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Soviet Agriculture

The Brezhnev Legacy and Gorbachev's Cure

Alec Nove

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40 Years
1948-1988

RAND



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January 1988

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PREFACE

Established in October 1983, the RAND/UCLA Center for the Study of Soviet International Behavior supports a broad program of analytic and policy-relevant research. The Center examines subjects that cut across disciplines, with particular emphasis upon military and arms control issues, East-West economic relations, Soviet relations with Eastern Europe and with the Third World, and domestic determinants of Soviet international behavior.

This report is the third in a continuing series of publications transmitting the major results and findings of the Center's research program.



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SUMMARY

This report discusses the economics of Soviet agriculture from the mid-1960s to the present. In particular, it examines (1) the reasons why Brezhnev's agricultural policy, designed to correct the deficiencies inherited from his predecessor, proved to be such an expensive failure, and (2) the measures taken by Gorbachev to solve the agricultural problems he inherited.

BREZHNEV'S LEGACY

Upon coming to power, Brezhnev criticized Khrushchev's agricultural policies and methods and proposed many remedial measures to improve the agricultural situation. Brezhnev's first five years seemed to promise well, but in the 1970s the economic performance of agriculture was exceptionally poor. Large sums of money were spent in an effort to modernize, re-equip, and revive agriculture. Moreover, grain imports increased in an effort to expand livestock herds. During Brezhnev's long reign, very high expenditures on agriculture yielded a remarkably low return; agriculture became a burden to the rest of the Soviet economy and contributed to the general slowdown in economic growth.

Many factors contributed to the poor performance of agriculture. **Labor** and insufficient **labor incentives** may have been the largest problem. **Industrial inputs** to the agricultural process were unsatisfactory. The quality of farm machinery was poor, obtaining needed or ordered machines was difficult, and spare parts were notoriously lacking. The Soviets had not developed the necessary **infrastructure** for agricultural production. There were few hard-surface roads in rural areas and not enough grain elevators, storage space, or building materials. The wrong organizational structure was chosen to implement a program for **land improvement**—drainage, irrigation, fertilization. **Investments in agriculture** were frequently misplaced, one-sided, and lacking in the necessary complementarity. Proliferating service agencies resulted in poor **planning and coordination**. The **costs of production, prices, and subsidies** kept rising. Efforts to modernize the **livestock sector** were unsuccessful. Supplies of feed were inadequate, while the demand for and the prices of livestock products rose. **Marketing** efforts were insufficient and poorly planned. State policies toward, and the performance of, the **private sector** led to a downward trend in private production.

The May 1982 plenum of the Central Committee made a number of decisions designed to correct these negative tendencies. The result was the Food Program, which envisaged a substantial increase in production and in supply of feed. In the apparent belief that a continuing policy of investing large amounts of money would effect a cure, the Soviets intended to invest heavily in the infrastructure. The problem of coordination was supposed to be solved through the creation of a new bureaucratic structure.

GORBACHEV'S REMEDIES

The first years of the Food Program brought little improvement in performance. The organizational structure of the agro-industrial complex was not working satisfactorily, and a long run of relatively bad weather did not help. Gorbachev must have been deeply concerned about the unsatisfactory performance, for the Food Program was (at least until 1984) his primary area of responsibility within the Politburo. Recognizing the close interconnections among the various factors influencing productivity and efficiency, and understanding the need for complex, complementary remedies, Gorbachev took measures to strengthen the Food Program. The remedies fall into four areas of discussion: labor, industrial inputs, the *Agroprom*, and the private sector.

Labor

The central problem was to motivate labor to work conscientiously. The solution adopted after many years of hesitation and experiment was a small autonomous work group without imposed assignments in a contractual relationship with state and collective farms. The results have been mixed. Future success requires a fundamental change in the attitude of managers on the farms as well as the attitude of local bureaucrats.

Industrial Inputs

The situation with respect to industrial inputs has changed remarkably little. The quality of farm machinery remains low; the necessary range of machines and attachments has not been provided. Agriculture continues to be the victim of poor industrial planning and of the bureaucratic system of material allocation. While the quantity of fertilizer delivered to farms has increased, obtaining the required type in a

reasonable time is still a problem. The supply system should be based on trade, the farms free to decide what to buy. Farm machinery enterprises need to develop an interest in satisfying customer requirements. Ambitious plans to improve the infrastructure, to build hard-surface roads, and to improve housing and amenities are making progress. Drainage and irrigation are being undertaken on a large scale. Such improvements indicate that there may now be greater efficiency in the use of funds invested in agriculture.

The Agroprom

The *Agroprom* (agro-industrial complex) and its hierarchy are responsible for planning and organization. In November 1985 it became a species of super-ministry, with a first deputy minister in charge. The *Agroprom* and the district agro-industrial committees (RAPOs) are charged with making the separate parts of the agro-industrial complex work, but their success has been mixed.

The Private Sector

At present, official policy is favorable toward the peasant private plot and the position of the workforce within the state and collective farm. Farms and local authorities are urged to encourage the expansion of private production and to provide calves and piglets, fertilizer, insecticides, tools, and feed on favorable terms. Progress remains slow.

CONCLUSIONS

To measure Soviet success with agriculture under Gorbachev, one can compare Gorbachev's policies with a model of successful collective agriculture in Hungary. Hungary has no compulsory delivery quotas, and farmers are free to choose what to produce and sell; this policy has not been considered by the Soviets. Hungary has no bureaucracy for material allocation, and farms are free to purchase industrial inputs; this policy is vigorously advocated by Soviet reformers and is being tried in some regions. Hungarians have the right to engage in a wide variety of industrial and service activities and the freedom to participate (or not) in agro-industrial complexes; in the Soviet Union, all agriculture is subordinate to the *Agroprom*-RAPO hierarchy. Hungary provides a wide range of choice for organizing, motivating, and rewarding the labor force and has a large private livestock sector; this is official Soviet policy, but the approach has run into difficulties so far.

In short, economic reform is particularly urgent in Soviet agriculture. Yet, in considering the prospects of reform under Gorbachev, one is struck by the resistances to change—the overwhelming force of habit and inertia. It may, therefore, be premature to evaluate the effects of the reforms barely implemented. On the one hand, *glasnost* has resulted in wider publicity of negative aspects, and people are determined to put things right. On the other, real improvement depends on encouraging enterprise and a sense of responsibility, as well as on restoring peasant love of the land and a sense that the land belongs at least to the collectivity. The *Agroprom* has so far failed to solve the problem of effectively coordinating the farms with the service agencies, and material-technical supply is still causing trouble. So a great deal must yet be done. Without firm party leadership it can all go wrong. Gorbachev must have the will and the power to force through needed reforms and to implement them.

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I. INTRODUCTION

It will be shown that the economics of Soviet agriculture during Brezhnev's long reign presented a sorry picture: very high expenditures yielding a remarkably low return, while agriculture became a burden to the rest of the economy and contributed significantly to the general slowdown in economic growth. Starting with a brief account of the state of Soviet farming at the time of Khrushchev's ouster, we will go on to analyze the reasons why Brezhnev's policy, designed to correct the deficiencies inherited from his predecessor, proved to be such an expensive failure. These reasons will be analyzed under the following heads:

SOVIET AGRICULTURE AT THE TIME OF BREZHNEV'S ACCESSION

In September 1953, Khrushchev spoke frankly about the situation at that time: deplorably low yields and productivity, neglect, underinvestment, underpayment of peasants, confiscatory "prices" for compulsory deliveries, excessive taxes on private plots. The much needed reversal of these policies brought impressive immediate gains. Gross output of agriculture in 1958 was 48 percent above the level of 1953, and not only because that was an above-average weather year. There were impressive gains in the production of grain, meat, and milk. The value of capital assets in agriculture rose by 66 percent, electricity utilization doubled, the gross income of *kolkhozy* rose from 49.6 to 131.8 billion old rubles.¹ It is generally accepted that there was an impressive recovery, albeit from very low levels. Encouraged by success, Khrushchev planned an increase of agricultural output by a further 70 percent through 1965.

The outcome was unsatisfactory, and most observers agree that agricultural failures contributed to Khrushchev's fall from power. What went wrong?

First, the statistics. In Table 1, I give figures for the years 1963 and 1964, because these were respectively bad and good weather years.

The poor harvest of 1963 brought about a big reduction in number of pigs, from 70 million (in January 1963) to 40.9 million (a year later).

¹*Narodnoe Khozyaistvo SSSR v 1958 godu. Statisticheskii Ezhegodnik* (Moscow: Gostatizdat, 1959), p. 498.

Table 1

KHRUSHCHEV'S LAST YEARS

Output	1958	1963	1964
Gross agricultural output (index)	100.0	99.0	113.0
Grain harvest (million tons)	134.7	107.2	152.1
Meat	7.7	10.2	8.3
Milk	58.7	61.2	63.3
Milk yield per cow (kg)	1755 ^a	1584	1655 ^b
Private-plot production (index)	100	91	92

SOURCE: *Narodnoe Khozyaistvo SSSR v 1964 godu. Statisticheskii Ezhegodnik* (Moscow: Izdatel'stvo "Statistika," 1965).

^a1994 in *kolkhozy* and *sovkhozy*.

^b1684 in *kolkhozy* and *sovkhozy*.

It recovered to 52.8 by January 1965. Note the substantial reduction of milk yield per cow, a consequence of the policy of expanding numbers when there was not enough feed.

There were several reasons which can account for the contrast with 1953-58. One was simply that there was an immediate return after years of neglect, which could not last. There were several other reasons, connected with policy and priorities. Thus, despite Khrushchev's earlier declarations in favor of private plots, measures were taken to restrict private livestock, with adverse effects on peasant morale. Then figures were cited after his fall to show that an actual reduction was planned (and achieved) in the output of many kinds of farm machinery, apparently because it was thought that the elimination of Machine Tractor Stations (the sale of their equipment to *kolkhozy*) reduced need for machinery. In his speech to the party plenum held in March 1965, after he had become leader, Brezhnev claimed that the share of agriculture in total investments was reduced in these years, although the figures show only that it stopped rising.

But perhaps the most serious harm was done by Khrushchev's increasing tendency to wage "campaigns," adopting panaceas which promised short-term results, mobilizing the party machine to impose the campaign of the moment regardless of local circumstances. Some of the measures taken may have had a point but were taken too far. Thus, there was the virgin lands campaign: It was not a bad idea to plough up land in Kazakhstan and Siberia, to spread the risk of drought, and in some years the harvest there was good. However, some unsuitable land was ploughed up, causing erosion, and Khrushchev

overruled local specialists who recommended fallowing. Then there was the corn campaign. Yes, more feed was urgently needed, and yes, the area sown to corn was too small. But out went orders to multiply the area under corn, regardless of the availability of the needed equipment, seed, or climate. There was also a campaign to reduce the area under sown grasses, to use peat-compost pots, to use two-stage harvesting methods. The impracticable aim was publicly set to overtake the United States in the production of meat and milk within three years: One effect was to encourage the Ryazan party secretary, Larionov, to break records in meat deliveries, which he did by overslaughtering, seizing private livestock and even acquiring some by devious means from neighboring provinces. When the truth came out he committed suicide in disgrace (the story is told in the book on Khrushchev, published abroad, by the Medvedev brothers). Yet the price paid for livestock products was well below the costs of production in *sovkhozy* and *kolkhozy*.

Khrushchev also carried out large numbers of reorganizations of the rural party apparatus, which earned him much unpopularity. So when, in 1963, the weather was unfavorable and the grain yield fell sharply, there were many "agricultural" reasons for removing Khrushchev. There were, of course, other reasons too, from the Cuban missile fiasco to his increasingly erratic industrial strategy. One feature of the latter was indirectly related to agriculture: his campaign for a rapid creation of a modern chemical industry, including a very ambitious and much overdue expansion of fertilizer production. The trouble was that the planned rate of expansion was unrealistically overambitious, and Brezhnev scaled down the program to more reasonable levels. Supplies in fact grew impressively. Deliveries rose almost fourfold between 1960 and 1970.

THE FIRST BREZHNEV YEARS

The agricultural plenum of the Central Committee held in March 1965 was very critical of the situation in agriculture, as can be seen from the published stenographic report.² Many remedial measures were proposed.

First, the party organization in rural areas, based upon the *raikom*, was restored. Second, there was a substantial increase in procurement prices, both for grain and for livestock products, together with the provision of a 50 percent price bonus for overplan deliveries. Farms were

²Plenum Tsentralnogo Komiteta Kommunisticheskoi Partii Sovetskogo Soyuza. 24-26 Marta 1965 goda. Stenograficheskii Otchet (Moscow: Politizdat, 1965).

assured that the delivery plan would be "firm and unaltered" (a promise that was not kept since Gorbachev found it necessary to repeat it).

Third, steps were to be taken to increase the deplorably low earnings in agriculture. *Sovkhoz* workers were effectively not rewarded for higher productivity, milkmaids and other livestock workers received a mere 40 to 55 rubles a month.³ Many *kolkhoz* members were paid much less even than this, especially in the neglected non-black-earth regions. This was shown by the then secretary of the Pskov *obkom*, Gustov, who contrasted average *sovkhoz* pay of 54 rubles per month with a mere 29 rubles earned by *kolkhozniks* in his area. Since average industrial wages were then 83 rubles, it was not surprising that there was out-migration from the villages. He also spoke of sad neglect of rural amenities.⁴

Fourth, Brezhnev promised measures to deal with supplies of machinery and equipment, to improve quality, to combat prevalent overcharging and price increases, to increase the tractor and combine park, to improve repair facilities, to provide more motor transport, pesticides, and so on.

Fifth, there would be greater emphasis on the non-black-earth areas, with much more spent on drainage and other land improvements, and also on irrigation.

Sixth, the restrictions on private plots, especially affecting private livestock, were criticized and eased.

Brezhnev also supported the idea of full *khozraschyot* for *sovkhozy*, that they should stand on their own financial feet and cover their capital expenditures out of revenue. Those *kolkhozy* who had excessive debt burdens would have them written off. Taxes on *kolkhozy* were to be reduced.

His criticisms of his predecessor's campaigning methods implied that they would not be repeated. True, certain routine "hardy annuals," such as sowing and harvesting, remain the subject of campaigns, but there was an end to what has been described as "harebrained schemes."

It was the price increases decided at this plenum, unaccompanied by any rise in official retail food prices, that saw the beginning of subsidies: In his speech to the plenum Garbuzov estimated the subsidy to be paid to cover the loss on livestock products at 3 billion rubles.⁵

At first the heavens were uncooperative. The very poor harvest of 1963 was followed by a good one, but 1965 was also a poor weather year, as Table 2 shows.

³G. Zolotukhin, *Plenum Tsentralnogo . . .*, p. 57.

⁴*Ibid.*, pp. 143-144.

⁵*Ibid.*, p. 131.

Table 2

GRAIN HARVEST
(Million tons)

Year	Amount
1963	107.5
1964	152.1
1965	121.1

SOURCE: *Narodnoe Khozyaistvo SSSR v 1965g, Statisticheskii Ezhegodnik*, p. 262.

