Chapter IV

AGRICULTURE: A SOURCE OF ACCUMULATION OF CAPITAL OR A MARKET FOR INDUSTRY?
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An analysis of the history of economic development in several countries suggests that agriculture has played mainly two types of role in economic growth: it either facilitated capital accumulation or provided an expanding market for the developing industries. Sometimes it played both the roles simultaneously.

Market for industry is of two types, viz the demand for industrial consumer goods such as textiles, watches, bicycles, radio, etc. and the demand for capital goods like machinery, equipment, iron and steel, coal, etc. Agriculture plays the role of a market for manufactured consumer goods where economic development is externally induced, i.e. where growth is induced by a rapid expansion of foreign trade. However, where economic growth is internally induced that is through Government action as, for example, in Russia (and in Japan) - agriculture is deliberately subordinated to industrial development and is made to provide resources to finance Government economic activity which is largely directed towards creating a market for products of the capital goods industry. In this sense it may be argued that in the case of internally induced economic growth agriculture provides the market for industry via state budgets.

Russian Agriculture: A Market for Capital Goods

In Russia/the Soviet Union, for reasons we shall presently explain, there was no strong demand for consumer goods from the peasants. Thus the peasants failed to provide the stimulus needed for rapid industrial development. Hence, in the interest of speedy development, the Government was obliged to assume responsibility to create the necessary market for industrial products through budgetary provisions and/or centralized planning. In carrying out this responsibility it forced the agricultural sector to provide the bulk of the resources needed. Thus, in the scheme of economic development designed by the Tsarist Government in the second half of the nineteenth century and by the Soviet Government led by Stalin, agriculture was subordinated to the industrialization of the country. Through a variety of institutional, administrative, and fiscal measures the Government forced agriculture to contribute to the financing of its market-creating activities.

Why did Russian/Soviet agriculture fail to create demand for manufactured consumer goods? Why could it not stimulate industrial development through spontaneous exchange between agriculture and industry as in other countries? Why did the Russian/Soviet Government have to force agriculture to provide the market through budgetary provisions and/or centralized planning? These and other similar questions can be answered only by comparing the agricultural situation in Russia/the Soviet Union on the eve of industrial development with situations in other countries similarly placed. A study of historical cases would show that agriculture played spontaneously the role of a source of
accumulation and/or a market for industry (consumer goods) only when its productivity was on the increase. For instance, in Great Britain, in the 1740s, it was a substantial increase in farm productivity brought about through scientific farming, better crop rotations, stall-feeding of animals, and so on that helped agriculture play the important role that it did in the Industrial Revolution. And agricultural productivity increased wherever the natural endowment was favourable and wherever there was an interaction between agriculture and domestic industry or a sudden increase in external demand. In Russia before the Revolution of 1917 none of these favourable conditions obtained. For centuries Russian agriculture had stagnated; agricultural productivity remained deplorably low. Indeed, under the pressure of increasing population, it even declined. In the last quarter of the nineteenth century Russian agriculture made a valiant effort to maintain its per capita output. The per capita index of output of wheat and rye developed as follows:

\[
\begin{array}{ccc}
1870-74 & \ldots & 100.0 \\
1883-85 & \ldots & 97.0 \\
1886-90 & \ldots & 92.3 \\
1891-95 & \ldots & 95.1 \\
1896-1900 & \ldots & 97.2 \\
\end{array}
\]

If we deduct the quantities exported abroad, the picture further worsens:

2 Jerome Blum, Lord and Peasant in Russia from the Ninth to the Nineteenth Century (Princeton, 1961).

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1870-74 ... 100.0
1883-85 ... 95.3
1886-90 ... 86.1
1891-95 ... 91.9
1896-1900 ... 94.5

For a proper understanding of the specific character of the role of agriculture in Russian/Soviet economic development we must consider the various factors behind the abysmally low productivity of agriculture.

Climatic Constraints

Agriculture is an activity largely dependent on nature. Given the technology, the most important determinant of agricultural productivity in any country is the geography of that country. Two elements of geography, climate and soil, are of crucial significance in this regard. Of course, the two elements are not different because it is the climate which ultimately determines even the nature of the soil in a country. Low agricultural productivity in Russia/the Soviet Union was due partly to the climatic conditions of the country and partly to lack of incentives to bring about the necessary technical changes for overcoming natural deficiencies.

