



Universiteit
Leiden

The Netherlands

Chains of white gold: Tajikistan's cotton monoculture across the Soviet divide

Scarborough, I.M.

Citation

Scarborough, I. M. (2023). Chains of white gold: Tajikistan's cotton monoculture across the Soviet divide. *Saeculum*, 73(2), 263-286.
doi:10.7788/saec-2023-730203

Version: Publisher's Version

License: [Licensed under Article 25fa Copyright Act/Law \(Amendment Taverne\)](#)

Downloaded from: <https://hdl.handle.net/1887/4245655>

Note: To cite this publication please use the final published version (if applicable).

Chains of White Gold: Tajikistan's Cotton Monoculture across the Soviet Divide

Isaac McKean Scarborough

Introduction

Central Asia's cotton fields are brutal – and are hardly different today than they were thirty or even ninety years ago. Today, people across Tajikistan, Uzbekistan, and Turkmenistan spend their springs, summers, and falls sowing, tending, and reaping the crop, a labour unending for months. The harvest is the hardest and longest of periods: back-breaking work of long hours under the scorching sun of the regions' August to October. Pickers cover their faces against dust and flies; they cover their hands against the thorny branches of the cotton bush; they cover their heads and bodies from the sun; they bake in the clothing covering them. The region's cotton bushes grow relatively low, requiring a constant bending to pick cotton bolls and straightening as the picker places the boll in her sack and moves further down the row. Pickers work all day, at times for up to 12 hours, filling multiple sacks each weighing up to 20 kilogrammes over the course of a day's work. It is exhausting and back-breaking work: necks strain, backs creak, and hands are scratched bloody by the plant itself.¹

This is the labour of today's cotton picker, much as it was the fate of the later-Soviet Central Asian kolkhoz worker, or the first collectivised cotton farmers in the 1930s. Cotton must be harvested in waves before the first frost or rains of the fall, requiring an extensive workforce and many, many hands. Mechanisation, like thirty or ninety years ago, is at best limited, especially in rural areas of countries like Tajikistan. Cotton, and the role it plays in rural livelihoods and lives, has remained constant even as states and economies have risen and fallen: a 'white gold' to be sown in the spring and reaped from the soil each autumn.

What has changed, however, is the size and the scale of the harvest, the inevitable consequence of geopolitical transformation, which has brought in turn attendant economic and social upheavals that continue to affect rural lives across the region. As Sven Beckert has written, cotton experienced a remarkable two centuries between around 1780 and 1980, with the centre of world cotton production shifting first from India to Britain and then back again to Asia.² Recent histories of cotton in the Russian Empire and Soviet Union have also demon-

¹ Composite description based on the author's participation in the 2007 cotton harvest in Turkmenistan and accounts provided by cotton pickers in Tajikistan between 2012 and 2017.

² Beckert.

strated that Central Asia was subjected (as with so many aspects of modernity) to a rushed and warped version of this same trajectory.³ Cotton cloth's low-scale production in the Ferghana valley was supplanted by a monoculture of cotton planting in the region and the removal of cloth production to Russia, Ukraine, and other European parts of the Imperial or Soviet state. When the latter state collapsed in 1991, the monoculture remained, but was left burdened with disastrous ecological costs and a missing captured market for its production.⁴ Inputs, including fertiliser, seeds, and machinery, all increased in price, just as long-term capital investments in irrigation degraded and the real price of cotton, now dictated by world markets, dropped sharply. In countries like Tajikistan, this has led to significant decreases in per-acre output, overall production, and even the economic importance of cotton.

Cotton's place in Soviet collectivisation and post-Soviet economic transitions to the market has been well documented, mirroring work placing it – as in Becker's worldwide history – as a central element of efforts to 'modernise' or 'develop' Central Asian economies in either socialist or capitalist terms. (As well as dealing with the basic failures and contradictions implied through modernisation via agricultural monoculturing.) This focus on cotton as signal-post for modernity or economic development, however, has created an emphasis on the various bureaucratic and industrial aspects of cotton farming: plan dictates for growing harvest outputs, ministerial programmes to develop irrigation, or the distribution of seed and the redistribution of collected raw cotton to factories in Russia. The actual planting, growing, and harvesting of cotton seems oddly, if quite consistently, absent. Yet the agricultural endeavour of cotton's sowing and reaping is the most labour intensive of all of its stages, requiring more human hands, bodies, and labour than all of the other steps combined.⁵ Cotton agriculture, rather than its industrial processing or economic calculation, is the most societally dominant aspect of the product: those rural lives involved in its monoculture are much more fully bound by cotton than those who later gin, yarn, or sew its many products, not to mention those who count the tax revenues accruing as a result.

Setting aside the question of cotton as a sign or symbol of modernity, this article reconsiders cotton as cotton and as a dominant element of economics in a society built around its monoculture. It does so by evaluating the cotton mono-

³ Amongst other works, see Petersen; Obertreis; Teichmann; Reid 2017.

⁴ For an early voice noting the ecological costs of cotton in Soviet Tajikistan, see Hakimova.

⁵ According to calculations from the late Soviet period, between 57–65 percent of all the human labour involved in producing cotton cloth occurred during the agricultural stages of its production. See the Report of the General Department of State Budgets of the Tajik SSR State Planning Committee [Spravka svodnogo otdela gosbiudzhetrov Gosplana TSSR], in the Central State Archive of the Republic of Tajikistan [Tsentral'nyi gosudarstvennyi arkhiv Respubliki Tadjikistana, TsGART], f. 306, op. 27, d. 1130, l. 79; also Russian State Archive of the Economy [Rossiiskii gosudarstvennyi arkhiv ekonomiki, RGAE], f. 7733, op. 65, d. 5443, l. 21.

culture in Tajikistan: initiated in the early 20th century and brought to a peak in the 1980s, this monoculture outlived the Soviet Union's collapse in 1991 and through recent years has continued to impact many aspects of rural life in the country. Here cotton's growth or recession across agricultural fields does not necessarily imply the spread or regression of economic development, but rather the encroachment or waning of what might be termed 'economic capture' – the level of control by the state or its para-state agents (collective farms, Party workers, or even corporate financiers) over cotton growers and their economic activity. As this economic capture recedes, new fields of literal and figurative growth appear, along with risks previously abated by a dominant state. The article begins with the first rupture of this capture in 1991, and then moves back in time to consider how the cotton monoculture and its controlling aspects developed over the 20th century – and what their loss may mean today for those who had previously relied on this very monoculture.

Perestroika and the Lost Harvest of 1991

In 1991, the Soviet Union was collapsing, but there was still cotton to harvest and sell. In Tajikistan, the final months of Soviet rule – the chaotic and inconclusive autumn following the inconclusive August 1991 coup in Moscow – corresponded with the peak cotton months: the time when cotton ripens and must be brought in from the fields before the first rain and cold ruins the crop. Dushanbe's central squares were filled with protesters from September to November that year, as leaders (Kahhor Mahkamov, Qadriddin Aslonov, and Rahmon Nabiev) were one-by-one removed from power and one (Nabiev) eventually elected President at the end of November.⁶ Yet the cotton fields remained filled with workers at the same time, witnessed by the 1991 cotton harvest of 826,000 tons of raw or seed cotton (*khlopok-syrets*).⁷ This was admittedly down from peak production rates of approximately 1 million tons a decade before, and a drop of around 10 percent from the years immediately prior – but hardly the collapse of a labour and input-intensive agricultural sector that might have been expected in the context of populist mobilisation and general economic recession.⁸

What was missing, however, was the previous buyer for this cotton. In all previous years, the harvested hundreds of thousands of tons of cotton had been purchased, without question or bargaining, by Soviet factories in accordance with

⁶ On Dushanbe's protests and political changes in September–November 1991, see Scarborough 2023c, chapter 7.

