Chapter 15
Turning the Soviet Union into Iowa: The Virgin Lands Program in the Soviet Union

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The virgin lands program was one vast epic.
– Memoirs of Nikita Khrushchev (2006)

On September 23, 1959, much of the world's press rather bemusedly turned their attention towards Coon Rapids, Iowa. The occasion for this unusual notice was the arrival of Nikita Sergeevich Khrushchev, First Secretary of the Soviet Union, at the farm of Roswell and Elizabeth Garst who had invited him for what he stated to be "the most important event" of his scheduled tour of the U.S. (Khrushchev, 1974). Accompanying him on this stopover were Soviet and American officials as well as over 600 members of the press (Fig. 15.1). That the leader of a superpower should pay so much attention to an ordinary farm in rural Iowa (and not be a U.S. presidential candidate) while on a visit to the country with which he was so much at odds and with whom he subsequently would create one of the greatest crises in modern history with the Cuban Missile Crisis, is almost not credible 50 years later. And yet, he was there to discuss agricultural practices, especially pertaining to corn, with Mr. Garst and see firsthand a profitable, if capitalist, farm.

The genesis of this trip lay not only with Khrushchev's agrarian childhood in rural Russia, but more importantly with the implementation of his extraordinarily ambitious agricultural program in 1953 in what is today Kazakhstan and southwestern Siberia known generally as the "Virgin Lands" project. Monumental in scale and breathtaking in scope, it was indeed an epic undertaking, and although it was successful in its initiation, it would ultimately end up as one of the crucial issues that led to Khrushchev's ouster. However, in 1959, the project was going well and Khrushchev was firmly in power and hoping to expand the project into an overall reorganization of spatial cropping patterns. To do this, he felt he needed to understand Iowa, particularly in how the near monocrop nature of that state could aid him in expanding not only grains, but also beef, pork, and milk products. Because there was no vocal dissent in the Soviet Union, Soviet officials never publicly questioned

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Fig. 15.1 Khrushchev visiting the farm of Iowa farmers Roswell and Elizabeth Garst, September 1959. (Source: www.coonrapidsiowa.info/html/roswell_garst.html@usg)

the wisdom of trying to copy a unique situation in an area with a wildly variant climate. This consideration, along with the expression of Soviet leadership through autocracy, makes it difficult to write of this project as simply a megaengineering project when it is in fact a project inimically tied to one man, his administration, and to his doctrinaire belief in the importance of self-reliance, especially in food production, in the face of increasing tensions with the West. Therefore, consideration will be given to the agricultural situation of the area subsumed under the Virgin Lands Program before, during, and after Khrushchev's years in power.

15.1 Agriculture Prior to 1953

Russia, from the time of Ivan the Terrible in the fifteenth century, began to expand at the expense of the Turkic peoples of Central Asia and had roughly reached the borders of what would become the five countries of former Soviet Central Asia by the beginning of the nineteenth century. The conquest of Kazakhstan, the most northerly area where the Russian encroachment began, was incremental in the beginning, but full-scale attacks on the region began in 1857. Ultimately, this culminated in the invasion and annexation of the Khanate of Qoqand and the creation of vassal states in the Emirate of Bukhara and the Khanate of Khiva. The primary reason for this expansion was for colonial gain, but there was also a great deal of paranoia about a renewed invasion of Turkic or Mongol people from the east and concern about

potential expansionist policies of England from their colonial holdings in India. In 1873, the “Great Game,” as the English called it, between Great Britain and Russia was heating up, and after much anxiety about each others’ intentions (especially in the English press), both sides agreed in principle that the line between the British sphere of influence (Afghanistan) and the Russian would be roughly the course of the Amu Darya, although the Russians pushed well south of this in western Central Asia.

The Russian administrative presence in these newly acquired lands at first changed little, as even in areas annexed outright by Russia, the lives of the people in many aspects remained remarkably the same. However, this was not to remain the case for long as events in European Russia would soon cause the settlement of what is now northern Kazakhstan by Russian peasants. The crucial event was the emancipation of the serfs by Tsar Alexander II in 1861 at which time some three-fourths of peasants were controlled by the landowning class (in all some 20,000,000 people). The government allotted holdings to these peasants of only 27 acres (10.9 ha) on average while “state peasants,” or “free rural inhabitants” located mostly in Siberia and northern Russia, fared somewhat better, but on more marginal lands. This situation, along with high payments for the land, caused many peasant families to consider settling east of the Ural Mountains on recently acquired land in the steppe region. In the area of what would become Kazakhstan, the government originally allotted each male settler roughly 81 acres (32.7 ha), but later reduced it to 45 acres (18.2 ha), which, given the irrigation possibilities, they deemed enough for a family. While the situation in the western lands might work for perhaps one or two generations, the choice for many of the descendents of these peasants who had inherited only a small portion of their father’s land was to emigrate to these new lands or to give up farming completely and move to the city. The government in St. Petersburg encouraged resettlement on a large scale because of joint fears that a larger scale movement of peasants into the city would foment unrest as well as a desire to keep native Central Asians from taking all the best land as nomadic and semi-nomadic Uzbeks began to settle on unused lands under the more peaceful conditions provided by the Russian army. It has been estimated that over 1.5 million settlers in just two decades received land in the north and east districts, constituting forty percent of the population in what is now Kazakhstan by 1911. This is further reflected in the number of acres/hectares brought under grain production in Siberia and the Kazakh steppe, which had been dominated previously by nomadic and semi-nomadic Kazakhs. In 1905 there were approximately 17 million acres (6.88 million ha) in grain cultivation; however, by 1913 over 29 million acres (11.7 million ha) were sown. This naturally brought the Muslim population into closer contact and sometimes conflict with both new settlers and the foreign government, conflict that turned into open revolt on several occasions and which required the Russian military to send troops to protect the settlers (Becker, 1988; Hedlund, 1984; Lowe, 2002; Pierce, 1960; Sokol, 1954; Taaffe, 1962; Taubman, 2003; Timoshenko, 1932; Volin, 1970; Wheeler, 1974).