Of the various factors limiting agricultural productivity in Russia/the Soviet Union was climatic condition of the country. 4

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4 For an interesting discussion on climatic limitations on Russian/Soviet agriculture, see V.P. Timoshenko, "Agricultural Resources" in Abram Bergson, ed, Soviet Economic Growth (Evanston, Ill., 1953), pp. 248-54.
The thermal and moisture aspects of the climate set rather narrow limits for an advantageous exploitation of agriculture. As Selianinov rightly emphasizes, these two aspects of the climate of the country are mutually antagonistic. As thermal characteristics grow more favourable, the hydraulic resources as a general rule decline. The optimal zone for the development of vegetation, and hence for agriculture, may be described as a relatively narrow band, extending well into Russian/Soviet territory from west to east; it extends from the Carpathian mountains in the west to the foothills of the Altai mountains in Siberia and almost disappears in Eastern Siberia. To the north the moisture is sufficient or even abundant, but the warmth is insufficient for the cultivation of many important crops; to the south the thermal resources increase, but the supply of moisture gets correspondingly scarce. The steppe turns into semi-desert and finally into desert in the large portion of Kazakhstan and in Central Asia; so much so that crop production is just out of the question except with the help of irrigation. This, of course, does not apply in the case of valleys of the high mountains bordering on the Southern Asiatic frontier.

The thermal and moisture aspects derive partly from the strong continentality, which increases rapidly from west to east and reaches its highest limits in North-Eastern Siberia, which has the coldest winters in the world, and in Central Asia, where

the summers are extremely hot. The aggravation of the continentality of climate from west to east is reflected in the shortening of the growing season. The crop-growing period decreases from 113 days in the European north-west near the Gulf of Finland on the Baltic Sea, to 106 days in Western Siberia, 103 days in Eastern Siberia, and only 97 days in the part of Yakutsk where wheat grows. The continentality of climate not only shortens the frost-free crop-growing period, but also reduces greatly the period available for planting; for the temperature in spring increases very rapidly from cool and frosty to summer hot.

There is an increasing shortage of moisture from west to east. Expansion of certain crops to the east is thus limited not only by a shortening of the growing period and constraints posed by the danger of widely fluctuating temperatures in the spring and fall, but also by an insufficiency of moisture. For instance, thermal conditions in the southern and south-eastern steppe area of the European part are sufficient for the growth of corn, but since the supply of moisture decreases towards south and east, the cultivation of corn in the regions of the middle and the lower Volga, as well as the Don basin, is very unsafe. Furthermore, the dry hot winds peculiar to this area during the summer are dangerous to crops.

There is yet another unfavourable effect of the continental climate upon the cultivation of crops. It is well known that the yield of small grain, particularly wheat, in the steppe regions usually is not as abundant as it is in the moisture and cooler areas of Western Europe or of the mid-western United States. This
is commonly attributed to the insufficiency of moisture. Want of adequate moisture also makes the application of fertilizer less efficient. Also, as Selianinov points out, the yields of cereals in the temperate zone depend, when moisture is sufficient, on the degree of development of tillering. In England, for example, the period of tillering of wheat extends for nearly half a year. In contrast, it is only one or two months in the principal grain areas of Russia.

The best agricultural soils, both chemically and physically, are the black soils (chernozem). Prasolov, the foremost specialist on soils in the Soviet Union estimates the total area under chernozem at 233 million hectares or only 11 per cent of the total territory. This includes degraded chernozem in the northern portion of the forest steppe zone.

These specific geographical features of Russia/the Soviet Union had far-reaching implications for the development of agriculture, as also for the role of agriculture in the economic development of the country. Some important implications may be summarized as follows. Adverse climate and poor soils meant scarcity of good farmland leading to a continuous increase in the pressure of population on land, long periods of idleness for the peasants, and frequent famines and droughts. The net result was extremely low productivity of labour and land. In spite of possessing a greater area of land than any other country in the world Russia/the Soviet Union had a very limited area of good farm land. When, in the second half of the nineteenth century