⁷ TsGART f. 306, op. 27, d. 1613, l. 41.

⁸ Cotton production peaked in Tajikistan at 1,011,000 tons in 1980; in 1989, this figure was 922,500 tons. For these and related figures, see Scarborough 2023a.

directives from the State Planning Committee (Gosplan) and the State Supply Committee (Gossnab), which were the central Soviet planning agencies. In the autumn of 1991 there were no directives, and no more Soviet buyers. The previous system of interrepublican economic and financial transfers had completely collapsed following the series of comprehensive economic reforms passed by Mikhail Gorbachev and his advisors in Moscow over the past five years.⁹ Under the heading of ‘perestroika’, these reforms had given state enterprises the right to set their own production targets and make contracts as they saw fit; they had also legalised private businesses (initially called ‘cooperatives’), allowed for foreign investment in ‘joint enterprises’, and phased out government control of many economic sectors.¹⁰ By 1991, these reforms meant in practice that Tajik cotton, once harvested, no longer had a set path to ginning machines or garment factories: As per the new partially marketised system introduced from Moscow, it was meant to find its own route to the market. The government of Tajikistan responded by giving individual state and collective farms (*sovkhozy* and *kolkhozy*) the legal right to sell their cotton on the open market.¹¹ They did just that, selling to various of the recently legalised local private businesses, which then sold the cotton to international buyers. In October 1991, for example, the US-funded joint-enterprise ‘Sano’, which was associated with Tajikistan’s Ministry of Bread Products, sent 15,000 tons of cotton lint (*khlopok-volokno*) valued at 16 million rubles to a company based in Hong Kong in exchange for ‘clothes’ nominally valued at 3.5 million US dollars. Outside of Dushanbe, the local Ginning Factory in the regional city of Gissar also sent 1,000 tons of cotton lint to a Yugoslavian firm called ‘Progress’, for which it received an unspecified amount of seed corn.¹² In accordance with the ideas of marketisation promoted by Gorbachev during perestroika and accepted in practice in Tajikistan, free trade had been meant to bring unseen wealth to Tajikistan: At international market prices, the 1991 harvest of 826,000 tons of cotton was valued at around 450 million US dollars.¹³ In practice, though, the cotton was sold at massive discounts, in exchange for bartered goods, and was in general poorly tracked. Money from cotton sales seemed

⁹ On the collapse of the command system of directives that had previously ordered the Soviet economy, see Ellman and Kontorovich.

¹⁰ Scarborough 2023c, chapters 2 and 3.

¹¹ TsGART f. 297, op. 40, d. 1,280, l. 67.

¹² For these and similar export deals of Tajikistani cotton and other goods in 1991, see TsGART, f. 297, op. 40, d. 1,280, ll. 95–115.

¹³ This is assuming an average world market price of about .74 US dollars per pound of cotton lint in September 1991, which translates to 1.63 US dollars per kilogramme or 1,630 US dollars per ton. Prices for lint cotton sourced from the St. Louis Fed (<https://fred.stlouisfed.org/series/PCOTTIN-DUSDMD>; last accessed 14 October 2022). It is also assumed here and throughout this paper that 3 kilogrammes of Tajikistani seed cotton can be made into 1 kilogramme of cotton lint, as per standard Soviet and post-Soviet ginning rates. For cotton prices in 1991, see Pomfret, p. 466; for the rates of seed cotton to cotton lint transfer, see Baffes, p. 45.

to ‘disappear into thin air,’ as Nazrullo Dustov, the Vice-President of Tajikistan, groused in January 1992.¹⁴ It certainly never made it to the state as tax revenue.

In fact, for most rural residents of Tajikistan, the revenues accruing from their labours over cotton seemed increasingly amorphous. Mirzo Khakimov, a cotton farmer and veteran of the recently ended war in Afghanistan, described the situation to a journalist in the spring of 1992: “I work in the cotton [...] it is sold abroad. For this people send us, for example, pretty coats. Look, you have one. Other people have them, but I don’t. This is unjust [...] those who received them are those who did not work.”¹⁵ Many cotton workers reported going unpaid in the spring of 1992 as the profits from the cotton they had picked either dissipated abroad or remained in the pockets of those who had sold it.¹⁶ It was equally unclear what would happen later that spring and summer, when investment would be needed to plant the new cotton crop, irrigate it, and tend it throughout the hot and dry summer months. As Sergei Abashin has noted, the Tajikistani “kolkhoz economy [was] in a moment of crisis. State investment and the provision of new materials and equipment had ended”, while in practice

bulk prices for cotton production, first and foremost seed cotton, had dropped in the face of price increases for diesel fuel, fertiliser and other inputs, without which production could not occur. It was a moment of beginning collapse of the kolkhoz economy and the destruction of the entire existing system ...¹⁷

As Abashin emphasises, moreover, this moment was instrumental for understanding both how that very system had developed over the 20th century – and what changes were to come after the “kolkhoz economy” broke down. As in years prior, the cotton farmers created wealth through their labour that they saw little of; as in years to come, in 1991 they were unable to rely on guarantees of inputs or sufficient payments to continue production. The lost harvest of 1991 points in many ways both to the structural capture of cotton farmers in the decades before, as well as to the struggles they were to face thereafter.

Chains of White Gold in pre-Soviet and Soviet Tajikistan

Although cotton monoculturing was introduced by Russian Imperial and then Soviet administrations in Central Asia and Tajikistan, cotton itself had a much longer and more complex history in the region. As far back as the 10th century,

¹⁴ Usmon, p. 33.

¹⁵ Khodzhaev.

¹⁶ Liubimenko; Shermatov.

¹⁷ Abashin, p. 370.

“cotton was an enormously important agricultural crop in a number of regions (the Zerafshan and Ferghana valleys, [and] the Merv oasis)”, which included stretches of what is now northern Tajikistan.¹⁸ Cotton was harvested and made into “fine cotton fabrics” that were well-known internationally and traded to Russia, Khazaria, and the Volga Bulgars in exchange for raw materials, such as furs, cattle, or honey.¹⁹ Like elsewhere in the world, however, Central Asia produced cotton in relatively small quantities, and alongside a variety of other crops, notable among them tobacco, wheat, rice, sorghum, corn, hemp, sunflowers, sesame, many root vegetables, and even cauliflower. Like elsewhere in the world, cotton was rotated with plants that provided more nutrients to the soil, such as sorghum.²⁰ The cotton that was grown was exclusively processed in the area around its cultivation, with consumer goods, such as cloth and clothing, making up the out-flow of exports.

Following the conquest of Central Asia by the Russian Empire in the late 19th century, cotton’s place in the local economy rapidly and radically shifted. Although cotton growing had not motivated the Empire’s expansion into Central Asia, once in control of the region Tsarist administrators quickly realised the opportunities that control of this agricultural sector presented. As an authoritative modern account has put it, “Russian industry was interested in the reduction of imports of cotton cloth and the expansion of imports of seed cotton as a raw material for Russian factories”, meaning that tariffs were raised on all non-Imperial cotton imports and significant incentives were provided for growing cotton in the new Central Asian territories.²¹ By 1910, more than 30 percent of the irrigated land farmed in the Ferghana Oblast (which included Khujand and other parts of northern modern Tajikistan) was sown with cotton, almost equivalent to the portion sown with wheat (± 40 percent).²² The land sown with cotton was also no longer rotated, and cotton was not scattered amongst other crops, but instead the sole plant in a field, indicating the first signs of a monoculture. Cotton also began to bind particular populations to its fields, as the vast majority of cotton was produced by *local* farmers and workers, not by the Russian colonists who were increasingly entering the region. In the Ferghana Oblast in 1910, for example, 99 percent of all land under cotton cultivation was farmed not by Russians but by locals.²³ As Andrei Platonov and others described a few decades later, moreover, the expanding cotton fields required an increasing pool

¹⁸ Negmatov, p. 82.

