

## FACTORS TO INCREASE ECONOMIC EFFICIENCY BASED ON INNOVATIONS IN RICE FARMING

Abdujalilova Oyzoda Almahammad kizi

Faculty of Agribusiness and Digital Economy, Economics major

4th year student, group 95, E-mail: [oyzodaabdujalilova.2004@gmail.com](mailto:oyzodaabdujalilova.2004@gmail.com)

**Abstract:** The article discusses the economic efficiency of rice cultivation and new innovative ways to increase it. The article also discusses the country's food safety in providing rice cultivation size multiplication and based on improving quality Recommendations are made on ways and opportunities to improve economic efficiency.

**Keywords:** food security, innovative agrotechnologies, productivity, costs, economic efficiency, export, import, laser equipment, rice seed production, quality indicators.

**Login.** In the world food safety in providing other village Among the agricultural crops, rice cultivation is also of particular importance. Because rice and rice products have a special place among the foods necessary for the human body. Rice is one of the oldest food crops in the world, and according to statistics according to the information seven more in Southeast Asia thousand since the year is planted. 2024 by the year of the world 115 more than Rice is grown in countries with a total area of 155.5 million hectares. The average rice yield in rice-growing countries in the world is 38.4 quintals. Rice has been grown in countries since ancient times. In India 44.8 million hectare and In China 31.7 million hectare to the places rice is planted. Today, rice is planted on 100-110 thousand hectares in Uzbekistan, with an average yield of 35-38 centners per hectare, and a gross yield of 395 thousand tons. This amount only minimally satisfies the demand for rice, one of the main food products of the growing population of Uzbekistan. According to official data, in order to fully meet the demand of the population, the country imports about 55 thousand tons of rice annually. is being done. "To the information according to world population 2018 in 7.6 billion This figure is expected to increase by 2050, according to the initial forecast. according to 9.8 billion increases, this eca to food was demand "According to the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization, more than 840 million people in the world do not have access to adequate food. This means that almost one in eight people in the world are undernourished." [11.3] "[10,2]. Today on the day in our country rice various in methods planting on the road including the simple traditional method, the seedling method, and in 2024 Andijan province Pakhtaabad district "Akramjon-Ikhtiyor" farmer on the farm The new rice planting method was used. "There are the following methods of rice cultivation in Uzbekistan: traditional planting, mechanized planting of rice seedlings and seeds. This year, in order to save water, rice planting was introduced using the seedling method. This method allows for the cultivation of rice seedlings in small areas, which saves a large part of the annual water requirement. saves. This rice of the fields climate from the conditions productive use, harvest early allows it to ripen. Moreover, every hectare of fertile land "As a result of its use, it is possible to produce twice as much crop" [4,5].

**Research methods.** In studying this topic, the method of statistical observation and analysis of economic indicators of rice-growing farms was used. The results obtained were evaluated using quantitative analysis methods, and their impact on the dynamics of harvesting and farm activities in the medium term was analyzed. for forecast as worked and his/her based on relevant conclusion and offers was developed. Also, in the process of conducting research, methods of economic and

statistical, comparative analysis, logical reasoning, and monographic observation were used.

**The result of the scientific work.** During the research on increasing the economic efficiency of rice cultivation in Uzbekistan, the state of rice cultivation in Andijan region, which occupies 1 percent of Uzbekistan's land area but is home to about 10 percent of the country's population, was studied and analyzed. Population of Andijan region as of January 1, 2024 number 3,422,800 from someone increased and in the province one square per kilometer average This corresponds to 744 people. This indicator is an average of 75 people in the Republic. "The region has 201,026 hectares of irrigated arable land for farming is, from that 10892 hectare rice sowable fields "is considered" "[9.5]. 2024 in of the province 12 one in the district located rice farming agroclusters and A total of 45,978 tons of rice were produced by farms, and the average rice yield was 43.1 quintals per hectare.

