, institutional weaknesses - bureaucratic sluggishness, lack of land data, and political resistance - make reforms difficult.

Strategic possibilities: Directions of optimal land use. Nevertheless, developing countries have strategic opportunities for agricultural development. Linear programming models show that income and jobs can be increased through crop redistribution in conjunction with credit, consulting services, and infrastructure. The development of crop-specific and regional strategies contributes to the formation of government policy and donor programs. Investments in irrigation, mechanization, and seed quality increase the effectiveness of land ownership reform.

Political instruments and reform measures. Governments should implement the following policy measures: a comprehensive land reform (redistribution, legal formalization and regulation of leasing), formalization of land ownership rights stimulates investment. Financial sector reforms - microcredit, subsidized loans, and insurance products for small farmers - are necessary. Infrastructure development, especially irrigation systems, rural roads, and storage facilities, will expand market opportunities. Strengthening information dissemination services and farmers' associations is also important.

Inclusive development through agriculture. Optimization of the land ownership system ensures not only productivity, but also justice. Economic growth through agriculture is linked to job creation, especially benefiting low-skilled workers. It is more inclusive than industry and less sensitive to global market changes. Fair ownership of land is an important factor in reducing poverty.

Problems in implementation and ways to overcome them. The main problems in the implementation of reforms are political resistance, discrepancies between government bodies, and a lack of information. To overcome this, it is necessary to implement small-scale pilot projects, maintain transparent land registers, digital maps, participatory management mechanisms, and enhance the capacity of local authorities and farmers.

Revising and optimizing the land ownership system is a prerequisite for unlocking the potential of agriculture in developing countries. If access to credit is combined with infrastructure and institutional support, it will be possible to ensure production, employment, and justice. This requires an integrated approach - through economic modeling, political reform, and participatory governance. Despite the fact that this is a complex process, the restructuring of land ownership systems serves as a solid foundation for sustainable and inclusive development.

The Concept for the Efficient Use of Land Resources in Agriculture includes the following main directions for increasing the efficiency of land use, achieving the maximum productivity potential of agricultural land:



References:

1. Abdukarimov I.T. Methods of Reading and Analyzing Financial Statements = How to Read and Analyze Financial Statements: -T: "World of Economics and Law" Publishing House, 1999. - 320 p.
2. Akramov E.A. Financial Condition of Enterprises analysisi: Textbook. -T.: Finance Publishing House, 2004. - 224 p.
3. Vahobov A.V., Ibrohimov A.T., Ishonkulov N.F. Financial and Management Analysis: Textbook. -Tashkent: Shark, 2005. - 480 p.
4. Usanov A. Reflection of Current Assets in Financial Statements.//Agriculture of Uzbekistan, 2010. No5 - pp. 35-36.
5. Pardaev M.K. Theoretical and Methodological Problems of Economic Analysis in the Context of Economic Liberalization: 08.00.08: Doctor of Economic Sciences... diss. Banking and Finance Academy of the Republic of Uzbekistan. - T., 2002. - 43 p.
6. Yergeshev E. Economic and Financial Analysis: Textbook/ E. Yergeshev. - T.: Finance, 2000. - 256 p.
7. Chayanov A. V. Peasant Farm: Selected Works / A. V. Chayanov; ed. A. A. Nikonov; Institute of Economics of the USSR Academy of Sciences; introduction. N. K. Figurovskaya, A. I. Glagoleva. - Moscow: Economics, 1989. - 491 p. - (Economic Heritage). 65.9 (2) 32. Ch-32. 445634-KX
8. Zvi Lerman and David Sedik. Agricultural Recovery and Individual Land Tenure: Lessons from Central Asia. FAO Regional Office for Europe and Central Asia Policy Studies on Rural Transition No. 2009-3.