¹⁹ Ibid., pp. 83–85.

²⁰ Schanz, p. 40. On Cotton’s traditional rotation in Central Asia and elsewhere, see Beckert, pp. 10–14.

²¹ Abashin et al., pp. 145–147, quote on p. 145.

²² Schanz, p. 41.

²³ Ibid., p. 69.

of seasonal local labour: the *batraki* or hired hands that moved between fields and farms in search of work during the picking season.²⁴

In what is now Tajikistan, this new order remained relatively stable through the coming few decades, even as war, revolution, and revolt against the new Bolshevik order disordered much of society. Cotton continued to be grown in the north of the country, centred around the city of Khujand, and the new Bolshevik government continued the previous imperial policy of encouraging cotton cultivation and exporting it to Russia for processing into cloth and clothing. When collectivisation completely overturned agricultural livelihoods in the late 1920s and early 1930s, the impact was much greater in the southern Khatlon region of Tajikistan, which had until then remained swampy and largely uncultivated.²⁵ It was here that Soviet administrators saw the greatest potential for cotton's expansion: wide swaths of unused fertile land, only in need of draining, irrigation, and labour power to provide acres upon acres of the region's "white gold" (rus: *belaia zolota* / taj: *tilloi safed*). White gold, moreover, could help to assuage the nascent Soviet state's problems with real gold, as the import of cotton cost the USSR approximately 100 million rubles in gold in 1928. The First Five Year Plan, passed in 1928, thus unsurprisingly made "cotton independence" a major priority and the focus of agricultural development in Central Asia.²⁶ For the farms in the north that had already been cultivating cotton, however, the transition to collective farms (*kolkhozy*) and collectivised farming was much less radical or traumatic. As Beatrice Penati and others have described, these farmers were in practice already 'captured' by the state: They had been encouraged to produce a monocrop and were already bound to sell this single crop to a monopoly buyer.²⁷ The change in structure was relatively peaceful, compared to what happened elsewhere during collectivisation, such as the horrifying deaths of millions of Ukrainians now known as the Holodomor or the less known but equally terrible destruction of pre-Soviet Kazakh society through its forced sedentarisation. The latter killed a quarter of the entire Kazakh population and by some accounts three quarters of its livestock.²⁸

While not reaching the levels of terror and destruction observed in Kazakhstan or Ukraine, the areas of Tajikistan not previously 'captured' by the Soviet economic project also experienced collectivisation during the 1930s as a period of upheaval. In Khatlon, for example, the expansion of cotton to new lands was hardly a smooth or painless process. With little in the way of exist-

²⁴ See, for example, the description of *batrak* life in Platonov.

²⁵ On the lack of cotton cultivation in Khatlon before 1930, see Ghoibov, pp. 526–534.

²⁶ Kassymbekova, p. 72.

²⁷ Penati; on the relatively peaceful process of collectivisation in cotton-growing areas of Central Asia, also see Kamp and Zanca.

²⁸ On the Holodomor in Ukraine, see Applebaum; on the violence and death involved in the forced sedentarisation of the Kazakhs, see Ohayan; Pianciola; Kindler; Cameron.

ing agriculture, entire sectors had to be built from scratch, including the cotton sector. Focused around the Vakhsh River, this project came to be called the “Vakhshstroi”. Formally initiated in 1929, the same year that collectivisation took off and Tajikistan became a full “union republic” (it had previously been an “autonomous republic” inside of the Uzbek SSR), Vakhshstroi represented an enormous undertaking: a vast network of canal-digging, roadbuilding, and collectivisation of agriculture. An “All-Union Construction Site” with funding and planning backing from Moscow, Vakhshstroi solidified existing economic links between Tajikistan and Moscow and more aggressively folded the local economy into the Union-wide administrative apparatus. With few local agriculturalists, tens of thousands of workers were encouraged, cajoled, or simply forced to move to Khatlon to work in the projected 110,000 new acres of cotton cultivation.²⁹ So-called *kulaks* (rich peasants) and other “special settlers” were deported from Russia and Ukraine; former Red Army soldiers were demobilised, and the Tajikistani republican government in Stalinabad (Dushanbe) organised the relocation of families from other parts of the republic, a policy that would continue for decades. A decade after the foundation of Vakhshstroi, in 1939, the “Relocation Administration” of the Council of Ministers of the Tajik SSR reported plans to organise the movement of hundreds of families, representing at least 2,000 workers, from the north, west, and south of the country to the kolkhozes of the Vakhsh River valley.³⁰ As Botakoz Kassymbekova has described, moreover, this was from the beginning a painful process, filled with deprivation and violence:

Workers on collective farms did not go out to work since they had nothing to eat. What’s more, locusts were destroying cotton fields in the south [...] local officials beat up peasants, confiscated their last grain, and literally tortured them by forcing them to work in the fields day and night, hungry and ill.³¹

The violent movement of people and rough reworking of the land proved a longer and more difficult process than initially envisioned. Workers brought to the Vakhsh River valley had a tendency to simply leave, whether back to their northern towns in early decades or later to mountainous regions, such as Nurek, Gharm, or Yaghnob, from which they were brought in the decades after World War II.³² Just getting to Vakhsh meant crossing the desert-like conditions of central Khatlon, which in the 1930s–40s remained largely without roads or ameni-

²⁹ Reid 2016, p. 221.

³⁰ TsGART, f. 1,566, op. 1, d. 37, ll. 11, 19, 183; d. 43, l. 35.

³¹ Kassymbekova, p. 90.

³² On relocations from Yaghnob and elsewhere, see Loy. On relocations from Nurek, see Bahovadinova.

ties. The future First Secretary of the Communist Party of Tajikistan, Jabbor Rasulov, who was sent to Vakhsh as a young cotton agronomist in 1934, later recalled getting there as a struggle against the elements:

We were driven to Obikiik with pain and misery. I and another passenger then went on by foot. The heat became harder and harder to bear. Around us there were not even any bushes to hide under [...]. Done in by thirst, and having lost all strength, I fell onto the hot sand.³³

Rasulov was saved by a passing truck that finally brought him over the sand to the Vakhsh River and his place of work. But his and many others' years of work in the valley fell short of expectations: The initial push to seed and cultivate 110,000 acres of cotton in Vakhsh only came to 42,000 acres.³⁴ Even after the cotton farms were established and local processing facilities built, moreover, the struggle to deliver greater and greater volumes of cotton remained.³⁵ Into the 1950s and 1960s complaints were openly heard about the difficulties of fulfilling plans. In the kolkhoz named for V.I. Lenin in Kuktosh District in 1953, for example, brigades were obligated to produce 1.8 tons of cotton per hectare, within the average range for the time. Yet even this proved nearly impossible, as flash flooding left many of their fields "completely marshy" and inaccessible. A journalist reported that one local worker, the "eighteen-year-old Kom-somol member Jumagul Islomova, was unable to control herself and began to cry. Her eyes were filled with tears: 'All of our work has come to nothing!'"³⁶

Yet even as the difficulties of planting, tending, and harvesting increasingly voluminous tons of cotton in Tajikistan's south (and north) grew and led to many tears, the harvest also expanded inexorably. In the early 1950s, the Vakhsh valley's 40,000–50,000 hectares of sown cotton represented approximately half of the republic's total acreage, which was concentrated there and in the previously cultivated northern valleys. In the coming decades, the acreage under cotton would grow exponentially, ultimately reaching more than 300,000 total hectares by the 1980s.³⁷ Harvests also expanded, with the republic reaping around 900,000 tons of seed cotton each year; this constituted 10–11 percent of the total Soviet harvest, more than twice what had been projected in the 1930s.³⁸

³³ Mirzorakhmatov.