Today, there are many rice farms in the region that are achieving the highest results by applying new innovations to the production process. During our research, we analyzed the economic efficiency of rice cultivation in 2024 at the "Abdulaziz Rice Farm" rice farm in Jalaquduk district. This farmer farm cited expenses on account of one hectare from the ground On average, the yield was 80 quintals. On this basis, the income from 1 hectare (80\*60/100=4800kg of rice\*14000sum=67200sum) is 67,200,000sum. The profit from 1 hectare of rice on the farm was 67,200,000-28,450,000=38750,000sum. As a result, the profitability rate per 1 hectare on the farm was 73 percent.

It is known that, depending on the specific characteristics of the regions in which rice is grown, the impact of various factors on its development and economic efficiency varies.

Research in this area shows that today, rice cultivation is a key factor in the development and economic growth of agriculture. to the efficiency We believe that the following factors have a strong influence:

**Table 1: Rice farmers of "Abdulaziz Rice Fields" in Jalaquduk district on the farm 2024 in 50 score reputable land in the field 1 hectare rice analysis of production costs**

No.	Cost types	Cost sum, soum	Note		
1.	Ernie preparation for planting	-to plow the land	1300,000	5100.000	
		-the earth chisel and the floor lift	1300,000		
		-hand for the cocktail pay	2500.000		
2.	Seed	120 kg.1kg/20,000	2400.000	2400.000	To the oven variety for
3.	Mineral fertilizer	900 kg	2500.000	2500.000	
4.	Stranger Herbicides, disease control agents	Herbicide	2500.000	3300.000	
		Suspension	400,000		

	To diseases against	400,000		
5.	Earth and water tax		6000.000	
	Combine harvester		4500.000	
6.	Technical service		750,000	
7.	Sushilka to the service		2700.000	
8	To rice to convert		1200,000	
<b>Total</b>			<b>28,450,000</b>	

**Source: Data from the "Abdulaziz Rice Farm" in Jalaquduk district .**

- Accurate planning of rice cultivation costs based on each agro-technological process, i.e., precise determination of cost estimates in advance and constant adherence to these estimates;
- Establishing the effective use of laser equipment in preparing rice fields;
- focus on rice seed production reinforcement;
- to rice water in giving the most effective technologies wide application and etc.

The costs of rice cultivation should be clearly planned based on each agro-technological process, that is, the cost estimate should be clearly determined in advance and this estimate should always be adhered to. action to be done - this rice to cultivate develop and economic is one of the most important factors in ensuring the efficiency of rice cultivation. As is known, the agrotechnology process of rice cultivation includes several complex processes:

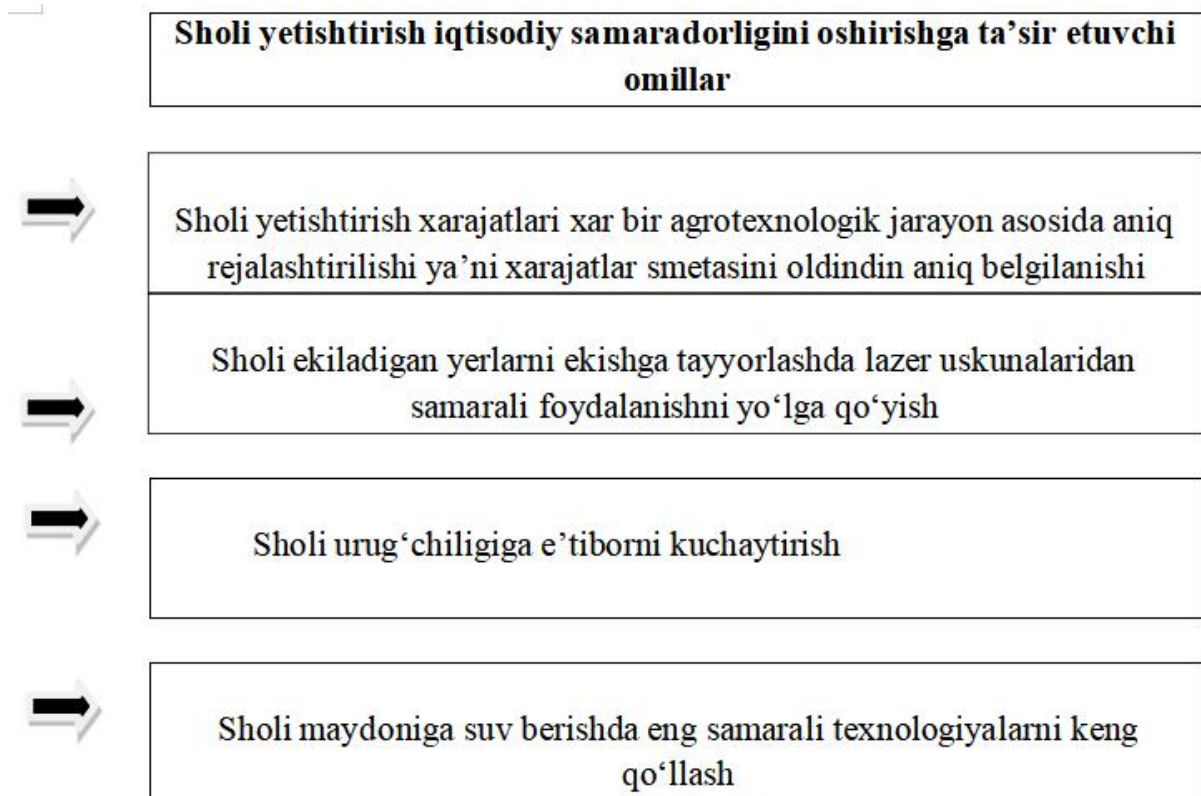
- rice cultivation agrotechnology natural-climate conditions with directly dependency;
  - The development and economic efficiency of rice cultivation in Uzbekistan are directly related to the availability of irrigation water for the sector ;
  - expenses incurred in the process of rice cultivation agrotechnology, i.e. technical services, fuel and lubricants, mineral fertilizers, and transportation services related of resources purchase grades with being cultivated rice purchase disparities between grades and so on.
- That's why for in rice farming agrotechnological processes from the beginning before Costs based on current estimates for each agrotechnology that needs to be implemented It is important to prepare a business plan. Because this business plan will always provide an answer to the question of how much money the rice farmer should have spent for which period and how much he spent. This will help the rice farmer to understand the product he is growing. economic efficiency agrotechnological in processes himself/herself for It creates the possibility of managing the economics of rice cultivation based on approximate knowledge.

**Establishing the effective use of laser equipment in preparing rice fields** is a matter of widespread introduction of agrotechnology into rice cultivation. today's on the day In Uzbekistan President decision based on separately task As a result, this agrotechnology ensures that water is evenly distributed in the rice fields, i.e. 5-7 cm. This measure, which will be implemented as a result, will first of all increase the seedling thickness in the rice fields. providing gives, secondly, agrotechnological in processes rice It creates the opportunity to provide seedlings with water and nutrition at the same rate. In areas where the seedling thickness is normal and watered and nourished at the same rate of course fertility high being taken the harvest quality high will be and

In turn, these conditions also have a positive impact on economic efficiency.

**Figure 1 Rice to cultivate economic efficiency to increase impact provider factors**

Source: Author scientific research



**Increasing attention to rice seed production** - it is no coincidence that today this issue is being considered as the most urgent issue in the rice sector of Uzbekistan. Because the proper implementation of rice seed production provides rice growers with the following advantages:

- prevents the occurrence of mixing of different rice seeds (sortosmes) in rice cultivation. This and being taken on the quality of the rice crop very big positive has an effect, that is, the quality of rice consumption improves;

- rice generational seeds cultivation rice to growers one kind It allows the seed to be planted in the second year. This saves rice farmers from seed costs by allowing them to prepare their own seed;

- improving product quality leads to an increase in the market price of a unit of product take comes and this own in turn rice growers income It serves for growth.

