

The Soviet Famine of 1946–1947, the Weather and Human Agency in Historical Perspective

STEPHEN G. WHEATCROFT

Abstract

This article considers the famine of the immediate post-war period of 1946–1947 in relation to the food problems experienced by the USSR in World War II and to the impact of the weather conditions from 1941. It is argued that the timing and nature of the extreme food problems experienced in this famine conform to a general pattern of Soviet famines in which urban food supply problems over a number of years give rise to increasing pressure on the peasantry and a general reduction of stocks, which when complicated by drought and harvest failure produces a rural famine.

MANY ANALYSTS CLAIM THAT THE FAMINE OF 1946–1947 conforms to a general Stalinist pattern in which Stalin allegedly used the famine to punish the peasantry in circumstances when harsh procurements were not necessary. The evidence considered in this article does not support such a claim. By contrast, it is argued below that the timing and the nature of the extreme food problems experienced between 1941 and 1947 conform to a general pattern of Soviet famines. As in the immediate aftermath of the revolution and during the force-paced industrialisation drive a decade later, several years of urban food supply problems during World War II led to greater demands being placed on the peasantry and a general reduction of grain stocks. This placed the country in a dangerous position when confronted by drought and harvest failure. This is what happened in 1918–1922 when the urban famines of 1918–1920 were followed by the drought of 1921 and the first great rural famine of 1921–1922. Such a pattern was repeated in 1928–1933 when the urban food shortages of 1928–1931 were followed by a drought in 1931 and a further harvest failure in 1932 that produced a double-year famine beginning in 1931–1932 and intensifying in 1932–1933. As will be demonstrated below, the famine of 1946–1947 was preceded by several years of serious urban food shortage and famine during the war. This was followed by a drought in 1946, resulting in yet another great rural famine of 1946–1947.

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The article begins with a brief survey of works on wartime food supply and on the famine of 1946–1947. A critical examination is then made of the food production and food supply data for the extended period of 1941–1947, providing the background to the political decisions made reluctantly by the state to cut rations for the urban population. Detailed meteorological data are then examined to reassess factors of production and assess the reliability of the available production data. Finally, the article considers the levels of grain availability for different sectors of the population, in different regions, at different times, in an attempt to trace the nature of the problems that resulted in famine.

The major Western account of food supply in the USSR during World War II fails to mention the 1946–1947 famine, although it emphasises the effects of the 1947 currency reform on punishing the peasantry. William Moskoff emphasises the desperate situation that much of the population faced but makes the rash claim that everyone shared equally in the hunger: ‘Hunger was chronic and so, therefore, was the accompanying malnutrition. There was nothing selective about the tyranny of food shortages; for most people, life was lived on the margin for most of the war. Those who survived the war did so by dint of strong will’ (Moskoff 1990, p. 220).

Moskoff claims that the peasants did fairly well out of the war, but that they subsequently lost much of the wealth that they had gained. Unlike many later writers, he does not see the rural famine of 1946–1947 as the mechanism by which the peasants were punished, but instead sees the currency reforms of late 1947, after the famine, as playing this role. He states that the war brought about,

a predictable redistribution of wealth ... from the cities to the countryside. Food shortages made peasant private plot production even more important than it had been before the war ... Many peasants grew relatively rich feeding the peoples of the cities. But those tempted to charge the peasantry with wartime rapacity should remember that the authorities excluded them from the rationing system and left the farm population to feed itself. Moreover, in retreating from responsibility for feeding the civilian population, the authorities were implicitly expecting the peasantry to help feed urban dwellers. Yet after the war, the regime punished the peasantry for its wartime activity. A currency reform in December 1947 required the entire population to exchange their rubles at the rate of 1:10; the enormous cash holdings that so many peasants had accumulated during the war were essentially wiped out. (Moskoff 1990, p. 238)

The best-known work on the Soviet 1946–1947 famine is the one produced by the Russian historian V. F. Zima (1996, p. 10). He tells a story in which ‘the famine was a consequence of three important factors: post-war difficulties, the drought of 1946 and the food requisitioning policy for the collective and state farms’. While this list is not controversial, it is the way that Zima and those that follow him assess the relative importance of these three factors that is problematic. In Zima’s view ‘the first two factors were in themselves sufficient to provide for a semi-famished existence of the population, and it was the third—food requisitioning that made life impossible’ (Zima

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1996, p. 10). Zima's approach here is rather simplistic in the way in which he assumes that the effects of different factors can be added together. Zima claims that the Soviet government did not really take the problems of the drought and foreign aggression seriously and only used them for its own purposes and as a pretext for punishing the peasants. He writes,

the Soviet government cited drought, the dangers of aggression from former allies to carry out a famine with the aim of preserving grain reserves and selling grain abroad. Apart from this the famine was used to teach and urge on the labour active on the collective and state farms forcing them to work for a bowl of soup on the fields. (Zima 1996, pp. 10–11)

According to Zima the state had plenty of grain in reserve, but preferred to keep it in reserve rather than feed the starving peasants. He claims that in 1946–1947 only 11.6 million tons of grain were required for the internal needs of the state and that this left 5.9 million tons, of which 4.8 million tons were directed towards state reserves and 1.1 million tons was exported. He states that 'on February 1, 1947 there were 10 million tons of state reserves, i.e. 1.9 million tons more than at the same time in 1946'. He also claims that on 1 June 1947 the level of stocks unexpended was 3.6 million tons, which was rolled into the funds for the following year (Zima 1996, p. 29).¹ Given the claims that there was an accumulation of unwanted stocks and that the peasantry was being deprived of grain to teach it a lesson, Zima comes close to claiming that Stalin intentionally used the drought to cause a famine. The veracity of these claims will be discussed below, in particular whether there really were 'huge' unused stocks of grain at the time.