³⁴ Reid 2016, p. 222.

³⁵ In fact, the first local processing facilities in the south of Tajikistan were opened in 1930 in Kurgan-Tyube (now Bokhtar) and Kulyab (now Kulob). See Ghoibov, p. 608.

³⁶ Fridliander. Kuktosh District no longer exists, but represents what is now the southern edge of modern Tajikistan's Rudaki District.

³⁷ Total seeded acreage under cotton in 1951 was approximately 100,000 hectares, rising to nearly 200,000 hectares by 1960. For rates of acreage across decades, see Nekbakhshoev, p. 41; Lerman and Sedik, p. 49.

³⁸ Scarborough 2023c.

Even overall productivity continued to grow over the period, with per-acreage yields averaging around three tons per acre in the 1980s, a significant increase over previous decades: Production was around 1.5 tons per acre in the pre-war period and 2.5 tons in the 1950s and 1960s (see Fig. 1).³⁹

Mechanisation was partially responsible for this growth in productivity, as the amount of cotton picked by hand was reduced in the republic from around 80 percent to 60 percent by the mid-1980s, but this still left a significant portion reliant on the physical labour of rural Tajikistanis.⁴⁰ At the same time, the growth in output was not entirely the product of free labour, as Tajikistan's cotton farms underwent structural reform during the same period of growth – a reform that saw a shift to more labour-efficient “state farms” (*sovkhozy*) in place of *kolkhozy*, which in fact reduced the total number of cotton pickers in the country.⁴¹ This also further concentrated cotton farming in particular farms: By 1984, 75 percent of all of the republic's cotton was produced on cotton-exclusive farms that grew nothing else.⁴² This created efficiencies of scale and specialisation, which along with increased investments in irrigation and inputs, such as fertiliser, helped to guarantee the growing per-acre returns seen in the 1970s and 1980s. Investments in irrigation played a particularly important role in boosting output from the 1960s onward. Major hydroelectric dams, from that in Nurek to the upriver Roghun dam that remained incomplete in the 1980s, had the added capacity of regulating waterflow on the Vakhsh River, thereby increasing irrigation efficiency.⁴³ Throughout cotton-growing regions, moreover, vast investments were made to dig canals, build drainage systems, and install water pumps.⁴⁴ Many of these irrigation systems remain in service today, decades later – and later calculations have pointed to irrigation investments as a central element of productivity expansion during the latter half of the Soviet period.

The growth of cotton's productivity and production volume also further secured its place as the lynchpin of Tajikistan's economic and social order. Tajikistan was always the most rural and least urbanised of all Soviet republics, with 67 percent of its population living outside of urban areas even in the 1980s.⁴⁵ Of the 40 percent of its population engaged in agriculture, more than 65 percent worked on cotton in one form or another, making up the largest single group

³⁹ Nekbakhtshoev, p. 42; Spänning, p. 165.

⁴⁰ Abduzhaborov, pp. 22, 30, 45.

⁴¹ Scarborough 2023c, chapter 1. This in fact exacerbated existing worries about how efficiency improvements were leading to increased unemployment in rural parts of Tajikistan.

⁴² ‘Integrated plan for the economic and social development of kolkhozes, sovkhozes, and interfarm enterprises in 1984’ [Svodnyi plan ekonomicheskogo i sotsial'nogo razvitiia kolkhozov, sovkhozov, i mezhkhoziaistvennykh predpriatii na 1984 god], TsGART f. 288, op. 14, d. 5,293, ll. 15, 44, 46.

⁴³ On the importance of Tajikistan's hydroelectric dams for the regulation of irrigated waterflow, see Kalinovsky, p. 32.

⁴⁴ Nekbakhtshoev, pp. 22f.

⁴⁵ Mukomel, p. 10; TsGART f. 18, op. 8, d. 3643, l. 181.

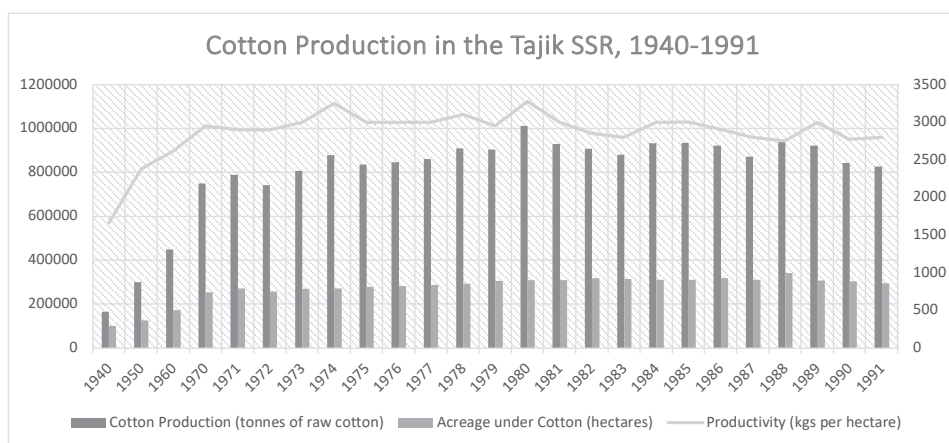


Fig. 1: Soviet Tajikistani Cotton Production and Productivity, 1940-1991 (For this graph's dataset, see the Appendix).

of workers in the republic.⁴⁶ In villages, life revolved around cotton, from farm workers' salaries (amongst the lowest in the USSR), to their children's' schooling (often interrupted in the autumn for additional uncounted hands in the harvest), to their basic standard of living (often barely that of subsistence).⁴⁷ In Dushanbe, Tajikistan's capital, budgets and republican fortunes equally revolved around cotton, with payments for cotton constituting more than 15 percent of the republic's total national material product (NMP), and additional transfers to the republican budget partially meant to make up for the artificially low prices paid for cotton often equal to 10 percent or more of the budget.⁴⁸

Cotton locked large swaths of Tajikistan's population in rural poverty, with lives revolving around sowing and harvest and salaries poorly paid. There was also at best a limited possibility for generational improvement: The Tajik-speak-

⁴⁶ In 1985, the population of the Tajik SSR was 4.65 million (TsGART f. 18, op. 8, d. 3,643, l. 181). Of these, 1.86 million worked in agriculture (Narzikulov, pp. 121 f.) and 1.2 million in the cotton sector ("Integrated plan for the economic and social development of kolkhozes", see note 42).

⁴⁷ Agricultural salaries in Tajikistan averaged around 130 rubles per month in the early to mid-1980s. Given birth-rates in the republic, there were generally at least two unworking children for each two workers, meaning that per capita earnings in Tajikistan's villages were frequently as low as 50–60 rubles per month, much lower than Soviet per capita averages, which were generally at least twice as much in major urban areas. For average rural Tajikistani salaries, see The Party Archive of the Institute of Party History of the Communist Party of Tadjikistan [Partiynyi arkhiv Instituta istorii Partii Kommunisticheskoi Partii Tadjikistana, PA IIP KPT], f. 3, op. 367, d. 200, l. 1; on birth-rates in Tajikistan, which were around 5.7 per woman in the 1980s, see Morozova; on average Soviet salaries during this period, see State Archive of The Russian Federation [Gosudartsvennyi arkhiv Rossiiskoi Federatsii, GARF], f. 5,446, op. 147, d. 116, l. 167.

