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THE ROLE OF AGRICULTURAL INCOME IN THE LIFE OF THE RURAL POPULATION

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Abstract

In scientific research, the theoretical framework of the proportion of rural agricultural and non-agricultural income in the livelihoods of the permanent rural population has been studied. In addition, data from a social survey conducted among 20 respondents (families) in Tashkent region were used to assess the economic indicators influenced by factors affecting income, such as the number of family members, level of education of family members, condition of infrastructure, agricultural production capacity and experience of rural population, and statistical significance of land fertility. Furthermore, the ratio of rural agricultural income to non-agricultural income in rural areas (calculated on an annual basis) was determined as a scientifically based conclusion, and recommendations were provided on the subject matter.

Keywords: Agricultural income, non-agricultural income, agricultural infrastructure, potential, experience, livestock farming, plant breeding.

Introduction. According to the situation as of January 1, 2022, the permanent population in the Republic of Uzbekistan is 35.3 million people. Of these, the population in rural areas constitutes 17.4 million people [1]. Currently, increasing income, particularly in rural areas, is considered an important issue, including increasing rural income. In rural areas, the population can be divided into two groups based on their income. These are "rural income" and "non-rural income". Understanding the differences and connections between these concepts is of great importance. Rural income refers to income generated from agricultural sectors (crop cultivation and animal husbandry) and other income earned from labor in agricultural and other economic activities, as well as income obtained from the production and sale of rural agricultural products. Non-rural income includes wages earned from production and service activities, income from entrepreneurial activities, pensions, social welfare payments from the state budget, and other revenues. These collectively constitute the overall income of the population. The total income of the population of the Republic of Uzbekistan in January-December 2022 amounted to 634.8 trillion soum [2]. In the economy, the amount of income that goes into the hands of the population after deducting all mandatory and discretionary payments (taxes, debt payments, interest, etc.) is of great importance. The amount of income that goes into the hands of the population is strongly influenced by taxes. In developed countries, wages account for two-thirds of total income [3].

In order to increase the income of the population, a number of legislative documents have been adopted at the international and national levels. The United Nations' Sustainable Development Goals (SDGs) for 2015-2030, which consist of 17 global goals, identify "Reducing the level of poverty in countries" as the first goal. Additionally, the document highlights the goal of promoting inclusive and sustainable economic growth based on "Productive employment and decent work for all, including women and youth" as the eighth goal [4].

Attention has been paid to increasing rural income through the organization and support of agricultural activities in the "Additional Measures on Correcting and Supplementing the Program for Increasing Rural Income through the Development of Agriculture" approved by the Decree No. PQ-373 of the President of the Republic of Uzbekistan on September 10, 2022 [5]

All countries attach importance to the issue of food security and rural agricultural production as an important component of the national security system. Resources are allocated for the development of this sector. The importance of rural agricultural research in addressing the growing demand for food due to population growth is undeniable [6].

Methodology. In order to conduct a survey in the course of the research, respondents were selected from households living in Chinor and Karahtoi QFY, located in Ohangaron district of Tashkent region, using a two-stage random sampling method. In the first stage of the selection of respondents, Chinor and Karakhtoi FFYs were selected from the list of general FFY and MFYs from the local government, and approximately 20 households were selected from the population of the selected area at the second stage. The information provided by the respondents during the survey was analyzed using a multi-factor econometric model.

Results. Agricultural activity is of great importance in increasing the income of the population in rural areas, improving their living conditions and improving food supply. As part of the World Food Program (WFP), in 2015, the world community adopted 17 global goals of sustainable development to improve people's lives by 2030. Poverty and hunger eradication, health and well-being, quality education, gender equality, clean drinking water and sanitation, cheap and green energy, decent working conditions and economic growth, reducing inequality were defined as the main directions. In particular, the decree No. PF-5853[7] of the President of the Republic of Uzbekistan dated October 23, 2019 "On approval of the strategy for the development of agriculture of the Republic of Uzbekistan for 2020-2030"[7] and providing high-quality food products, increasing the productivity of agricultural crops, and developing scientific research in agriculture.

Incomes of the population are calculated differently depending on the type and direction of activity, in 2021, the average monthly income of the population engaged in agricultural activities in our country was 1,820,000 soums, while finance and insurance the average monthly income of those engaged in their activities was 8525.0 thousand soums.

Income of the population in the Tashkent region, where we conducted research, as of January-December 2022 (for 12 months), the total income per capita of the Tashkent region is 18.1 mln. soums, and the real growth rate was 100.1%. As of January-December 2022, 73.7% of the total income of the population of Tashkent region includes income from work, 17.5% of income from transfers, and income from self-produced services and goods for personal consumption. income from property is 8.8%.

The average income from agriculture of 20 households of Chinar and Karakhtoy QFY, which participated in the

survey, was 7.45 million soums, and the highest income was 19 million soums. During the survey, the respondents noted that they do not engage in agricultural activities and do not receive income. The average income from non-agricultural activities was 84.4 million soums, while the highest and lowest income among the respondents was 144 million soums and 30 million soums, respectively (1-picture).

```
. sum
```

Variable	Obs	Mean	Std. Dev.	Min	Max
Oila	0				
Soni	20	5.35	1.03999	4	7
Jinsi	20	.95	.2236068	0	1
Yoshi	20	46.8	11.12418	26	65
Malumoti	20	1.15	.3663475	1	2
ekinmaydoni	20	8.35	3.801316	2	15
Qxdaromad	20	7.45	6.073887	0	19
noqxdaromad	20	84.4	31.40131	30	144

Figure 1. Statistical indicators of population income from agricultural and non-agricultural activities.