These were the years when net imports of grain first occurred (see Table 3): 1966 saw the introduction of old age pensions for *kolkhozniki*, although at very low rates, and also the long-needed abandonment of the *trudoden* (workday unit). *Kolkhoz* members would in principle have a guaranteed minimum rate of pay for the collective work they undertook, and for the first time it became possible for *kolkhozy* to obtain credits with which to pay their members, who ceased to be residuary legatees. Previously both the so-called "indivisible" or capital fund and current production expenses took priority, with the members dividing whatever money was left. This important change had consequences both for the welfare of the members and for *kolkhoz* finance. It led to a rapid rise in indebtedness and in credits outstanding.

Table 3

EXPORTS AND IMPORTS

1963	6.3	3.1
1964	3.5	7.3
1965	4.3	6.4

SOURCE: *Narodnoe Khozyaistvo . . .*, 1965, pp. 671-672.

NOTE: There were no more *net* imports during the rest of that decade.

Although pay was low, it did show a welcome rise (see Table 4).

Brezhnev's first five years showed promise. The average grain harvest for 1966-70 was 167.6 million tons, well above the average for the previous five years (130.3). Compared with 1965, meat output rose by 23 percent, milk by 15 percent, electricity utilized by nearly 80 percent, fertilizer deliveries by 70 percent, tractor deliveries by almost 30 percent.⁶ The gross value of agricultural production rose by 23 percent. Not as striking an achievement as Khrushchev's first five years, but nothing to be ashamed of. But, just as with Khrushchev, Brezhnev's troubles began to accumulate.

THE DISASTROUS SEVENTIES

The evidence shows that the decade of the seventies was one in which the economic performance of agriculture was exceptionally poor. Indeed it would be difficult to find any decade since the collectivization-induced disasters of the early thirties when so many economic indicators showed up so badly at the same time. And this despite the fact that the weather was not unusually unfavorable; indeed, this decade included the best harvest year in Soviet history. So let us set out the relevant evidence.

There was an upward trend in the output figures, but it decelerated and was in no way proportional to the rising scale of inputs. The record grain harvest in 1978, 237.4 million tons, has been far beyond reach in subsequent years, implying unusually favorable weather. An increase in total output by 14 percent in ten years represents hardly any rise per capita (see Table 5).

Meanwhile, investment rose extremely sharply, especially in the first five years of the decade, after which there was some leveling off (see Table 6).

Table 4

PAY PER MAN-DAY WORKED
(Rubles)

1960	1965	1970
1.40	2.68	3.85

SOURCE: *Narodnoe Khozyaistvo* . . . , 1970, p. 383.

⁶*Narodnoe Khozyaistvo* . . . , 1970.

Table 5
AGRICULTURAL OUTPUT

Year	Gross Agricultural Output (billion rubles)	Grain Harvest (million tons)
1970	108.4	186.8
1971-75 average	113.7	181.6
1976-80 average	123.7	205.0
1980	121.1	189.1

SOURCE: *Narodnoe Khozyaistvo* . . . , 1980, pp. 201-202.

Table 6
INVESTMENTS IN AGRICULTURE IN
THE WHOLE COMPLEX OF WORK^a

Year	Investment (billion rubles)	Investment (percent of total)
1970	19.4	24
1975	30.8	27.2
1980	35.9	27

SOURCE: *Narodnoe Khozyaistvo* . . . , 1980.

^aThe figure includes some investments of a not strictly agricultural character undertaken by farms and various organizations serving agriculture. It does not include investments in *industries* serving agriculture—e.g., fertilizer and farm machinery sectors.

The figures include some so-called unproductive investment by farms, such as building houses and schools. But the bulk of the money went for the acquisition of tractors, trucks, and other farm machinery; construction of livestock premises (cowsheds, etc.); and what was described as *vodokhozyaistvo* (irrigation, drainage, and the like).

Such large investments, accompanied by small rises in output, produced the effect shown in Table 7 on statistics of the value of gross output per 1000 rubles of capital assets in agriculture: Note that the figures are for RSFSR only. There was supposed to be a great effort to

Table 7

GROSS OUTPUT PER 1000
RUBLES OF CAPITAL
ASSETS (RSFSR)

1965	1069
1970	958
1975	563
1980	381

SOURCE: *Planovoye Khozyaistvo*, No. 10, 1981, p. 91.

mechanize labor-intensive processes, but, as will be shown, this proved a particularly negative period so far as labor utilization was concerned. This is not immediately apparent from the official statistics on labor productivity: In the collective and state sectors it is supposed to have gone up by 23 percent.⁷ But the decline in regularly employed working-age labor was very small by international standards or in relation to the scale of the investment effort. See Table 8.

Here and elsewhere, one should bear in mind that part of the workforce on the farms is engaged, for part of any year, in nonagricultural pursuits. Furthermore, the figures do not include work on private

Table 8

THE AVERAGE ANNUAL NUMBERS OF WORKERS ENGAGED
IN STATE AND COLLECTIVE FARMS AND OTHER
AGRICULTURAL ORGANIZATIONS
(Millions)

	1965	1970	1975	1980	1982
Total ^a	28.3	27.0	26.6	26.0	26.0
Mobilized (<i>privlechennye</i>)	0.5	0.6	1.0	1.3	1.4
Total, agriculture ^b	25.8	24.1	23.5	22.9	22.9

SOURCE: *Narodnoe Khozyaistvo* . . . , 1982, p. 287.

^aExcluding mobilized.

^bIncluding mobilized.

⁷*Narodnoe Khozyaistvo* . . . , 1980, p. 277.

plots. It is clear from the above that, from 1970, the decline in the agricultural labor force actually slowed. A reduction by only 5 percent over 12 years is slight indeed, given the still high proportion of the labor force engaged in agriculture.

Table 8 shows a very large increase in the numbers mobilized to help with the harvest. It so happens that I had discussed this with a Soviet official in 1970. He deplored the very large number that had to be mobilized, attributing this partly to inadequate or lopsided mechanization, partly to low work morale, quoting a saying among the peasantry: "We sow, God usually sends rain, and then people will come from town to get the harvest in." So it is really quite remarkable that the situation got much worse in the seventies: The numbers more than doubled and in a decade when massive investments were made that should have been labor-saving. One must not overlook the fact that the figures are in man-years.

The Soviet labor economist E. Manevich must have used similar data to derive his truly remarkable conclusions: On the assumption that each person so mobilized (*privlechennyi*) works on the farm for one month, it follows that the decade of the seventies saw their number increase 2.4 times and reach a total of 15.5 million persons.⁸ According to him, over half of this number are taken from productive nonagricultural employment; the rest are known to include many soldiers, students, schoolchildren (e.g., for cotton picking in Uzbekistan). He drew attention to the high cost of transporting them, and of course their removal from their normal place of work or study imposes a burden on the rest of the society. A burden also on the farms, which have to pay them; they are unlikely to be very productive.

It follows that the very large investments in the 1970s served not to relieve but rather to make more acute the problem of seasonal peak demand for farm labor. For it is hard to see why labor morale (of which more in a moment) should have sharply deteriorated after 1970, although that too must be seen as a possible contributory factor.

Meanwhile, the peasants' pay was rapidly increasing. In itself this was, of course, a necessary and welcome development, because peasants had been underpaid for too long. However, combined with the very high investments and the very slow fall in the size of their work force, it was bound to have an adverse effect on costs. Certainly pay increased much faster than labor productivity, howsoever measured. (See Table 9.) Higher pay was in itself insufficient as a basis for solving the problem of labor incentives as will be seen below.

⁸E. Manevich, "Ratsionalnoe Ispolzovanie Rabochei Sily," *Voprosy Ekonomiki*, No. 9, 1981, p. 60.

Table 9

PAY FOR ONE DAY'S WORK
(Rubles)

	1970	1980
State farms	4.43	6.48
Collective farms	3.90	5.51

SOURCE: *Narodnoe Khozyaistvo* . . . , 1980, pp. 254 and 271.

Meanwhile costs were rising rapidly, and nowhere more so than in the livestock sector, to which a high proportion of the investments were being devoted; the one exception was eggs, where a rapid development of factory farming (broiler-house) did have a positive effect on costs, as Table 10 shows.

This could only have serious financial effects on the farms, on the banking system, and, in the end, on the state budget. Agriculture was

Table 10

AGRICULTURAL COSTS PER TON
(Rubles)

Commodity	State Farms		Collective Farms	
	1970	1980	1970	1980
Grain	53	84	50	76
Sunflower seed	—	—	56	90
Sugarbeet	29	42	22	31
Potatoes	76	139	62	120
Cotton	362	508	404	478
Beef ^a	1277	2344	1166	2177
Pork ^a	1111	1726	1194	2018
Mutton and lamb ^a	736	1357	801	1393
Milk	189	308	177	287
Eggs (per thousand)	64	64	73	87
Wool	3585	6983	3862	7410

SOURCES: *Narodnoe Khozyaistvo* . . . , 1970 and 1980.

^aIncrease in live weight.

becoming a serious burden to the rest of the economy. No figures have been found to express the scale of the explicit subsidy paid to state farms, but it must have increased as costs rose much faster than price increases. As for *kolkhozy*, the combination of rising costs and the guaranteed minimum rewards to their working members in a great many cases led to deficits that were covered by bank credits. Credits also had to be resorted to, to cover the bulk of *kolkhoz* investments (which before had been very largely financed out of revenue, by means of the so-called *indivisible fund*). The effect can be seen in Table 11.

Finally on the list of the burdens imposed by a high cost and inefficient agriculture was the rapid growth of subsidies paid to cover the gap between retail prices (especially of livestock products) and the state's expenditures on procurements, processing, and handling. Gone were the days when the state "exploited" the peasantry through the price system. This subsidy first appeared in 1965. Procurement price increases since then, especially in 1970, plus some upward adjustments in 1975, brought the subsidy bill to 19 billion rubles by 1977.⁹ It has increased substantially since.

So the evidence is really overwhelming. The decade of the seventies was one in which very large sums of money were expended in an effort to modernize, re-equip, and revive agriculture. But the problems clearly resisted the solution of throwing money at them. Matters were further exacerbated in the early 1980s by a run of years with adverse weather conditions. Complaints about shortages multiplied. Statistics show this was not due to a decline in supplies. There was much less difficulty in obtaining meat in 1965 than in 1980, although supplies in

Table 11

CREDITS OUTSTANDING
(End of year billions of rubles)

Credits	State Farms		Collective Farms	
	1970	1980	1970	1980
Short-term	6.20	28.52	2.45	25.70
Long-term	0.47	8.38	10.30	34.04

SOURCE: *Narodnoe Khozyaistvo* . . . , 1980, p. 528.

⁹N. Glushkov, "Ekonomika i Tseny," *Pravda*, 8 February 1977.

1980 were considerably higher. The reason is that incomes had risen much faster, prices were left unchanged, and, given the elasticity of demand for meat, this was bound to create a shortage. A contributory factor was an increase in rural consumption, a consequence of the higher incomes of the peasantry. (I recall seeing peasants in Minsk shops buying large hams. In earlier years they could not have afforded such luxuries!)

A related point can be made about another phenomenon that was showing up in the same period: the very large increases in grain imports. The average reported harvest in 1976-80 was 205 million tons, much higher than had been achieved ten years previously when the Soviet Union was a net grain exporter. Of course, the volume of utilizable grain was lower, owing to the very sizable losses. However, there is no solid ground for assuming that relative losses increased. The main reason for the rising import bill was the increasing requirements for feed grain because of the attempt to expand livestock herds; that attempt was related to the high unsatisfied demand for livestock products, itself partly a function of price policy. Many Soviet sources also point to the fact that demand for feed grain is enhanced by the shortage of other kinds of feed.

BREZHNEV'S FOOD PROGRAM AND ITS CAUSES

Brezhnev's speech to the 26th party congress, in February 1981, did not sound the alarm, although of course there were the usual criticisms of this or that inefficiency. Interestingly, in view of what followed, he vigorously condemned the practice of interference by party and state officials into the affairs of collective and state farms and stated that procurement quotas should be fixed for the five year period and not be arbitrarily varied. All this had been said before, and would have to be said again.

We already noted that 1980 saw a decline in agricultural production. Worse followed in 1981, when poor weather led to the lowest grain harvest since the sixties, 158.1 million tons. This must have contributed to the decision to devise new approaches to the problems of agriculture, and so to the Food Program, which emerged from the May 1982 plenum of the Central Committee.

However, before considering the remedies which this plenum found appropriate, it is necessary to consider the causes of the poor performance which called for remedy. It will also be necessary to distinguish between those problems which were inherited from the past, and those which arose or were exacerbated during the seventies. For this purpose

it seems convenient to return to the headings with which this paper began.

Labor

Many would argue that labor is problem No. 1. It has many aspects or causes. There is the bitter legacy of the past. Peasants may be better paid now, but the older ones remember how they had been treated. Then there is the trend, encountered in many countries, for younger and more skilled persons to migrate to town, a process stimulated in the Soviet case by the still very low standard of living, few amenities, and poor educational opportunities: All this has been well and vividly described by the literary school known as *derevenshchiki* ("villagers"). Peasants were shown to be far too dependent on the will and the whims of the *soukhoz* director or *kolkhoz* chairman. The latter is nominally elected, but in fact he is a party nominee. Through successive amalgamations the farms had become very big, both in area and in the size of the work force. Peasants lost the traditional love for the land, they became alienated, indifferent. Here is one example, a plea to his native village by a leading *derevenshchik*, Fyodor Abramov:

When was it known that able-bodied *muzhiki* go away (to market) at the time of the harvest rush? . . . The old pride in a well-ploughed field, in a well-sown crop, in well-looked-after livestock, is vanishing. Love for the land, for work, even self-respect, is disappearing. Is all this not the cause of absenteeism, lateness, drunkenness?¹⁰

Clearly this state of affairs is closely connected with, and helps to explain, the need to mobilize so many millions to help with the harvest.

Another "diseconomy of scale" arises because of the difficulty of relating and rewarding effort in relation to result. The large Soviet literature on this subject is best illustrated by the example of the tractor driver engaged in ploughing. He was, by then, well paid, but the pay depended on area ploughed, with further bonuses for economy of fuel and avoidance of breakages. There was also a bonus related to the size of the harvest; but this was of minor importance, and in any case the size of the harvest depended on the work of others. So it "paid" the tractor driver to plough as shallowly as possible. The level of the reward is irrelevant here: What matters is that there is no incentive to do the needed work well. How does one separately evaluate sequential tasks, when they are carried out by different persons? As Soviet critics have pointed out, what peasant or farmer can identify the separate

¹⁰F. Abramov, "Chem Zhivem-Kormimsya," *Pravda*, 17 November 1979.

productivity of sowing, ploughing, weeding, harvesting? In a percipient essay, Michael Ellman rightly points out that Marx and Lenin grossly overestimated the potential economies of scale in agriculture. "The efficient large-scale organization of labor requires efficient planning, administration and bookkeeping work which is unnecessary under peasant and smallholder farming." The difficulty of resolving the problem of material incentives "results from the sequential nature of much agricultural work, the fact that it is spatially scattered" and so on.¹¹

Marx, in the *Communist Manifesto*, envisaged labor armies in agriculture. In the early collective farms there were large so-called field brigades, which were supposed to march out to work under red banners. All this was part of the mystique of collective bigness, which contributed to the waves of amalgamations of collective farms. But all along there were also smaller work teams, known as *zveno* (plural: *zvenya*), or "links." In 1949, their use in grain farming was criticized, but they never disappeared; thus a *zveno* would be sent (say) to weed cabbages, mow a hayfield, pick onions. What if the *zveno* could be the basis of effective operational decentralization? Suppose the same small group of people carried out the entire sequence of operations and was rewarded by results? Then there would be a direct interest in the size of the harvest, and there would be no need to send inspectors to ensure that the ploughing was deep enough. The group would exercise mutual supervision, would be responsible for organizing their own work. This kind of *zveno* came to be known as *beznaryadnoye*, "without work assignments." The idea first emerged into the press in Khrushchev's later years. Experiments on such lines were conducted in both state and collective farms in the first Brezhnev years, but on a modest scale.

