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The Relationship between Economic Efficiency and Socio-Economic Factors

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Abstract - *The article examines the relationship between the economic efficiency of agricultural production and socio-economic factors in rural areas. The purpose of the study is to detect and to substantiate the factors of rural areas, which contribute to the increase of agricultural production efficiency. It is indicated that the dynamic development of agriculture leads to a change in a labor market structure. It helps to eliminate seasonality, to reduce staff turnover and also to increase the income of farm workers and make it more constant. It is revealed that social programs in rural areas raise the overall level of costs, but at the same time lead to increasing economic efficiency of agricultural enterprises.*

Key Words: economic efficiency, rural area, socio-economic factors, digitalization

1.INTRODUCTION

The economic efficiency of agricultural production is linked inextricably with the socio-economic development of rural areas and mostly determined by it. Practice shows that the continuously developing economic relationship between agricultural enterprises and production conditions in rural areas reflects the socio-economic characteristics of the rural population and gives impetus to progressive changes in the economy.

In modern conditions, the dynamic development of agriculture is associated with a change in a labor market structure. For example, the expansion of non-agricultural sectors of the labor market in rural areas makes it possible to allocate labor resources more effectively throughout a year. At the same time, a change in a labor market structure requires an improvement of working conditions in order to engage qualified employees to agricultural production. Insofar, staff turnover decreases, as there is no outflow of skilled workers from companies with good working conditions [1, 2].

An improvement of rural population's working conditions, way of life and leisure quality includes not just the improvement of agricultural production itself, but also the other spheres of the agro-industrial complex. In particular, the development of companies, which provide a recycling of agricultural products, its technical maintenance and also production of containers and packaging will contribute to improvement of the employment sector, eliminating its seasonality, reducing staff turnover, increasing and stabilizing farm workers' income.

2. MATERIALS AND METHODS

The research was carried out on the materials of rural areas and agricultural formations of the Republic of Tatarstan. A monographic, analytical and mathematical modeling methods were used in the research.

The concept of "production efficiency" contains socio-economic sense. Thus, an increase in production efficiency means an increase in labor productivity, the development of productive forces and the improvement of production relations. The improvement of industrial relations is connected with socio-economic factors that contribute to the development of the economy.

Socio-economic factors that significantly affect economic efficiency of production include: high level of workers's qualification, social activity, working and living conditions, etc.

In the context of entrepreneurship development in rural areas, the process of forming attitudes to work cannot be regarded as a simple extrapolation of current trends [3, 4]. The social activity of the rural population is driven by moral interest and desire to get a certain status, since social equality is ensured for all members of the rural population. There are several ways of social activity development: participation in creative public organizations, fulfillment of public assignments, participation in political, economic life, social projects, etc. As a result, a 'sensitive' type of worker is formed, which is characterized by greater attention to working conditions and to reward for his labor.

The strengthening of market relations in the agricultural sector is closely related to the socio-economic transformations in rural areas. Today in agricultural production there is a development of integrative and cooperative processes, small and medium-sized enterprises. [5, 6]. At the same time, staff stability is an important factor of agricultural production efficiency increasing.

3. RESULTS AND DISCUSSION

Thus, studies in the Republic of Tatarstan show that there are 52.6 thousand workers in agriculture currently (2020). Compared to 2010, the number of employees decreased by 30.8 thousand people, or 36.9%. The trend is described by the equation:

$y_1 = 100.03 - 4.301$ t, $R^2 = 0.9756$,
where y_1 is the average annual number of employees of agricultural organizations, thousand people;
t - years.
At the same time, due to integration processes, the number of farms during this period decreased by 106 units or by 18.6%. The number of peasant (private) farms increased by 14.3%. A significant equipping of agricultural enterprises with technique was held in recent years. Even though the number of tractors and combine harvesters decreased by 18% and 15% respectively, the power-to-weight ratio of 1 worker increased from 55.2 hp. up to 78.9 hp, or by 13.1%. On the one hand, this trend reflects a decrease in the number of workers in agriculture. On the other hand, it shows that the energy capacity of modern technology increases. It is described by the equation:
$y_2 = 47.315 + 2.4336$ t, $R^2 = 0.9381$,
where y_2 is the power-to-weight ratio of 1 employee, hp;
t - years.
Together with the strengthening of the economy, the wages of agricultural workers are constantly growing. Their wage level is converging with the wage level of the industrial workers. In 2010, an average monthly wage in the Republic of Tatarstan reached 17350.1 rubles. At the same time the wage of agricultural workers was 8655.9 rubles, which is 49.0% of the average wage in the Republic. In 2020, the average monthly wage has risen up to 38486.3 and 25960.8 rubles respectively. So, the wage of workers in agriculture is 67.5% of the average. The growth rates are 2.21 and 2.99 respectively. In other words, the average monthly wage in agriculture grows faster. The considered trends are described by the following equations:
$y_3 = 9480.1 + 2201.3$ t, $R^2 = 0.9812$,
$y_4 = 3288.6 + 1455.3$ t, $R^2 = 0.9889$,
where y_3 is the average monthly wage of 1 employee, including all industries, rubles;
y_4 is the average monthly wage of 1 agricultural worker, rubles;
t - years.
Also, a convergence in education and in culture between workers in industry and in agriculture, urban and rural residents, is progressing at a rapid pace. It is important to develop infrastructure and reliable transport in order to overcome differences between the city and the countryside, to engage employees in rural areas and to carry out large social events. Improvement of social infrastructure leads to the increase of workers' productivity. Thus, gross output per worker in comparison to the value in the Republic has increased from 22.2 rubles up to 41.8 rubles, almost 2 times over the past ten years.
It shows the improvement of socio-economic and production conditions - the main sphere of life of an agricultural worker. Due to complex mechanization and automation, digitalization and robotization of production processes the proportion of manual labor has significantly decreased in recent years. [7-11]. It helps to use resources rationally, and also to obtain a certain economic effect. Those factors can be considered as the element of the managerial and economic mechanism for innovations in agriculture. It is obvious that in order to increase the competitiveness of agricultural producers, these processes should be hastened.
Improving working conditions is a crucial factor in attracting employees to the countryside for a long time. The previous researches show that technological innovations contribute to improvement of working conditions, attracting employees to the countryside for a long time and to the increase of production efficiency. In addition, it gives more time for the personal needs of workers. Agricultural workers can devote more time to their families, study, leisure, cultural and professional development.
Republican programs, which are annually realized in Tatarstan improve the working and living conditions of the rural population. Currently, there are 40 programs and 30 of them are addressed in particular to rural objects. For example, the program "Sustainable Development of Rural Areas" (2020 million rubles), "Objects of social and cultural services and engineering infrastructure" (16027 million rubles) and others (in total 21435 million rubles).

4. CONCLUSIONS

Thus, the economic efficiency of the agricultural sector is closely related to the development of socio-economic processes in rural areas. Robotization and digitalization of agricultural production radically changes the structure of the labor market in agriculture. It leads to changes in socio-economic characteristics of the rural population and gives impetus to progressive changes in the economy. It should be taken into account that social factors have a dual effect on the level of costs. On the one hand, they contribute to the growth of costs, on the other hand, they contribute to the increase of economic effects, ensuring the return on the costs incurred.

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