6 Ibid., p. 4.
and the early part of the twentieth century, the growth of population intensified the density of population in the principal agricultural regions, there was appreciable decline in productivity. The increasing pressure of population on land was reflected in the sky-rocketing prices of land, as also in the deterioration in per capital output, during the last years of the Tsarist period. As if this was not sufficient, there were the long periods of the idleness imposed by the climate on the peasantry. For example, near Moscow the ground usually freezes in October, and the peasants have practically no work. In the protracted winter, they spend all the sixteen hours of darkness in bed and huddle over the fire, drink, and talk during the rest of the time. Not until April does the frost disappear in Moscow. Even then, for some weeks, ploughing and other agricultural operations cannot be undertaken on account of mud and slush. Thus, practically for several months a year the peasants are forced to live in enforced idleness. In May, when the spring really begins, they are too soft from lack of exercise. Further, since the growing season is short, all the agricultural operations, including ploughing and planting, need to be carried out in a short time. Even a little delay means that the frost would nip the crops in the early fall before they are ripe.

Lack of Stimuli for Agricultural Development

These handicaps imposed by geography on agriculture were 7

Tengoborskii believed that Russian agriculture could never be as productive as that of Western Europe because of the natural handicaps of climate and soils.
not insurmountable. They could be overcome, and agricultural productivity raised, through appropriate structural and technical changes. For instance, the pressure of population on land could be reduced through transfer of the surplus labour force from agriculture to non-agricultural activities. The quality of the soil could be improved by use of fertilizer, irrigation, drainage, etc. Even the constraints posed by the immutable climate were capable of being circumvented through appropriate measures. The necessary structural and technical changes would, of course, include the development of industries and enormous investment in "agricultural infrastructures" and in agriculture itself. Leaving apart the problem of industrial development for a moment, let us analyze what was involved in agricultural investment.

Technical changes requiring to be made in agriculture to raise productivity in the natural conditions that obtained in the country called for investment on a much larger scale than in other countries. As some of the recent researches have shown, nature in Russia poses formidable challenging problems. To find solutions for these problems was costly in terms of both effort and time. For example, one of the principal problems of agriculture, viz. aridity, is capable of being solved effectively through irrigation, but in Russia/the Soviet Union this problem was compounded by the problem of secondary salinification of soils, which greatly reduced crop yields if it did not render the irrigated lands totally unusable. (Despite many years of research and practical experience, this problem is still not solved.) Also, in the steppe and wooded steppe zones, land was characterized by
relief conditions that made irrigation very expensive, if not impossible. Utilization of the natural hydrological cycle of arid lands through snow-retention measures — snow cover — and extensive planting of wind-breaks in an effort to change the micro-climate of fields, accumulate snow, prevent dust storms, and retain the surface run-off was, again, costly. Thus all possible solutions for the various technical problems called for large-scale investment in research — the establishment of scientific institutions and experimental stations — and, more importantly, in general agricultural education. There was little wisdom in making do with technology borrowed from elsewhere; for, in the nineteenth century, the agricultural techniques developed in the advanced Western countries were predominantly land-using, and the main thrust of the technical changes there was in the direction of labour-saving. In a densely populated, backward country like Russia, in view of the scarcity of good farmland and abundance of labour, it was land-saving and labour-using techniques that were needed in view of the existing resources endowment in the rural sector.

Large scale investment for the development of agriculture depends on the availability of capital on the supply side and on the inducement to invest in the form of expanding the market for agricultural products on the demand side. A backward country is likely to have some surplus of production over consumption — at least that part of surplus which goes for conspicuous consumption.

8 Stalin's Plan for transformation nature could not be carried out because of its prohibitive cost.
for investment purposes. But the surplus that is available alone may not be sufficient for agriculture investment. What is important is to convert the available surplus into investible physical capital in the form of transport equipment, agricultural implements and machinery, fertilizers, and so on. Theoretically speaking, this should not pose any difficult problem for an open economy. It can be done by exchanging surplus products for the required physical capital. In reality, however, there may be formidable impediments, from both the supply and demand sides, in the way of an individual country converting its surpluses into investment goods through imports. In such a case, large-scale agricultural investment may have to wait until the country is able to produce sufficient investment goods for the development of the necessary agricultural infrastructures, machinery, fertilizers, etc.