One state-farm director in Kazakhstan, Khudenko, with the (alas, temporary) support of Kazakh party secretary Kunayev, scored remarkable successes and was featured in the national press. It was taken up also by *Novyi Mir*.¹² The tale is told in Alexander Yanov's book, *The Drama of the Soviet 1960s: A Lost Reform*. Rebrin's article on this experiment pointed to the opposition encountered from local officials, many of whom would find their jobs unnecessary if the need to supervise and control disappeared. Anyhow, the political balance swung against the *beznaryadnoye zveno*. Khudenko himself had undoubtedly bent or disregarded many rules and was arrested, dying in prison. The very large increase in the number of those mobilized to

¹¹See M. Ellman, in *World Development*, 1981, Nos. 9/10.

¹²See P. Rebrin, "Iacheika Khozrascheta. I. Glavnoe Zveno," *Novyi Mir*, No. 4, 1969, pp. 157-166.

help with the harvest does suggest that the commitment and morale of the farm labor force moved downward at this period.

The Khudenko story was brought back to Soviet readers' attention in a vivid article in *Literaturnaya Gazeta* by two eminent Soviet scholars, V. Belkin and V. Perevedentsev, who had written favorably about him in the same journal at the time: "Labor productivity was six times and wages three times higher than in ordinary *soukhozy*." However, "many glorious initiatives were suppressed in the stagnant seventies. . . . For the bureaucrats Khudenko's system was indeed pernicious. It gave the farm complete independence." They specifically blamed Kunayev and other named officials for Khudenko's downfall. They also expressed the view that "if the Khudenko model had been adopted in good time by our agriculture, the Soviet Union might no longer be an importer of agricultural produce, but on the contrary an exporter."¹³ This illustrates the very great importance that many Soviet scholars attach to the problem of labor incentives. Their motive in publishing the article, they explain, was that "the story of Khudenko has lost none of its topicality, since in some places the collective contract is being introduced in the pathetic, truncated and sometimes even caricatural way." This point should be borne in mind when the difficulties of introducing the collective contract are discussed below.

This solution to the problem of labor incentives re-surfaced toward the end of the seventies. On 25 December 1979, *Pravda* published an article in which the author urged the Ministry of Agriculture to express its view on this matter.¹⁴ One finds a positive view of this approach in the resolutions of the May 1982 plenum of the Central Committee. But it was not until Gorbachev's speech at Belgorod in March 1983 that the Party finally gave its blessing to the principle of autonomous contract groups (*brigade or zveno*). There must have been considerable conservative resistance.

Industrial Inputs

Numerous sources attest to the dissatisfaction felt at the arrival of poor quality machinery, the difficulty of obtaining the machines that are needed or ordered, the notorious lack of spare parts. At the July 1970 plenum of the Central Committee Brezhnev echoed these criticisms. Planning of farm machinery was complicated by the fact that machines were made by enterprises within many ministries, "including

¹³V. Belkin and V. Perevedentsev, "Drama Akchi," *Literaturnaya Gazeta*, 1 April 1987.

¹⁴I. and A. Chistiakov, "Dolg Pered Polem," *Pravda*, 25 December 1979.

the defense industry."¹⁵ The five year plan envisaged large increases in numbers and quality of farm machinery. However, agriculture here becomes the victim of a chronic weakness of industrial planning: The influence of the customer on what is produced is totally inadequate, and the organization responsible for passing agriculture's orders on the industry—*Selkhoztekhnika*—could not carry out its task. Indeed, as we shall see, it too became much more concerned with fulfilling its own plan than with serving the farms.

A particularly vivid account of the situation in the middle seventies was presented by V. Dobrynin.¹⁶ He deplored the fact that, owing to past neglect, the capital assets available to agriculture were only half of those used in industry, and electricity use only one-tenth. Industries providing means of production for agriculture are the responsibility of numerous ministries and these are not effectively "coordinated with the needs and requirements" of agriculture. Such branches as tractor, truck, and farm machinery industries; mineral fertilizer; feed concentrates; and building materials for the farms are insufficiently developed. He noted that in America a far higher proportion of those engaged in the agro-industrial complex is engaged in the sectors serving agriculture and providing it with inputs. To achieve complex mechanization of agricultural work, industry should be supplying about 2350 kinds of machines and equipment, but in fact less than 1000 were produced. Purchase requests from state and collective farms were met in about 50 to 80 percent of cases. Supplies of fertilizer had risen much faster than the supply of machines for spreading them, and also of storage space. The result was that much was lost or wasted.

Agronomic measures require a "complex" approach, otherwise the lack of complementary measures reduces the effectiveness of inputs. There were still too few tractors in relation to need. There were serious gaps in mechanization, especially in the livestock sector. Because of failure to mechanize successive tasks, the mechanization of one process saves no labor, might even cause additional bottlenecks. Far too high a proportion of the labor force was engaged in unskilled hand labor. "Particularly acute is the question of mechanizing auxiliary tasks": loading, unloading, transport, storage, and many other tasks are done by hand. This, according to Dobrynin, was also contributing to out-migration: The now better-educated youth were unwilling to stay in the village and undertake totally unskilled work. Another economist, Fedorova, made the point that nearly all "mechanizers" are

¹⁵L. I. Brezhnev, *Sochineniia*, Vol. 3, p. 74.

¹⁶V. Dobrynin, "Kompleksnost Intensifikatsii Selskokhozyaistvennogo Proizvodstva," *Voprosy Ekonomiki*, No. 11, 1974, pp. 37-46.

men, that "the proportion of women engaged in hand labor reaches 90 to 98 percent," and that in consequence younger women were particularly prone to leave the village.¹⁷

Dobrynin gave several examples of the high cost of the failure to take complementary needs into account. Thus the acquisition of an additional tractor will not be effective unless one also obtains the various attachments it can use, a shed or garage to keep it in, repair facilities, trained personnel, somewhere for the personnel to live, and so on, which often costs ten times more than the actual tractor. Failure to provide these things reduces effectiveness.

Similar criticisms of the supply and use of industrial inputs, farm machinery especially, were repeated in 1986.

Infrastructure

Here the story can be briefly told. Despite widespread public recognition of the importance of the whole question, progress was painfully slow. The same criticisms of rural "roadlessness" (*bezdorozhie*), and the high cost this imposes both on farms and on the urban consumer, recur at intervals throughout the period. Ambitious plans to build much-needed grain elevators and other storage space—e.g., elevators with a capacity of 30 million tons of grain, which figured in the tenth (1976–1980) five year plan—were substantially underfulfilled. *Pravda* reported that money earmarked for such purposes was all too often diverted to other uses, "yet, just in the central areas of Russia, for lack of shelter, about 18 million tons of wheat remain in the open, unprotected from rain and snow." It is assumed that the resultant losses are a mere 1 percent of the crop, but "this is so only theoretically."¹⁸ This case clearly does not illustrate the unity of theory and practice.

A long series of articles in *Pravda*, appearing in January and February 1980, inquired into the reasons for the shortage of vegetables and fruit in Soviet towns. Several were advanced, including the reluctance of state retail trade to handle perishables (one reason for that being lack of *their* infrastructure: nowhere to store it). But an important factor was, once again, roadlessness, lack of specialized means of transport and of packaging materials, of refrigeration facilities, means of processing and canning perishables on the spot, and so on. Another contributory factor was the trend to concentrate the state's collection points and processing centers, such as slaughterhouses, in centers far

¹⁷M. Fedorova, "Ispolzovanie Zhenskogo Truda v Selskom Khozyaistve," *Voprosy Ekonomiki*, No. 12, 1975, p. 57.

¹⁸G. Ivanov and B. Mironov, "Chuzhoi Khleb," *Pravda*, 16 May 1981.

removed from the farms, imposing additional costs and losses in transit.¹⁹

Among the explanations frequently referred to is the weakness of the construction organizations in rural areas, their unwillingness to take on work in villages. Sometimes there is no alternative to the farms trying to build for themselves, and indeed many have building brigades for this purpose; however, building materials are often in short supply. Some construction jobs are undertaken by so-called *shabashniki*, unofficial work gangs, but there are no figures published to indicate the scale of their activities.

Land Improvement (*Melioratsiya*)

Brezhnev's agricultural policies placed particular emphasis on the non-black-earth zones, which had been relatively neglected during Khrushchev's rule. These were areas of fairly reliable rainfall but inadequate natural fertility. Apart from the needs for larger quantities of mineral and organic fertilizer and liming, some land had become overgrown with alder and similar bushes, or had become marshy. There was also a need to improve and extend irrigation in the more arid southern areas.

The need for such a program was beyond question. The trouble was that wrong organizational structure was chosen to implement it. Instead of providing the farms with more resources for carrying out these tasks, *melioratsiya* enterprises were set up under a separate ministry, the so-called *Minvodkhoz* (the ministry of water resources). Whereas the farms do have a direct interest in securing a high rate of return and minimizing costs, these separate enterprises were primarily concerned with fulfilling plans in value terms, which interested them in maximizing expenditure, while their activities were in no way controlled by the farms they were supposed to be serving. This was but one example of a serious "disease." It is odd, in retrospect, that such an outcome was not foreseen. One has but to remember the behavior-pattern of the former Machine Tractor Stations, whose plans were expressed in standard ploughing units and who tended to choose whatever best "paid" in terms of these units rather than what the *kolkhoz* most urgently wanted done.

Perhaps because this was a program dear to Brezhnev's heart, critical material appeared late in the day, after huge sums had been wasted. Thus: "The 'meliorators' are not concerned with the soil or with the

¹⁹This is still the case, as can be seen from the title of an article, "Sheep Marathon," in *Selskaya Zhizn*, 7 January 1987.

peasants' needs. They head for the marshes. Why? Because they seek a large volume of work which costs more." Low cost work, which promises high returns, does not attract them. There was a time when the farms acted as *zakazchiki*—placed orders for the work and so decided what needed to be done. Not any more.²⁰ And again:

For the meliorators the chief criterion was the gross value of work done, which oriented them toward capital intensive activities, draining unused lands, the use of expensive materials, the choice of the worst land, which is most costly to improve. Frequently they ignored the interests of *kolkhozy* and *sovkhozy* and the very purpose of melioration. . . . The gross output objective (*val*) led to a sharp rise in costs, the avoidance of cheap but effective activities.²¹

With an economic structure in such a shape, it is not to be wondered at that very large sums were squandered to little purpose.

Investments in agriculture were thus all too frequently misplaced, one-sided, "non-complex" (*nekompleksnye*), lacking in the necessary complementarity. Thus poor quality machines, poorly maintained, lacking in needed spare parts and the equally vital human skills and motivation provided a very low rate of return. Similarly, there was little point in investing large sums in modern and mechanized livestock complexes if there was an insufficiency of feed, an unreliable supply of electricity (cuts were, and indeed are, all too frequent in some areas), and no hard-surface approach road. There were frequent complaints about the difficulty of obtaining the material counterpart of simple and necessary investments that would give a speedy return, such as a corrugated iron roof to shelter machines or harvested crops from rain or snow. *Pravda* printed an article entitled "The Grass that Is Not Cut."²² The point of the article was that the farm machinery industry has no interest in producing or providing cheap, simple, and much-needed mowers, precisely because they were simple and cheap and so count for little in plan fulfillment statistics.

Planning and Coordination

Gradually during the decade of the seventies there was a proliferation of service agencies, together with a transfer to such agencies of inputs and functions previously under state and collective farms. This appears to have been a gradual process, perhaps explicable by some

²⁰A. Artsibashev, "Gektar Nechernozemia," *Pravda*, 9 July 1984.

²¹S. Bobylev, "Effektivnost' Kapitalnykh Vlozhenii v Melioratsiiu Zemel," *Voprosy Ekonomiki*, No. 9, 1985, p. 94.

²²*Pravda*, 4 May 1981.

sort of bureaucratic logic. The consequences were described by I. Suslov in *Voprosy Ekonomiki*.²³ He argued that the effectiveness and role of economic levers sharply diminished in the seventies. The process of mechanization and "chemicalization" meant that the role of inputs (goods and services) provided from outside the farms substantially increased. These came "to predetermine the final results of the work of the farms . . . and the level of costs." But, and this is the essential point, the use and combination of these means of production "ceased to be under the control of the agricultural enterprises." They have "become dependent on their partners in all technical-productive and financial-economic respects." Yet the economic interests of these so-called partners "has little connection with the functioning of the agricultural enterprises." These narrow interests took priority; they did their own thing, and as a result the performance of the farms came to depend less and less on their own efforts. Costs rose, the financial situation of the farms rapidly worsened, the volume of outstanding credits rose very sharply. Hence, wrote Suslov, "the weakening of economic levers and stimuli," and correspondingly a greater reliance on "administrative methods of control," and the expansion in the number of control agencies, during the seventies. In other words, they succeeded in subverting the responsibility of state and collective farm management, while creating a number of so-called service agencies ("partners") that worked at cross purposes.

Why did this occur? Supposedly it was to ensure efficient use of technically advanced inputs. But was no lesson drawn from the experience of the Machine Tractor Stations? Why was it thought desirable to withdraw the effective control of many operations from farm management, to deprive them in many instances of such important inputs as chemicals, trucks, and spare parts? It is instructive in this connection to look again at the experience with *melioratsiya* and to observe the gradual growth of the powers of and functions of *Selkhoztekhnika*. Originally created to act as a supply agency for industrial inputs and for carrying out major repairs deemed to be beyond the powers of state and collective workshops, by the mid-seventies it became a major provider of means of transport.²⁴ The complaints about its habits of overcharging the farms for poorly executed repairs, refusing to supply spare parts to the farms' workshops, and so on were numerous. Indeed it was even accused of foisting unwanted machinery

²³I. Suslov in *Voprosy Ekonomiki*, No. 12, 1982.

²⁴N. Borchenko, "Programma Kompleksnogo Razvitiia Selskogo Khozyaistva Nechernozemnoi Zony," *Planovoye Khozyaistvo*, No. 7, 1974, p. 86.

on farms in its endeavors to fulfill its turnover and sales plan in rubles.²⁵

It is difficult to think of an explanation that does not involve the bureaucratic interest in a proliferation of "service" organizations, plus their visceral distrust of peasants and of farm management. As for the irrational effect of plan targets for intermediate goods and services, this applied and to a considerable extent still applies throughout the Soviet economy. One of the main objectives of economic reform is precisely to eliminate the chase after intermediate goals, which unintentionally stimulate waste. After all, geological prospectors have plans expressed in meters dug.