⁴⁸ For these and other figures related to Tajikistan's financial situation in the 1980s, see Scarborough, 2023a.

ing children of cotton pickers were unlikely to receive higher education (frequently taught in Russian) or find jobs in Tajikistan's largely Russian-speaking cities. In the Soviet Union, housing provision and registration (*propiska*) was provided on the basis of employment, meaning that without clear alternative employment opportunities in cities, generations of cotton workers often had little choice but to continue picking in the fields. That this colonial-style cotton-field capture of the toiling masses of Tajikistan's villages contradicted the Soviet Union's ideological commitment to economic equalisation and social 'flattening' across ethnicities was, by the 1980s, commented on by journalists, sociologists, and politicians alike.⁴⁹ Yet there was little political will to change the system. Local elites did not directly or corruptly profit from the cotton harvest as did their contemporaries in Tashkent, Uzbekistan, but the leadership of the republic was all the same highly invested in the growing output of cotton and the finances this brought to Tajikistan.⁵⁰ The inexorable yearly demands of economic plans, the USSR's need for cotton for internal use and export alike, and the inertia of existing financial arrangements, however, all made the system seemingly unbreakable. The chains of white gold were no less binding for being pliable.

Continuity and Change in the Early Post-Soviet Years

What finally broke the established order was nothing less than the collapse of socialism itself. As this article has described, marketisation in 1991 meant that the yearly cotton harvest was sold by individual traders and entrepreneurs, largely to foreign buyers, and in ways that bypassed the newly independent Republic of Tajikistan's budget. In 1992, the planting season overlapped with the start of the Tajik Civil War (formally 1992–1997), which brought thousands of unemployed or underemployed agricultural workers to Dushanbe's squares in support of rival political groups. By May and June of 1992, moreover, the Civil War had moved south to the cotton-growing kolkhozes of Khatlon, leaving devastation and death in its path.⁵¹ Amazingly, the country did manage to still plant and harvest cotton, mostly in the north, which was spared the worst of the Civil War, but the 1992 harvest was less than half of that collected in 1991.

⁴⁹ For a series of critiques made along these lines, see Olimpur; Mukomel; Umarov and Matkupov; and Maksumov.

⁵⁰ On the early 1980s 'cotton scandal' in Uzbekistan and the corrupt practice of overcounting cotton production in that republic, see Cucciolla. Although it has been frequently assumed that similar practices were common in Tajikistan, this is not true: The republic was instead seen as a paragon of 'clean' accounting by Moscow during the 1980s. On the lack of corruption in Tajik SSR's cotton sector, see Scarborough 2023a.

⁵¹ On the start of the Tajik Civil War and its impact of the republic's economy, see Scarborough 2023c, chapter 8 and Conclusion.

As the war continued, so did the sector's downturn, with production reaching a low point of 318,000 tons of raw cotton in 1996, equal to only 38 percent of the volume harvested in 1991. Planting had also been reduced significantly (from almost 300,000 hectares in 1991 to around 229,000 in 1996), but not as much as production losses, demonstrating an equally striking collapse in productivity. If the Soviet cotton industry had consistently produced nearly 3 tons of seed cotton per hectare since 1970, post-Soviet productivity dropped by 35 percent between 1991 and 1992 alone, reaching a low point of 1.39 tons per hectare in 1996 (see Fig. 2).

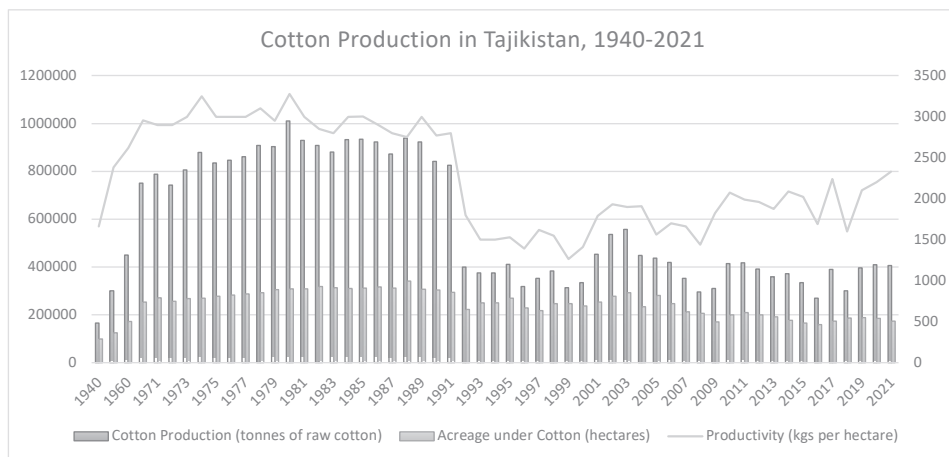


Fig. 2: Tajikistani Cotton Production and Productivity, 1940-2021 (For this graph's dataset, see the Appendix).

The most important factor behind the collapse of Tajikistan's cotton sector was a lack of funding. Mechanisation was limited, but such had been the case in decades past; land was, by the late 1990s, again equally available for farming. Labour was, if anything, more abundant than in the past, as Tajikistan's rural population grew in both absolute and relative terms throughout the 1990s. By 1998, over 76 percent of the total population lived in rural areas, a significant increase over the Soviet period, demonstrating a notable boost to the pool of available agricultural workers.⁵² At the same time, local farms – which were privatised as *dehqon* (farmers') farms or collectives starting in 1996 – had no access to cash. As a result, “purchases of fertiliser, pesticides, seeds, and feed fell abruptly, causing a dramatic fall in agricultural output”.⁵³ The upkeep of irri-

⁵² For these figures, see Hasanzoda et al., 40–42; for the impact on agricultural labour, see Lerman and Sedik, p. 17.

⁵³ Lerman and Sedik, p. 15.

gation dams, channels, and water distribution systems was left equally by the wayside, with no funding available to rebuild the pieces degrading from the lost years of the Civil War. Without the resources to provide these inputs or pay for reconstruction, the government of Tajikistan came to an agreement with the Swiss company Paul Reinhart AG, one of the world's oldest cotton buyers. Reinhart, with guarantees provided by the Tajikistani government, secured a 138 million US dollars loan from Credit Suisse First Boston at 10 percent annual interest. This money was then provided to the National Bank of Tajikistan, which loaned it to the Tajikistani commercial bank AgroInvestBank at 12 percent annual interest; AgroInvestBank in turn provided it to local brokers, which overwhelmingly were the owners of state-run or privatised ginneries. These brokers then purchased the necessary inputs, including fertiliser, seeds, and pesticides, at world market rates and fronted the inputs to farmers as loans in kind against that year's harvest, but with annual rates of interest in the case of incomplete payment as high as 25 percent.⁵⁴

In practice, this did provide farmers with the inputs they needed to seed, tend, and harvest their 'white gold' – but in such a way that they ended chained by insurmountable debt. Since the brokers provided inputs in kind, and constituted local monopolies, they set their own, essentially arbitrary and inflated prices for these inputs; since these same brokers also represented the immediate buyers (the ginneries), they set equally arbitrary low prices for cotton. Farmers were left overpaying for inputs and under-receiving for production, meaning they were never able to fully pay off the initial debt they incurred each year to receive fertiliser, seeds, and other materials. In turn, brokers and ginneries were squeezed by AgroInvestBank to return the funds loaned, which ultimately made their way back to Paul Reinhart AG as the initial investor.⁵⁵ As the provider of the majority of funds, Reinhart recouped its investment and continued to fund the cotton harvest in Tajikistan for at least the next ten years. The provision of inputs, moreover, did improve production, with output increasing on average by more than 30 percent by 2006, after peaks of more than 500,000 tons of cotton harvested in 2002 and 2003. Productivity also rose to nearly 2 tons per hectare in some years. After ten years, however, farmers were trapped in debt: Their collective unpaid obligations to brokers was, by the best account available, approximately 700 million US dollars.⁵⁶

Those associated with development banks or commercial buyers tended to suggest that farmers' inability to overcome their debt burden was due to a com-

⁵⁴ Spänning, pp. 175f.