When the tsarist government fell after the October Revolution in 1917, agricultural land owned by landowners, monasteries, and the Imperial family were

redistributed to peasants, which in many cases translated into increased land holdings. However, overall production fell as the most efficient units in the system had been the larger estates, so that now Russia was dependent for its food supply on small landowners with small amounts of marketable surpluses and antiquated methods of farming. It must be noted that this was not true in all areas although it benefited later Soviet policymakers to make such generalities in their publications. The Lenin administration, therefore, began a move towards collectivization, but this movement was met by violence on the part of the peasantry that devolved into a situation where many peasants only planted enough for their own needs since the government would confiscate the rest. This caused a major famine in Russia in 1921–1922 (grain production was at only 64.5% of the 1913 total and external trade was near collapse) that affected some 25 million people. With continued peasant unrest and famine as well as the need to build the economy after the Civil War, the Lenin administration was forced to abandon what he now called "War Communism" and enact the New Economic Policy that, among other provisions, advocated peasant agriculture and allowed peasants to sell their surplus grain privately. Although qualitatively this policy made the situation the same economically as before the revolution, quantitatively the number of people able to participate in the plan was considerably higher. With this plan in place by 1926, production had nearly reached the level of the pre-World War I years in wheat, rye, and oats when grains covered nearly 90% of all sown area (Table 15.1). However, the government did not let the market decide the price of grain and other crops and throughout the years of the New Economic Policy, the government was continuously confronted with frequently unstable and insufficient amounts (Davies, 1998; Figes, 2001; Frumkin, 1926; Goncharov & Lyniakov, 1967; Hedlund, 1984; Khrushchev, 2006; Laird, 1982; Lenin, 1962; Lowe, 2002; Schiller, 1954; *Sotsialisticheskoe Stroitel'stvo SSSR*, 1934; Volin, 1970; Waldron, 1997; Wheatcraft, 1991).

After the death of Lenin in 1924, Joseph Stalin began to consolidate his hold on the government and by 1928 his government had decided to discard the New

Table 15.1 Grain production in the Soviet Union – 1922–1926 (in millions of pounds)

Year	Wheat	Rye	Oats
1922	23,368.8	40,057.6	17,173.8
1923	27,072.5	43,607.0	18,408.4
1924	28,814.1	41,512.6	19,620.9
1925	45,811.6	50,154.7	25,397.0
1926	53,880.4	52,160.8	32,716.3
1927	47,509.1	53,285.2	28,902.3
1928	48,435.1	42,548.8	36,331.8
1929	41,622.8	44,885.7	34,700.4
1930	59,347.8	52,028.6	36,640.5
1931	48,479.2	48,479.2	24,162.4
1932	44,643.2	48,545.3	24,779.7
1933	61,133.6	53,329.3	33,972.9

Adapted from *Sotsialisticheskoe Stroitel'stvo SSSR* (1934)

Economic Policy and its conciliatory overtures to the peasantry. They then began a massive push towards the collectivization of agricultural lands and herds and away from private land holdings held by conservative peasants, a move that provoked widespread violence and crises (Clark, 1977; Heinzen, 2004; Stalin, 1949). Not only was this push seen as theoretically important in the creation of a communist state, but also it underpinned the ideological framework that would be the hallmark of Soviet social engineering in the countryside. Prior to this time, nearly all rural laborers were classified as "peasants". Although Mikhail Kalinin, Chairman of the All-Union Executive Committee from 1919 to 1938 was fond of joking that workers and peasants are equally important to the Soviet state by comparing one to the left leg and one to the right leg and asking which a person would rather do without, the Soviet system, especially under Stalin's government, was to be set up as one of "workers". Thus collectivization was an attempt to create proto industrial workers out of farm laborers and peasants and to eliminate political opposition from this very conservative class throughout the former Soviet Union (Clark, 1977; Goncharov & Lyniakov, 1967). In this way, Soviet theoreticians placed their focus on a political identity rather than a personal identity that viewed peasants as mired in a " 'culturalist' attachment to locality" (Kitching, 1998). Karl Marx directly addressed this crucial point in the transformation of society in his "Konspekt von Bakunins Buch *Staatlichkeit und Anarchie*":