"Lack of trust" is a recurrent theme in letters and articles written by farm managers, who have been complaining throughout this period, and are complaining still, of being told when to sow, when to start harvesting, how many hectares to devote to what crop, and so on. One could fill pages with quotations on the lines of: "The agronomist on the farm cannot decide what crops to grow. Exact sown areas are imposed upon him from above."²⁶ This despite resolutions on the subject of respecting the rights and autonomy of farms management.

It must be pointed out that the situation remains the same, despite speeches by Gorbachev, as may be seen in *Pravda's* leading article on 22 January 1987 and a vigorous article by M. Vagin, a *kolkhoz* chairman, in *Pravda*, 26 January 1987.²⁷ So the roots of the habit of interference must run deep. Maybe in their origins they related to the circumstances of forcible collectivization and the payment of very low prices for compulsory deliveries to the state, a situation that made it profitable for everyone in the villages to avoid these planned but highly loss-making obligations. But those days are over. So why do the habits persist?

One reason must be that the center holds the local party leadership responsible and expects regular reports on sowing, harvesting, procurements, livestock numbers, and so on. So how can they stand aside and let matters take their course? On the one hand there are resolutions about farm autonomy, and on the other *Pravda* writes approvingly about how "party and state organs must take all necessary measures for ensuring the smooth organization of every stage of the harvest process."²⁸ Indeed Gorbachev himself, when he was first secretary in Stav-

²⁵See the article by V. Shamranov in *Pravda*, 5 February 1984.

²⁶Stepanov in *Pravda*, 30 March 1981.

²⁷"Predsedatelskii Korpus," *Pravda*, 22 January 1987; and M. Vagin, "Ne Meshat, a Pomogat!" *Pravda*, 26 January 1987.

²⁸Pazhitnev, in *Pravda*, 17 July 1975.

ropol, gained nationwide publicity for his advocacy of the so-called *Ipatyevsky Metod*, in which the *raikom* (district party committee) played a key role in mobilizing the machinery and manpower of all the farms of the district to get the harvest done.²⁹ Perhaps this role may be undertaken by the RAPO, of which much more below, but all this is surely totally inconsistent with the operational autonomy of farm management. And without such an autonomy, how can they and their agronomists feel responsible, or instill a sense of responsibility into their subordinates?

Many economists became conscious of the fact that something was amiss with the management and coordination structure of what was now a more highly mechanized agriculture. There was increasing talk of an "agro-industrial complex," of the need to bring closer together the separate elements of the planning and management of this complex. A typical such article is one by I. Buzdalov. Indeed, the same author told of the creation (on a relatively small scale) of agro-industrial associations already in 1974.³⁰ This idea was to be adopted officially in 1982.

The rise in costs and subsidies has already been explained. One cannot quantify the specific contributions of poor-quality labor and material inputs, wasteful forms of investment, higher wages and prices, the cost-increasing behavior of the farms' so-called "partners." The leadership must have contemplated the rapid rise in costs of production with dismay, but they took no steps that could remedy the situation. In the end there was yet another rise in procurement prices, while a large part of past debts were written off.

The livestock sector showed by far the biggest losses, reflecting rapidly escalating costs (see Table 10). It may seem paradoxical that costs rose particularly rapidly because this sector was benefiting from a much larger share of capital investments and was supposed to be modernized. As noted in Table 10, this was successful in the case of egg production. However, ample evidence shows that the investment plans that were imposed on the farms took insufficient account of local circumstances and of the availability of complementary factors, such as adequate supplies of feed or of electric current. (The frequency of power cuts in rural areas was much written about.) Shortage of feed was endemic, despite substantial imports.

²⁹See *Ekonomicheskaya Gazeta*, No. 9, 1978, pp. 1-5.

³⁰I. Buzdalov, "Problemy Razvitiia Agrarno-Promyshlennoi Integratsii," *Voprosy Ekonomiki*, No. 12, 1974, pp. 65-76.

Marketing

Most of the problems have been mentioned already: means of transport, lack of hard-surface roads, storage space, packaging materials. There was also the negative effect of concentrating procurement points and purchasing agencies (e.g. the consumer cooperatives, which bought produce from private plots) in regional centers, which led to unnecessary losses in transit or, in the case of cooperatives, to a failure to cover areas remote from these centers.³¹ Many complaints were published to the effect that farms were unable to dispose of fruit and vegetables that they had grown. The moral was drawn that there should be closer links between the farms and the procurement and distribution network, all to be seen as an integral part of the agro-industrial complex.

Private Plots

As was noted earlier, in 1965 Brezhnev criticized his predecessor for a negative attitude to these plots (just as Khrushchev, in 1953, had criticized *his* predecessor). There was little change. The value of gross output of the private plots fell from 111 in 1970 to 107 in 1980, and then rose to 114 in 1982 (1965 = 100).³² Private ownership of livestock showed an unmistakable downward trend. (See Table 12.)

There are several explanations of this state of affairs. One is the shortage of feed. Another is the frequently unhelpful attitudes of farm management. Still another is the shortage of the simplest tools. But also important is the preference of a number of families not to bother

Table 12

PRIVATE LIVESTOCK (Million head, 1 January)

	1971	1981	1983
Cows	15.5	13.2	13.5
Pigs	16.6	14.0	15.8

SOURCE: *Narodnoe Khozyaistvo* . . . , 1971, 1981, and 1983.

³¹A. Smirnov, "Zadachi Potrebitelskoi Kooperatsii v Vypolnenii Prodovolstvennoi Programmy Strany," *Planovoye Khozyaistvo*, No. 10, 1982, p. 36.

³²Source: *Narodnoe Khozyaistvo* . . . for the appropriate years.

with looking after livestock, since they were now able to earn an adequate wage for work in the social sector and preferred leisure. Several Soviet analysts see in the greater reliance of the rural population on the retail stores one of the causes of the growing shortage of meat and milk. The gap between official and free market prices of foodstuffs continued to grow. (See Table 13.)

The fact that this growing differential elicited so little supply response shows that there was either an inability or an unwillingness to respond (one contributory factor could have been growing shortages of the kinds of goods that the peasant sellers might wish to buy, which can reduce the desire to sell, especially when this involves a burdensome journey to the urban market).

So all these factors should have been, doubtless were, on the agenda of those responsible for Soviet agriculture in the last Brezhnev years. What emerged was the Food Program presented to and adopted by the plenum of the Central Committee in May 1982. The program envisaged a substantial increase in production.

I have added the 1986 figures to Table 14 as a guideline to the degree of realism of the program. It has actually been surpassed in the case of eggs, because of the success of industrializing egg production. The milk target seems within reach. This cannot be said for grain, even though the harvest claimed for 1986 was the highest since 1978. Other crops have done rather poorly.

The program envisaged a substantial increase in supply of feed of all kinds, including much-needed protein-vitamin additives, fish-meal, etc. The area of irrigated land was set to reach 20.8 million hectares by 1985, 24 million hectares by 1990. Also planned was a large rise in the area of drained land. Fertilizer deliveries to agriculture were to reach

Table 13

OFFICIAL AND FREE MARKET PRICES

	1970	1975	1982
Free market price			
(Official price 100)	154	176	220

SOURCE: D. Korovyakovsky, "Kol-khoznyi Rynok i Snabzhenie Naseleniia Prodovolstviem," *Voprosy Ekonomiki*, No. 9, 1986, p. 83.

Table 14
THE FOOD PROGRAM TARGETS

	1976-80 avg. (actual)	(1980) (actual)	1981-85 avg. (plan) ^a	1986-90 avg. (plan)	1986 (actual)
Grain (million tons)	205.00	189.00	240.50	252.50	210.00
Meat (million tons)	14.80	15.10	17.25	20.25	17.70
Milk (million tons)	92.60	90.70	98.00	105.00	101.10
Eggs (billions)	62.00	—	72.00	78.50	80.30
Sugarbeet (million tons)	88.40	79.60	—	102.50	79.30
Sunflower seed (million tons)	5.30	4.65	6.70	7.35	5.30

SOURCES: P. Paskar, "Prodovolstvennaia Programma-Vsenarodnoe Delo," *Planovoye Khozyaistvo*, No. 7, 1982, pp. 3-15; *Narodnoe Khozyaistvo* . . . , 1980 and 1982; and "Piatiletke-Kachestvo i Tempy," in *Ekonomicheskaya Gazeta*, No. 5, 1987, pp. 10-14.

^a"Plan" figures are midpoints of ranges. The wording suggests that the targets relate to the end-years of the quinquennia concerned.

26.5 million tons in 1985, 30-32 million tons by 1990. (Actual deliveries in 1985 were 25.39 million tons.)

Ambitious investment plans were announced, with the agro-industrial complex to get 33-35 percent of all investment (within this total, 27-28 percent would be for "agriculture"). This meant that, broadly speaking, agriculture would retain its already very high share. There would be substantial investments in the food industry, in storage space (for example, hay barns to a capacity of 65 million tons would be built in ten years). There would be increased deliveries of trucks, tractors, and other needed farm machinery. Much effort would be devoted to rural housing and other amenities. In ten years there were to be built 130,000 km of general-purpose roads, plus 150,000 km of intra-farm roads, a huge program to deal with a major "lack." More small processing plants were to be erected in the vicinity of farms.

Procurement prices were substantially increased, with price supplements to help weak and loss-making farms. A considerable proportion of credits would be written off, some repayments postponed.

There was a rather imprecise declaration in favor of "brigade and collective contract," and also in favor of returning to the practice of making part-payments in kind. This reflects the difficulty many peasants have in spending their money; for example, feed for private livestock is hard to find, so payment in feed for work is an effective incentive.

Finally, it was appreciated that the desired "sharp change toward intensive methods" required a major alteration in methods of planning

and management. It was recognized that the many organizations and enterprises operating within the agro-industrial complex were not coherently interlinked and were too often uncoordinated and at cross purposes. In and after 1979, experiments were conducted in Georgia, Estonia, and Latvia in which the whole complex was administered as an integrated whole. In May 1982, that idea was to be applied throughout the Union. "For the first time the agro-industrial complex becomes a separate object of planning." A new hierarchical structure emerged. At the top was the "Commission of the Presidium of the Council of Ministers of the USSR for the Agro-Industrial Complex," under a deputy premier. All the ministries and departments concerned with the complex became members of this commission. Similar bodies were set up in republics and provinces. At local (*raion*) level this bore the designation RAPO and was formed of the managers of all the collective and state farms and all organizations and enterprises in that district concerned with serving agriculture and processing and handling farm produce; the head of the *raion* agricultural administration was to be the chairman of the RAPO council so constituted. The rewards of management of service organizations—e.g., *Selkhoztekhnika* and *Selkhozkhimiya*—were to depend on increases in the harvests of the farms they served.

The May 1982 plenum made several decisions designed to correct the negative tendencies that had been showing themselves and that we have been analyzing in the preceding pages. It was apparently believed that the policy of making very large investments would eventually effect a cure, and it was intended to invest heavily in infrastructure, with due emphasis on roads, means of transport, packaging materials, storage, farm machinery of the required assortment, housing, and so on. The problem of coordination was supposed to be solved through the creation of a new bureaucratic structure, which was to pull everything together. In this it failed, and it had to be reorganized three years later. Of course the point was made that the large investments had to be more effectively utilized, but that also proved to have little effect. Complaints about the quality and assortment of machinery continued unabated, and poor maintenance and rough usage greatly shortened the lives of existing equipment. According to N. Borchenko³³ in the previous five year plan 1,820,000 tractors and 539,000 grain combines were delivered to agriculture, but the park of tractors and combines increased during that period by only 162,000 and 42,000 respectively, because the write-off was so large.

³³N. Borchenko, "Selskoe Khozyaistvo-Iskhodnaia Baza Resheniia Prodovolstvennoi Problemy," *Planovoye Khozyaistvo*, No. 8, 1982, p. 36.

II. THE FIRST YEARS OF THE FOOD PROGRAM

ENTER GORBACHEV

Gorbachev had been first secretary in the largely agricultural and highly fertile Stavropol *krai* during much of the seventies. He was then moved to Moscow, as the agricultural member of the party secretariat. It is hard to assess his role in policymaking and in the drafting of the Food Program. Brezhnev made the keynote speeches, and of course it was unthinkable for anyone to seem to upstage him or to express any open disagreement. The JPRS produced a collection containing every speech and article by Gorbachev that could be discovered, from 1960 to 1985.¹ Although a great many of the speeches and articles he presented before 1983 (and they cover 391 pages) do relate to agriculture, it is not possible to deduce from them a coherent alternative policy, only a sense of energy and eloquence. The one exception, already mentioned above, was the advocacy of the so-called *Ipatyevsky Metod* of centralizing harvesting operations in a *raion*. There is a brief reference to the "unregulated link" as being suitable for "young mechanizers,"² and in 1982 he did write of the "high effectiveness" of the collective contract.³ And of course it was he, in Belgorod in March 1983, who finally gave a blessing to these contracts on behalf of the Politburo. Gorbachev no doubt learned many lessons from his experience at Stavropol, but it is hard to find evidence that he actually devised new policies there. (V. P. Gagnon, Jr., in the course of an interesting study of the collective contract brigade, does his best but had to have recourse to such phrases as "given the pragmatic and realistic nature of his current economic plans, . . . it seems likely that he realised," and so on. He has to recognize "the absence of any direct references to contract brigades" by Gorbachev in those years.)⁴

Meanwhile, it is all too easy to show that the first years of the Food Program brought little improvement in performance, and the organizational structure of the agro-industrial complex was not working satisfactorily. Let us first look at the statistics. In doing so, it is important to bear in mind the long run of relatively unfavorable weather conditions. Nonetheless, results were modest. (See Table 15.)

¹M. S. Gorbachev: *Articles and Speeches*: Foreign Broadcast Information Service, 20 May 1985.

²See *Pravda*, 11 January 1977.

³See Gorbachev's piece in *Kommunist*, No. 10, 1982, pp. 6-21.

⁴V. P. Gagnon, Jr., "Gorbachev and the Collective Contract Brigade," *Soviet Studies*, Vol. xxxix, No. 1, 1987, pp. 1-23.

Table 15

AGRICULTURAL OUTPUT, 1976-1985

Commodity	1976-80 Average	1981-85 Average
Gross agricultural product	123.90 ^a	130.70 ^a
Grain (million tons)	205.00	180.30
Cotton	8.93	8.75
Sugarbeet	88.70	76.30
Sunflower seed	5.31	4.97
Potatoes	82.60	78.40
Meat	14.80	13.10
Milk	92.70	94.60

SOURCE: *Narodnoe Khozyaistvo* . . . , 1985.^aBillion rubles, 1973 prices.

This was a period when grain imports reached an all time high, 45.9 million tons in 1981, and as much as 51.4 million tons in 1984, according to USDA figures, helping to explain how livestock products did better than crops. These were also years of statistical concealment: For several years grain output data ceased to be published.

The substantial rise in agricultural prices is reflected in the fact that the 1985 figure for gross agricultural production in 1973 prices was 135.2 billion rubles; in 1983 prices, this becomes 208.0. See Table 16.