**Widespread use of the most effective technologies for irrigation of rice** - In the conditions of the growing shortage of irrigation water in Uzbekistan, the establishment of a number of tasks for the widespread introduction of new agrotechnologies for irrigation of rice in rice-growing regions is of great importance not only for increasing rice production, but also for improving its quality and ensuring economic efficiency. On this basis, in rice cultivation water with one in moderation provision to efficiency directly impact is one of the factors that determine the water content. Because rice is a plant that grows and develops in water. Usually, during agrotechnology, water is supplied to rice fields through a single waterway. This reduces the size of the rice fields to an average 0.15-0.20 hectare that if we calculate, first yours truly water entrance in place In areas of at least 0.05-0.07 hectares, the coldness of the water prevents the plant from developing

and fully ripening in a timely manner during rice agrotechnology, the water warms up under the influence of the sun before it passes to other zones of the field, therefore, the rice crop in these parts of the rice field ripens earlier than at the point of water entry. As a result, the crop ripened in the rice field becomes twofold, meaning that the ripening of the crop in areas where water enters the field is delayed by 7-10 days. In this process, irrigating the rice fields The mechanism of rotating (changing) the places of the rice fields ensures that the rice crop ripens at the same rate. As a result, the crop in the rice field ripens at the same time and in the same way. If, when applying this proposed innovation in rice agrotechnology, 0.05-0.07 hectares of similar rice fields are used for each hectare of rice field, the average yield in these fields is 40 quintals/hectare ( $0.07 \times (40 \times 4000 \text{kg}) = 200 \text{kg}$ ), an additional 200 kg of rice crop will be added per hectare. opportunity will be. This and Uzbekistan under the circumstances ( $200 \text{kg} \times 65\% / 100 = 130$ ) 130 kg of rice and ( $130 \times 14000 \text{sum/kg} = 1820,000$ ) means 1820,000 sums of additional income. So, we can get an additional 1,820,000 sums of income from each hectare of rice area by applying the above technology.

Rice to cultivate development economic efficiency study and analysis based on the following We came to the following thoughts and opinions:

1. In rice-growing regions, costs should be clearly planned based on each agrotechnological process, taking into account the specific characteristics of each region. that is expenses estimate before clear to be determined to the goal We consider it appropriate. Because, adhering to the cost estimate for the rice cultivation process and increasing income through the effective use of costs is the primary factor in ensuring the development of the industry and economic efficiency in organizing rice farming.
2. Research shows that effective use of laser equipment in preparing rice fields for planting ensures that water is evenly distributed across the rice fields. This in turn helps to increase the germination rate of seedlings in the planted areas. thickness standard provide and agrotechnological in processes rice sprouts in a uniform manner As a result, it creates an opportunity to increase economic efficiency based on higher productivity in rice cultivation.
3. Proper rice seed production prevents the mixing of rice seeds of different varieties (sortosmes) during rice cultivation. This increases the yield of the rice being harvested. rice harvest to the quality very big positive impact shows that is rice consumption quality will improve. Product quality improvement and the product at the market This process, in turn, helps to increase the income of rice farmers.
4. The results of the study show that the mechanism of rotating irrigation points in rice fields ensures uniform ripening of the rice crop. This provides an average of 1.5-1.8 million soums of additional income per hectare of rice field.

## References

1. Uzbekistan Republic President's 2021 year 2 in February PQ-4973-number Resolution "On measures to further develop rice cultivation."
2. Nayak.Sh.P, Variar.M, Banik.N.Ch, Khandai.S (2021) Rice Production Manua lforOdisha,Book.
4. Rice- AGRO EN. (May 31, 2022) [Rice - AGRO.UZ](#)
5. O. Shermatov, Sh. Khursanaliyev. Innovation factors in increasing the economic efficiency of growing rice in agriculture. "DEVELOPMENT ISSUES OF INNOVATION ECONOMY IN THE AGRICULTURAL SECTOR" International

scientific-practical conference on March 25-26, 2021. Page 281- 285.

6. O. Shermatov. Opportunities of increasing economy efficiency of rice production in Uzbekistan. SCIENCE AND EDUCATION IN AGRICULTURE. January 2024. Volume 1, Issue <http://seagcandqxai.tilda.ws/>.
7. Abdukarimov DT Private selection T. 2007.
8. Turkey Republic "Food" and village "farm" ministry and "Denizbank" in cooperation with prepared "100 "a collection of books" .
9. Andijan region village farm department information. 2024 year
10. <http://protoday.uz/uz/archives/239608>
11. <https://hordiq.uz/2019/07/22/top-10-aholisi-eng-kup-davlatlar/>