> Where they (peasants) have not disappeared and have not been replaced by agricultural day laborers as in England, the following may happen there: either they prevent or bring about the downfall of every workers' revolution, as they have done before in France; or else the proletariat . . . must, as the government, take the measures needed to allow the peasant to directly improve is condition, to win him over to the revolution; these measures contain the nucleus that will facilitate the transition from the previous ownership of land to collective ownership . . .
>
> (Marx, 1962: 630–633).

Once peasants were transformed into workers, differences between urban and rural people could be eliminated (or at least lessened) and the idea of a "workers' paradise" could be brought more fully to fruition.

For this society to be engineered, the state would have to collectivize all private plots of land. Thus, Joseph Stalin set this out in his book *Building Collective Farms*:

> All boundary strips dividing the land holdings of the members of the artels [collective farms] shall be abolished and all plots of land thrown into one large area of land to be used collectively by the artel
>
> (Stalin, 1931: 166).

The process of collectivization where the number of collective farms went from roughly 33,300 in 1928 to 242,400 in 1938, caused production to plummet, especially after the final push for collectivization in 1930. It was not until 1933 that grain production reached the levels of the New Economic Policy (see Table 15.1) and not until 1937 that agriculture in the USSR regained the levels it had in 1913 (Jackson, 1980; Nove, 1992; *Sotsialisticheskoe Stroitel'stvo SSSR*, 1934; *Sotsialisticheskoe Stroitel'stvo*, 1939).

Though collectivization resulted in hardship among the settled peoples of the USSR, it was, if possible, worse for the Kazakh and Kyrgyz nomads where the government found itself forced to sedentarize them if they were to effectively collectivize their herds. In a 17 November 1929 plenum of the Central Committee of the Communist Party, the transition from nomadic or semi-nomadic to a settled economy would play "a decisive role in effecting a rise in the material and cultural level of the masses and drawing them into socialist construction" (McNeal, 1974: 36). This situation was not accepted by the majority of the Kazakhs and Kyrgyz and they focused their resistance on either slaughtering the herds outright, or driving them into Afghanistan or China. This exodus, along with a collectivization push that had an avowed goal of opening up more land to grain production at the expense of grazing lands, was done in a haphazard way with many of the new collective farms lacking such basics as adequate forage and water. That most of the animals in these collective farms died is not surprising, nor is the widespread famine this situation caused especially during the first winter after the policy was promulgated. Demographers have estimated that nearly one million people died in the ensuing famine that followed collectivization and it would be 1939 before they reattained the population figures of 1926. In terms of animal statistics, the number of sheep shrank from 21.9 to 1.7 million and the number of cattle shrank from 7.4 to 1.6 million between 1929, the year Stalin advocated "The Year of the Great Turn" (Olcott, 1981) and 1933. As quickly as 1930 it became apparent that this policy was exceedingly ambitious causing the Stalinist government to reverse the policy and slow down the collectivization push, which instead of being completed at the latest in spring 1932 reached 95% completion by the end of 1933. However, pre-collectivization sheep and cattle numbers were not attained until the 1960s after much of the Kazakh population had been resettled onto marginal agricultural lands intended for grain production under the Virgin Lands program (Matley, 1989; Nove, 1992; Olcott, 1981; Stiefel, 1977; Tursunbaev, 1967; Wheeler, 1966).

15.2 Khrushchev and the Virgin Lands

To Westerners it is difficult to think of Nikita Sergeevich Khrushchev outside of the lens of three famous events. First was his famous address to ambassadors at the Polish embassy in Moscow in 1956 where a phrase about the West was famously translated as "Whether you like it or not, history is on our side. We will bury you." Second, the shoe-banging episode at the United Nations in 1960, when the head of the Philippine delegation charged the Soviet leadership with implied hypocrisy in light of Khrushchev's concern over Western imperialism after the Soviet Union had de facto taken over Eastern Europe. Third, especially for Americans, was the Cuban Missile Crisis of 1962, which brought the two superpowers perilously close to war. However, Khrushchev himself wanted to be remembered as a reformer and it is clear, both from his memoirs and from the volume of writing that has been published both during and after his premiership that agricultural reform was of great consequence

to him. The centerpiece of this legacy would become one of the greatest agricultural engineering feats of all time, the Virgin Lands program.