Livestock numbers changed little, though milk yields per cow improved, from 2149 kg in 1980 to 2330 in 1985 (it had been 2204 in 1975). There was no upward trend in the private livestock sector; indeed private milk production declined quite sharply, from 27.1 million tons in 1980 to 22.7 million tons in 1985. One suspects that the problem was basically one of feed supply. But it is also possible that some milk from private cows was sold to the state by *kolkhozy* or

Table 16

PRODUCTIVE INVESTMENTS
IN AGRICULTURE
(Billion rubles)

1980	29.8
1982	31.0
1985	31.5

SOURCE: *Narodnoe Khozyaistvo* . . . , 1985.

sovkhozy as their own (the owners of the cows could have shared with their farms the extra revenue due from over-quota deliveries).

Agricultural investments rose more slowly, with a larger proportion directed to so-called unproductive purposes (housing, schools, roads). Agricultural productive investment rose as follows. There was a substantial rise in deliveries of mineral fertilizer, from 18.76 million tons (nutrient content) in 1980 to 25.39 million tons in 1985. There was some improvement in numbers of tractors and some other farm equipment delivered to agriculture, but some, for example grain combines, went down. In view of the emphasis under Brezhnev on "melioration" one is surprised to find a downward trend in the volume of such work (see Table 17). However, Gorbachev did stress, rightly, the need to concentrate on better use of already improved land.⁵

Costs of production continued on their upward path (see Table 18). The causes are fairly clear. Payments to the labor force continued to rise. Thus, from 1980 to 1985 pay per day in *kolkhozy* rose from 5.52 to 6.85 rubles. Economy of labor was, however, minimal; the total fell from 26.0 to 25.9 million in these five years, with the numbers mobilized (*privlechennye*) remaining high—1.4 million on a man-year basis. At the same time the value of capital assets in agriculture (*osnovnye fondy*) increased by 34 percent during these five years. The nominal increase in labor productivity of those engaged directly in agriculture must have been more than offset by the labor embodied in the additional industrial inputs.

One is struck by the tendency for costs to be higher in state farms. The most likely explanation is their somewhat greater capitalization and higher rewards for labor, clearly not offset by any sort of superior efficiency in the use of either.

Table 17

LAND IMPROVEMENTS
(Millions of hectares, five year totals)

Type of Land	1971-75	1976-80	1981-85
Irrigated	4.6	3.8	3.3
Drained	4.4	3.6	3.5

SOURCE: *Narodnoe Khozaystvo* . . . , 1985.

⁵See *Pravda*, 11 September 1985.

Table 18
AGRICULTURAL COSTS OF PRODUCTION, 1980-1985
(Rubles per ton)

Commodity	State Farms		Collective Farms	
	1980	1985	1980	1985
Grain	84	113	76	94
Cotton	508	655	478	577
Sugarbeet	42	47	31	36
Sunflower seed	—	128	90	105
Potatoes	139	177	120	177
Beef	2344	2922	2177	2527
Pork	1726	1975	2018	2313
Mutton and lamb	1357	1896	1393	1891
Milk	308	380	287	340
Eggs (per thousand)	64	63	87	92
Wool	6983	9836	7410	9584

SOURCE: *Narodnoe Khozyaistvo* . . . , 1980 and 1985.

The additional cost of the Food Program was well set out by a leading Soviet specialist on the finance of agriculture, V. Semyonov.⁶ All the figures in Table 19, including the percentages, are taken from Semyonov's book. One could hardly express more vividly the burden of agriculture borne by public finance. It is noteworthy that three of the items listed in this table show a fall. This is because, as a result of the sharp rise in procurement prices (and so of farm incomes), it was possible to reduce the budget's share in meeting investment costs, and also to increase prices of some subsidized material inputs. If one includes the *nadbavki*, the price difference, or deficiency payments, of farm produce reached 54.6 billion rubles in 1983, which is a higher figure than that given in other sources. It is, of course, higher still today. No wonder there is strong pressure to increase retail prices of food.

Gorbachev must have become deeply concerned about the unsatisfactory performance of agriculture, because in those years (at least until 1984), this was his primary area of responsibility within the Politburo. He may have been pressing radical proposals on his more conservative colleagues, but that cannot be discerned from the published record. He may have been an earlier advocate of the contract brigade and the autonomous *zveno*. What we do know was that it was he, in

⁶See his *Prodoovol'stvennaia Programma i Finansy* (Moscow: 1985), p. 113.

Table 19

BUDGETARY EXPENDITURES ON THE FOOD PROGRAM
(Billions of rubles)

Expenditure	1982	1983
Investments and other expenditures for expanding production	14.4	12.4
Operational expenditures	3.5	3.7
Repayment of price difference in material inputs	8.2	4.2
Reinforcement (<i>podkrepleniye</i>) of long-term credit	3.3	2.5
Compensation for price difference in purchase of agricultural produce	29.9	45.2
Additions (<i>nadbavki</i>) to procurement prices	—	9.4
Other expenditures	17.9	20.9
Total	77.2	98.3
Total as percentage of budget expenditures	22.5	27.7
Total as percentage of amount paid for agricultural produce	84.0	85.3

SOURCE: See V. Semyonov, *Prodovol'stvennaia Programma, i Finansy* (Moscow: 1985), p. 113.

his speech at a conference in Belgorod in March 1983, who not only announced that the party was (at last!) unequivocally in favor, but also presented a rather radical version of this form of labor organization. Since labor supply and incentives are widely regarded as the key problem, it seems appropriate to begin our analysis of remedies at this point.

Before doing so, it is necessary to stress the close interconnection between the various factors influencing productivity and efficiency. As many Soviet analysts have pointed out, remedies must be "complex," complementary. There must be the correct "mix" of machinery, of adequate quality. But it will not serve if there are no shelters to keep them in, workers of requisite skill to maintain them, workshops and tools for such workers. Fertilizer will be wasted without storage space to keep it in, machinery to spread it. If labor is not motivated, even the most rational investments may yield a poor return. Effective modernization and mechanization is impossible without a hard-surface road network. Young and skilled people will not remain in the villages without large-scale improvements in the quality of life, what is referred

to as the closing of the still substantial gap in standards between town and country. The much-needed initiative and sense of responsibility demands the end of the system of stifling bureaucratic controls. Ever since 1953, there has been a plethora of speeches, decrees, resolutions. Enormous sums have been spent in endeavors to stimulate production and efficiency, too many of which came to nothing. Gorbachev and his colleagues know all this well. Let us now turn to an analysis of the measures that have been taken to make a reality of the Food Program, the bulk of which has been incorporated in the 12th five year plan and into projections through the year 2000.

REMEDIES AND PROSPECTS FOR CHANGE

Labor

How can labor be motivated to work conscientiously? A visiting Soviet economist expressed the view that this is problem No. 1, on which all else depends. Gorbachev has repeatedly stated that without a radical *perestroika* of human attitudes in field and factory, his entire reform program cannot succeed. The problem is further complicated in some areas by the effect of out-migration, so that in some villages there is (almost) no one left to motivate.

As we have seen, the solution adopted after many years of hesitation and experiment is the contract brigade or the *beznaryadnoye zveno*, the small autonomous work group without imposed assignments (*naryady*) in a contractual relationship with state and collective farms. As presented by Gorbachev, it certainly seemed to be highly promising. True, Yanov, in his already-cited analysis of earlier experiments (which ended with the downfall of Khudenko), claimed that such a method could not work within state and collective farms; he seemed to be arguing that the breakup of such farms was a *sine qua non*. However, there is a plain contradiction in his own argument: It is he who claims that Khudenko was brilliantly successful in introducing this method, and Khudenko was the director of a state farm (though an unusual one).

In his Belgorod speech, Gorbachev envisaged genuinely autonomous work teams that could decide for themselves how to work and how to divide up the reward they receive for carrying out the contract they signed with farm management. He advocated the development of what he called a "proprietary" attitude. The groups should choose their own leader. The contract should have a sound legal basis and be punctiliously observed. Payment must be linked with end results. It is wrong to continue to relate payments to specific operations, such as

sowing, ploughing, harvesting. He spoke of the need for "voluntariness in forming permanent labor collectives (teams, *zvenya*, etc.) and the granting of full autonomy to them in performing production tasks; the allocation to them, as a rule for a long period, of a crop rotation or a range of crops, agricultural equipment, livestock." There should be "economically validated financial targets," with norms of expenditure of inputs. Payments should be clearly specified in the contract, related to output, quality, and cost, and "the system of incentive payments should be simple and easily understood and should provide for substantial additional payments and bonuses."⁷ Gorbachev also warned that there were many instances in which "the principle of voluntariness is violated. Frequently no account is taken of workers' opinions in determining the procedure for remunerating work and awarding bonuses. Frequently *kolkhoz* and *soukhoz* managements fail to fulfill their contracts and divert members to other work." This, he asserted, must cease.

These lines are being written four years after the speech at Belgorod, and the speaker has since become general secretary and is presiding over a "radical reform" of the entire economy. So how has this new approach to the organization and stimulation of the labor process worked?

It must be said that the evidence is mixed. There is a great deal of it. The task of introducing such a system would be a difficult one even if all concerned were genuinely committed to making it work. Hundreds of thousands of contracts need to be negotiated. There has been no clear guidance about what they should contain, precisely how one should compare production with costs. It is psychologically (and even legally) somewhat anomalous to make a binding contract with one's own hierarchical subordinates, to refrain from issuing orders to them, or to deny management the right to switch some member of the work group to other duties. The more so as there are appreciable seasonal peaks in demand for labor, and some tasks do not lend themselves to division between permanent brigades or *zvenya*. Then there is the question of material supply. The farms contract to supply the needed material inputs, but their ability to carry out their promises depends on their being able to obtain inputs from industry.

Although there are some reported successes, there is much evidence of distortions and even of breakdown. To cite a few examples: Contract groups are nominally in existence, but in fact payments are not effectively linked with results at all because the members need to be

⁷M. S. Gorbachev, "Kollektivnomu Podriadu na Sele-Shirokuiu Doroga," *Prauda*, 20 March 1983.

paid, in the form of "advances," during the course of the agricultural year long before the final results can be known, and these payments were based on the "traditional" piece-rates. In practice the actual harvest made only a few percentage points difference to take-home pay.⁸ The same point was being made nearly two years later (in a May 1986 article entitled "Illusions of Acceleration"): "The contract system . . . appears to include almost everyone. But in most brigades and *zvenya* there is still individual piece-rate payment."⁹ In December 1986 *Pravda* published a decree of the Central Committee that included the following: "In the introduction of collective contracts there is much formalism and irresponsibility. . . . The contract collectives frequently do not have assured supply of resources, economy is inadequately stimulated. . . . In work with the contract *zvenya*, brigades, and livestock *fermy* there are frequent instances of administrative arbitrariness, democratic principles of management are disregarded, as are the role and rights of the work collectives."¹⁰

The very next month, *Ekonomicheskaya Gazeta* published an article by E. Khodakovskii, a Ukrainian specialist, who argues for imposing "technically based work norms" (*normy vyrabotki*) on the contract groups.¹¹ He cites instances of tractor-and-cultivation brigades with "21-35 mechanizers and 22-47 'by-hand' laborers," with norms and grading. This contrasts with small *zvenya*, and still more with the many reported instances of "family contract" (*semeinyi podryad*). These have been reported as being particularly effective in pig-raising and for some labor-intensive vegetables.

The Central Committee decree of December 1986 specifically supports small brigades and *zvenya*, and noted, with evident approval, that "in all regions the family form of contract is growing." But it is clear that the old methods do survive under the label of "contract brigade." There seems to be a struggle taking place behind the scenes. Thus *Pravda* printed an interview with a *kolkhoz* chairman who is a strong supporter of the autonomous *zveno*, but who warns: It must be really autonomous (*samostoyatelno*), really responsible for its own work. "There are a large number of instances when contract groups disintegrated . . . and are there not many brigades and *zvenya* that are 'contract' (*podryadnye*) only on paper?" He cites another difficulty in the way of making a reality of the autonomy of the work groups. He, the chairman, receives detailed orders from above, and these he is

⁸I. Lakhno, "S Polei Sveklovichnykh," *Pravda*, 22 September 1984.

⁹V. Somov and V. Stepnov, "Illuziya Uskoreniia," *Pravda*, 18 May 1986.

¹⁰V. Tsentralnom Komitete KPSS, *Pravda*, 18 December 1986.

¹¹E. Khodakovskii, "Podriad, Norma, Kachestvo," *Ekonomicheskaya Gazeta*, No. 4, 1987.

compelled to pass on "and demand their fulfillment from the contract brigades and *zvenya*. But that means subverting the vital factor, the autonomy of the mechanizers."¹²

Ekonomicheskaya Gazeta printed an article by N. Dudorov, citing the experience of the Ukraine. On paper all is well: Over 80 percent of arable land, over 60 percent of cattle and pigs, over 90 percent of sheep, are covered by "collective, family and individual contract." Similar reports are cited from Kirgizia. But overall, neither output nor productivity had risen, and there were in fact instances of decline. The author contrasts this with the good results obtained where these various forms of contract are introduced with proper care and preparation. But "in many enterprises this is done only formally and the contract units exist only on paper."¹³

An evaluation of the situation, made at the highest level, came in a speech by the Central Committee secretary in charge of agriculture, V. Nikonov, in the presence of Gorbachev, at a consultative meeting held at the Central Committee.¹⁴ He stated that although only some 1 million persons were working on collective contracts of some sort in 1982, there were 11 million such persons in 1986, accounting for "three quarters of ploughland, over 60 percent of productive livestock. In all regions there is also widespread use of a family contract. It might seem from the figures that we have a triumphal march of contract and *khozraschyot*," yet results are modest. For the contract system to function effectively, there must be

punctual and full observance of the contractual obligations made with brigades and *zvenya*. This means, on the one hand, ensuring material-technical supplies; what has been planned must be delivered in good time, as without a guaranteed supply of inputs the contractual arrangements cannot function (*podryada ne byvayet*). And, on the other hand, whatever is earned by the mechanizers and livestock workers must be paid to them to the last kopeck. Because of breaches of these basic principles people lose faith in the possibility of highly effective collective labor and its just reward. For these reasons during each work season a sizable proportion (*nemalaya chast'*) of *zvenya* and brigades fall apart.

Nikonov went on to criticize the ways in which contracts are drafted, as well as "the failure to observe the principle of autonomy in carrying out the production program, the attempts to exercise control over the

¹²*Pravda*, 24 January 1987.

¹³N. Dudorov, "Podriad, Khozraschet, Samookupaemost," *Ekonomicheskaya Gazeta*, No. 8, 1987.

¹⁴See *Selskaya Zhizn*, 25 January 1987.

contract unit over the head of the self-governing organs of this unit, breach of contractual obligations in payment of labor and supply of material inputs."

It is obvious from all this evidence that much remains to be done to make the contract system operate the way the leadership desires. Interestingly, Nikonov laid particular stress on the smallest units of all. "An enormous reserve for expanding production of vegetables, fruit, berries, industrial crops, livestock products, for most areas remains the family and individual contract. We must make every effort to expand its vast possibilities." A leading agriculture economist, G. Shmelev also spoke of the "vast potential" of the family contract, referring also to the idea of several families joining together if, for example, they are small, into "interfamily cooperatives."¹⁵ All this presages many possible developments. The press has given publicity to successful family contract operations in, for example, pig-raising and grape-growing. A *zveno* frequently consists of only four or five persons. These various categories can merge into one another, or be flexibly adapted to local circumstances, the degree of mechanization, size of fields, producer preferences. But all this requires a fundamental change in the attitudes of management on the farms as well as of local bureaucrats. It is still far too soon to forecast how and when the existing labor problems will be overcome, if indeed they will be. The will to make big changes is, however, clearly present.