Zima's account of the level of grain stocks is accepted uncritically by Zubkova (1998), Ellman (2000) and Filtzer (2002), although they tend to be slightly more cautious in their assessments of the importance of shortages and in their discussion of intentionality and possibly genocide. Zubkova writes:

Climatic conditions and the general wear and tear on the aging farm machinery forced the harvesting of the crop in many of the regions to be organized by hand. As a result, the 1946 grain crop of 39.6 million tons was 7.7 million tons smaller than that of 1945 and 2.4 times smaller than that of 1940. The harvest losses, however were not the principal cause of the problem. 'Relatively speaking, the 1945 shortfall', according to V. F. Zima, 'fell within acceptable bounds and gave no grounds for extreme measures in the conduct of the government's grain procurement campaign' (Zima [1996], p. 20). The authorities themselves contributed to the crisis. They strove to avoid any reduction in the state grain reserve and this proceeded by the traditional methods of the late 1920s; that is, they required supplementary procurements. They assigned surcharges to collective and state farms over and above the conventional grain tax in kind. The majority of collective and state farms were consequently forced to surrender grain usually designated for division among the peasants as personal income. The state thus left the village on the verge of famine. (Zubkova 1998, pp. 40–41)

¹Zima cites as his sources for these statements Gosudarstvennyi Arkhiv Rossiskoi Federatsii (hereafter GARF), fond 5446, opis 49, delo 3539, pp. 26–27 for the 10 million figure for 1 February 1947, and Rossiskii Gosudarstvennyi Arkhiv Ekonomiki (hereafter RGAE), fond 8040, opis 8, delo 360, p. 38 for his source for the June 1947 figure. In a footnote he claims that Mikoyan was the first to reveal the 'huge' level of grain stocks of this time in his introduction to Lyubimov (1968, p. 5).

Ellman cites Zima's data on production and procurements, while noting that the data are probably unreliable (Ellman 2000, p. 605). He argues that the famine 'took place in a country ruled by a tyrannical regime which treated the rural population as defeated enemies liable to render tribute to the rulers'. He compares Zima's grain production figures for 1945 and 1946 and argues that,

Part of the burden of the drought-induced fall in production fell on the state (state procurements fell), but a greater share fell on the peasantry (the percentage decline in the harvest remaining at the disposal of the farms and rural population was greater than the percentage decline in state procurements). (Ellman 2000, p. 605)

Filtzer also relies on Zima's explanatory mechanism:

When the Soviet regime realized that the drought of summer and autumn 1946 was going to lead to a serious harvest failure it chose to deal with the situation not by releasing food reserves and maintaining existing levels of consumption, but rather by suppressing consumption in order to bring it into line with the reduced harvest. In time honoured Stalinist practice, the state virtually denuded the countryside of grain, irrespective of the effect this had on peasant living standards. For urban residents and workers in rural areas the attack on living standards was two-pronged. In early September 1946 the regime substantially raised prices on rationed goods. Later that month it pruned from the ration lists some 25 million people—in the main clerical employees, workers' dependents, and workers themselves if they lived in rural localities. The reduction in access to food did not end there. Factories, vocational training schools, and care institutions (children's homes, for example) lost supplementary food supplies which up to then had allowed them to maintain nutritional levels above the minimum provided by the basic ration. In many enterprises workers had the right to receive extra portions or even entire extra meals in factory dining rooms. These supplemental food entitlements disappeared, with corresponding impact on workers' diet and health. (Filtzer 2002, pp. 1–2)²

All these works depart dramatically from the views held by the US Office of Strategic Services (OSS) and Western diplomats, amongst whom there had been general surprise that the Soviet Union had not been overwhelmed by famine earlier.

Nikolai Dronin and Edward Bellinger (2005), in their study of the effects of weather on food problems in Russia, fail to make use of Soviet archive data or to use direct meteorological data. They rely greatly upon assessments made by others, including myself. They claim that little information is available for the war years and do not even have a chapter on the 1941–1945 period, although they cite favourably the conclusions of Davies and Wheatcroft (1994) that a drought during World War II would have had disastrous consequences (Dronin & Bellinger 2005, p. 161). Dronin and Bellinger offer a fairly restrained comment on Zima's work. They begin by noting that 'although our estimate of the country's grain balance indicates that the situation was critical, Zima's main thesis is that the famine could have been avoided if the state policy had been more humanitarian' (Dronin & Bellinger 2005, pp. 167–68); but

²Filtzer cites Zima in support of this argument; see also Filtzer (2002, ch. 2).

instead of maintaining a critical position they appear to go along with Zima's argument when they claim: 'The Soviet authorities in fact provoked the famine by excessive grain procurements in regions that had had relatively good harvests—Siberia, the Middle Volga, and Kazakhstan. Thus not only the regions affected by drought, but other grain-producing regions, suffered that year' (Dronin & Bellinger 2005, pp. 167–68).

They also quote uncritically the official figures cited by Zima, and repeat Zima's claim that the Soviet Union had large grain reserves at this time:

the Soviet Union had sufficient grain reserves to avoid the large-scale famine. If the authorities had allocated 10 million tons from its grain reserves for the starving population, then ... large scale famine would have been avoided. Instead, the situation developed according to the worst scenario. Food aid from the state was negligible and came too late—in July 1947. (Dronin & Bellinger 2005, pp. 167–68)

There is no questioning as to where the Soviet authorities were going to find 10 million tons of grain reserves at the end of an exhausting war in which they had been constantly drawing down grain reserves.

The recent book by Nicholas Ganson (2009) is somewhat more forthright in its criticism of Zima's claim that Stalin failed to draw on these 'huge' reserves because he was genocidal. Ganson argues that:

the entitlements approach and the perspective adopted by Zima in his monograph lend primary importance to the latter stages of food crises, focusing on the proximate causes of famine and perhaps overlooking their more deep-rooted origins. In the case of the 1946–47 Soviet famine, one must start by tracing the roots of the poor 1947 harvest, because subsequent government actions (such as cutbacks in rationing in September 1946, various relief measures, and the prolongation of rationing until the end of 1947) were, I argue here, a reaction to poor harvest yields and the resulting scarcity of grain. (Ganson 2009, p. 5)

Unfortunately, Ganson does not go on to provide an independent analysis of the supply situation and food stocks to support his case, and most of his book is concerned with analysing the consequences of the famine.

Below, I will consider the available data on the scale of grain production, collections, utilisation and stocks over the period from the late 1930s, through the war and on to 1945/1946 and 1946/1947. I will also look at one of the most important factors of production—the weather—and see how exceptional and disadvantageous the weather was at this time.³ Such a thorough review of these available data will enable us to assess more effectively the extent to which the famine was man-made and avoidable.