Khrushchev was born on 15 April 1894, in the small agricultural village of Kalinovka in southwestern Russia, near the Ukrainian border. He would stay there, off and on until the age of fourteen when he joined his father in the mining town of Yuzovka, where working and living conditions, according to biographer William Taubman, "were the stuff of which anticapitalist tracts were made" (Taubman, 2003: 31). Khrushchev would stay there until 1917, where he at first tended cattle and sheep, but later apprenticing to a metal fitter. He joined the Bolshevik Party in 1918 (a year after it had gained power). From then, he worked his way up the ranks, first in a stint as Party Secretary at the Donetsk Mining Technical College, then in July 1925, he became party boss of the Petrovo-Marinsky District in southern Ukraine. From there his career skyrocketed over the next decade as he made his way into Stalin's inner circle – and an even greater feat – managed to survive there until Stalin's death on 5 March 1953. The void left by Stalin's death was at first filled by four figures: Khrushchev, Georgi Malenkov, Vyacheslav Molotov, and Lavrenty Beria. By 1957, however, Beria had been executed, Malenkov demoted, Molotov disgraced, and Khrushchev, through "Machiavellian" means, stood triumphant at the pinnacle of power in the Soviet Union (Taubman, 2003).

Considering his early life, it is not surprising that once in power Khrushchev would turn his attention to agriculture and the need to expand agricultural lands in an effort to raise the standard of living throughout the Soviet Union. Indeed, one of the foremost authorities on Russian agriculture, Lazar Volin, claimed "It may be fairly said that Russia was never ruled, in modern times at any rate, by one so steeped and interested in agriculture as Nikita Sergeevich Khrushchev" (Volin, 1970: 331). When Khrushchev rose to the height of Soviet power, issues ranging from the destruction of lands in World War II, during which time agricultural production had fallen by a third that triggered a famine in 1947, to the Stalinist government's unwillingness to bring new land under cultivation, there was also continued emphasis on funding industrial capacity (20 billion rubles allotted) over agricultural production (2.7 billion rubles allotted) in the first post-war, five-year plan, caused the Soviet Union to have trouble in meeting its peoples' basic dietary needs. This led Khrushchev to indict Stalin over his apparent lack of attention to agricultural production (among numerous other accusations) and his use of agriculture to finance industry. Although apparently sincere, this stance could also have been to highlight his own extraordinary interest in that realm (Clark, 1977; Davies, 1998; Khrushchev, 2006; Nove, 1959; *Sel'skoe Khoziaistvo SSSR*, 1960; Shaffer, 1977; Smith, 1987; Volin, 1970).

Khrushchev began discussing the possibilities of opening new extensive farming areas to cultivation in early 1953, just after the death of Stalin. However, it was not until 1954 that he began to turn these thoughts into action. In his early months in power especially, Khrushchev, who at the time was First Secretary, did not make any grand announcements himself or lay the groundwork politically for them to happen. That task belonged to the aforementioned Georgi Malenkov, the then premier of the Soviet Union, who could take the fall if the program turned out

ill conceived. Malenkov began to lay out a plan that would steer the country away from the "superindustrialization" of the Stalin years to a period that would better address the needs of the Soviet people (although he would later be accused of trying to push this agenda too far and would leave in official disgrace). The impetus to strengthen agriculture was found in the percentage of rural to urban migration in the time since the New Economic Policy. In 1926, 82.1% of the population was rural; however, in 1956, 56.6% was rural. This new urbanization, along with population growth from 147 million in 1926 to 209 million in 1959, clearly required increased productivity, especially in grain production either by extending the land sown or intensifying already sown areas. Khrushchev came out clearly in favor of the former idea and coupled it with a need to increase the material goods available to the people (Clark, 1977; Evans, 1984; Johnson, Breimyer, Heisig, Kirkbride, & Volin, 1959; Nove, 1992). He was thus often quoted as saying, "Communist society cannot be built without an abundance of grain, meat, milk, butter, vegetables, and other agricultural products" (Khrushchev, 1962: 77).

Where agricultural production was to be expanded was another matter. Although from a perspective of sheer size, it would appear that augmenting agricultural land in the former Soviet Union would not constitute a problem, as the country was over 8.6 million sq. mi. (22.27 million sq. km); however climate plays a confining role to agricultural expansion. Most of the area of the Russian Republic east of the Ural Mountains is subarctic or tundra except for the area north of Kazakhstan, which is humid continental. Kazakhstan is almost equally divided between mid-latitude desert and mid-latitude steppe, the latter in the north and east of the country. Therefore, a belt of potential productivity existed along the Kazakh/Russian border that bends south in Kazakhstan along the Chinese border towards Kyrgyzstan. It became clear early in Khrushchev's agricultural campaign that one of the primary locations for this intended expansion would be this "virgin" steppe environment between the Russian and Kazakh Republics (Fig. 15.2). It must be noted however that "virgin" is something of a misnomer here as this new program did not inaugurate just unused land, but also land that had been overused in previous years and had been left fallow for some time. Another common misconception was that there had been no activity here under previous administrations. In fact, Stalin's government added 56 million acres (22.6 million ha) to the 63 million acres (25.5 million ha) already sown east of the Urals. Therefore, most of the best land had already been designated for agriculture and during the previous ninety years had been settled by first Russian peasants, then Russian agricultural workers. Khrushchev's goal with the Virgin Lands project was at first to add nearly one-third more land (32 million acres or 12.9 million ha) in what were deemed more marginal areas, but by 1962 a drive to nearly double the 1953 amount in the eastern regions was enacted by the government (Clark, 1977; Timoshenko, 1932; Volin, 1970).