⁵⁵ Reinhart's provision of 138 million US dollars represented at least 85 percent of the total financing in the sector. On this system of financing, see Sattar and Mohib, pp. 466, 481, 490; Spänning, p. 178; Kassam, pp. 30–33.

⁵⁶ Spänning, p. 180, note 74. Also see the figures in Kassam, pp. 80–90, which suggest a recalculated figure of 600–700 million US dollars of cotton-related debt during these years.

bination of limited marketisation, mismanagement and poor farm organisation, and corruption on the part of local brokers.⁵⁷ If only farmers could bring their per-hectare productivity above 2.5 tons, one such account argued, they would be able to break even and even earn 150 US dollars per hectare in profit.⁵⁸ What these accounts overlooked, however, was the actual financial situation faced by farmers. Between 1997 and 2007 the actual productivity rate was much closer to 1.5 tons per hectare, leaving farmers running a loss of 200 US dollars per hectare. In aggregate, this constituted 50 million US dollars per year, or the majority of the total debt accrued each harvest cycle. Raising productivity beyond the 2.5 ton mark – i. e., reaching Soviet-era productivity levels – would have required significant investment in infrastructure, and first and foremost irrigation systems, which had essentially collapsed. As noted above, since 1991 irrigation dams, channels, and distribution networks had been left without funding or organised upkeep, meaning many had degraded to the point of full disrepair or unsuitability. While Reinhart and its local partners had provided immediate inputs, such as seeds or fuel, they had not focused attention on underlying structural conditions. Yet studies consistently showed the need for investment, either in terms of payment to farmers for their cotton or in irrigation on the part of the Tajik government, for the sector to prove profitable.⁵⁹ And there was the simple fact that this financing structure privileged international investors in terms of distributing profits: When international prices decreased, so did payment for raw cotton, not their profit margin. In 2009, for example, the average amount paid by investors for a kilogramme of Tajikistani seed cotton was reported at 0.35 US dollars, while world prices averaged around 1.40 US dollars per kilogramme of lint cotton, which required three kilogrammes of seed cotton to produce. With cotton prices remaining low by historical standards, the profit margin of 0.35 US dollars per kilogramme gave investors like Reinhart little space to raise prices for the raw cotton harvested.⁶⁰

In practice, what had occurred was that Reinhart and other international investors took the place of the Soviet Union as backer of Tajikistan's cotton monoculture. Farmers were provided with inputs at inflated prices by the same structure that was the monopoly buyer of their product, given little control over these inputs, the product to be sown, or the prices they would receive. As

⁵⁷ Sattar and Mohib, p. 479; Spänning, p. 165.

⁵⁸ Spänning, pp. 164 f., note 59.

⁵⁹ On the importance of investments in irrigation, input use, and general infrastructure needed to boost cotton production, see Mir, p. 49; Lerman and Sedik, pp. 15–20; Umarov, p. 13.

⁶⁰ In 2008, the total costs of seeding, tending, and harvesting one hectare of cotton in Tajikistan were estimated at 720 US dollars. Payment for seed cotton was approximately 350 US dollars per ton, while average cotton lint prices on the world market that year were 0.64 US dollars a pound or around 1.40 per kilogramme. Tajikistani prices from Spänning, p. 165, note 59; world prices from St. Louis Fed. Also see Umarov, pp. 12 f.

during the USSR, Tajikistani cotton was bought at prices far below its legitimate value. In contrast to the Soviet period, however, additional funds were not provided to the Tajikistani economy or to the cotton sector to ameliorate this gap: As private actors, the international investors backing the Tajikistani cotton harvest had little obligation (or inclination) to put funding into local infrastructure or salaries. Capitalism and world markets had replaced socialism and Gosplan, but it seemed as though Tajikistan's cotton farmers remained bound in the same position. When cotton was funded and purchased by the same monopolistic institutions, the result was largely identical, whether under markets or plan dictates: capture and control.

*How Far from the Soviet Experience?
Cotton Pickers in Modern Tajikistan*

Tajikistan's cotton sector has entered a volatile period in the years since 2007, with production varying extensively, reaching more than 400,000 tons in some years (2010, 2011, 2020, 2021) but dropping as low as 270,000 tons in 2016. Reinhart and other major international funders have left the market, and after 2009 the Government of Tajikistan has also partially divested itself from the harvest, limiting its financial backing to local brokers and encouraging the diversification of crops.⁶¹ The broader ecological damage driven by cotton monoculturing – from the salinisation of the soil to the runoff into waterways to the overuse of water itself – has also influenced this diversification, although much less significantly than the economic calculus.⁶² Subsequently, there have been significant decreases in acreage under cotton, which have not reached more than 200,000 hectares since 2010. In 2021, Tajikistan's total acreage of cotton was only 174,000 hectares. While farmers remain indebted, the reduction in total acre-

⁶¹ When exactly Reinhart left its position as financial backer of the Tajikistani cotton market is unclear. When asked for comment, a company spokesman stated that "We decided that opening this past chapter is not in our interest" (email correspondence with Phillipe Saner, Head of Business Development and ICT, Paul Reinhart AG, 19 September 2022). The company does remain a buyer for a minority of Tajikistan's cotton; see the limited information in 'Paul Reinhart AG'. On the general divestment of Tajikistan's Government from the cotton sector and the increasing capacity for farmers to choose their crops as the result of legislation reforms, see Umarov, pp. 14 f.; Scarborough 2014, pp. 6 f.

⁶² The ecological costs of cotton's monoculture in Central Asia have been well known since the late Soviet period, when the consequences, from degrading water and soil quality to the drying of the Aral Sea, were made public. Such consequences, however, never overrode the economic value of cotton or limited its planting. In Tajikistan, this was all the more salient after 1991, as the most significant ecological cost deriving from cotton – the reduction of the Aral Sea – now lay outside of the country's new international borders. While ecological (and human) concerns existed in the background of discussions about cotton's place in Tajikistan, actual decisions about acreage and sectoral growth were driven, before and after 1991, by economics.

age has, however, led to an improvement in sector-wide outcomes. Per-hectare yields are beginning to approach the 2.5 ton mark in the past few years, leading to increasing reports of profitable farms; the total debt burden had been reduced to 200 million US dollars by 2012 and is understood have been reduced significantly since. Although still under price pressure by locally monopolistic gineries and buyers, local *dehqon* farmers in Tajikistan report receiving between .50 and .70 US dollars per kilogramme of seed cotton, both closer to the international market rate and the price necessary for them to break even.⁶³ Farmers often complain that they are barely breaking even – but the fact that they are making *any* money and are not stuck in irrecoverable debt demonstrates a significant change from past decades.⁶⁴ With the removal of monopolistic funding on the part of a state or para-state organisation, farmers have been able to experience actual marketisation, along with the attendant freedom to choose crops and inputs and take advantage of their local knowledge.⁶⁵ Surprisingly, this has occurred over the same period in which the Tajikistani state has significantly increased its control over many other economic sectors and has removed any possibility of political opposition; agriculture has remained a space of indirect and limited control.⁶⁶ Farmers have also benefitted from increasing world market prices for cotton lint, which have increased their capacity to demand higher prices for their seed cotton in a more competitive business environment. Production and productivity improvements appear to parallel the withdrawal of all forms of capture.

