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State of Material and Technical Base in Establishing the Cotton Monopoly in Surkhondarya Region

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Abstract: *Surkhandarya region is one of the important regions of Uzbekistan in cotton production, and the state of the material and technical base in establishing cotton monopoly is of great importance for the development of the regional economy and agriculture. This study analyzes the material and technical support of cotton cultivation in Surkhandarya region, including the level of use of modern machinery and technologies, irrigation systems, and the infrastructure of cotton ginning and processing enterprises. Factors such as the fact that cotton cultivation in the region is carried out on an area of 120.8 thousand hectares, as well as the fact that the use of modern agrotechnologies and biological products by organizations such as the Surkhandarya Agrokhizmat cotton-textile cluster has increased productivity by 20-30 percent are considered. At the same time, measures taken to improve the collector-drainage networks and land reclamation are also analyzed. The study also discusses existing challenges in consolidating cotton dominance, such as outdated equipment, limitations in infrastructure development, and a lack of modern equipment.*

Keywords: *Surkhandarya region, cotton monopoly, material and technical base, agriculture, cotton production, modern technologies, irrigation systems, cotton-textile cluster, productivity, agrotechnologies, land reclamation, infrastructure, modernization, international cooperation.*

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Surkhandarya region, as one of the leading regions of Uzbekistan in the field of cotton production, occupies an important place in the country's economy. The establishment of cotton monopoly is of strategic importance in increasing the agricultural and industrial potential of the region, expanding export opportunities, and ensuring employment of the local population. In recent years, the growth of demand for cotton in the global market and the need to introduce modern agrotechnologies make it an urgent task to study the state of the material and technical base in this area. The fact that cotton is grown in Surkhandarya region on an area of 120.8 thousand hectares, as well as the work being carried out to modernize production through clusters such as "Surkhandarya Agrokhizmat", further increases the relevance of this topic. However, problems such as obsolete equipment, insufficiently developed infrastructure, and a lack of modern equipment hinder production efficiency. Therefore, research to strengthen the material and technical base and adapt it to modern requirements is important for the sustainable development of Uzbekistan's agricultural sector.

In order to develop cotton monopolization, the Soviet authorities also carried out important practical work on planting varieties of cotton suitable for the region. In particular, special attention was paid to the creation of fine-fiber cotton varieties, which were considered important for the industry. They allocated the necessary funds for these works and established scientific research institutes for the

breeding of heat-resistant varieties. They also attracted experienced scientists and agronomists to these scientific research works. The scientific research of M.S.I.Stomin, who made a special contribution to the creation of fine-fiber cotton varieties in the Surkhandarya oasis, was of great importance, and thanks to his services, fine-fiber cotton varieties were created and tested. As a result of his tireless research, unique natural conditions were identified in the southern part of the Sherabad steppe of the Surkhandarya region, which were suitable for the cultivation of fine-fiber cotton, and the sum of temperatures in this area was 6 thousand degrees (degrees), which was characterized by the presence of a sum of temperatures that had a positive effect on cotton of about 3200 degrees. As a result of the research, the annual number of days with an average daily temperature above 10 (degrees), 261 days, above 5 (degrees), 44 days, and not a single day below zero. The number of cloudless days and sunny hours is more here than in the United Arab Republic, and from the beginning of the opening of the first buds until the onset of autumn frosts, there are another 120 warm days, during which all buds have time to open. The temperature conditions of May and September are the same; there is no such thing as "winter", the minimum average daily temperature does not fall below plus two degrees throughout the winter. Precipitation is very low. In Sherabad and Termez, it does not exceed 150 millimeters per year, including 90 millimeters from December to May. The relative humidity of the air is very low, which is not found in any other cotton-growing region of Central Asia; for 200 days a year, the relative humidity of the air is less than 30 percent, and in the summer months it drops to 18-20 percent, and the relative humidity of the garmsel (Afghan) air blowing from the southwest is 13-16 percent [1].

Thanks to the services of MSIstomin, the work on cotton, especially fine-fiber cotton, in Uzbekistan was carried out under very difficult conditions, and at a time when the developing textile industry of the Soviet Union required high-quality and durable fabrics, the cultivation of fine-fiber cotton was carried out with great difficulty. In the early years, fine-fiber cotton seeds were sown on a trial basis, in what climatic conditions; how they would react to water, fertilizer, the density of cotton bunches, high temperatures, air humidity, etc., and when the cotton would ripen were unknown. For this purpose, Egyptian cotton seeds imported from abroad (as this cotton variety was called at that time) were sown in all cotton-growing zones of the USSR, with the aim of determining the most optimal climatic conditions for this variety of cotton. The hardest work: fine-fiber seeds were planted in the ground by hand. Because seeds were so scarce, they were sometimes even planted as seedlings. At the same time, there were very few seed drills at that time.

In the early stages of studying this variety of cotton, the cultivated area in hectares was as follows.

Table 1

	1928	1929	1930	1931	1932	1933
Uzbek SSR	-	5	205	940	5,490	9,075
Turkmen SSR	33	108	1,013	5,185	14,779	17,623
Tajik SSR	-	25	3,532	14,227	21,524	23,041
Azerbaijan SSR	1	2	40	892	8,435	26,005
Total for the USSR	34	140	4,790	21,244	50,228	76,344

Such research plantings were carried out in almost all cotton-growing regions of Uzbekistan, including Tashkent, Piskent, Yangiyol, Mirzachul regions, the Fergana Valley, Samarkand, Bukhara, Kashkadarya, and Surkhandarya regions [3].