This rapid expansion did not go unopposed. In the rhetoric used by Khrushchev to disgrace both Malenkov (who especially had favored intensification of agriculture on existing lands) and Molotov, he cited them as part of an "anti-party" group that opposed the progress exemplified by this project. The key issues seemed to hinge

Fig. 15.2 Central Asian agricultural land use map illustrating the major area of the Virgin Lands Project. (Source: Department of Geography and Anthropology, Louisiana State University)

upon a two-sided argument, one side political and the other climatologic. With the first, it was difficult for those who opposed the project to believe that if this land were of such potential value, why had it not been opened before? The second was meant to answer the first: because the areas in question were marginal and precipitation amounts rarely exceeded 16 in (40.6 cm) and more commonly were closer to 10 in (25.4 cm). Compounding this were the further problems of the northerly situation of the land as well as that of high winds that had the potential to turn the whole region into a second Dust Bowl if a prolonged drought were to hit. To put this proposal into relative geographic perspective, the land dedicated to the Virgin Lands Project is on the same latitude as North Dakota, itself a grain-growing area yet one with less variability in its precipitation. Add to this picture is the issue of the whole region becoming a monocrop of spring wheat, a condition that encourages the spread of weeds and damaging insects and creates a greatly expanded need for both insecticides and herbicides. For this reason it seemed apparent to

Malenkov and Molotov why no one had tried to turn the area wholesale into agricultural production in the past. Crop yields therefore would be unpredictable from year to year with the potential for major losses of both grain and soil. Unpredictability, however, is not something that could be tolerated within the highly quantified realm of Soviet economic planning and its five-year plans, which called for firm quota assignments. Khrushchev eventually would use this recalcitrance against both, but in the meantime, the foundations needed to be laid (Johnson et al., 1959; Linden, 1966; Timoshenko, 1932; Volin, 1970).

Under Stalin, agricultural infrastructure upgrades came partly from federal expenditures and loans but more importantly from income garnered from a collective farm's surplus. This position was the first change that Khrushchev's government reversed. Capital investment would now come directly from the government, a fact that can be seen in the first 4 years after Stalin's death. In 1953, the state invested 985 million rubles; however in 1957, it invested 2.7 billion rubles or nearly tripling the amount and by 1964 (Khrushchev's last year in power) was investing 5.78 billion rubles. However, imbedded in these figures are the enormous capital outlays by the Soviet government to cover the Virgin Lands Program, with the key years of investment in the Virgin Lands being 1954 and 1955. In these years, total investment in agriculture increased in 1954 to 1.79 billion rubles, nearly doubling the amount from 1953, and in 1955 to 2.2 billion rubles, an increase of a further 21%, a trend that would continue over the Khrushchev years with the exception of 1959–1960 (Table 15.2). At a smaller scale, the gross investment per acre of sown land rose dramatically from 3.2 rubles in 1953 to 7.6 rubles by 1958. Coupled with this was a six-fold increase in procurement prices for grain and lowered taxes. Such expenditures, however, mask the sheer amount spent on the Virgin Lands and infers (as it was not extolled in official publications) a stagnation of economic input (Hedlund, 1984; *Kapital'noe Stroitel'stvo*, 1961; *Narodnoe Khoziaistvo*, 1965; Volin, 1970).

Table 15.2 Gross state investment in agriculture 1953–1963 (in millions of rubles)

Year	"Productive" investment	"Unproductive" investment	Total investment
1953	881	104	985
1954	1,536	256	1,792
1955	1,992	273	2,265
1957	2,118	291	2,409
1958	2,343	360	2,703
1959	2,279	404	2,683
1960	2,021	474	2,495
1961	2,471	590	3,061
1962	2,984	743	3,727
1963	3,386	794	4,180

Adapted from *Kapital'noe Stroitel'stvo* (1961); *Narodnoe Khoziaistvo* (1964); Volin (1970)