Yet even with the more real commercialisation of the sector, one population has remained captured by cotton: the workers who tend the fields, and especially those seasonal workers who depend upon picking cotton as their main source of yearly income. This article has not been able to dedicate nearly enough attention to these workers, but it is their labour that has made up the majority of the back-breaking work on Tajikistan's fields over the last century. In the Soviet period reports surfaced of families of cotton pickers with five or six children surviving on less than 75 rubles per month.⁶⁷ Today, the price paid to a cotton picker is 80 dirams (.08 US dollars) per kilogramme, an at-best marginal increase over rates paid a decade ago of approximately 60 dirams per kilogramme.⁶⁸ It

⁶³ Ashurov.

⁶⁴ For representative complaints, see Karaev 2022.

⁶⁵ On the broader process of land reform, marketisation, and crop diversification in Tajikistan's cotton sector, see Nekbakhtshoev.

⁶⁶ While the cotton sector remains bound by relationships of clientelism and patronage, these are largely on the local level, with political pressure from Dushanbe relatively limited when compared to other economic and political areas. On the role of the government in controlling, directly or indirectly, elements of the Tajikistan economy, see Scarborough, 2023b; on the increasing levels of often repressive political control in Tajikistan, see Lemon and Thibault; and Lemon and Rahimi.

⁶⁷ Olimpur.

⁶⁸ On rates paid for picked cotton in 2012–2013, see Scarborough 2014, p. 23.

is also hardly enough to survive on or justify the painful labour. As the cotton picker Zubaida Mirzoeva reported in 2020, “For the cotton harvest they pay us [...] very little. In the current situation this is a miserable amount. Yet the work is very hard: all of my fingers are cut and bleeding, and my clothes are torn”.⁶⁹ This reflected earlier narratives from the Soviet period and the 1990s about the costs of cotton: what it did to public health, what it did to people’s hands and faces, and how it locked the cotton pickers in poverty.

Cotton farms’ financial improvements, however, corresponded with a broader malaise in the rural labour market in Tajikistan. Even with significant out-migration of men for work to Russia, rural workers have remained abundant in Tajikistan, as rural population growth has outstripped both urban growth and the ability for labour migration to siphon off unemployed workers. Together with the structural reduction in acreage, this has led many rural men – along with many women and sometimes children – to compete for the few available agricultural jobs.⁷⁰ This drove down the payment for cotton picking, a situation only exacerbated after 2019 and the slowdown of the Russian economy brought about by first COVID-19 and later Russia’s invasion of Ukraine.

For those picking it in Tajikistan, it seems, cotton remains a form of capture: It binds them to the land and to the livelihood they can eke from it, given the lack of resources and opportunities elsewhere. The collapse of the USSR and the slow shift to a largely marketised cotton sector has had at best marginal impact on pickers’ lives, even as farmers have in recent years managed to improve their situation after the removal of centrally-directed investment. For workers and seasonal pickers, however, the situation has even grown worse than before 1991, as the previous investments – however partial and incomplete – into local services and infrastructure have disappeared, while pay rates remain woefully inadequate. The reach of the state or its corporate proxy in the cotton sector has receded, creating space for commercialisation, crop diversification, and factual improvements in productivity. With the opportunities, however, has come increased instability, as market prices affect pay in the sector, and increased risks as well – risks borne mostly by those struggling against the elements and the plants’ sharp edges in the cotton fields.

⁶⁹ Ashurov, Rakhmatzoda and Mukhammadi.

⁷⁰ The rural population in Tajikistan has continued to grow throughout the past years, and by 2020 had reached nearly 74 percent of the total population of Tajikistan (see Hasanzoda et al., pp. 40–42). Reductions in labour migration rates to Russia also consistently place downward pressure on agricultural pay, as they increase competition for jobs in the sector: interviews with agricultural workers in the Khujand region, summer 2017 (interviews conducted by Abdukaium Mamadazimov; data provided courtesy of Malika Bahovadinova and Tohir Kalandarov); see also Scarborough, 2016.

Appendix: Tajikistani Cotton Production Data, 1940–2021

Table 1: Collated from Umarov; Scarborough, 2014, 2023b, 2023c; Nekbakhtshoev; Lerman and Sedik; Borjian; Kurbanov; Avesta.tj, 9 March 2011, 12 April 2011, and 29 May 2015; Bol'shakova; CA; Karaev 2019; and Davlatzoda.

Year	Volume (kg of raw cotton)	Acres	Productivity (kg/acre)
1940	166,000	100,000	1660
1950	300,000	126,000	2381
1960	450,000	172,000	2616
1970	750,000	254,000	2953
1971	788,000	271,724	2900
1972	743,000	256,207	2900
1973	806,000	268,667	3000
1974	879,000	270,462	3250
1975	836,000	278,667	3000
1976	847,000	282,333	3000
1977	861,000	287,000	3000
1978	909,000	293,226	3100
1979	903,000	306,102	2950
1980	1,011,000	308,494	3277
1981	929,000	309,667	3000
1982	908,000	318,596	2850
1983	880,500	314,464	2800
1984	932,700	310,900	3000
1985	934,900	311,486	3001
1986	922,187	317,448	2905
1987	872,000	311,429	2800
1988	938,600	341,309	2750
1989	922,500	307,500	3000
1990	842,000	303,971	2770
1991	826,000	295,000	2800
1992	400,000	222,222	1800
1993	375,000	250,000	1500

Year	Volume (kg of raw cotton)	Acres	Productivity (kg/acre)
1994	375,000	250,000	1500
1995	412,000	269,281	1530
1996	318,000	228,777	1390
1997	353,000	217,901	1620
1998	383,000	247,097	1550
1999	313,100	247,706	1264
2000	335,400	237,872	1410
2001	453,000	253,073	1790
2002	537,000	278,238	1930
2003	556,800	293,053	1900
2004	447,900	234,503	1910
2005	437,900	280,705	1560
2006	419,800	246,941	1700
2007	353,100	212,711	1660
2008	296,000	205,841	1438
2009	310,600	170,400	1823
2010	415,000	200,100	2074
2011	417,977	210,000	1990
2012	392,000	200,000	1960
2013	360,000	192,000	1875
2014	372,000	178,000	2090
2015	335,000	165,800	2021
2016	270,000	160,000	1688
2017	390,000	174,000	2241
2018	300,000	187,500	1600
2019	396,920	189,000	2100
2020	409,400	186,000	2201
2021	405,911	174,000	2330

Bibliography

Manuscript Sources

- Central State Archive of the Republic of Tajikistan [Tsentrāl'nyi gosudarstvennyi arkhiv Respubliki Tadjikistana, TsGART].
- Party Archive of the Institute of Party History of the Communist Party of Tadjikistan [Partiinyi arkhiv Instituta istorii Partii Kommunisticheskoi Partii Tadjikistana, PA IIP KPT].
- Russian State Archive of the Economy [Rossiiskii gosudarstvennyi arkhiv ekonomiki, RGAE].
- State Archive of the Russian Federation [Gosudarstvennyi arkhiv Rossiiskoi Federatsii, GARF].

