

The Emergence of Innovative Digital Technologies

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Abstract

Cotton is the main fiber in international production. Globally, the area under cotton is 35 million hectares and produces about 25.5 million tons of cotton. It is estimated that mankind is currently 2 billion. hectares of arable land. Given the global population of 9.6 billion by 2050, the issue of rational use of available agrarian resources is becoming increasingly important in providing them with quality food. Profitability of cotton production in the world has remained unchanged over the last few years. Global climate change is affected by problems such as global climate change, cotton-growing stressors - excessive rainfall during the sowing season, rising temperatures during flowering, soil fertility, increased pests and diseases, and lack of agro-technology. In this regard, measures should be taken to address these problems in the cotton industry, to increase the efficiency of the use of resources used in cotton growing, to introduce innovative, resource-saving technologies in the industry.

Keywords: Agricultural economics; Natural resource; Economics financial; Financial network resources resource savings; Social resources technologies

Introduction

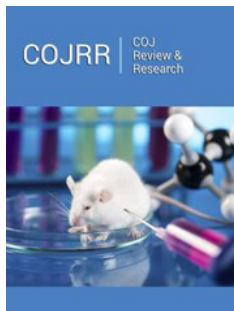
Measures that increase the efficiency of the use of resources in the cotton industry, the implementation of resource-saving technologies are of national importance. Modernization of agriculture, introduction of intensive methods of agricultural production, first of all, modern agro-technologies, which save water and other resources, use of high-performance agricultural machinery are the priority tasks. It is also noted that there are no effective mechanisms for economic incentives for the introduction of water-saving technologies in cotton growing, and state support for local producers who supply drip irrigation systems. In this regard, it is important to expand the scope of research to increase the efficiency of implementing resource-saving technologies in cotton growing.

Cotton production is a production process with very high resource costs, especially water and labor. Therefore, the issue of resource conservation is important in ensuring the competitiveness of products, and it is advisable to take a scientific and practical approach to resource saving in the production of raw cotton in the following areas: First, it is desirable to consider the absolute cost savings in cotton production. This implies the absolute reduction of the material and technical and labor resources involved in the production of raw cotton by the area under cotton. For example, it may mean reducing water consumption by one hectare of land, reducing labor costs per one hectare, or reducing the amount of fuel consumed per acre. At the same time, the main benchmark is resource consumption rates or current indicators used in advanced cotton producing farms; Reducing the costs of material and technical resources spent on cotton fields at the same time by replacing more expensive resources with other cheaper ones in real time. For example, expensive mineral fertilizers can be replaced by less expensive and environmentally friendly fertilizers [1].

Second, it is desirable to consider the relative cost savings in cotton production. This implies the reduction of unit costs per unit of production as a result of increasing the productivity of cotton, while the amount of resources consumed by the area under cotton is unchanged.

Third, it is desirable to adopt a comprehensive approach to saving resources in cotton production. This includes the use of the "Consolidation of Resource Consumption Directive" and "Relative Consumption Directive" while reducing costs in cotton production.

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It is possible to observe different points of view focusing on the economic essence of the concept of resource. In particular, Zokirov [2] said, "Resource is understood from the point of view of society as a set of natural resources used for continuous reproduction of social production and satisfaction of personal consumption of members of society. Resource is a French word meaning an auxiliary tool" [2]. According to Olmasov [3] all the material and intangible means necessary for the creation of goods and services and their delivery from production to consumption constitute economic resources of labor and labor" [3]. However, in the first definition, the concept of resource is given in a much narrower sense, limited only to natural resources. Based on the above considerations, the composition of the resources available in the cotton sector can be summarized as follows. That is, material and technical resources; labor resources; financial and credit resources; intellectual products; information resources and, in our opinion, administrative resources in cotton growing should be taken into account.