These numbers, of course, represent only the capital outlay by the Soviet government. To expand agriculture on such a massive scale, you also need human resources. In this objective Khrushchev largely appealed to the *Komsomol* or Young Communist League to mobilize for agricultural work (Fig. 15.3). For this enterprise, over 300,000 volunteers from the *Komsomol* (most coming only on a temporary basis) along with 50,000 tractors set out in 1954 for the borderlands on either side of the Kazakh/Russian border. These volunteers came from the heavily populated western region of Russia and Ukraine and had grown up on collective farms and were eager to prove themselves outside of their home districts. Most were young and, according to Leonid Brezhnev (who had been promoted to First Secretary of Kazakhstan and head of the program by Khrushchev), "out for adventure" (Brezhnev, 1978: 77). The initial problem was that the volunteers were overwhelmingly male, but soon each district began a systematic push to lure more females to the region. Volunteers came from all over the Soviet Union, but especially from Ukraine, Belarus and western Russia. Hundreds of new state farms with a few collective farms were organized under quite primitive conditions (Fig. 15.4) and that summer they began the plowing (Fig. 15.5). New roads, bridges, grain elevators, hospitals, schools, storehouses and a myriad of other buildings had to be constructed on very short notice and with limited skilled labor. Consequently, less land was actually sown in 1954 than 1953 because of the need to organize the program and begin the plowing; however, in 1955, 32 million new acres (12.95 million ha) were sown (Fig. 15.6).

It was unfortunate for Khrushchev that this proved to be one of the dry years on the steppe and much of the crop was lost and many of the volunteers lost heart and returned west. Some of this feeling can be attributed to the fact that very few of the volunteers new anything about dry lands agriculture and did not yet have enough

Fig. 15.3 Volunteers in the virgin lands. (Source: Brezhnev, 1978)

Fig. 15.4 Constructing outdoor stoves in the virgin lands. (Source: Brezhnev, 1978)

Fig. 15.5 The first furrows in the virgin lands. (Source: Brezhnev, 1978)

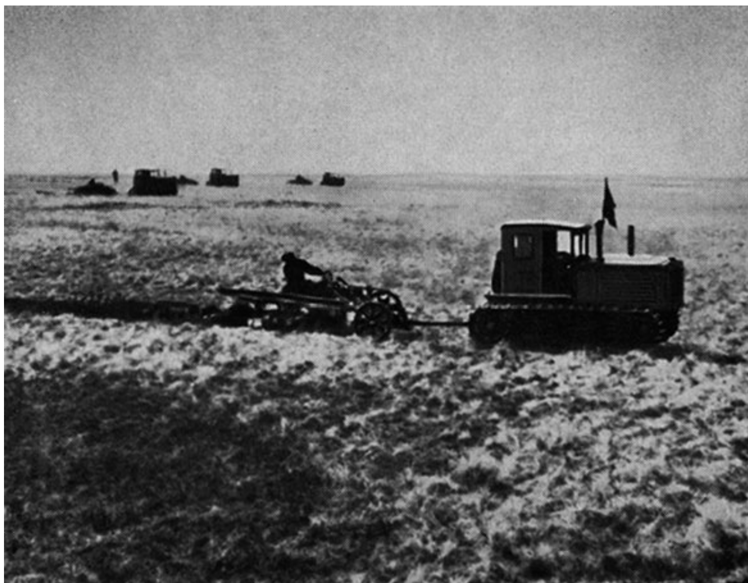

Fig. 15.6 Plowing in the virgin lands. (Source: Brezhnev, 1978)

machinery and infrastructure to fully undertake the job. Yields dropped from 380 to 180 kg/acre and the total harvest for the Virgin Lands dropped 9.5 million tons from 37.5 million tons the previous year. The criticism that began at the advent of the program began to grow and Khrushchev's position was becoming precarious, yet he was determined to see the project to full fruition and in 1956, he caught a major break. Already reeling from the crisis in Hungary, he could not withstand another crisis with the Virgin Lands Program. However, the rains came in abundance in 1956, and the harvest proved to be a bumper one with yields averaging 440 kg/acre, a figure that surpassed those in Ukraine and older agricultural areas in Russia for the year and provided the Soviet Union with its largest grain harvest in its history (Fig. 15.7). Granted, this harvest had as much to do with the high natural fertility and untapped nutrients in the soil as with the abundant rain in the spring; however, it was trumpeted as a major achievement in Soviet know-how. This victory sealed Malenkov and Molotov's downfall and Khrushchev went on a long tour of the region with Brezhnev, now promoted to the Central Committee in advance of the successful harvest. Brezhnev probably left just in time. Had he been there to mark the very successful harvest, it is unlikely that Khrushchev would have brought him to Moscow since the success of the program was deemed so important and subsequent bad harvests could have tarnished his rising star. As such, he was neither mired in the Virgin Lands' early success nor in its later problems (Brezhnev, 1978; Craumer, 1990; Khrushchev, 1970; McCauley, 1976; Medvedev, 1987; Volin, 1970).