Grain production

Zima and the scholars who followed him all used the official Soviet grain statistics that were revised by the Soviet State Statistical Office in the mid-1950s, once it had been

³Apart from the weather there was clearly an inadequate supply of labour and tractive power that caused delays and problems in speedily carrying out field operations (see Arutyunyan 1963).

decided to remove the biological yield distortion. The exact procedures used by the Soviet State Statistical Office in this exercise are unclear and the results, though better than the distorted biological yield series that preceded it, are still highly dubious in several cases (Wheatcroft 1974; Davies & Wheatcroft 1994, pp. 114–16).

It is worthwhile trying to understand a little about these figures and the different series that preceded them. The government statisticians had been forced to artificially inflate their harvest evaluations after 1926, and there had been a great deterioration in the reliability of these data in the period of 1929–1931, when the statistical service lost its independence and was incorporated into the planning agencies. From early 1932, Valeryan Valeryanovich Osinskii (Obolenskii), the head of the Central Statistical Administration (Tsentralnoe Statisticheskoe Upravlenie, TsSU) in 1928, was brought back as head of the newly-established Central Department of National Economic Accounts (Tsentralnoe Upravlenie Narodno-khozyaistvennogo Ucheta, TsUNKhU) and attempted to restore the level of statistical independence and reliability in all areas, including grain statistics. In the crisis around the famine the political pressures to exaggerate the harvest evaluation again increased, and Osinskii was forced to accept a high biological yield evaluation. Up to 1936, Osinskii (head of TsUNKhU 1932–1935, and head of the Central State Committee for Harvest Evaluations 1933–1936) had attempted to maintain a degree of integrity in his figures and was insistent that his biological yield evaluations needed to be deflated by a factor to account for harvest losses, but in 1937 the Committee of State Control investigation carried out by Nikolai Alekseevich Voznesenskii condemned this practice as wrecking and proposed a pure biological yield evaluation.⁴

After 1937, the sector of material balances within TsUNKhU continued to make a series of estimates of the harvest production and utilisation, which included fairly large losses in harvesting and storage. These figures were given a security classification and were prepared to guide top-level decision makers. There is no reason to suspect that these figures were deliberately distorted to comply with the political or propaganda needs of the day, and there is certainly no reason for rejecting them in favour of the better known official biological yield evaluations of the time, or the later official calculated barn yield series.

In 1946, the revised pure biological yield harvest evaluations gave indications of a very low harvest. These were eventually (and after some delay, as discussed below) used to revise the plans to abolish rationing and to reduce the central grain plan.

Although Stalin accepted this revision at the time, he subsequently criticised the Central Statistical Administration (TsSU, re-established out of TsUNKhU in 1948) for allowing such low evaluations to be made, and he forced through yet another revision of the harvest evaluation mechanism (Zima 1996, pp. 29–31). This further exaggerated the operational figures from 1947 to the mid-1950s. The revised official figures which were accepted from the mid-1950s and that stripped away the biological yield distortion were undoubtedly a great improvement over the official figures used between 1947 and the mid-1950s. However, it is by no means clear that they are superior to the balance figures (net of losses) that were calculated with great secrecy at the time by TsUNKhU.

⁴Voznesenskii review of Osinskii and TsGK in RGAE, fond 4372, opis 36, delo 1407, pp. 20–26.

The official series of grain production that was used by Zima and most historians presents a level of fall in grain production during the war and in 1946 that is much larger than that produced by these balance data. They claim a decline about 10% greater than that indicated by contemporary biological and barn yield estimates (see Table 1 below).

TABLE 1
GRAIN PRODUCTION 1940–1947 IN MILLION TONS, BASED ON DIFFERENT ESTIMATION METHODS AND SOURCES

	<i>Biological harvest</i>		<i>Barn harvest</i>		<i>Official</i>
	<i>(a)</i>	<i>(b)</i>	<i>(a)</i>	<i>(b)</i>	
1940	108.2	118.8	93.7	106.3	95.6
1941	75.2		61.2		55.9
1942	55.1		41.0		29.7
1943	46.4		34.9		29.4
1944	68.7		58.4		49.1
1945	68.4	68.4	52.3	55.7	47.3
1946	62.5	62.5	46.3	51.5	39.6
1947	98.5	98.5	67.2	82.0	65.9
1946/40	58%	53%	49%	48%	41%
1946/45	91%	91%	89%	93%	84%
1947/46	158%	158%	145%	159%	166%

Sources: (a) TsSU sector of material balances data 1948: RGAE, fond 1562, opis 329, delo 3110, pp. 5–30. (b) TsSU sector of material balances data 1954: RGAE, fond 1562, opis 3, delo 1098, pp. 8–58. Official: Soviet series from late 1950s: Selskoe (1988, p. 10) and Narodnoe (1959, p. 294).

While a degree of uncertainty remains concerning which series of data should be accepted, the grain balance series which were accepted by specialist officials at the time, should not be dismissed lightly. It is worth noting that contemporary intelligence experts thought that the Soviet Union faced inevitable famine, when they appeared to have 10 million tons of grain more than the later official figures showed.⁵

Let us look at the level of grain collections, utilisation and stocks for these years. The different figures available from different series are listed in Table 2 below.

The figures given by the collection agencies are significantly larger than those given in the secret grain balances, especially in the period between 1941–1942 and 1946–1947, but both show a reduction in state grain collections, either from 24.7 million tons in 1945–1946 to 21.6 million tons from the collection organisations, or from 18.9 million tons in 1945–1946 to 18.0 million tons in 1946–1947 from the balance data.

State grain stocks, production, collections and utilisation: why the rationed population had to fall

Table 3 presents our current understanding of the scale of state grain stocks held in the civilian sector in million tons. Additional grain stocks and reserves were undoubtedly

⁵See OSS reports, R&A No. 1355.5 in US National Archives (USNA) 087.3 71092 No. 1355.5.