A much more important factor which determines investment in agriculture is the inducement to invest. This, in its turn, would depend on the extent of the market for agricultural products — food and raw materials. The size of the market for agricultural products would be determined by (a) population growth, (b) growth of domestic market as a result of industrialization and urbanization, and (c) foreign demand for agricultural exports, as well as accessibility to foreign markets. Both the domestic and foreign markets were extremely small for Russian/Soviet agricultural products.

**self-sufficient Villages**

The sheer size of Russia/the Soviet Union which is its
most staggering characteristic, was, from an economic point of view, a factor contributing to the extremely high costs of production and distribution. The problem was rendered particularly difficult of solution on account of the continentality of the territory and want of access to open sea. Both because of physical features that stand as a barrier to communication and owing to the huge size of the country, there was need for expensive land-lanes to bind the continental landmass together and thereby operate the economy efficiently. The need to build such land-lanes for the operation of the economy was all the more important in view of the fact that has been referred to in Chapter I that a number of rivers flow in the wrong direction and into closed waters. Also they are frozen most of the year. The development of road transport posed several technical difficulties. Indeed these difficulties made it necessary for each farm to produce for itself most, if not all, the goods it needed irrespective of the special advantages or drawbacks of its location. The market for agricultural products had necessarily to be local in view of the absolute impossibility of transporting them across long distances. The uncompetitive character of the market was evident from the extremely wide range of variations in the prices of cereals in different parts of the country. Thus, until large-scale railroad development was completed, Russian agriculture remained self-sufficient.

The absence of adequate transport facilities was one of the factors responsible for the relatively minor role of foreign
trade in Russian/Soviet economy. Here again geography was a great hindrance to the movement of goods. A country's physical location exercises a pervading influence upon its fortunes by determining its geographical relationships with other countries, which profoundly affect its accessibility and the possibilities of exchange of goods, people, and ideas between it and other countries. England was a natural sea Power, Russia was the opposite. Indeed it could not be otherwise, being a vast landmass bounded on the south and west by frontiers across which armies have often fought, and on the north by seas which, until the development of the ice-breaker, might just as well have been land since they are frozen for most of the year. The predominantly high latitude position of the country, together with its landlocked continental nature, goes a long way towards explaining why the country was not able to develop a maritime naval or trading tradition. Up to the eighteenth century the port of Archangel was its only sea port. It gained access to the Baltic Sea in the beginning of the eighteenth century and to the Black Sea by the end of that century. Then it had to wait for nearly a century to establish links between these ports and the hinterlands.

Low Productivity

Extensive railroad construction in the last quarter of the nineteenth century solved Russia's transport problems considerably. However, the development of transport alone would not be sufficient to increase the size of the market for agricultural

See Chapter V in this work.
products. There was also need for an increasing non-agricultural population. In the absence of such a population, mere transport facilities would not create agricultural demand. Kiselev, one of the important economic advisers of the Tsar, said: "The success of agriculture in Russia ... depends chiefly on the strengthening of foreign trade and the increase of internal demand, that is, the increase of towns and factories." Russia, however, lacked adequate urbanization and industrial development for this purpose. In 1897 just about 12 per cent of the total population was urban; the rest, rural. Russian agricultural products could not find an easy outlet into foreign markets either. Up to the middle of the nineteenth century international demand for agricultural products, especially grain, the principal export of Russia, was negligible. After 1870 America monopolized the European markets. Under the impact of the American invasion world prices of primary exports declined sharply. Thereafter the terms of trade long remained inimical to primary commodities and made export of primary commodities unattractive.

Institutional Barriers

Russian agriculture suffered not only from natural deficiencies but also from man-made obstacles. These reinforced its low productivity. Russian agriculture retained its archaic feudalistic socio-economic structure long after they had