A number of economists have conducted research on the use of resource-saving technologies. In particular, Abdiev [4] commented

on the resources spent in the cotton sector: "The amount of mineral fertilizers used for cotton growing is growing from year to year, but they do not always ensure the growth of cotton yields, as they are not used effectively in practice. Therefore, it is expedient to develop new technological methods of application of mineral fertilizers." [4], economist SHERMATOV [5] Technology should be considered as a complex interconnected system. Disruption of any process in this system drastically reduces the efficiency of resources expended in all subsequent processes. On the contrary, the correct implementation of technological processes, the introduction of new technologies will ensure a large amount of output per unit of resource consumed "[5].

It is recommended to determine the resource-saving ratio (PIT) by evaluating the weight of innovative digital saving technologies and techniques in the cotton sector's resource management system. Therefore, it is proposed to calculate these indicators in the system of socio-economic efficiency gains in cotton production (Figure 1).

In this case, an estimate is presented using the arithmetic mean of the four indicators shown in Figure 1.

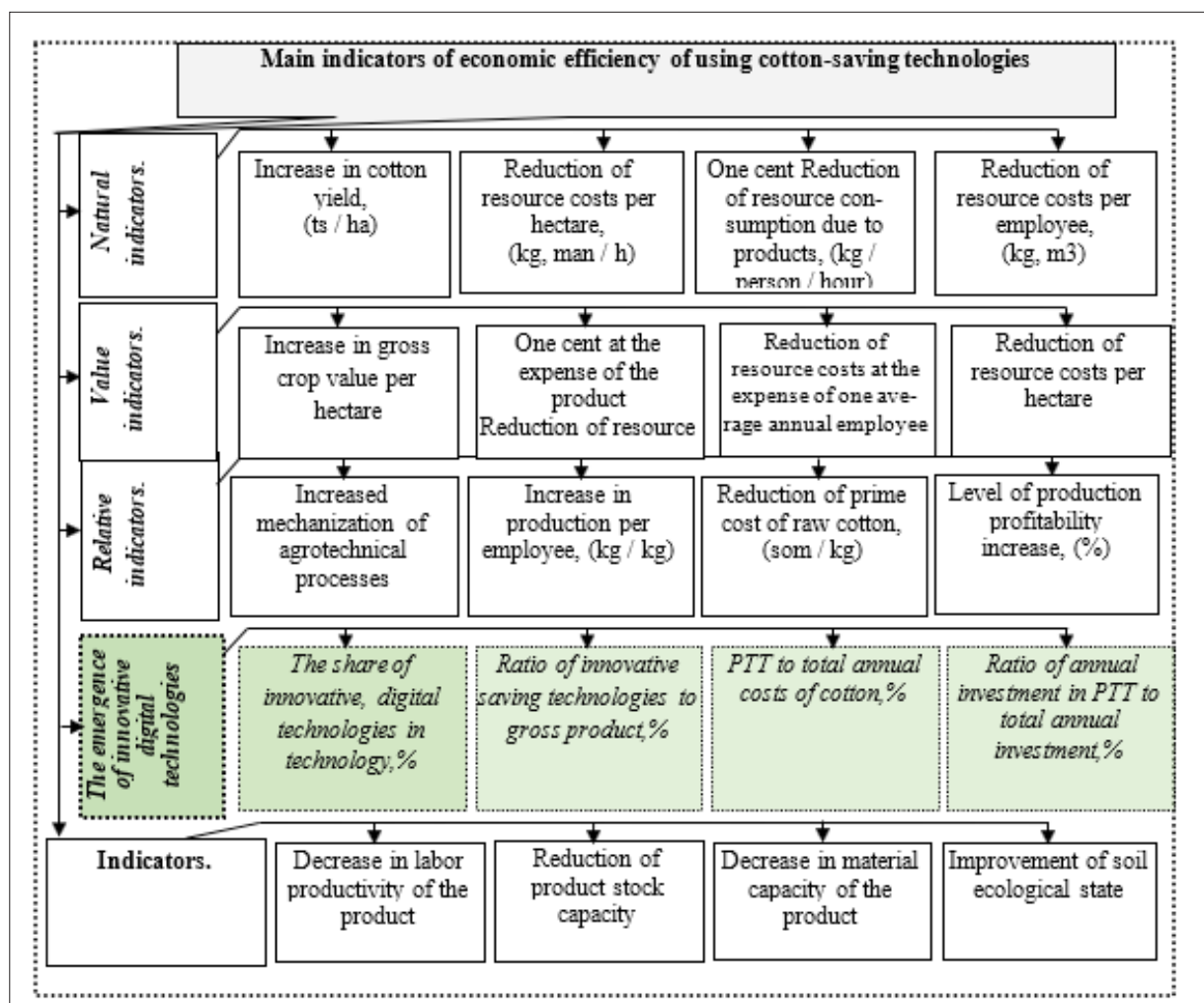


Figure 1: Resource-saving technologies in cotton growing economic efficiency indicators system.

That is, the share of digital and innovative technologies (TC_{TT}) in cotton production technologies; the ratio of innovative resource-saving digital technologies to the value of the cotton industry in terms of gross product (KCTT); the share of innovative resource-saving digital technologies in total cotton production costs (XCTT); based on such indicators as the ratio of innovative resource-saving digital technologies to the annual investment in the cotton sector in the economy (ICTT).

$$\dot{I}_{\text{òò}} = \frac{\dot{O}\tilde{N}_{\text{òò}} + \dot{E}\tilde{N}_{\text{òò}} + \dot{O}\tilde{N}_{\text{òò}} + \dot{E}\tilde{N}_{\text{òò}}}{4} \quad (1)$$