In the face of the evidence, not much meaning need be attached to claims that most Soviet peasants now work on the basis of the *kollektivnyi podryad*. The underlying idea is a sound one. But its application has run into obstacles and problems. These may prove to be growing pains. However, meanwhile it is proper to suspend judgment.

There are still reports of poor and burdensome work conditions. For decades there has been criticism of the very long working hours of milkmaids. Indeed I cited this in my very first article on Soviet agriculture, as long ago as 1952. The desirability of a shift system, to give the workers adequate leisure, has been recommended for a long time. Livestock farming is supposed to be mechanized. And yet: "The milkmaids with forks and shovels . . . have to haul two to two and a half tons of feed a day for the cows. . . . The milkmaids work in one shift, from 4 a.m. to 8 p.m. Of course under such conditions young people do not want to work in livestock farms."¹⁶ This may well be a case of vicious circle. A two-shift system requires more labor, labor is short,

¹⁵ Acknowledgments to K. E. Wadekin for the Shmelev and other references.

¹⁶ E. Grigoriev and N. Moruzov, "Ne odnim dostatkom zhivy," *Pravda*, 16 December 1986.

and it is short because (among other things) of the long hours and lack of free time.

One must expect a new decree, spelling out with much greater precision the functions and rights of the contract groups and of their members.

Inputs

The situation with industrial inputs has changed remarkably little, despite several high-level resolutions on the subject. It is realized that the situation is very unsatisfactory. The quality of farm machinery leaves much to be desired, and numerous articles and speeches deplore the failure to provide the desired range of machines and attachments, the lack of *malaya mekhanizatsiya* (machines for mechanizing auxiliary tasks). Here agriculture continues to be the victim of the inadequacies of industrial planning and of the bureaucratic system of material allocation. As a Latvian economist put it, "Centralised allocation weakens the system of economic stimuli . . . as everything that is produced is automatically disposed of, and agricultural enterprises are compelled to acquire means of production for which there is no demand."¹⁷ As Zaikov said in a speech reported in *Pravda*, 16 November 1986, too often one sees the old principle: "The plan at any price, and quality is a minor matter." Gorbachev himself has several times spoken about the quality of farm machinery, and spoken in the sharpest critical terms. As we shall see, the reorganization of the "Agroprom" (agro-industrial complex) leaves the ministries responsible for the production of agricultural machinery and tractors in being as separate entities, although formally they are within the complex. Matters are not helped by the fact that some farm equipment is produced in enterprises under many other ministries, including defense. This is but one instance of a well-known phenomenon: Many types of machines are made within large numbers of ministries.¹⁸

Blame is attached both to the producing ministries and to the clumsy procedures of handling purchase requests and allocations. "The purchase-requests for equipment are assembled in so primitive and imprecise a manner that no one really knows today who needs what and in what quantity. As a result the orders placed (with industry)

¹⁷A. Kalnynysh, "Puti Sovershenstvovaniia Khozyaistvennogo Mekhanizma APK," *Voprosy Ekonomiki*, No. 10, 1986, p. 68.

¹⁸On this point see, for instance, the articles by S. A. Kheinman, in *Ekonomika i Organizatsiia Promyshlennogo Proizvodstva* (EKO), No. 5, 1980, pp. 32-52 and No. 6, 1980, pp. 56-81.

have nothing in common with what the farms require."¹⁹ Several critics advocate the speedy abolition of the administrative allocation system and its replacement by trade in means of production. Numerous sources, including Kalnynysh, cited above, and L. Mazlin²⁰ refer to instances of what must be called forcible delivery of unwanted equipment. This, as well as the failure to obtain the required machinery and the means of repairing it, must be the cause of sizable losses. These are long-standing problems and they have yet to be overcome. To take another example: Despite many years of criticism of the cost of concentrating service agencies and processing plants in centers far removed from farms, Mazlin states that so simple a task as the repair of electric motors on the K-700 tractor requires the dispatch of the tractor to a specialized workshop located 300 km from the farm. These K-700 tractors are very large and powerful, but their use makes sense only if they are supplied with the needed working attachments. Yet, complains Kalnynysh, these are not fully supplied; he advocates penalizing the producers financially.

So far as fertilizer supplies are concerned, there is considerable progress in the quantities delivered to farms. As with other agricultural chemicals, the problem is one of obtaining the required type in good time, and also effective control over its application.

Radical change is unlikely without a supply system based on trade, with the farms free to decide what to buy, and the farm machinery enterprises directly interested in satisfying customer requirements. This is the declared intention of the Gorbachev reform program. Changes on these lines seem to be in the pipeline, but it is too soon to judge precisely what will be done and when. It must be stressed that effective modernization of agriculture is impossible without a substantial improvement of the supply system, and, as was shown above, the incentive effect of various forms of collective contract can be destroyed if the autonomous groups cannot rely on supplies of inputs.

Some of the latest developments give grounds for hope of radical improvements but also suggest other and less agreeable possibilities. Thus, an article by A. Lyapchenkov²¹ refers to "experiments" in Lithuania, Moldavia, Stavropol, and Ryazan to base supplies to farms on wholesale trade. However, within the central *Agroprom* there is a "Chief Department of Material-Technical Supply—*Agrosnab*," with authority over analogous supply organs in republics, *oblasti*, and down to the RAPOs. One senses a danger that this could reproduce the

¹⁹O. Stepanenko and I. Totskii, "Agroprom: God Spustia," *Pravda*, 1 December 1986.

²⁰L. Mazlin, "Pole Nelzia Obmanut," *Ekonomicheskaya Gazeta*, No. 8, 1987.

²¹See *Ekonomika Selskogo Khozyaistva*, No. 1, 1987.

behavior-pattern of the defunct *Selkhoztekhnika*, of which *Agrosnab* is the successor. In fact it is not just a danger, it is the reality.

Ambitious plans to improve infrastructure, to build hard-surface roads, and to improve housing and amenities are making progress, though it has not been possible to compare what has been achieved with what has been planned. The plan report on the year 1986 shows that 38 million square meters of housing were erected for the "agro-industrial complex," and a larger proportion of investments in the complex have gone to so-called unproductive purposes. However, while investments in the complex as a whole were 8 percent above the level of 1985, this was 6 percent below the plan for 1986.²² Frequently the cause of delay is to be found in the inadequate capacity of construction enterprises operating in rural areas.

Drainage and irrigation are being undertaken on a large scale. In the seventies, the work was very wastefully done, in pursuit of plan-targets in rubles. Within a supposedly united *Agroprom* there should be an end to such inefficiencies. Yet here as elsewhere, the old diseases continue to manifest themselves. Thus the organization responsible for water supply in the arid Saratov *oblast* "receives bonuses regardless of the productivity of the fields where they work," switches off sprinklers at times when farm management wishes them to function, and so on.²³

All this is highly relevant to any assessment of the (desired) greater efficiency in the use of investment funds in agriculture. On paper, the *Agroprom*, the RAPOs, do have considerable powers to redistribute resources where they are most needed, to achieve the best results at minimum cost. Yet here too, old habits persist. The statistical report on the year 1986 refers to the construction of mechanized livestock farms and complexes with a capacity of 5.8 million head. This sounds like a considerable achievement. However, these would include a complex in Volgograd about which *Pravda* reported the following:

How was the money spent? On the orders of the party *obkom* and the *oblispolkom* (provincial soviet), state and collective farms were made to build expensive giant complexes. Practically in every district (of the province) there stand these "monuments." They operate at best at half capacity. One of these cow palaces was erected at the "Panfilov" *kolkhoz*. . . . In the "Rossiya" *kolkhoz* the complex has been under construction for ten years. The chairman . . . assured us that we do not need it. "I begged them not to build at least the last

²²"Piatiletke-Kachestvo i Tempy," *Ekonomicheskaya Gazeta*, No. 5, 1987, p. 13.

²³S. Borisov, "Sila i Nemoshch Polivnogo Gektara," *Ekonomicheskaya Gazeta*, No. 3, 1987, p. 11.

unit, but they would not listen to me. Yet we have no workshop, no covered grain storage."²⁴

Similarly, what are statistics of irrigation worth if, as is told by this same source, the party *obkom*, after pushing livestock complexes, launched what is described as a "melioration boom," demanding 50,000 newly irrigated hectares a year, when existing irrigated land is "in a deplorable condition."

The appearance of this kind of criticism shows that the authorities are aware of the problem and of the need to find ways of overcoming it. But it also shows that these ways are yet to be found.

The Agroprom

This brings one to the very important theme of *planning and organization*, and therefore to the role of the agro-industrial complex and its hierarchy, and the RAPOs at the base of this hierarchy. This organizational structure was set up in the aftermath of the May 1982 plenum to oversee the Food Program and to ensure the coordination of the activities of farms and service agencies, supplies, repairs, rural construction, procurements, transport, and food distribution. The evidence is overwhelming: In the form in which it was created in 1982, it failed in its task. The reason is also clear: The separate organizations remained in being, with their own hierarchical subordination, their own plans and separate financing; so they continued to "do their own thing," fulfill their own plans, instead of helping to achieve higher final production at least cost. Many pages can be filled with quotations from articles on the general theme of "partners" which fail to serve the farms. "Why is the RAPO powerless?" asked one *kolkhoz* chairman.²⁵ There were outrageous examples quoted of how *Selkhoztekhnika* overcharged the farms for poor quality repair work, or even for no repair work at all, refusing to supply spare parts unless it was credited for work it did not do.²⁶ In fact an official of that organization, Shamratov, replying to earlier criticisms of the same sort, admitted that such practices were common, and explained them by the pressure of superior organs to fulfill turnover plans in value terms.²⁷ Another example: A farm that grew flax used to have its own insecticide. But now this was concentrated in the hands of *Selkhozkhimiya*. If noxious insects are discovered one has to communicate with it. They arrive after much

²⁴V. Somov and V. Stepnov, "Illuziya Uskoveniia," *Pravda*, 18 May 1986.

²⁵See V. Levykin in *Pravda*, 17 December 1983.

²⁶For example, see N. Vorobyev, "Sebe v Ubytok," *Pravda*, 5 May 1984.

²⁷See V. Shamratov in *Pravda*, 5 February 1984.

damage had been done, i.e. after much delay, and then can claim a bonus for high productivity.²⁸ The abuses of so-called meliorators have been cited already.

All this led to a decision to revamp the system. In November 1985, *Agroprom* became a species of super-ministry, with a first deputy premier in charge. He presides over the State Agro-Industrial Committee of the USSR, with analogous bodies in republics and provinces, and in the districts (*raiony*), the RAPOs. To ensure that they really do work together, it was decided that a number of all-union and republican authorities be abolished as separate entities: This included the ministries of Agriculture, of Fruit and Vegetables, Meat and Milk Industry, Food Industry, Rural Construction, *Selkhoztekhnika*, *Selkhozkhimiya*, parts of the Ministry of Land Melioration and Water Resources (*Min-vodkhoz*), the Ministry of Agricultural Procurements, and the Ministry of Rural Construction. Other relevant ministries (e.g., those concerned with tractors, farm machinery, fertilizer) survived, but were to work "in the closest collaboration" with *Agroprom*. The whole complex was to be planned together, administered together. At the lowest operational level the RAPO was to be in full charge. Yet in the same decree it was stressed that the autonomy of state and collective farms was to be respected.

At the same time the local party committees were told, not for the first time, to stop interfering in the everyday operations of farms. The press featured several articles about such interference. And again, not for the first time, old habits persisted. The following year one reads: "Now everything is planned from above: crops, hectares, heads of livestock, value of work, repairs . . . Why?"²⁹ The RAPOs do the same. Thus, farm management is told: "Your farm has the task for the coming month of ensuring the pregnancy of 150 sows"; or exactly when to operate the sprinklers, "as if they who are in the fields do not know what to do."³⁰ It may be sufficient to quote Gorbachev: "All is not yet well with the RAPOs. Many have not understood their role, want to issue orders to chairmen and directors (of collective and state farms). This is no good, comrades. . . . This is another attempt to adapt new forms to old bureaucratic methods. The council of the RAPO, which consists of directors of state farms, chairmen of collective farms, leaders of other organizations, is the main organ of the association, and the chairman and apparatus of the RAPO are executors of the will of the council. . . . And it is no good at all if the party *raikom* in the new

²⁸O. Stepanenko, "Agroprom: Rezervy Ekonomiki," *Pravda*, 18 April 1985.

²⁹V. Gorin, "Novoi Struktura-Nadezhnyi Mekhanizm," *Pravda*, 22 January 1986.

³⁰V. Somov and V. Stepnov, "Illuziya Uskoveniia," *Pravda*, 18 May 1986.

situation acts in the old way. *Raikom* secretaries have understood nothing if even now they cannot refrain from administrative interference (*administririvaniye*),³¹ and so on. This, of course, raises a fundamental question that goes far beyond agriculture: What should be the role of party officials, how can they exercise their responsibilities without substituting themselves for Soviet official and economic management? The answer is yet to be found.

One way of limiting the arbitrary power of RAPO officials is being used in Latvia: The chairman of the RAPO, instead of being an *ex officio* bureaucrat, is elected in a secret ballot by the members of the RAPO council—by the heads of *soukhozy*, *kolkhozy*, and the various service agencies. Furthermore, they elected the director of a *soukhoz*, who will carry out his duty part-time. It is hoped that this will make the RAPO more representative and “democratic” and will reduce “the flood of paper.”³² There is a similar report from Ryazan.³³ It will be interesting to see whether these examples will be followed elsewhere. But this cannot of itself cure the disease of constant interference from above.

The same point can be made about the RAPO and the higher echelons of *Agroprom*. If they are to be held responsible for the health of agriculture in their areas, how can they not interfere? When this new structure was erected, the contradiction was evident. There was another solution to the one that was adopted. It was to give the farms the power to engage the services of the various service organizations as sub-contractors—with farm management in a position to decide what should be done and when, with the right if they preferred to carry out the task with the farms’ own resources. This is what occurs in Hungary.

But we now pass to a different question. Has the new 1985 model of *Agroprom* been successful in making the separate parts work together? Has the RAPO been an effective coordinator?

Again, the evidence is mixed. Many press reports show the RAPO redistributing resources to the farms where they appear to be most needed. The abuses of “the former *Selkhoztekhnika*” are said to have been curbed. But still the old problems re-surface. Thus, despite the decree of November 1985, it turns out that irrigation in Saratov remains the responsibility of *Poliv*, an organization under *Minvodka*, which “does not come under the provincial *Agroprom*,” and the farms

³¹M. S. Gorbachev in *Izvestiya*, 25 January 1987.

³²A. Timkov in *Selskaya Zhizn*, 14 February 1987.

³³N. Kozlov, “Vremya Vybirat Tebya,” *Ekonomicheskaya Gazeta*, No. 14, 1987, p. 4.

are very unhappy about its performance.³⁴ The spare parts problem remains. A workshop that repairs trucks applied for carburetors, but could get them only if they also purchased handles for meat-grinders!³⁵ Another source makes a similar complaint:

We used to have many complaints about *Selkhoztekhnika*. It has been replaced by the repair service of the (agro-industrial complex). But the old headaches remain. Thus, cultivators and combines may return from repairs in pieces. We have begun to assemble them, and some parts are missing. . . . One applies to a department of RAPO for spare parts, and the ones we need are not available, or if there are any, they are sold with extras (*s nagruzkoi*)—with parts the farm does not need.³⁶

The date of the quotation is 1987.