10 A.P. Zablotskii-Desiatovskii, Graf P.D. Kiselev i ego Vremia (St Petersburg, 1882), II, pp. 100 and 200.

11 See Chapter V in this work for details.
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disappeared from most other countries of the world. The agrarian backwardness of Russia is generally attributed to this long continuance of serfdom and the survival of certain features of the serf economy even after its formal abolition in 1861. Be that as it may, it would be useful to regard the persistence of serfdom and other obsolete institutions as a consequence rather than as the cause of agricultural backwardness in Russia. This is because feudalism existed in one form or another in several historical cases before the beginnings of modernization. It disintegrated and finally disappeared under the mounting pressure of the agricultural commercialization initiated from urban centres and of growing industry and rapid expansion of external demand. Take, for instance, England. The enormous growth of commerce in the towns there during the sixteenth and seventeenth centuries created in the countryside a market for agricultural products and set in motion a process towards commercial and capitalist agriculture. Under this increasing commercial pressure the medieval conception of land as the basis of political functions and obligations yielded place to the modern view of it as an income-yielding investment. In Russia, however, lack of commercialization made it easy for the landlord to hold on to his serfs. One of the most important factors behind the landlord's opposition to the abolition of serfdom was cheap labour. A famous Russian economist, Peter Struve, wrote: "With a limited market for

agricultural products ... the landlords had to keep their money expenses of production as low as possible. Payment in kind or forced labour conforms with this requirement of very low money expenses..."  

The landlord's need for serf labour must be viewed from yet another angle. Two important features of cultivation in Russia were the short growing season and uniformity. Both arose from the peculiarities of climate. By a short growing season we meant that agricultural operations such as sowing and harvesting had to be compressed into a short span of time. Uniformity implies that these activities took place simultaneously over a wide area. Together they resulted in an enormous demand for labour about the same time. Any delay in planting and harvesting owing to shortage of labour was sure to cause heavy loss of crops. To dispense with serf labour, therefore, without a large-scale mechanization of the major agricultural operations was too much of a risk for the landlord. Given the existing low prices of agricultural products, mechanization was unprofitable from the point of view of the landlord. This made him bitterly to oppose the abolition of a system that assured him the labour he needed. Sometimes, it is argued that cheap serf labour prevented the introduction of modern methods of cultivation in Russia. This is not true, and there is no evidence to support it. On the contrary, the landlord did not show any hesitancy to introduce agricultural

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Peter Struve, Krepostnoe khoziaistvo (St Petersburg, 1913), pp. 137 and 139-40.
machinery in the last years of the Tsarist regime although cheap
labour was abundantly available. Besides, cheap serf labour
was also the most inefficient labour. It would, therefore, be
more correct to say that given the higher demand and prices for
agricultural products, the landlord would certainly have prefer-
red the relatively efficient machinery rather than inefficient
cheap serf labour.

Agrarian Structure and
Peasant Demand

Agriculture remained stagnant for want of inducement either
from expanding external demand for agricultural exports or from
increased demand for those products from the growing domestic
industry. There was thus no change in agricultural techniques;
productivity stagnated; and income remained at the subsistence
level for the overwhelming majority of the population. Besides,
the agrarian structure was characterized by an extremely unequal
distribution of property and income. There was no substantial
class of middle farmers with income above the subsistence level.
The small class of landlords that existed spent their income on
conspicuous consumption. Their demand for manufactured goods was
too small to induce investment in large-scale industrial develop-
ment. But successful industrialization based on borrowed technology


15 Maurice Dobb, Soviet Economic Development since 1917 (London, 1966), pp. 45-53 and
required sudden and dramatic increases in the size of the market. Russian agriculture was incapable of providing such a large market.

Under these circumstances, the Tsarist Government intervened to change the structure of the market - i.e. to shift the domestic demand schedules upwards to induce rapid economic growth. For various economic and technological reasons pointed out in the earlier chapters of this work the Government did this through concentration of investment on the development of the capital-goods industries.

In order to undertake the activities calculated to create demand large enough to initiate and sustain rapid economic growth, the Government needed to mobilize enormous resources. The decisions on the magnitude of the resources extractable from the economy were of a predominantly political, socio-psychological, and economic nature in arriving at them the Government had to take into account not only the "margin of social and political tolerance" but also the effect on incentives and efficiency. It had also to make due allowance for the cost of securing control over resources.

The Government was able to raise the resources needed for investment in market-creating activities in a number of ways. Some of the criteria by which the choice of ways and means was made were purely technical - the reliability, convenience, and cost of the various methods. As the resources involved represented a large share of an absolutely low aggregate income, political considerations assumed considerable importance. The
The existence of a highly centralized political authority - the Monarchy - helped stretch the unpopular policy of mobilization to its limits and with the minimum political resistance.