TABLE 2
GRAIN PROCUREMENTS IN MILLION TONS, ESTIMATES FROM TWO SOURCES

	<i>By calendar year</i>			<i>By grain accounting year</i>		
	<i>All-KZ1</i>	<i>Plan</i>	<i>% fulfilment</i>	<i>All-KZ2</i>	<i>Balance 1</i>	<i>Balance 2</i>
1937	31.9	31.0	103.1	1937/38	33.1	32.4
1938	29.1	31.3	93.0	1938/39	32.3	29.4
1939	30.9	37.9	81.6	1939/40	34.5	31.3
1940	36.4	39.2	92.9	1940/41	41.1	37.2
1941	24.3	36.7	66.2	1941/42	32.0	37.0
1942	12.4	22.8	54.5	1942/43	18.3	20.2
1943	12.1	19.7	61.3	1943/44	14.5	13.1
1944	21.1	24.2	87.0	1944/45	26.4	8.6
1945	19.5	23.7	82.3	1945/46	24.7	20.0
1946	17.0	21.6	78.7	1946/47	21.6	18.9
1947	26.9	26.9	100	1947/48	29.8	18.0
						28.1

Sources: KZ1 = KomZag variant 1: RGAE, fond 8040, opis 8, delo 360, pp. 65–69; KZ2 = KomZag variant 2: RGAE, fond 8040, opis 8, delo 360, pp. 44–45; Balance 1 = TsUNKhU Grain Forage Balance variant 1: RGAE, fond 1562, opis 329, delo 3110; Balance 2 = TsUNKhU Grain Forage Balance variant 2: RGAE, fond 1562, opis 3, delo 739.

TABLE 3
CIVILIAN GRAIN STOCKS HELD BY THE STATE ON 1 JULY AND 1 JANUARY OF EACH YEAR IN MILLION TONS

	<i>All 1 July</i>	<i>Transition 1 July</i>	<i>Nepfond 1 July</i>	<i>All 1 Jan</i>	<i>Plan</i>
1935/1936	6.17	3.99	2.18	21.2	
1936/1937	9.42	6.94	2.48	18.7	
1937/1938	5.45	3.88	1.57 (5.53 pl)	17.5	
1938/1939	7.75	6.43	1.32	17.9	
1939/1940	6.07	4.01	2.06	15.7	
1940/1941	5.05			20.5	
1941/1942	6.36			16.6	
1942/1943	9.41			11.1	
1943/1944	5.24			7.6	
1944/1945	2.98			14.2	13.3
1945/1946	6.27			15.4	14.5
1946/1947	5.7			11.8	10.4*
1947/1948	3.28			17.8	16.6
1948/1949	7.39				

Note: the 1 January plan figure for 1946 was given as 6.8 million tons excluding 3.6 million tons of state reserves. They have been added together in the data above.

Sources: all: apart from 1 July 1935 and 1937: RGAE, fond 8040, opis 8, delo 360; all 1 July: 1935 from Kleiner, GARF, fond 5446, opis 26, delo 84, pp. 29–34; all 1 July: 1937, GARF, fond 5446, opis 23, delo 1292, pp. 3, 13; all 1 January (P): data from Popov's PhD thesis (1996) cited by Ellman (2000, p. 606). Transition stocks: 1935–1936, 1938–1939: RGAE, fond 1562, opis 3, delo 739; 1937: GARF, fond 5446, opis 23, delo 1292; 1937 planned NEP: Kleiner, GARF, fond 5446, opis 26, delo 84, pp. 29–34.

held by the military and security forces for their own use. How do these figures relate to Zima's figures?

Zima is correct in stating that there were about 11.6 million tons of grain held by the state procurement agencies on 1 January 1947 (Table 3 above indicates 11.8 million

tons), but he is wrong to suggest that this was a huge amount. Instead of it being 1.9 million tons more than in the previous year, it was actually 3.6 million tons less.

Zima states that some grain remained in the system at the end of the 1946–1947 period, and according to the figures above there were 3.3 million tons on 1 July 1947, which is compatible with Zima's figure of 3.6 million tons for 1 June 1947, but again Zima is wrong in how he interprets this. While Zima claims that this represents a huge amount of unused stock, I would claim that it represented a dangerously low level, and it was interpreted as such by all specialists at the time.

State grain stocks were traditionally classified as either transitional operational stocks and as untouchable or inviolable reserves (*neprikosovii/nep fondy*). Although the conventional accounting period for grain supplies was from 1 July to 30 June, these were fairly arbitrary dates. Harvesting took place at different times in different parts of the country and in certain years, depending upon the weather, the harvesting could be significantly delayed. The planners and grain traders soon discovered that a certain amount of grain from the harvest of the previous year would be needed in the early stages of the following agricultural year, before the grain from that harvest would become available. These were the so-called transitional grain stocks that were needed simply to stop the system from running out of grain in places. A minimal need for transition grain stocks would be to keep the system running for at least half a month until 15 July. Given that total grain collections and utilisation were about 24 million tons in 1933 and 41 million tons in 1940–1941, we are talking about 1–1.5 million tons as a minimal transition stock, with double or more than triple this as the preferred transition stock.

In addition, a certain amount of untouchable reserves were needed for the civilian population in case of war. There was a great and understandable fear of disruptions to the civilian supplies of food in the event of war. It was assumed that in the event of a major war the transportation system would need to be diverted to military use for at least three months. It was therefore set as an ideal to have at least three months of reserves available at key positions in the civilian supply system to avoid such disturbances. In the early 1930s these inviolable reserves were also known as mobilisation funds (*mobfundy*) and there had been an objective to establish such reserves of about 2.6 million tons and these figures appeared in some grain stock plans. However, with the famine in the early 1930s these reserves were never achieved, although the government took steps to conceal its failure in this regard (Davies *et al.* 1995, pp. 642–57).⁶ In 1937, the planned scale of *nep fondy* reserves had risen to 5.5 million tons, but because of the poor harvest of 1936 less than a third of this was collected. The total level of government civilian grain stocks appears to have peaked in 1936 on the eve of the poor harvest of 1936 at 9.4 million tons, and then to have fallen in the late 1930s and remained relatively low at 5–6 million tons in 1939, 1940 and 1941.