Unfortunately such quotations can be multiplied. Thus: "The repair and technical enterprise that overcharges the farm for repairs" has a plan to repair, in the given instance, 90 combine-harvesters, and "it compelled us to send to them, through the snow, machines that were already prepared for wintering. Failure to make the plan means losses of premia and other troubles."³⁷ Or again: "As is known, *Selkhoztekhnika* exists no more, its repair enterprises have been transferred to *Agroprom*. . . . Alas! Here again one sees the grim visage of departmentalism, again the specialised enterprises seek their own advantage," repairs are poorly done, farms are not supplied with spare parts, and so on.³⁸ A last example, and the most recent one, may sound incredible, but there it is, in an article by V. Ulyanov, in *Ekonomicheskaya Gazeta*. A *soukhoz* refused to take delivery of two combine-harvesters that they had not ordered and were being foisted on them by *Agropromsnab* (the successor of *Selkhoztekhnika*). They were delivered anyway, despite protests, and were left "to freeze in the mud." The *soukhoz* refused to pay, as they had all the combine-harvesters they needed. "The very next day, despite the intervention of the *raion* procuracy and the organs of peoples' control" the supply organs refused to provide much-needed coal, unless and until the *soukhoz* paid for those combines, causing damage to heating installations. The RAPO refused to help. Here again, just as in the bad old days, farms that find it cheaper and more efficient to do their own repairs are compelled to use the services of the repair enterprise and if

³⁴S. Borisov, *Ekonomicheskaya Gazeta*, No. 5, 1987, p. 13.

³⁵O. Stepanenko and I. Totskii, "Agroprom: God Spustia," *Pravda*, 1 December 1986.

³⁶Mazlin, *Ekonomicheskaya Gazeta*, No. 8, 1987.

³⁷Y. Balashov and N. Morozov, "Chto Tolkaet na Krasnyi," *Pravda*, 1 March 1987.

³⁸I. Totskii, "A Mekhanizastory Nadeialis," *Pravda*, 19 March 1987.

they refuse are punished by not being supplied with any spare parts, this with the full knowledge of the RAPO.³⁹ So we see yet another distortion of the intentions of those who created *Agrosvab* with the express purpose of avoiding precisely this sort of behavior, and the waste of resources it has long engendered.

What, then, has happened to the decision that all should work together and be paid in relation to the "final result," by reference to agricultural production? The problem, in my view, is not only one of bureaucratic inertia and "departmentalism," though both doubtless play a role. It is rather the genuine difficulty in assessing the separate contribution to the "final result" of several separate contributors. It is in essence the same problem that led to the creation of the *beznaryadnoye zveno* and the contract brigade: One needs a clear responsibility for the whole cycle or sequence of operations. Just as one cannot identify the marginal product of weeding or ploughing, so the separate contribution of insecticide or drainage is not measurable. If the *farm management* (or the brigade, or the *zveno*, or the family) is in charge of the entire cycle, it can use its best judgment about the most effective use of inputs and purchase or hire the goods or services it thinks it needs. An outside body, the RAPO, has much less information. The simplest way out appears to be to pay in relation to some definition of planned tasks, plus a modest bonus related to the size of the harvest. Indeed it must seem quite unfair to penalize "insecticides," irrigators, or repair mechanics if the harvest proves to be poor, as it might be in no way their fault.

The RAPO have other problems too. According to the chairman of a RAPO in the Poltava province of the Ukraine, some state farms in his area receive plans from the provincial (Poltava) and some from the republican (Kiev) level, "and these plans not only do not fit the *raion* plan-tasks but are contrary to them. Why do they think they know better in Kiev and Poltava?"⁴⁰ In a report by V. Zharynski, the RAPO is described as powerless, unable to insist that obligations for delivery of potatoes are observed.⁴¹

Responsibility for capital investments is also unclear. Farms are supposed to decide on investments within total limits, and the RAPO was supposed to ensure that bank finance was provided within these limits. However, the *oblast Agroprom* passed down 42 obligatory plan indicators for capital investments, unrelated to each other or to the

³⁹V. Ulyanov, "Kombain . . . v Pridachu," *Ekonomicheskaya Gazeta*, No. 15, 1987, p. 11.

⁴⁰See *Selskaya Zhizn*, 31 January 1987.

⁴¹*Selskaya Zhizn*, 4 January 1987.

above-mentioned limits. At the *oblast* level there are no less than 20 persons on the establishment of the capital investment department of the *oblast Agroprom* and what can they do apart from producing more paper plans?⁴² Another problem arises because farms are formally entitled to spend the money in their possession on investments but are then ordered to keep "within the *limity* imposed from above."⁴³ Since the author, V. Lupach, is the vice-chairman of an *oblast Agroprom*, clearly the word "above" relates to a still higher hierarchical level.

One must stress the issue of the observance of contracts, affecting as it does Gorbachev's reform program. A key to its success or failure is precisely a shift at all levels from what has been called "administrative" to "economic" methods—from orders hierarchical to orders commercial, from allocation to trade. We have already seen that one threat to the success of the "collective contract" is the too frequent failure of farm management to observe its terms. The same "disease" occurs right through the system. S. Obolensky reports the story of how a state farm delivered grain in excess of the quota of deliveries and of the average amount delivered in the previous five year plan, which entitled them to a bonus of 100 percent in respect of this excess grain. Payment was refused, and instead the farm was offered feed concentrate, which it did not need. Appeals to the *oblast* and the republican *Agroprom* had no result. "This fact is by no means unique."⁴⁴ Yet the right to these extra payments in respect of additional grain sales, which in this instance amounted to the large sum of 552,000 rubles, was publicly announced and legislated in March 1986. Gorbachev had legal training. There is a new and strong emphasis on observing legal norms, which finds reflection on the draft law on the economic enterprise, under discussion in March 1987. Yet all this will go for nothing unless the duty to observe contracts is taken seriously at all levels. This is not yet the case.

An article by V. Skvortsova is wholly devoted to this truly vital issue of the observance of contracts. Quoting many examples of nonobservance, she asks the question: Whose fault? She answers:

For many years the conflicts of departmental interests, exacerbated by shortages of many resources, created a situation in which it was not contract that determined the rights and duties of the partners (to an agreement), but either an order 'from above' or some special relationships between the respective managements. . . . Times have

⁴²V. Sviridchuk, "Po Staroi Privychke," *Ekonomicheskaya Gazeta*, No. 13, 1987, p. 11.

⁴³V. Lupach, "Use li Vyvereno v Normativakh," *Ekonomicheskaya Gazeta*, No. 14, 1987, p. 10.

⁴⁴*Selskaya Zhizn*, 12 February 1987.

changed, but the habit of looking at contractual agreements as a nonobligatory empty formality has survived.⁴⁵

It is quite another question whether this practice of paying large bonuses (50 percent or 100 percent over the basic delivery price) is a rational way of proceeding. In my view it is not, and indeed several Soviet sources have criticized it. The objection is a simple one: The effect is that the higher the harvest, the more can be sold at higher prices, and so one has the paradoxical situation that a reduction of supplies (e.g., because of drought) lowers the average purchase price, and vice versa, which is not rational at all. But to ride roughshod over clear legal obligations to pay a farm its due is to discredit the entire contractual system, and with it the entire economic reform.

The notorious practice of local party officials interfering in the management of farms, despite repeated criticisms, has from the beginning been particularly linked with state procurement of produce. *Raikom* and *obkom* secretaries have been judged worthy or unworthy in accordance with their success or failure to squeeze more grain and other products from the villages. In earlier times this meant sometimes taking even seed and essential feed grain, leaving the peasants with little to eat. Times have changed, and under both Khrushchev and Brezhnev firm promises were made that delivery quotas were to be fixed for several years ahead and not be arbitrarily varied. They were then arbitrarily varied. This was in order that produce from the more successful farms and areas could make up for deficiencies elsewhere.

When the decree on agriculture published on 29 March 1986 firmly promised that compulsory delivery quotas will not be varied over the five year plan, many a Soviet farm manager may be forgiven a sense of skeptical *déjà vu*. But this time it may be different. Gorbachev, in his speech to the 27th party congress, used the word *prodna-log* to symbolize the new approach. This word, used by Lenin in 1921 when "tax in kind" replaced requisitioning of farm produce, heralded the coming of NEP, the end of "war-communism." The underlying idea was that, after meeting their delivery obligations, the farms would be free to dispose of the rest as they saw fit, and free sales would henceforth play a larger role in ensuring supplies to the population. The center would impose a delivery quota on areas that produce surpluses, to ensure those needs for which the center is responsible. Republican and local authorities would add quotas to cover essential local needs (e.g., wheat for the local bakeries). For grain and many other products there would be bonus prices for sales to state organs exceeding the quota or the average sold in the preceding five years. Farm managers would also be

⁴⁵*Selskaya Zhizn*, 22 January 1987.

rewarded by obtaining priority supplies of scarce material inputs. However, in the case of vegetables and fruit, the farms would be free to sell even part of their delivery quota in the free market or through cooperatives.

The decree seems to have about it elements of compromise and could be seen as an interim measure. What seems to be intended, in line with the logic of *prodna*log, is a limited quota to meet top-priority needs, with the rest subject to free contract. However, existing shortages being what they are, only limited steps are being taken in this direction. There is an analogy here with reform proposals for industry: Some reformers have been arguing that enterprises should be free to find their own customers, subject to giving priority to orders from the state, which cover only a part of their productive capacity. The question, for both industry and agriculture, then becomes: How large a part? In the March 1986 decree the republican and local authorities are given powers to require deliveries; much depends on how these powers are used. The text of the decree invites proposals for further changes, and it could therefore be seen as a sort of first installment.

Costs of production were rising through 1985, and there is as yet no sign of a downturn. The net effect of the March 1986 decree, insofar as it concerns prices, would be to add to the state's subsidy burden, unless a larger proportion of produce is to be sold at higher retail prices through cooperatives and the free market. In 1984, the subsidy paid out to cover losses on meat and dairy produce reached the huge sum of 44.3 billion rubles.⁴⁶ As we saw earlier, the total subsidy bill is much higher. Proposals are being aired in the press to increase retail prices to economically rational levels, so that they cover costs and balance supply and demand.⁴⁷ Zaslavskaya has also raised this question several times.⁴⁸ However, *Kommunist* reported that the reaction of many of their readers was hostile. This may prove politically difficult, as the increase, however compensated, would have to be at least 100 percent or even 150 percent. The Soviet budget is strained (in 1986 there was a sharp fall in revenues from vodka and foreign trade), so a saving in this subsidy is urgent. This may come as a by-product of the logic of *prodna*log. Apart from encouraging state and collective farms to sell more on the free market, a substantial expansion of the

⁴⁶A. Kalnynysh, "Puti Sovershenstvovaniia Khozyaistvennogo Mekhapiзма APK," *Voprosy Ekonomiki*, No. 10, 1986, p. 70.

⁴⁷See, for example, D. Kazakevich in *EKO*, No. 1, 1986, the speech by Kalashnikov at the 27th party congress (*Pravda*, 2 March 1986), and more recently by the article by Kalnynysh, in *Voprosy Ekonomiki*, No. 10, 1986, p. 70.

⁴⁸T. Zaslavskaya, "Chelovecheskii Faktor Razvitiia Ekonomiki i Sotsialnaia Spravedlivost," *Kommunist*, No. 13, 1986, pp. 61-73.

cooperative retail chain is also taking place in cities. The cooperatives are to buy from farms and from citizens at negotiated prices and sell at what are described as "prices below those of the free market"—well above official prices.

It is also intended that *Agroprom* should open retail outlets and operate in the free market, though in the latter the needed facilities are often lacking.⁴⁹ An active role for the RAPOs in disposing of farm surpluses was also seen by V. Peshekhonov, in *Ekonomika Selskogo Khozyaistva* (No. 10, 1986). In the same issue, G. Atrakhimovich and A. Kirin discuss this at length, noting that there could henceforth be four different prices in the same place for the same products: state retail prices, prices in shops operated by *Agroprom*, those belonging to retail cooperatives, and finally the free market. Of course, if supplies are adequate, the prices of the last three would not widely diverge, but could well be substantially above the (strictly limited) supplies obtainable at state shops at state-fixed prices. By gradually channelling a larger share of produce by means of these higher-priced outlets, prices can be steadily increased without the shock of suddenly doubling them, and the subsidy bill reduced. No recent data have been encountered, but in 1982 it was reported that prices charged by cooperative stores in cities were 23 percent below free market prices.⁵⁰ Free market prices were then 120 percent above the prices in state stores.

It is also hoped that a more efficient functioning of the distribution system, plus investments in storage space, specialized transport, and packaging materials, will help reduce the intolerably high level of losses estimated by several Soviet sources at 20 percent.

High priority is clearly being given to the reduction of the burden on the state budget and also on the balance of payments. Gorbachev and others have spoken of the need to reduce the very heavy import bill, hence the stress on increasing grain yields, the reassertion of the high targets already written into the 1982 Food Program, renewed emphasis on expanding such nongrain feeds as root crops and hay, also protein additives, fish meal, and so on. It is appreciated that, relative to the practice of other countries, Soviet livestock consumes too much grain, for lack of alternatives. There is also stress on achieving higher output per animal rather than increasing the number of animals, which is indeed a desirable application of the principle of "intensification." Import dependence can also be indirectly reduced by more realistic retail prices for livestock products: Demand is being overstimulated by

⁴⁹See for instance a critical article by V. Pankratov, "Mesto na Rynke," *Prauda*, 17 August 1986.

⁵⁰A. Smirnov, "Zadachi Potrebitelskoi Kooperatsii v Vypolnenii Prodoovolstvennoi Programmy Strany," *Planovoye Khozyaistvo*, No. 10, 1982, pp. 35-52.

the enormous subsidies, and the very cheap bread is being wastefully used, including also its (unofficial) use as pigfeed.

The Private Sector

At present, the official policy is favorable toward the *peasant private plot*, and also to the position of the work force within the state and collective farm. Farms and local authorities are urged to encourage *expansion of production*, provide calves and piglets, fertilizer, insecticides, tools, and feed on favorable terms. Much attention is also being paid to improving marketing. This includes improvements in the *kolkhoz* markets, as well as offering facilities for sales through the cooperatives and the state or collective farm. Such sales can be in the peasant household's interest, not only because it could save them a tiring journey to town, but also because in the case of livestock products the state purchase price is high, and the farms can get a 50 percent bonus for selling "private" meat and milk as their own over-quota deliveries. (Peasant households cannot claim such a bonus themselves, because they have no delivery quota imposed upon them.) Such an arrangement is quite legal and indeed may be affecting private, collective, and state output and sales statistics. But things have not been so smooth in practice.