In addition, social characteristics of the population, such as the number of family members, age of the family head, gender, and education level were analyzed as factors influencing household income. In the surveyed home-based industries, if family heads accounted for 95% of the cases, the average number of family members was 5.35. About 15% of family heads had higher education, while the majority (85%) were considered to have medium-level education, and the average age of family heads was 46.8 [7].

The role of agricultural activity in the income of the population is increasing, therefore, the study of the factors affecting the income from agricultural activity is an urgent issue. Using a multifactor econometric model, the number of household members, gender, age, education, land area, factors such as income from agricultural and non-agricultural activities were analyzed (Figure 2). When evaluating the interaction of the factors selected for the model, income from agricultural activities is considered as the resulting factor (Y). According to the correlation analysis performed using the Stata16 program, it can be observed that the result factor (Y) and the information of the head of the family are weakly (-0.29) connected. It can be explained by the fact that the increase in the education of the head of the family means that he spends less time on agricultural activities, and this has a negative effect on the income from agricultural activities.

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. correlate Qxdaromad Soni Yoshi ekinmaydoni noqxdaromad Jinsi Malumoti
(obs=20)
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	Qxdaro~d	Soni	Yoshi	ekinma~i	noqxda~d	Jinsi	Malumoti
Qxdaromad	1.0000						
Soni	-0.2096	1.0000					
Yoshi	0.0668	0.5295	1.0000				
ekinmaydoni	0.2481	0.2869	0.0615	1.0000			
noqxdaromad	-0.1406	0.2711	0.5082	0.2056	1.0000		
Jinsi	-0.0988	0.0792	-0.0254	-0.1022	0.2129	1.0000	
Malumoti	-0.2921	0.2694	-0.1472	-0.0397	-0.0238	0.0964	1.0000

Figure 2. Using the Stata 16 program, the correlation matrix of the interrelationship of the factors.

Furthermore, the positive correlation between the size of agricultural land and the age of the family head in home-based industries was identified, with a correlation coefficient of 0.25 and 0.07 respectively. This means that an increase in the size of agricultural land in household industries may lead to an increase in the involvement of family members in agricultural and livestock activities, creating opportunities for expansion [8].

considering the regression analysis between the factors, it is important to bring the factors to the same measurement unit and analyze them. The number of household members, the gender, age, education of the head of the family, land area, income from agricultural and non-agricultural activities were into one measurement unit, and a regression model was created (Fig. 3).

```
. reg lnQxdaromad lnSoni lnJinsi lnYoshi lnekinmaydoni lnnoqxdaromad
note: lnJinsi omitted because of collinearity
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Source	SS	df	MS		
Model	5.5683569	4	1.39208922	Number of obs	= 16
Residual	6.2050374	11	.564094309	F(4, 11)	= 2.47
				Prob > F	= 0.1063
Total	11.7733943	15	.784892953	R-squared	= 0.4730
				Adj R-squared	= 0.2813
				Root MSE	= .75106

lnQxdaromad	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnSoni	-1.968601	1.238036	-1.59	0.140	-4.6935	.7562981
lnJinsi	0	(omitted)				
lnYoshi	2.034905	1.063724	1.91	0.082	-.3063352	4.376146
lnekinmaydoni	1.022794	.3882217	2.63	0.023	.1683238	1.877264
lnnoqxdaromad	-1.451009	.6833359	-2.12	0.057	-2.955021	.0530032
_cons	1.663698	2.771363	0.60	0.560	-4.436031	7.763427

Figure 3. Regression model indicators between factors.

Based on the data presented in Figure 3, the following multi-factor regression model was constructed:

$$Y = 1.66 - 1.97^* b\,1 + 2.03^* b\,2 + 1.02^* b\,3 - 1.45^* b\,4 \quad (1)$$

According to the results of the regression model, a 1% increase in the number of family members in households in the studied area, a 1.97% decrease in agricultural income, a 1% increase in non-agricultural income, and an increase in agricultural income by 1%. can lead to a 1.45 percent decrease in net income. An increase in the number of family members in rural areas leads to an increase in the number of people engaged in non-agricultural activities. As a result, it is explained by the fact that it causes an increase in household income from non-agricultural activities. It can be estimated that a 1% increase in the age of the head of the family will increase household income from agriculture by 2.03%, and a 1% increase in farmland will increase income from agriculture by 1.02%. It is also based on the results of the model that the increase of land, which is considered the main means of agricultural production, has a direct effect on the increase of income in this direction.

Conclusions and suggestions. According to the results of the research, the role of agricultural and non-agricultural incomes in increasing the income of the population living in rural areas is significant. It is possible to analyze the composition of the population's income, to study the factors affecting their size, to increase the population's income based on these factors and to use them effectively, thereby studying the possibilities of improving the standard of living of the population.

As of April 1, 2022, the number of permanent residents in Tashkent region was 2,954,400. 1.48 million people live in urban areas (50.1% of the total population) and 1.47 million people live in rural areas (49.9%). In order to increase agricultural income, it will be necessary to increase the number of economically active members of the family, to accelerate the allocation of land for agricultural activities. Also, setting up greenhouses on unused agricultural land and focusing on providing employment to the unemployed population are also effective measures to increase agricultural income. This creates the basis for the increase in the volume of agricultural products in the GDP.

To ensure the sustainable growth of rural income and address the issue of unemployment in rural economic activities, there is a need to further strengthen the implementation of measures under the state programs "Obod Mahalla" (Prosperous Neighborhood) and "Har bir oila tadbirkor" (Every Family is an Entrepreneur). These programs are aimed at providing support and resources to rural communities, promoting entrepreneurship, and improving the livelihoods of rural households.

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