Despite the German invasion of 1941, and perhaps as a direct consequence of its delay to late June, a large amount of the 1941 grain harvest was collected (32 million tons). As a result of further German advance through the autumn, this sum of

⁶Note also the disinformation spread by Rakovskii who leaked to the international press the false story that there was a strain on internal grain reserves because these reserves were being built up.

collected grain now had to provide for a significantly smaller population than normal, and as a consequence grain reserves actually grew over this disastrous year. They grew by about 50% from 6.4 million tons in July 1941 to 9.4 million tons in July 1942. The following years saw a sharp decline in grain production and in state collections (from 32 million tons in 1941–1942 to 18.3 million tons in 1942–1943 and 14.5 million tons in 1943–1944).⁷ As a result of this strained situation, end of year stocks fell from 9.4 million tons in July 1941 to 5.2 million tons in July 1943 to a low point of just under 3 million tons in July 1944.

By 1944 more of the territory of the Soviet Union was back under Soviet control and grain procurements rose by over 10 million tons from 14.5 million tons in 1943–1944 to 26.4 million tons in 1944–1945 and 24.7 million tons in 1945–1946. Civilian grain reserves duly grew from 3 million tons in July 1944 to 6.3 million tons in July 1945 and 5.7 million tons in July 1946.

It was at this point that the drought struck, greatly reducing the 1946 harvest in comparison with the 1945 harvest and causing grain procurements to fall by almost 20% or 5 million tons in 1946–1947 in comparison with 1944–1945 (from 26.4 million tons to 21.6 million tons). As we shall see below, however, at this time the demand for centrally collected grain had grown significantly and there was simply no way that the grain could satisfy demand without major cuts.

The claim that the Soviet government was collecting more grain from the peasants in order to accumulate large reserves is simply not supported by the evidence. Grain collections fell by 5 million tons and the level of civilian grain reserves held by the state fell by almost 3 million tons (almost half) in comparison with the July 1945 figures. Grain reserves on 1 July 1947 at the end of the famine were only 3.3 million tons in comparison with a level of 5.7 million tons in July 1946 and 6.3 million tons in July 1945. Admittedly this was slightly larger than the low state stock figure of 3 million tons for July 1944, but it was extremely low given the larger area and population that it had to cover, the normal transition needs of the system, the increases in demand for collected grain and the additional problems of transportation. As we shall see in the following sections, the situation in 1947 overall was worse than in 1944 because the level of stocks held by producers was undoubtedly much lower, but before considering this I will survey the data on the size of the rationed population and describe the complex way in which the decision to reduce the number of people receiving a ration was made.

The rationed population: its size and the decision to delay the abolition of rationing in 1946

The size of the rationed population increased during the war from 61.8 million in December 1942 to 80.6 million in December 1945 (see Table 4). In February 1946 Stalin had looked ahead to a bumper harvest and had promised that bread rationing would be abolished within the year. As late as 12 June 1946, Minister of Agriculture Benediktov was still claiming that ‘the increase in agricultural production will allow

⁷RGAE, fond 8040, opis 8, delo 360, pp. 44–45.

TABLE 4
THE NUMBER OF POPULATION RECEIVING RATIONS IN MILLIONS

	<i>All</i>	<i>Urban</i>		<i>Rural</i>
		<i>Direct ration</i>	<i>Closed shops</i>	
December 1942	61.8	41.0	2.1	20.8
December 1943	67.7	43.2	1.4	24.5
December 1944	74.0	48.4	1.2	25.6
December 1945	80.6	53.8	1.0	26.8
September 1946	87.8	59.8	1.0	28.1
December 1946	59.1	55.1	0.9	4.0
December 1947	62.8	56.3	1.0	6.6

Source: RGAE, fond 1562, opis 41, delo 239, p. 222.

the removal of rationing for bread, flour, groats and macaroni in 1946, and for all other products in 1946 and 1947.⁸

However by early July 1946 the prospects of a good harvest and a smooth transfer to the market were changing. The US Embassy in Moscow reported to Washington by telegramme on 9 July that:

[The] Outlook [for the] 1945 harvest indicated in EMTEL 1852 [of] June 15, 1946, [has] worsened considerably [in the] past 24 days by hot weather [and] insufficient rain particularly [in] Moscow, Ryazan [and] South through [the] black soil belt. [This has been] partially offset [by the] improved outlook [in] some other areas. [The] Overall grain yield [in the] USSR as of July 9 [is] probably not better than average [and is] probably worse.⁹

Within the Soviet government Boris Dvinskii, Minister of Procurements, sounded the alarm and wrote to Anastas Ivanovich Mikoyan (deputy chair of Sovet Ministrov (SovMin) and Politburo member with direct responsibility for trade and supplies) on 16 July 1946 and stated quite frankly that ‘harvest failure in the Central Black Earth Region, in parts of Ukraine, Moldovia and Crimea will require us to reduce the state grain collection plan, and that this will have an effect on utilization’.¹⁰ Dvinskii stated that although it was not his job to reduce expenditure, he was concerned that Gosplan was not doing anything. As we shall see below, the scale of rationing was actually increasing at this time. Dvinskii proposed a series of measures that needed to be undertaken to reduce grain expenditure and generate additional grain,¹¹ and he requested that Mikoyan inform Stalin about his serious concerns. Mikoyan asked Dvinskii to come and see him, but appears not to have passed on the message to Stalin, at least not with any degree of urgency.

On 29 August the Presidium of the Supreme Soviet eventually published a decree announcing the postponement of the abolition of rationing, which read as follows: ‘In

⁸*Sotsialisticheskoe Zemledelie*, 20 June 1946.

⁹Department of State Incoming Telegraph, Moscow via War, dated 9 July 1946, US National Archives, 861.5018 file 7-946, available on microfilm.

¹⁰GARF, fond 5446, opis 49, delo 1614, pp. 54–57, reproduced in Popov (1992, pp. 41–42).

¹¹One of these measures was to seek grain as reparations from the Soviet-controlled zones in Germany and Korea and to reclaim grain given to these zones earlier by the Soviet Union as loans.

connection with the drought in some *oblasti* of the USSR and the reduction of state reserves, the Presidium of the Supreme Soviet decrees to accept the petition of the Council of Ministers of the USSR on the postponement of the abolition of rationing from 1946 to 1947'.¹²

A week later, on 6 September, the Politburo finally indicated to a select group of party and state leaders that the continuation of rationing was going to be accompanied by a serious (two- to three-fold) increase in the price of rationed food,¹³ but no change was made to the size of the rationed population, which had now grown from 80.6 million in December 1946 to 87.8 million in September 1946 (see Table 4).