Vyschnegradsky and Witte effected a massive transfer of resources from agriculture into Government hands through a highly regressive tax system. The communal hold on land was retained even after the Emancipation of 1861. Police contingents were dispatched to rural areas to expedite collection of taxes. The thrust of the Government policy was to impound as large a share as possible of the output of the peasant even at the cost of his consumption. By suppressing the peasant demand for manufactured consumer goods this enabled the country to avoid dissipation of resources on the development of the consumer-goods industry. The State utilized the resources thus mobilized for a massive investment in railroad construction and thereby for the creation of a large market for capital goods.

Collectivized Agriculture

After the Bolshevik Revolution, the role of agricultural demand in the economic development of the country was extensively examined by the participants in the famous Soviet Industrialization Debate of the twenties. Broadly, there were two major schools of thought on the subject. The first, called the Rightist Opposition, stressed the importance of peasant output and the


17 Gerschenkron, n. 3, pp. 185-93.
peasant demand for manufactured consumer goods. It advocated priority for the development of agriculture, and of those branches of industry which cater to peasant demand. The second school, the Leftist Opposition, emphasized the importance of industry and demand of industry for capital goods. It argued that in the specific conditions then obtaining in the Soviet Union, it was extremely important to concentrate on the development of the capital-goods industry in order to achieve a rapid economic growth. The size of the market was certainly pertinent to investment decisions. It was not, however, evident why the peasant demand for consumer goods alone should be regarded as particularly crucial and why demand arising from other sources should not compensate for its absence or even serve as a substitute. If the peasant demand failed to produce the required rate of growth, centralized planning could be substituted for the market mechanism. The Soviet State could, through centralized planning, create the necessary demand by its decisions to invest more massively in industries which were mutually interdependent than previously and much more systematically than Witte. This, of course, entailed a sudden massive transfer of resources from agriculture into the hands of the Government.

The transfer of resources from agriculture had to be on a dramatic scale. This was because the technology in the advanced

19 Ibid., pp. 16 and 22.
countries was progressing towards ever larger scales, imposing on the Soviet Union large indivisible plants, not in one or two industries, but in all industries. A sudden and massive transfer of resources from an abysmally backward agriculture was possible only at the cost of consumption of peasants. It could take place only if there was a radical institutional change.

Decision to Collectivize

The best method of withdrawing from the people the share of their money income required to meet Government outlay was to levy an income-tax. Under the conditions that obtained in the Soviet Union in the twenties this method of mobilizing resources was beset with considerable difficulties. It was easy enough to assess tax and collect it from the small urban population, but to assess tax and collect it from the rural population was by no means simple. Neither the assessment of tax nor the collection of it from the millions of subsistence peasants was a manageable task.

Another method of securing the much-needed resources was to expand the earnings of Government-owned industries. This could be accomplished by keeping industrial prices low in relation to the prices of agricultural products and by combining such a price policy with a wage policy so as to leave large profits in the hands of Government enterprises. This course, which favoured the agricultural population, would have placed the burden of the programme upon the shoulders of the industrial workers. However, it would not have yielded sufficient revenue in view of the relative
smallness of the Government sector. Politically too it would have been unacceptable.

Yet another important method fiercely discussed at the time of the Industrialization Debate involved the "opening of the Scissors," i.e. a shift in relative prices in favour of industry. On the basis of the analogy of the Marxian concept of original capitalist accumulation, Preobrazhensky likened the resources of capital which could be tapped outside Socialist industry, primarily agriculture, to colonies. He argued that in order to exploit the "colonies" a number of institutional changes had first to be made; that the relative autarky of the primitive peasant economies had to be broken and their participants forced into market; and that, to that end, an outright compulsion of enclosures should be accomplished, as also taxation, State-protected manipulation of prices, and inflationist devaluation of money. He also said that the Law of Value, which governs the operation of the competitive market and makes the exchange ratio between goods depend on the relative amounts of "socially necessary labour" contained in them, should be suppressed as far as possible. He, further, contended that "an exchange of the smaller quantum of labour of one economic system (socialism) for the greater quantum of labour of another economic system (capitalism)" had to be secured. He called it the Law of Primitive Socialist Accumulation.