Progress remains slow, and old negative attitudes to the private sector can re-assert themselves. For example, the *kolkhoz* market was not mentioned in any way in the decree on "the struggle against unearned incomes"; yet it was interpreted to "hit the interests of honest toilers who were trying to dispose of surplus products from their plots": Trucks carrying private produce were turned back, many were forbidden to transport produce outside their immediate area, and so on, so that "prices leapt upwards."⁵¹ Or another such report: "Our market has become noticeably emptier. People are nervous about bringing produce for sale, so as not to suffer from measures against unearned incomes."⁵² One must presume that these restrictions were lifted soon afterward, but this experience does tell us something about the attitudes of Soviet and party officialdom. There is real pressure from indignant town-dwellers about the very high prices that often rule in the free market. But policy now is to act by "economic" means, through competition, especially by means of the consumer cooperative

⁵¹V. Pankratov, *Pravda*, 17 August 1986.

⁵²V. Brovkin and D. Gorbuntsov, "Vinovat li Ogurets?" *Pravda*, 14 July 1986.

outlets and also by encouraging *kolkhozy* and *soukhozy* to sell in the free markets.⁵³

Private livestock are limited not only by the problem of feeding them, but by the still-existing maxima per household (these have been virtually eliminated in Hungary). In a report from the Yaroslav province, V. Varovka cites a local economist: "Households could double their livestock holdings, but the problem is where to keep it." It seems that much new housing is in three-story apartment blocks, with just a small shed each.⁵⁴ Both the maxima per household and the problem of feed supply can be overcome if the family contracts to supply livestock products to or through *kolkhozy* and *soukhozy*.

The position of the traditional private plot may well be affected by the intended expansion of family and individual contracts. A family engaged as full-time subcontractors for the *kolkhoz* or *soukhoz* may find that there is little time for the private plot as well, though their attitude will also depend on the reliability and availability of a family food supply from other sources, such as the village store. It will sometimes be difficult (as it is in Hungary) to distinguish private from family-contract activity: If one is fattening pigs for sale through the farm, even the pigs do not know whether they are collective or private!

In the vital issue of peasant morale and work attitudes, material incentives are not enough. As Sergei Vikulov put it: "In days gone by they did not work because they knew that they would get nothing; now they do not work because they know that they will be paid anyway"; they have "lost faith" (*poteryali veru*).⁵⁵ Another of several such quotations comes from a *kolkhoz* chairman, M. Vagin: "For decades we knocked out of the peasant's consciousness the sense that the *kolkhoz* is his (*khozyaina kolkhoza*). And in many instances we succeeded. . . . Why is the interest in *kolkhoz* property so small, if not nonexistent? It is not his, in fact it has become state. Before the eyes of the members, the *kolkhoz* is the victim of arbitrariness. Chairmen were imposed, and then removed," plans were altered, over-quota sales were made compulsory, incomes lost any connection with performance, and so on.⁵⁶ In an eloquent appeal to his former fellow-villagers, the writer Ivan Vasilev denounces the neglect by farm management of the old and sick, the diversion of the "miserably small" social-welfare funds to "providing comforts for commanders." When the milk delivery plan is under

⁵³See for example, D. Korovyakovsky, "Kolkhozni Rynok i Snabzhenie Naseleniya Prodovolstviem," *Voprosy Ekonomiki*, No. 9, 1986, pp. 80-89.

⁵⁴V. Varovka, "Pochemu Nebogaty Rynki?" *Ekonomicheskaya Gaze.a*, No. 10, 1987, p. 14.

⁵⁵S. Vikulov, "Chto zavisit ot Rukovoditelia?" *Pravda*, 4 February 1987.

⁵⁶M. Vagin, "Ne Meshat a Pomogat!" *Pravda*, 26 January 1987.

threat, owners of private cows "are compelled to sell milk on *kolkhoz* account. When milk is sold from private cows, the owners are entitled to obtain feed concentrates, but the *kolkhoz* says 'no, sell through us,' and promises to supply grain, and fails to keep its promises, saying: we allowed you to cut some hay and so be satisfied."⁵⁷

Is there hope of a change? A change is certainly intended, but how often have we seen good intentions come to nothing? Vikulov makes one very important point: "Suppose we had our own chairman (of the farm), elected by us," then the members of the *kolkhoz* might feel more responsible for success or failure.⁵⁸ Of course, chairmen of collective farms have been elected ever since the *kolkhoz* system was introduced; only the "election" was fake. Times seem to be changing. Under the new draft decree on state enterprises, state-farm directors, like those of other state enterprises, are to be elected by the work force. Publicity is being given to past abuses: For example, *Izvestiya* of 10 February 1987 publishes on page one a letter stating that elections at all levels were phony and that these methods must cease. Similar sentiments, concerning both the "election" process and the equally phony discussion meetings, may be found in letters from E. Degtyrev and V. Nikitin in *Pravda*, 16 February 1987. Of course it is far too soon to express a view on what might actually happen. However, the promised and much-heralded process of *demokratizatsiya* could have a serious and positive effect on peasant attitudes, unless it is already too late.

It might also provide a new and perhaps unexpected twist to the long-discussed merging of the state with the collective farm, the closing of the gap between these two institutions. If the management of both are to be elected, if both operate on full *khozraschyot*, have similar degrees of autonomy within the RAPO, sell and buy at the same prices, and pay the work force on similar principles, there is then only a formal distinction between cooperative and state property. One way of looking at a genuinely autonomous contract brigade or *zveno* within a *sovkhos* is to regard it as a kind of *kolkhoz* (or *artel'*, to use the older Russian word for a work-gang) within a *sovkhos*.

There are still many contradictions in official policy. Thus in August 1987 Gorbachev himself, as well as a number of other commentators, advocated the leasing of land to families. This was publicly followed by a new decree, which allows such leases for periods of up to 15 years.⁵⁹ Yet the November 1987 issue of *Voprosy Ekonomiki* carried

⁵⁷I. Vasilev, "Defitsit Obshchnosti," *Pravda*, 7 December 1986.

⁵⁸Vikulov, *Pravda*, 4 February 1987.

⁵⁹See, for instance, *Pravda*, for 6 August 1987 and 25 September 1987, respectively.

reports of local officials ordering the destruction of glasshouses located on existing private plots, apparently because the owners were making too much money out of early vegetables.

III. CONCLUSION

Tatyana Zaslavskaya has expressed the view that Soviet economic reform could begin in agriculture,¹ which is what happened in other countries. She must have had China and Hungary in mind. Recent Chinese experience, virtual decollectivization, is unlikely to have much appeal to the Soviet leadership, and the problems and circumstances are quite different. Hungary, however, does provide an example of successful collective agriculture, albeit with a large admixture of private and sideline activities. The essential features that distinguish it from the Soviet model are the following:

1. No compulsory delivery quotas, freedom to choose what to produce and to sell, subject only to intermittent intervention by the authorities.
2. No material allocation bureaucracy, farms are free to purchase industrial inputs, with any restrictions explained by shortage of currency to finance imports.
3. The right to engage in a wide variety of industrial and service activities, providing much extra income and off-peak employment.
4. Freedom to participate (or not, or to withdraw from) agro-industrial complexes.
5. A wide range of choice on how to organize, motivate, and reward the labor force, with a large private livestock sector (well-supplied with feed) and a range of permutations of private and collective activities.

Hungary's agricultural successes are known to and studied by Soviet specialists. So let us look at Gorbachev's policies, as far as they can be discerned, in the light of the above.

1. Seems not yet contemplated, though the *prodna*log principle is a step in that direction.
2. Is being vigorously advocated by the reformers and is being tried out in some regions. To make a reality of "trade in means of production" requires the extension of reform far outside agriculture. This in turn requires the overcoming of chronic *defitsit*. So: intentions good, outcome unknown.

¹See the interview in *Izvestiya*, 1 June 1986.

Unfortunately, both 3 and 4 are inextricably entangled with the (compulsory) subordination to the *Agroprom*-RAPO hierarchy, the creation of which was, in my view, a retrograde step, inherently inconsistent with the freeing of farm management from excessive supervision and restraints.

Number 5 can be said to be official policy, but this basically correct approach has run into difficulties, which may, however, prove to be growing-pains, part of a painful learning process. Or we may find that the *kollektivnyi podryad* is so alien to the system that it cannot be made to work. It is too soon to tell.

Similarly, we cannot yet tell whether, as a result of criticism from Gorbachev and many others, they will find a way to "delimit the functions of party, state and economic organs," to prevent "excessive interference" with management. The author praises legislation in Czechoslovakia and Hungary giving farms the right to claim compensation if they have to obey instructions that cause them losses and points to Hungary's successes with farms free to devise their own plans with minimum interference.²

What then are the prospects of Soviet agriculture under Gorbachev?

One is repeatedly struck by the resistance to change. Almost every issue of the central economic press reports yet another instance of behavior directly contrary to the spirit of economic reform and of central instructions. Many such instances have been cited already. Large numbers relate to the so-called collective contract, to the quality and assortment of machinery, to the delays in providing needed infrastructure, to the imposition of wasteful investment decisions, to detailed orders from above. ("Some think that, without being told to do it by his superiors, a peasant would not know how to put a spoon to his mouth," wrote A. Dubovskii, in *Pravda*, adding that the RAPO instructed him, a *kolkhoz* chairman, to sow 130 hectares of sugarbeet, although they had decided on the farm that 110 was fully sufficient to meet their delivery obligations.)³ Old habits die hard. Indeed, are they in fact dying?

The Soviet Union is a vast country, and there are doubtless substantial regional and local variations in the intensity of the problems and distortions that have to be resolved. The mere fact of wider publicity being given to negative aspects of reality is not proof that they are getting worse; rather it shows both the extension of *glasnost* (openness) and a determination to put things right. Nonetheless, the speeches of

²A. Buzdalov, "Printsip Demokraticeskogo Tsentralizma v Upravlenii APK," *Voprosy Ekonomiki*, No. 10, 1986, pp. 80-81.

³A. Dubovskii, "V Svoem Dome Khozyaeva," *Pravda*, 28 February 1987.

the leadership and specialist articles indicate they well know that solutions to key problems have yet to be found, even while the active search for such solutions continues. One senses both the real belief that no real improvement is possible without encouraging enterprise and a sense of responsibility, restoring peasant love of the land and a sense that it belongs at least to the collectivity, *and* that without firm party leadership it can all go wrong. There is also the ingrained distrust of private initiative of any sort, of peasants in particular. An *obkom* or *raikom* secretary is still judged by the economic performance of his area and blamed when things go wrong. Management is supposed to be elected and responsible to their "electorate," the work force. Yet party officials are told to exercise leadership very largely through their role in selecting reliable and efficient economic managers.

Over and over again one is struck by the overwhelming force of habit and inertia, so that it is quite premature to try to evaluate the effects of the implementation of reforms that have barely been implemented. It is 30 years since the publication of the last part of Valentin Ovechkin's *Rayonnye budni*, with its vivid denunciation of abuses of authority in the village and of the treatment of the peasants. (The first installment was published in 1952, when Stalin was still alive.) There is a play running in Moscow now based on Ovechkin's *ocherki* (literary sketches), and its power is based upon the audience's knowledge that little has changed. In *Novyi Mir* Anatoli Strelyanyi makes the same point, adding (with delightful irony) that Ovechkin sounds so up-to-the-minute (*zlobodneвно*) "that one might think one is reading Saltykov-Schedrin" (the 19th century satirist of Russian bureaucracy). He goes further: "As far as detailed control (*opekunstvo*) over *kolkhozy* is concerned, in our day this has even become stronger and grows stronger yet."

There have been decrees strictly forbidding the arbitrary variation of grain delivery quotas, the imposition of additional delivery obligations, but "in 1986 in many places everything was just as it was in 1952, 1962, 1972 and 1982." Strelyanyi quotes an agronomist from Sumy, in the Ukraine: "The old ulcers still bleed. Grain sales: first the plan, then the obligation (*zadaniye*), then the plan-*zadaniye*, then the first supplementary plan, then the second. The *kolkhoz* must deliver everything." He cites an official from Udmurtia, where the same procedures are being applied: "How can we look people in the face? They think that we are irresponsible careerists. They do not know that we have orders from Moscow, telephoned orders." Strelyanyi ends by citing an official of *Agroprom* in Moscow:

What have I done during my fourteen hours at the office? I heard shouts from above, *davai davai* (in this instance procure, deliver) and I pass them down the line. People in the localities are vastly indignant; what has been promised them is quite different. I lie at home after work and think: what is going on? With one hand we write good decrees, promising the village scope for decisions, fresh air, stimuli, while with the other hand we tear them to shreds. . . . Can this be the way to deal with vital contemporary problems?

We have seen how the creation of *Agroprom* has so far failed to solve the problem of effective coordination of the farms with the service agencies, and material-technical supply is still causing much trouble. It is interesting to note that the former head of *Selkhoztekhnika*, A. Ezhevsky (who used to complain about the failures of the agricultural machinery industry) is now the Minister of Agricultural machinery, and complaints continue. In *Novyi Mir* a highly critical article by Yu. Chernichenko focuses particularly on machinery.⁴

For thirty years the *kolkhoznik* did not have equal rights economically and juridically, and now he is deprived of rights over technique. It has long been necessary to discover how all this falsification came about: Apparently there are machines available, and in reality it is not so. How can the towns expect good quality grain and milk when hundreds of thousands of machine-builders send to the village obvious rubbish (*otkrovennuyu lipu*).

Space forbids more quotations about machinery quality, excessive weight, nonadaptability to local conditions, cost. He also cites the ill effects of mechanized livestock complexes, which substantially reduced the life-expectancy of cows and cause "monstrous increases in cost of production of milk" (documented earlier). He makes detailed comparisons between the latest (very heavy and high-cost) Soviet grain-combine (the *Don*) and its American analogs. He goes to the heart of the matter: "Monopoly generates backwardness, always." The farms must be given choice. He cites a villager: "Replace *monopoliya* by *mnogopoliya*" by "multipoly." Only competition for custom between suppliers can give the farms the necessary influence over the assortment and quality of material inputs, repairs, spares.

So there is a great deal yet to be done. Thirty years ago Gregory Grossman wrote an article with the excellent title: "Routine, inertia and pressure." Sometimes the pressure has been wrongly applied (the creation of the *Agroprom* hierarchy was surely a major error), but resistance to any change is quite evidently strong. One must ask whether Gorbachev, who must know the situation well, has the will and the

⁴Yu. Chernichenko, "Kombain Prosit; Kolotit," *Novyi Mir*, No. 12, 1986, pp. 190-211.

power to force through the necessary reforms and ensure their implementation. I believe he will try.

Two forecasts, therefore. One is that within a year there will be another and far-reaching decree on agriculture, highly critical of the RAPOs and of the working of the *podryad*, with further measures on material supplies and the links with the agricultural machinery industry. The other is that, given a little better luck with the weather, output and productivity will show some improvement, with a reduction in grain imports to an average of 15-20 million tons, less than half of what it has been in recent years, and with the grain harvest averaging out at 215 million tons through 1990. Costs, however, will remain high unless and until they finally master the still-elusive technique of decentralizing the large and clumsy state and collective farms to genuinely autonomous contract groups.

Economic reform is particularly urgent in agriculture. It is also peculiarly difficult to implement. Some readers may believe that the conclusions of this report are somewhat too negative. I can only reply that I conscientiously sought evidence that could point to a more positive conclusion. A more favorable outcome is not excluded, but the balance of the evidence supports a cautious assessment.