The following day Dvinskii wrote a second letter and this time sent it directly to Stalin. With the level of rationing at an all time high the increase in ration price was not going to resolve the shortage in anticipated collections. This dangerous situation was abundantly clear to Dvinskii (who was not directly responsible for grain allocations), even though other senior officials, like Mikoyan and Voznesenskii (who in Gosplan and the Council of Ministers were responsible for grain allocations) were refusing to face up to the situation.

Again, Mikoyan told Dvinskii not to worry and it took a third letter to Stalin two weeks later on 23 September¹⁴ to finally make Stalin and the Politburo realise that something needed to be done urgently to bring obligations to ration holders in line with the amount of state collected grain.

In October Stalin told Voznesenskii, Andrei Aleksandrovich Zhdanov and Nikolai Semenovich Patolichev to implement all of Dvinskii's proposals and to sidestep Mikoyan, 'who cannot be trusted in this matter'. By the end of the year the number of people on rations had been drastically reduced by almost a third, by 28 million from 87.8 million to 59.1 million. Most of this reduction was amongst the rural population where the rationed population dropped from 28 million to 4 million, and amongst worker dependent numbers which were reduced from 13.4 to 8.3 million. The numbers of workers on rations actually increased from 28.2 million to 29.2 million.¹⁵

In these circumstances, to claim that Stalin and the Politburo were unnecessarily shifting the burden onto the peasantry by maintaining high procurements is clearly unsustainable. Instead of raising grain procurements in 1946 from 25 million tons to 30 million tons, the level fell to 21.6 million tons, significantly lower than the 1944 level of 26 million tons or the 25 million tons in 1945. The group that was most vulnerable in these circumstances were the rural workers who had previously received rations, rather than the peasants who had never received rations. Let us look now at what was happening in the countryside and how much spare grain was left on the farm.

¹²*Pravda*, 30 August 1946.

¹³See the report of Patolichev to Stalin on these meetings in GARF, fond 5446, opis 59, delo 25, pp. 110–19, reproduced in Politbyuro TsK VKP(b) (2002, pp. 215–21).

¹⁴Rossiiskii gosudarstvennyi arkhiv sotsial'no-politicheskoi istorii (RGASPI), fond 558, opis 11, delo 765, pp. 116–18, reproduced in Politbyuro TsK VKP(b) (2002, pp. 221–23).

¹⁵RGAE, fond 1562, opis 41, delo 239, p. 222.

Grain reserves held on the farm

According to TsSU's grain forage balances, the stocks held at the end of the year by producers were a low 3.1 million tons at the end of the disastrous harvest failure year of 1936–1937 see Table 5 below. Although 3.1 million tons might appear a large figure for producer reserves, it is in fact quite low. As explained above it needs to cover at least a 15-day transition period of about 2.5 million tons, and a genuine reserve would need to be at least a million tons in addition to this.

After the record harvest of 1937, the reserves at the end of the year grew to a massive 16.2 million tons. In the following years it fell to 3.9 million tons in July 1941, when the war broke out. Despite the extreme austerity measures of the war years, the level of end of year reserves fell consistently through the war to a level of 1.7 million tons on 1 July 1945. In the crop year 1945/1946 the food situation was still very strained, but according to the TsSU balances at the end of the year the peasants were able to improve their position and their level of grain stocks actually increased from 1.7 million tons to 1.9 million tons according to one set of figures and from 2.5 to 2.7 million tons according to the alternative series (see estimate 2 in Table 1). During this same time, as we have already noted above, state-held grain stocks fell by over half a million tons from 6.3 million tons on 1 July 1945 to 5.7 million tons on 1 July 1946.

In the following drought year, as a result of the shortages, there was a major reduction in grain stocks held by the peasants by about a third from 1.9 million tons to 1.3 million tons or from 2.7 to 1.8 million tons in estimate 2; and again, contrary to the picture drawn by Zima, the fall in state-held grain reserves was much sharper, from 5.7 million tons in July 1946 to 3.3 million tons in July 1947 (see Table 3). These stocks were not enough to cover the transition period, let alone provide any reserves. There was clearly a great shortage in the countryside, and hence the famine.

Following the famine there was a sharp recovery with a doubling of stocks from July 1947 to July 1948.

TABLE 5
GRAIN STOCKS HELD BY PRODUCERS IN THE COUNTRYSIDE ON 1 JULY OF EACH YEAR IN MILLIONS OF TONS ACCORDING TO TWO DIFFERENT SETS OF DATA

	<i>Estimate 1</i>	<i>Estimate 2</i>
1937	3.1	
1938	16.2	
1939	9.8	
1940	5.0	5.3
1941	3.9	
1942	3.3	
1943	2.0	
1944	1.9	
1945	1.7	2.5
1946	1.9	2.7
1947	1.3	1.8
1948	2.4	2.9
1949		6.4

Source: RGAE, fond 1562, opis 41, delo 239, p. 222.

It is clear that at the time of the famine the state was facing a real shortage of grain and that it was not manufacturing a crisis simply to discipline or punish the peasantry. In response to this crisis the state did reduce its level of reserves to very low levels. In the following section we will consider to what extent the crisis was a consequence of state policy and to what extent were other factors like the weather and the shortage of traction power important?

The weather

In 1946 the wartime journalist Alexander Werth leant his personal authority to the claim that the 1946 drought was the worst drought since 1891.

It did not ... escape our attention that the soil was parched and cracked with the fearful drought, and that the wheat had grown barely an inch above the ground, and was already turning brown with the heat and the lack of rain. It was the beginning of the great tragedy of the 1946 drought, the worst drought Russia had known since 1891. The villagers were morose and disgruntled. (Werth 1971, pp. 151–52)

In the 1950s the leading Soviet drought expert, A. I. Rudenko, produced a survey of droughts over the previous 75 years from 1880 to 1955 in which the 1946 drought was listed equal with 1951 as the second worse drought, behind 1954 which was listed first. On this list the year 1950 appeared fourth, 1921 was fifth and 1891 sixth (Rudenko 1958, pp. 162–71).