In Turkmenistan and Tajikistan, seeds of various varieties (Pima, Sakel, Ashmuni, Ramseller, Affifi, Maarad) were sown in all regions, including the northernmost regions of Khujand and Konibodom, and in the Nakhichevan Autonomous SSR, but all of them were late-ripening and required a growing season of 150-170 days. The large-scale conduct of such research plantings in

all climatic conditions of cotton growing in the USSR made it possible to determine where to plant fine-fiber cotton and the most effective varieties among them. As a result of studying the economic quality of the fiber of all existing varieties of Egyptian cotton, in 1928 22 thousand tons of fine-fiber cotton were grown in the USSR, and in 1929 121 thousand tons of fine-fiber cotton were grown, and by 1933 Uzbekistan produced even more fine-fiber cotton. The average cotton yield per hectare was 4.8 quintals [4].

In the Surkhandarya region, this variety was tested in the Sherabad, Termez and Jarkurgan districts, and in 1933, this variety of cotton was planted on 3.5 thousand hectares of land, and more than 2 thousand tons of fine-fiber cotton were grown. In the spring of 1934, two varieties: Pima and Maarad varieties were planted on all plots in these districts of the Surkhandarya region, and the Maarad variety was tested more in accordance with the conditions of these places, giving a much higher yield and high-quality fiber. Starting from the spring of 1934, only fine-fiber cotton began to be planted in these districts. Starting from 1933, large-scale experimental research work was carried out in these districts of the Surkhandarya region to prepare seed from the best and highest-yielding plots. In the spring of 1934, an elite seed farm was established on the Kirov collective farm in the village of Chuyunchi in the Sherabad region. This farm supplied farms in Surkhandarya and Bukhara regions and the Fergana Valley with seed. It should be noted that the yield of fine-fiber late-ripening Pima and Maarad varieties was practically no less than that of varieties planted from non-fine-fiber cotton groups. Since 1938, fine-fiber cotton has also been cultivated in the Shurchi region. In 1941, fine-fiber cotton was grown on 19,600 hectares of the 40,000 hectares of cotton area in the region. was planted. An average of 12.2 centners was harvested per hectare of land. During the difficult years of World War II, fine-fiber Egyptian and American cotton varieties were planted on 2.5-3.5 thousand hectares in the Denov district [6].

Table 2. Index of Pima and Maarad varieties in 1932-1933 [5]

Districts	1932 (first planting year)		1933	
	American variety	Corn variety	American variety	Corn variety
In Sherabad district	12.0	1.2	7.8	7.7
In the Termez region	6.6	1.8	5.3	4.2
In the Zharkurgan region	4.5	2.2	5.2	4.7

In the postwar years, fine-fiber cotton production reached its peak in 1953 and 1954. The cotton area was 33,000 hectares, producing almost 60,000 tons of cotton. The following data for 1954 provide information on the area, yield, and gross yield of fine-fiber cotton:

Districts	Land area (hectares)	Yield (centners per hectare)	Total harvested crop (tons)
Termez district	5040	21.2	10,685
Zharkurgan district	8094	22.8	18,455
Shurchi district	8200	13.0	10,715
Sherabad district	4300	17.9	7,667
Angor district	7300	16.6	12,107
By region	32,934	18.1	59,629

In the oblast, the share of fine-fiber cotton crops in cotton crops was 45 percent, and in cotton production - 35 percent [7]. For their high yields of fine-fiber cotton, 9 collective farmers, farmsteads and district leaders were awarded the title of Hero of Socialist Labor. Many agricultural workers were awarded orders and medals of the USSR, received honorary titles. Due to the severe damage to the 35-1; 5476-I cotton varieties by fusarium wilt, the area under these varieties began to decrease sharply. This was also greatly facilitated by the desire to grow cotton without taking into account its quality. In 1964, this variety remained on 12,365 hectares in the oblast, and only 23,178 tons of cotton were grown. This accounted for about 9 percent of the total cotton produced in the region [8].

The main fine-fiber cotton variety grown in the region is 5904-I, which produces 3 types of fiber, and since this variety is not resistant to fusarium wilt and black root rot, the S6002 variety was planted instead. This variety produces 2 types of fiber, although it is resistant to fusarium wilt, it could not withstand macrosporiosis. The T3, T7, T8 varieties released by the regional agricultural experimental station are resistant to root rot It was resistant to diseases, had a much higher yield than the 5904-I variety, and was economically profitable due to its early ripening by several days. The S6028, S6029, S6030, S6033, S6034, and 8022 varieties released by the Institute of Cotton Seed Breeding and Selection of the Uzbek SSR also gave a great economic result, similar to the above T3, T7, and T8 varieties. There are two elite seed farms in the region, one of which is located at the “XXP parts'yezd” collective farm in Sherabad, where the S 6002 variety was bred, and the other is located at the “Namuna” collective farm in Termez, where the 5904-I variety was bred [11].

In conclusion, it should be emphasized that the state of the material and technical base in the establishment of cotton monopolization in Surkhandarya region is an important factor for the agricultural and economic development of the region. According to the results of the study, although the material and technical support of cotton production in the region, in particular, through the use of modern agrotechnologies and irrigation systems, has significantly increased productivity, a number of problems, including outdated equipment and infrastructure limitations, still remain relevant. To further strengthen cotton monopolization, it is necessary to implement comprehensive measures to modernize the material and technical base, provide it with modern equipment, and expand international cooperation. This approach will not only increase the region's cotton production potential, but also serve to strengthen Uzbekistan's competitiveness in the global cotton market.

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