Fig. 15.7 Wheat fields in the virgin lands. (Source: Photo Collection of Paul English, Department of Geography, University of Texas)

Khrushchev now could turn fully to a directive interrelated with the Virgin Lands Program concerning traditional agricultural lands in western Soviet lands. Although, as mentioned before, investment in traditionally productive agricultural areas in the west did stagnate as all financial and technical assistance was directed towards the east, it should not imply that these areas were ignored. Quite the opposite in the case, as Khrushchev had shown enthusiasm for expanding corn production in his earliest years in power by calling in a speech for an Iowa-style corn belt in Russia and subsequently increasing the number of acres sown in Ukraine and western Russia to 44 million in 1955, a four-fold increase over the previous year. But as with the Virgin Lands Program, this program was just the beginning and these areas were to become the new centerpiece for putting into practice the knowledge he had gained from his trip to Iowa, a trip set in motion by his 1955 speech. Subsequently, in the next year after his trip, Khrushchev increased the amount of corn for all usages (though mostly for fodder) again to 69.6 million acres (28.17 million ha) and raised it again to 91.7 million acres (37.1 million ha) in 1962 in order to raise the amount of meat, milk, and butter from a concomitant increase in cattle and pigs. Khrushchev felt that the implementation of this phase of his agricultural reorganization would be the final phase that would allow the Soviet Union to catch up in terms of production with the United States (Filtzer, 1993; Karcz, 1979; McCauley, 1976; Medvedev & Medvedev, 1976; Smith, 1987; Volin, 1970).

15.3 Problems on the Horizon

In analyzing the 7 years between 1957 and 1963, both climatic variability and the nature of planning the program come into focus. The year 1957 did not prove to be a very productive year, but the years 1958–1960 were very respectable with yields averaging 340 kg/acre, although it must be noted that the harvest in 1959 was affected by an early frost, another indication of the potentially catastrophic variations in weather conditions in the region. By 1960, however, Khrushchev's vision seemed to be coming true. Grain yields had increased and, with the new emphasis on corn and fodder in the western lands, the number of cattle had increased by over 15% and the number of pigs by over 35%. Consequently, the amount of beef produced increased by nearly 25%, from 5.8 to 7.7 million tons, and the amount of milk by nearly 38%, from 36.5 to 58.7 million tons between the years 1953 and 1958. With these impressive figures and with such obvious success, overall agricultural investment would trend downward from the height of the initial Khrushchev years when it reached 17.6% in 1956 to 14.2% in 1960 (Smith, 1987).

This economic trend proved unfortunate as the variations in precipitation and crop timing would be felt keenly by the drought during the subsequent 3 years which culminated in a catastrophic harvest in 1963 when the yields returned to approximately 180 kg/acre. In that year, the apocalyptic fears of drought and erosion voiced behind the scenes became reality. Over 40% of the arable land of the Virgin Lands area is prone to wind erosion and in 1963 dust storms proved so bad that millions of tons of soil hid the sun for days on end and in some cases the quantity of soil removed was so great it caused the underlying bedrock to begin to show. This problem is one that continues to haunt Kazakhstan particularly as is shown in Fig. 15.8 where the capital city of Astana is nearly obliterated from sight by a major dust storm sweeping off what had been the virgin lands area (Hahn, 1972; Medvedev & Medvedev, 1976; Volin, 1970). Unfortunately for Khrushchev the variability of the weather was only one of the problems he now faced. For all the capital investment and imaginative expansion, appropriate expenditures in machinery and other necessary sectors did not follow suit. According to Khrushchev, 2.7 million tractors were needed (Khrushchev, 1962), yet by 1962 there were less than half that many available. Similar numbers can be found for combines, trucks used for agricultural purposes, and spare parts for existing machinery. Production therefore never matched planned agricultural expansion and what was produced went to the Virgin Lands. The situation was far worse in older agricultural areas of the USSR as they continued to have to use ever-older machinery that required frequent maintenance that further reduced efficiency Also, for such a dry area, little was invested in irrigation; only 10% was irrigated in 1963 (Volin, 1970).

A further problem that evolved by 1963 was the consequences of Khrushchev's pressure for large quotas from this new land. As mentioned earlier, the new soils produced well in the early years; however, the workers were not allowed to offset production on the new land with fallow years to any large extent due to the political mandate from the Kremlin that it was "wasteful". The amount of land in fallow decreased from 18.9% of all arable land in 1954 to 2.8% in 1963, a figure that is

Fig. 15.8 Dust storm in Astana. (Source: www.FunontheNet.in)

rendered even smaller in actual area by the large quantity of land that was added in the intervening years. This scenario became further complicated by the soils in the region having a relatively low nitrogen count, a problem found in over half of the arable land in the former Soviet Union. Even faced with this knowledge, fertilizer use was low in the former Soviet Union except for in cotton production in Central Asia. Agricultural workers could therefore not just simply add more fertilizer to the fields as little additional output of fertilizers by the Soviet chemical industry was ordered until after the beginning of the drought in 1961 when production in nitrogen rose 5.66 million metric tons to 10.2 million metric tons in 1964. Even if the agricultural workers could have just added fertilizer, the monocrop nature of the enterprise over such an extensive amount of land, rather than the mixed agriculture such land required, caused an infestation of weeds. Weeds again called for an order for an increase in herbicides to combat them coming in the same period in 1962 where it barely registered 28% of the amount used in the U.S. for the same year (Craumer, 1990; Evans, 1984; Khrushchev, 1962; Medvedev, 1987; *Narodnoe Khoziaistvo*, 1965; Zemskii, 1959).