Are there any other data to corroborate or disprove these early evaluations? Detailed daily meteorological data are now available for 263 stations throughout the USSR for this period allowing us to verify just how exceptional the 1946 drought was in these years.¹⁶ Below, I offer the results of a brief survey of the data for two weather stations in Kiev in Ukraine and in Oktyabrskii Gorodok (close to Saratov) in the Volga. These two stations have been selected because they are in the centre of different producer regions and have a fairly continuous coverage. For large continental countries away from seas and major mountain ranges the weather conditions in neighbouring regions tend to be fairly similar, and it is common to use synoptic methods to approximate weather conditions over broad regions.

Before looking at these data we need to be aware of some of the ways in which harsh weather conditions affected plant growth at different times and in different places. There are different types of drought, which have different effects in different regions at different times. Phenological dating is important for assessing the critical period of flowering of grain in June, and then the conditions of filling out of the grain in June and July. Heat stress and lack of moisture are most significant for the period of flowering when cold temperatures are preferable. Heat is less of a problem in the later filling out stage, and excess moisture is damaging for the harvest period in July.

¹⁶These data have been made available online through cooperation between the two principal climate data centres of the United States and Russia: the National Climatic Data Centre (NCDC), in Asheville, North Carolina, and the All-Russian Research Institute of Hydrometeorological Information-World Data Centre (RIHMI-WDC) in Obninsk, Russia (see Razuvaev *et al.* 2007).

In conditions of shortage of traction-power, sowing would occur later than normal and this would be disadvantageous because the whole growth process, and especially flowering of grain, would be delayed. This means that the critical growth periods would also be delayed until later in the year, when the weather would normally be warmer. This would make it much more likely for the critical periods to coincide with damaging hot weather.

The weather in Kiev and Ukraine

May and June temperatures in Kiev and much of Ukraine were cooler than normal for all of the war years; this means that they had favourable temperatures. The year 1946 marked a distinct change (see Table 6). In 1946, a warm spell set in early and lasted throughout the growing cycle. April temperatures were 1.9 degrees centigrade above normal, May temperatures were 1.3 degrees higher and June temperatures came in at a colossal 3.1 degrees above normal (21.3 degrees as compared with an average of 18.3 degrees).

Over the 84 years for which records are available (1881–1964) there were only 15 years which experienced average June temperatures of over 20 degrees and only four with average temperatures over 21.3 degrees (see Table 7).

The 1946 drought ranks fifth in severity in terms of average June rainfall. However, it is not just the level of temperature which is important, but the frequency with which such temperatures were experienced. The exceptional feature about the 1946 high temperature in June was that it came after a very long period of 19 years in which June temperatures had averaged less than 20 degrees. This was a break after more than twice as long a period of other, relatively cool periods. Let us now turn to look at rainfall in Kiev in these years (Table 8).

From the data presented in Table 8 it can be seen that the rainfall in Kiev from spring to early summer in 1946 was relatively low, but not exceptionally low. The 1946 accumulated rainfall for April–June was 119.5 mm or 70% of the long-term average. It was lower than for all the war years apart from 1945, which we can see from Table 6 was a relatively cool year. The year 1946 was exceptional in combining hotter than normal temperature with lower than normal rainfall.

Within the 84 years from 1880 to 1964 there were only 14 years in which accumulated rainfall over April–June was lower than the 119.5 mm level of 1946; and within these 14 years there was only one other year, 1910, when June temperatures were over 20 degrees. The June 1910 temperature was 20.6 degrees (slightly lower than

TABLE 6
MONTHLY AVERAGE TEMPERATURES IN KIEV ABOVE THE LONG TERM AVERAGE (°C)

	1940	1941	1942	1943	1944	1945	1946
January	-5.5	-4.1	-9.1	-3.8	3.7	-2.0	0.3
February	-4.7	1.9	-3.6	1.9	3.0	-0.9	1.2
March	-3.1	-1.2	-6.3	1.1	0.6	0	0.6
April	-2.1	-0.3	-2.9	1.9	-2.5	-0.7	1.9
May	-0.8	-3.8	-1.5	-2.6	-1.7	-2.3	1.3
June	0.8	-2.2	-2.3	-0.2	-0.7	-1.0	3.1

Source: compiled from data from Razuvaev *et al.* (2007).

TABLE 7
YEARS WITH AVERAGE TEMPERATURES IN JUNE ABOVE 20°C IN KIEV

<i>Year</i>	<i>Temperature</i>	<i>Rank</i>	<i>Interval (years)</i>
1885	20.1	13	
1892	21.3	5.0	7.0
1901	22.2	2.0	9.0
1905	20	14	4.0
1906	20	14	1.0
1910	20.6	10	4.0
1917	20.4	11	7.0
1924	21.9	3.0	7.0
1927	20.3	7.0	3.0
1946	21.3	5.0	19
1953	21	7.0	7.0
1954	21.9	3.0	1.0
1956	21	7.0	2.0
1961	20.3	12	5.0
1964	22.3	1.0	3.0

Source: compiled from data from Razuvaev *et al.* (2007).

TABLE 8
KIEV AVERAGE MONTHLY RAINFALL (MM)

	<i>1940</i>	<i>1941</i>	<i>1942</i>	<i>1943</i>	<i>1944</i>	<i>1945</i>	<i>1946</i>
January	48.0	24.6	52.1	71.8	24.6	60.1	22.4
February	91.7	69.9	34.7	13.5	63.1	26.5	31.3
March	26.1	48.7	37.2	6.3	86.4	20.5	24.3
April	82.5	62.4	63.0	27.4	89.0	13.2	15.4
May	54.2	97.6	56.2	65.3	43.2	57.4	75.2
June	25.9	61.8	81.6	68.7	50.4	25.1	28.9
July	80.3	118.0	72.1	100.5	44.2	59.0	99.2
August	65.4	60.2	5.7	19.6	53.8	65.6	30.3
September	76.8	nd	14.8	nd	2.4	19.9	43.5
October	54.5	nd	22.3	nd	11.4	27.8	51.3
November	38.5	nd	8.1	nd	96.3	20.8	57.6
December	35.1	nd	15.7	40.6	15.0	21.0	14.9
Year	379.0	nd	463.5	nd	579.8	416.9	494.3
April–June	162.6	221.8	200.8	161.4	182.6	95.7	119.5

Source: compiled from data from Razuvaev *et al.* (2007).

the 21.3 degrees of June 1946) and it was accompanied by an average precipitation of 99.7 mm in April–June 1910, as opposed to 119.5 mm in 1946.