When the Soviet Government tried to enforce the "unequivalent
exchange," the peasant, being faced with a dwindling supply of industrial goods and with increasing claims for his own products, just refused to play the game. For "the peasant's desire to trade with the town is fairly elastic and becomes very elastic as soon as the terms of exchange are pressed appreciably against him". The sown area of grain and the gross production of grain did not increase; throughout the ten years 1918-1928 they remained below the pre-evolutionary level. The total sown area of grain was 94.7 million hectares in 1913, and 92.2 million hectares in 1928. The gross production of grain was 801 million quintals in 1913 and 733.2 million quintals in 1928. What was of crucial significance was the drastic decline in the marketable surplus. The decline was from 20.3 per cent of the total production in 1913 to 13.2 per cent in 1926-27 and 11 per cent in 1928-29. By 1928 the country was in desperate straits on account of the "grain problem".

The Peasants' resistance resulted in an economic crisis which was also a political crisis of the first magnitude. For, as Gerschenkron put it, "As the marketings of grain began to fall off, the inevitable adjustment to a lower rate of industrial growth seemed to turn into the threat of a negative rate of growth, of deurbanization and agrarianisation of the country". Two solutions


23 Gerschenkron, n. 3, p. 144.
were open to the problem of grain shortage. One was to a rise the prices of agricultural products so as to facilitate the development of large-scale private farms and to induce the peasant to increase his marketable surplus. The second was to increase imports of grain and raw materials to compensate for the domestic shortages. The increase in agricultural prices, however, was bound to have an unfavourable effect on real wages and upset the investment programmes in industry incorporated in the Five-Year Plans. A policy of encouraging larger peasant farms was unacceptable not only for political reasons but also because the process of replacement of majority of small and middle peasant holdings by large private farms was a process which would have required a very long time. On the other hand, large scale imports of food would have been difficult and drastically cut down the imports of industrial equipment for economic development. Under such conditions, the Soviet Government was forced to reconsider its long term goal of collectivization of agriculture and implement it earlier than expected and in a manner unintended. Thus, as economic means (of enforcing an unequal exchange between agriculture and industry) failed to bear the anticipated results, the institutional and administrative measures assumed more and

24 Stalin, Sochineniya, XII, 45-47.
25 Ibid., 45-47.
more importance, as Mikoyan put it. Thus, once again in Russian history, the need to expand market for industrial products necessitated communal hold on agriculture.

Collectivization of Mobilization

Collective farms were established on government-owned land. This land was made available to them on indefinite tenure. The farms were required to sell a major part of their output to the State at prices fixed well below the free-market level. The goal set for the collective farms was maximization of the marketed agricultural output and maximization of a particular product-mix of the marketed output. At the same time stress was laid on the release of labour needed for industry.

Priorities were set for the distribution of farm output in the Collective Farm Charter. These priorities in the descending order were as follows: (1) deliveries of the share of output purchased by the State; (2) payment of direct taxes in kind to the State; (3) reimbursement of cost of seed and outside production costs such as services of the machine-tractor stations; and (4) distribution of the residual among the members of the collective farm in proportion to the labour contributed by them to production. To ensure fulfilment of these goals all major decisions of the collective farms were subjected to the administrative direction of the State.

Collection of the marketable agricultural surplus was facilitated in two ways. First, the State, not the market, determined the industrial and agricultural prices. This enabled the planners to increase the amount of agricultural products needed to exchange for manufactured goods. This forced an unequal exchange on agriculture. Second, the collective farm organization made it possible for the marketed share of output to be determined independently of the size of the total agricultural output. The success achieved by the collective farm system in mobilizing the marketable agricultural surplus is reflected in the following figures. The percentage of total agricultural output marketed was 20.3 in 1913. During the crucial stages of industrialization, it was higher 28.8 in 1937, and 26.2 in 1939. Marketing of all agricultural products was 65 per cent greater in 1940 than in 1913.

During the Stalin era agriculture played a role similar to the role it had played in Russia before the Revolution of 1917, but on a much larger scale and through a somewhat different institutional framework. The State used the enormous resources mobilized from the rural sector to create huge markets for capital-goods industries through co-ordinated and concentrated investment during the twenties and the thirties. In order to secure the required concentrated pattern of demand, the peasant demand for consumer goods was suppressed by large-scale procurement of peasant output and by the levy of a turnover tax.

28 Ibid., p. 259.