The increase in this index may be the result of the increased use of modern technologies in the cotton sector's resource management system and the sustainability of the sector's development in the future. Analysis of the costs of cultivation of raw cotton in the

regions of Uychi, Kosonsoy and Pop, with different areas of land, environmental conditions, soil fertility, labor resources and climatic conditions in Namangan region. In this process, the costs of producing 1 tonnes of raw cotton in the districts in 2018 were studied (Table 1). The table shows that the cost per 1 ton of raw cotton in 2018 varied in Uychi, Pop and Kosonsoy districts [6-9].

In Kosonsoy district, the cost of the cost element was lower than the rest of the district, which was 30 percent. The cost of one ton of raw cotton is 1261,000 sums. In Pop district it is worth 1156 thousand sums and in Uychi district 1255 thousand sums. In general, the share of wages is much higher than the other expenditures in the districts under analysis of the cost of cotton. This demonstrates the high level of material security of workers in the cotton sector. In particular, this figure is 36% in Uychi district, 36% in Pop district, 30% in Kosonsoy district [10-13].

Table 1: In Uychi, Kosonsoy and Pop districts of Namangan region Composition of Costs per 1 ton of Cotton Production (2018).

Indicators	Uychi		Kosonsoy		Pop		Difference of Uychi to Pop (+, -)	Difference of Uychito Kosonsoy (+, -)
	A ton of cotton cost, thousand soum	Types of expenses share, %	A ton of cotton cost, thousand soum	Types of expenses share, %	A ton of cotton cost, thousand soum	Types of expenses share, %	A ton of cotton cost	A ton of cotton cost
Wages	1255	36	1156	36	1261	30	-99	6
Seed	114	3	169	5	209	5	55	95
Mineral fertilizers	529	15	451	14	651	16	-78	122
Plant protection	114	3	146	5	206	5	32	92
Mechanization service	309	9	305	9	310	7	-4	1
YMC	627	18	544	17	831	20	-83	204
SIU service	39	1	13	0	23	1	-26	-16
Single land tax	40	1	47	1	96	2	7	56
Other expenses	483	14	398	12	552	13	-85	69
Total	3511	100	3228	100	4140	100	-283	629

Table 2: Save on sowing on Azamat and Otaboev farms in Mingbulak district Technology Efficiency (2018).