So for Kiev *Oblast'* the year of 1946 was arguably one of the two worse crop years, if not the worse for the whole 1880–1964 period, and it came after an extraordinarily long period of relatively favourable weather.

The weather in Saratov and the Volga

In Saratov we see a similar unfavourable pattern, although this region had experienced much more regular periods of drought in the 1920s and 1930s. The average June

temperature in 1946 was 2.4 degrees above the long-term average at 21.2 degrees and this was by far the warmest June for the recent past (Table 9). June temperatures had again been exceptionally cool throughout the war. In fact, the last time that the June temperature had exceeded this level was in the drought of 1936 when it reached 21.9 degrees.

The only years on record that had exceeded the 1946 June temperatures of 21.9 were 1901, 1912, 1924, 1936 and 1948. However, it should be noted that no data are available for June 1921, when the temperature probably also exceeded this level.

Similar to the situation in Ukraine, the warm weather of June 1946 was accompanied by lower than normal rainfall (see Table 10). The rainfall in April–June 1946 in Saratov was 78.9 mm or 73% of the long-term average.

There were 27 cases of rainfall being lower than this in the 110-year period from 1880 to 1990 and these included all the five other cases where June temperatures were above the 1946 level (Table 11). It is also likely that the weather in the drought year of 1921 would need to be added to this list.

TABLE 9
MONTHLY AVERAGE TEMPERATURES IN SARATOV ABOVE THE LONG-TERM AVERAGE (°C)

	<i>Long-term average</i>	1939	1940	1941	1942	1943	1944	1945	1946
January	-12.3	-1.3	-9.1	-2.9	-7	-5.5	nd	-3.6	1.6
February	-12	2	-3.4	1.7	-4.4	-0.5	nd	-5.7	6.8
March	-6.1	-1.3	-0.2	-1.3	-5.5	-1.8	4.4	-0.9	0.6
April	5.3	-0.2	0.1	-1.5	-4	3.2	0.5	-2.2	-0.8
May	14.3	0.3	-2.6	-4.7	-1	1	0.2	-5.4	0.4
June	18.8	1.7	-1.9	-4.3	-2.6	-0.6	-2.4	-1.8	2.4

Source: compiled from data from Razuvaev *et al.* (2007).

TABLE 10
MONTHLY PRECIPITATION IN SARATOV (MM)

	1940	1941	1942	1943	1944	1945	1946
January	14.7	13.8	23.5	11.6	Nd	5.1	12.5
February	11.4	29.4	6.3	5	Nd	2.3	18.6
March	17	15.4	10	6	24.9	16.1	16.5
April	26.9	13.9	29.5	9.9	17.7	14.4	28.7
May	17.9	70.8	46.2	50.2	140.1	132.1	36.9
June	65.5	75.5	103.5	8.4	46.3	62.5	13.3
July	30.1	47.7	62.2	39.6	45.8	65.2	56.6
August	1.8	65	8.7	55.9	49.9	68.2	10.5
September	80.5	29.3	7.6	5.1	9.2	45.5	52.5
October	47.1	115.1	14	3.2	4.1	31.4	10.2
November	26.5	26	28.3	53.3	37.1	29.2	20
December	15	18.4	30.9	4.4	5.1	15.8	10.2
Year	354.4	520.3	370.7	252.6	Nd	487.8	286.5
April–June	110.3	160.2	179.2	68.5	204.1	209	78.9

Source: compiled from data from Razuvaev *et al.* (2007).

TABLE 11
YEARS IN WHICH IN SARATOV JUNE TEMPERATURES EXCEEDED 20°C AND APRIL–JUNE PRECIPITATION WAS BELOW 78.9 MM

	<i>Temperature in June (°C)</i>	<i>Precipitation in April–June (mm)</i>
1901	23.5	64.4
1912	22.8	54.0
1924	24.2	13.5
1936	21.9	56.7
1946	21.9	78.9
1948	23.6	42.6

Source: compiled from data from Razuvaev *et al.* (2007).

So for Saratov in the Volga, 1946 was undoubtedly a very bad agricultural year, but not exceptionally bad given the recent experiences of 1921, 1924 and 1936. The weather in terms of drought factors was perhaps the sixth worst on record, as opposed to possibly the worst on record for these indicators in Kiev. Overall there can be no doubt that the country faced extremely difficult weather conditions in 1946.

Conclusion

The meteorological data surveyed above indicate that the weather was very good for crop production throughout the war years (slightly less favourable in 1943). This undoubtedly contributed to the ability of the Soviet Union to survive the war without major famine. The deterioration of weather conditions in 1946 was indeed very extreme, and was a major contributor to the famine of those years. Had the drought of 1946 occurred three or four years earlier, instead of the good weather of 1941 and 1942, the social and political results could have been critical.

The available data on grain production, collection and stocks do not support Zima's contention that huge amounts of grain were available, which could easily have been used by Stalin to avoid the strain on the peasantry. No such stocks existed, and in the circumstances of the World Food Crisis of 1946–1947 there would have been great difficulties in importing any amount of grain in these years.

The World Food Crisis of 1946–1947 was the most serious global food shortage of modern history, when famine simultaneously threatened Central and Eastern Europe, India, Indo-China and China, and bread rationing was introduced in Britain for the first time ever.¹⁷ The British and American governments had requested food aid from Stalin to ease the World Food Crisis before they became aware of the situation in the USSR. The international context of the Soviet famine of 1946–1947 was strikingly different to 1921, when America had been able to provide large amounts of relief grain to Russia.

¹⁷The question of the 1946–1947 World Food Crisis is a major under-researched topic that a team based at Melbourne University is currently working on.

Faced with a severe shortfall in grain production and with little prospect of external assistance, the natural response of the regime was to press the peasants hard for grain collections and to reduce the number of those receiving state grain rations. It is significant that the bulk of the cuts were made to workers and employees in rural areas who would have been the main victims, and not the peasants or the urban workers, though more work is needed to study exactly what happened to these different classes of people.

The University of Melbourne and Nazarbayev University

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