15.4 Khrushchev's Fall from Power

The combination of a 3-year drought, poor planning for agricultural infrastructure, and a disastrous harvest caused the Virgin Lands Project to become the center of attention to those around Khrushchev who stood to gain from his ouster. Although

declining yields in the Virgin Lands was not the sole reason for Khrushchev's fall from power, it was still a very decisive part in his removal and "retirement." That there was a movement against him and the Virgin Lands Program was apparent from 1 March 1964 when a letter was printed in *Izvestia* (and hence from the government) that "professed disgust with those unpatriotic souls who spread tales about the bad harvest, food shortages, and the failures in the Virgin Lands" (Hyland & Shryock, 1968). That such a letter appeared publically essentially acknowledged that there was a problem and the people who had cautioned against such a dramatic expansion in croplands had made a point. It also implied that there existed a group that tried to tie these deficiencies to Khrushchev himself. It would not be until October, however, while Khrushchev vacationed on the Black Sea coast, that the shock of his removal would occur. It was shocking in that he did not realize it was coming and that it was carried out so thoroughly that by the time he arrived back in Moscow, the only remaining detail was Khrushchev's actual resignation on October 14. Brezhnev took over as First Secretary of the Communist Party and because he had participated so willingly in Khrushchev's government and agricultural plans, there was little of the usual condemnation of policy or of Khrushchev himself, simply that he had retired due to "ill health." It was rumored that Khrushchev's last plea before being stripped of all titles was to be given the position of Minister of Agriculture, so great was his desire to continue overseeing his beloved Virgin Lands. In this request he was denied and in this regard it is ironic that 1964 proved to be a bumper crop in the Virgin Lands (Filtzer, 1993; Hyland & Shryock, 1968; Medvedev & Medvedev, 1976).

After Khrushchev's fall, the reactions against both the Virgin Lands and his spatial crop organization were swift. Because of redirected investment, the Virgin Lands had an overall effect on agriculture throughout the Soviet Union. In real numbers, Virgin Lands wheat cost more than double that of grain grown in Ukraine or the northern Caucasus in most years. Therefore, the immediate and practical result was the cessation of adding new land to cultivation as a means of expanding agricultural output, an issue especially important to powerful administrators in western Russia and Belorussia who felt that their areas had been particularly slighted monetarily in order to maximize investments in the Virgin Lands. Next, the new government dramatically lowered Khrushchev's favored crops, especially corn, although it would be "rehabilitated" in 1969 after dust storms killed many of the winter crops in Ukraine. The amount of fallow land was also expanded. The Soviet Union would continue to experience severe droughts in over 60% of the country's territory while at the same time that area normally accounts for approximately 75% of grain deliveries (Davies, 1998; Hahn, 1972; Morozov, 1977).

Roswell Garst had warned Khrushchev that this undertaking could not be done without a concomitant outlay in fertilizer, machinery, irrigation, pesticides, and herbicides. However, Soviet industry capacity, especially the chemical and machinery industries, did not expand at the same rate as the focus was so much on the immediate expansion of land usage. Even so, the engineering feat that was the Virgin Lands Project cannot be considered ultimately as a complete failure. Because of Khrushchev's emphasis on agriculture, more investment was poured into this sector

and the standard of living across the Soviet Union rose both during and after his administration. Agriculture stopped just being the cash cow of the Soviet economy and real investment continued, albeit in fits and starts, throughout the subsequent decades. Agricultural production grew during this period, especially in wheat, and three-quarters of the increase came directly from the Virgin Lands, which amounted to between 46% (1961) and 68% (1956) of total procurements of wheat during the Khrushchev years (*Narodnoe Khoziaistvo*, 1961, Taubman, 2003).

The ultimate failure of Khrushchev's dream was in his boasting that the Soviet Union could reach agricultural parity with the U.S. through the Virgin Lands Project. This Cold War attempt to present all aspects of communist economy and life as superior to that of its capitalist nemesis was doomed by the three-pronged problem of variations in weather, lack of sustained investment, and a near megalomaniacal drive to show that good communists could always overcome bad nature regardless of inappropriate agricultural crops and methods used on fragile soils and environments without a parallel increase in machines and infrastructure. Further, this situation was compounded by the very nature of centralized planning and collectivization. There were no "farmers" as such in the Soviet Union, only laborers; therefore, the only incentive was to meet the quotas and demands of the Khrushchev administration, which did not take into account either the health of the land or give any material encouragement to give the laborers the enticement to maximize the potential of the project. The Virgin Lands Project, therefore, fell victim to the ideological way in which communism had been interpreted in the Soviet Union and to the visionary, if erratic, dream of one man to completely reorganize agriculture in the largest country in the world and to blanket the Kazakh steppe in wheat for its people.

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