Indicators	Azamat Farms	Otaboev Farms	Material and Financial Resources that will Remain at the Disposal of the Farm Through Cost-Effective Technology
	Traditional technology	Energy saving technology	
Cotton area, ha	30	30	0
Productivity, t / ha	25,0	26,7	1,7
Seed consumption per hectare, kg	45	25	20
Price for one kg of seeds, soum	6000	6000	0
Seed costs per hectare of cotton fields, soum	270 000	150 000	120 000
Fuel volume per hectare, liter	7	2,5	4,5
Fuel consumption per hectare, soum	30 100	10 750	19 350
Salary for sowing per hectare, Soums	140 000	140 000	0

Total costs per hectare, sou	440 100	165 750	274 350
Total household expenses, soum	13 203 000	4 972 500	8 410 500
Work per hour, e	1	3	2
Term of sowing, days	3	1	2

One of the most important issues in the cotton industry today is the sowing process. This necessitates the use of resource-saving technologies in this area (Table 2). One of such resource-saving technologies for the 2018 season was used in Mingbulak district of Namangan region. The information on the use of sawdust on the farm "Busoliha Otaboev" of Navoi MTP of Mingbuloq district was studied. The farm has a total area of 30 hectares of cotton fields with a yield of 26.7 centners. Using traditional technology, the seed cost per hectare is 45kg. Using energy-saving technology, the seed costs 25kg per 1ha. This allowed to save 20 (45-25)kg or 120000 (20 * 6000) Seeds per 1 hectare of cotton fields. At the same time, fuel consumption per hectare decreased by 4.5 liters. The 1 hour working capacity of this technique is 3 hectares. The Busoliha Otaboev farm saves 8,410,500 sums as a result of the use of sawdust [14-16].

References

1. <https://www.dawn.com/news/252184>
2. Zokirov O (2004) Agricultural economics. Tashkent, p. 77.
3. Ulmasov A, Vahobov A (2006) Theory of economics, Tashkent, p. 34.
4. Abdiev Ach (1999) Problems of improving economic relations between economic entities in the system of cotton production complex. T O'zBIITI, pp. 12-13.
5. Shermatov OA (2006) Ways to develop cotton growing and increase economic efficiency in the context of economic liberalization. Tashkent, pp.10-11.
6. Abdullaev Yo (1997) Basics of market economy. Tashkent, Mehnat.
7. Husanov RA, Dadaboev Yu T, Dadaboev Yu (2004) Economy of agricultural complex. Tashkent. Uzbekistan, p. 470.
8. Abduganiev A (2004) Rural economy. Tashkent, Literature Fund of Writers' Union of Uzbekistan, Uzbekistan.
9. Husanov RA (2003) The main point of new technology in raw cotton growing. Tashkent, Mehnat.
10. Zokirov O, Paradaev A (2004) Rural economy. Tashkent, UAJBNT.
11. I Rajabov (2006) Balance of the market of agricultural resources in a situation of relaxation of economy. Doctoral Dissertation in Economics. Tashkent, p. 11.
12. Rashidov R (2016) Correlation between resource economy factors in cotton growing. Science and education today. Scientific and Theoretical Journal, Russia.
13. Rashidov R (2016) Sectoral specificities by application of resource saving technology in cotton growing Economics. Journal Economic Theory and Business Process, Russia.
14. Rashidov R (2017) Some issues of the effective use of technology in cotton growing in Uzbekistan Society and Economics. International Scientific and Socio-Political Journal. Russia, pp. 3-4.
15. Rashidov R (2018) The main directions of cost reduction and increasing effectiveness in cotton production. Academy of Agriculture Journal 3(4): 452-456.
16. Rashidov R (2017) The main directions of cost reduction and increasing effectiveness in cotton production. Agrotechnology Journal 6(2): 2017.

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