Printed Sources and Literature

- Abashin, Sergei N. Sovetskii kishlak: Mezhdru kolonializmom i modernizatsiei. Moscow: NLO, 2015.
- Abashin, Sergei N. et al. Tsentrāl'naia Aziia v sostave Rossiiskoi imperii. Moscow: NLO, 2008.
- Abduzhaborov, Khairula. Industrializatsiia sel'skokhoziaistvennogo proizvodstva Tadjikistana i izmenenie kul'turno-tekhnicheskogo urovnia truzhenikov sela, PhD dissertation, AN TSSR [Academy of Sciences of the Tajik SSR], 1990.
- Applebaum, Anne. Red Famine: Stalin's War on Ukraine. New York: Doubleday, 2017.
- Ashurov, Abdullo. Pochem ninche khlopok v Tadjikistane? In Radio Ozody, 5 September 2019 (<https://rus.ozodi.org/a/farmers-disagree-with-prices-/30148292.html>, last accessed 14 October 2022).
- Ashurov, Abdullo, Makhmuddzhon Rakhmatzoda and Farzon Mukhammadi. "Rabota tiazhiolaia i malodokhodnaia". Podkhodit k kontsu sezon sbora khlopka. In Radio Ozody, 22 November 2020 (<https://rus.ozodi.org/a/30962260.html>; last accessed 14 October 2022).
- Baffes, John. Cotton-Dependent Countries in the Global Context, Deniz Kandiyoti (ed.): The Cotton Sector in Central Asia: Economic Policy and Development Challenges. London: SOAS, 2007, pp. 29–53.
- Bahovadinova, Malika. The "Mobile Proletariat": The Production of Proletariat Labor on a Soviet Construction Site, Labor History 59:3, 2018, pp. 277–294.
- Beckert, Sven. Empire of Cotton: A Global History. New York: Knopf, 2014.
- Bol'shakova, Tat'iana. V Tadjikistane v 2014 godu posevy khlopka sokratilis' primerno na 14 tys. ga, TadjikTA, 15 January 2015 (<https://tajikta.tj/ru/news/v-tadjikistane-v-2014-godu-posevy-khlopka-sokratilis-primerno-na-14-tys-ga>; last accessed 14 April 2023).
- Cameron, Sarah. The Hungry Steppe: Famine, Violence, and the Making of Soviet Kazakhstan. Ithaca, NY: Cornell University Press, 2020.
- Cucciolla, Riccardo M. The Crisis of Soviet Power in Central Asia: The "Uzbek cotton affair" (1975–1991). PhD dissertation, IMT School for Advanced Studies, Lucca, 2017.
- Ellman, Michael and Vladimir Kontorovich, eds., The Destruction of the Soviet Economic System: An Insider's History. London: Routledge, 1998.

- 284

- Obertreis, Julia. *Imperial Desert Dreams: Cotton Growing and Irrigation in Central Asia, 1860–1991*. Göttingen: V&R Unipress, 2017.
- Ohayan, Isabelle. Du campement au village: sédentarisation et transformations de l'aoul Kazakh à la période Soviet, *Cahiers d'Asie centrale* 13–14, 2004, pp. 177–198.
- Olimpur, Mukhiddin. Zdorov'ia za den'gi ne kupish, *Pamir* 39:7, 1988.
- Penati, Beatrice. Grain in Central Asia on the Eve of Collectivization: a Reappraisal. Paper presented to the 16th Biennial Conference of the European Society for Central Asian Studies, University of Exeter, Exeter, June 2019.
- Petersen, Maya K. *Pipe Dreams: Water and Empire in Central Asia's Aral Sea Basin*. New York: Cambridge University Press, 2019.
- Paul Reinhart AG, Insider Series, Textile Exchange, 2021 (<https://textileexchange.org/featured/reinhart-2021/>; last accessed 14 October 2022).
- Pianciola, Niccolò. Stalinismo di frontiera. Colonizzazione agricola, sterminio dei nomadi e costruzione statale in Asia centrale (1905–1936). Rome: Viella, 2009.
- Platonov, Andrei. *Dzhan, Proza*. Moscow: Slovo, 1999.
- Pomfret, Richard. Constructing Market-Based Economies in Central Asia: A Natural Experiment? *The European Journal of Comparative Economics* 7:2, 2010, pp. 449–467.
- Reid, Patryk. *Managing Nature, Constructing the State: The Material Foundation of Soviet Empire in Tajikistan, 1917–1937*, PhD Dissertation, Champaign, IL: University of Illinois at Urbana-Champaign, 2016.
- Reid, Patryk. Tajikistan's Turksib: Infrastructure and Improvization in Economic Growth of the Vakhsh River Valley. *Central Asian Survey* 36:1, 2017, pp. 19–36.
- Sattar, Sarosh and Shabih Mohib. Tajikistan: Cotton Farmland Privatization, in Aline Coudouel, Anis A. Dani and Stefano Paternostro (eds.): *Poverty and Social Impact Analysis of Reforms*. Washington: World Bank, 2006, pp. 453–488.
- Scarborough, Isaac McKean. *Child, Student, and Adult Participation in Tajikistan's Cotton Harvest: 2013 Annual Assessment*. Dushanbe: IOM, 2014.
- Scarborough, Isaac McKean. *Child and Forced Labour Exploitation in Tajikistan's Cotton Harvest: 2015 Annual Monitoring Report*. Dushanbe: IOM, 2016.
- Scarborough, Isaac McKean. Like Cooking Plov with Hoja Nasreddin: Recalculating Financial Transfers to Tajikistan, 1971–1989, *Europe-Asia Studies* 75:6, 2023a, pp. 1,014–1,040.
- Scarborough, Isaac McKean. Aftershocks of Perestroika: Tajikistan's Flattened Modernity, in Jeanne Féaux de la Croix and Madeleine Reeves (eds.): *The Central Asian World*. London: Routledge, 2023b.
- Scarborough, Isaac McKean. *Moscow's Heavy Shadow: The Violent Collapse of the USSR*. Ithaca, NY: Cornell University Press, 2023c.
- Schanz, Moritz. Die Baumwolle in Russisch-Asien, *Beihefte zum Tropenpflanzer* 15:1, 1914, pp. 1–134.
- Shermatov, A. Reportazh s ploshchadi. "Idoma" – prodolzhenie, *Vechernii Dushanbe*, 17 April 1992.
- Spänning, Anna. *Towards Institutional Stabilization and Development? A Study of Inter-Organizational Cooperation in the Tajik Cotton Industry*. PhD Dissertation, Karlstad: Karlstads Universitet, 2009.
- St. Louis Fed. Global Price of Cotton (<https://fred.stlouisfed.org/series/PCOTTIN-DUSDM>; last accessed 14 October 2022).
- Teichmann, Christian. Canals, Cotton, and the Limits of De-Colonization in Soviet Uzbekistan, 1924–1941. *Central Asian Survey* 26:4, 2007, pp. 499–519.
- Umarov, Khojamahmad. Sel'skokhoziastvennaia politika v proizvodstve khlopka i diversifikatsiia agropromyshlennogo kompleksa v Tadjhikistane, *Leibniz Institute of Agricultural Development in Transition Economies Discussion Paper* 159 (2016).

Umarov, Kh. and N. Matkupov. Migratsionnie protsessy: motivy i otsenki, Kommunist
Tadzhikistana, 17 November 1989.
Usmon, Ibrohim. Soli Nabiev. Dushanbe 1995.