TITLE: PROSPECTS FOR SOVIET AGRICULTURE IN THE 1980s

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This paper presents an evaluation of the recent performance of Soviet agriculture and a review of the prospects for agriculture during the Eleventh Plan Period (1981-85) and the rest of the 1980s. The conclusion of the paper is that the 1980s will be a difficult decade for Soviet agriculture and food. The performance of agriculture during the 1970s was significantly poorer than in the two prior decades.

Agricultural performance during the 1970s was poorer than during earlier decades from several viewpoints. One was that output grew at a significantly slower rate during the 1970s, and especially during 1976-80, than in any of the other plan periods since 1950. A second was that the poor output performance occurred in spite of enormous capital investment in agriculture during the 1970s, and increased deliveries of fertilizer and farm machinery. A third was that the slow growth of output, especially of livestock products, during the decade occurred even with grain imports of 155 million tons. During the Tenth Plan grain imports were double those of the Ninth Plan, yet livestock output grew more slowly during the latter half of the decade than the former. A fourth viewpoint from which the agricultural performance during the 1970s could be judged as unfavorable was the enormous growth in the price subsidies for meat and milk. These subsidies amounted to nearly 30 billion rubles by the end of the decade and were more than three times the level at the beginning of the decade.

(A report submitted in partial fulfillment of Council Contract 620-8.)
During the Tenth Plan grain production averaged 205 million tons or 12.5 million tons below the planned level. The failure to meet the grain goals is often said to have been due to adverse weather. But the Tenth Plan Period had climatic conditions quite similar to most five-year periods since World War II--two favorable years (1976 and 1978), one average year (1977) and two poor years (1979 and 1980).

The Eleventh Plan started out very poorly, with a grain crop of not more than 175 million tons. Consequently the 1981-85 grain goal of 238-243 million tons seems unattainable. In the paper, which was written before the 1981 grain output outcome was known, I projected an annual output of 230 million tons. Even this output level now seems out of reach. To achieve it would require that grain production during the remaining four years of the plan period must average in excess of the record 1978 grain crop of 237 million tons. Such a high average for a four-year period, relative to the prior peak output level, has never been achieved. Even to reach an annual output level of 220 million tons for 1981-85 will require output to average 231 million tons, a rather unlikely outcome.

The U.S.S.R. will continue to depend upon a large volume of grain imports. Even with grain imports of perhaps 30 million tons annually it will have difficulty meeting the 1981-85 meat plan goal of 17.0-17.5 million tons. In fact, even under quite favorable conditions, meat output is unlikely to average more than 16.5 million tons. With the growth of population, this will mean that per capita meat production will have increased hardly at all in a decade.

Soviet agriculture will continue to present serious difficulties to the Soviet economy. It is planned to devote 27 percent of national investment to agriculture, an enormous amount for an agriculture that produces
less than U.S. agriculture. The cost of the food price subsidies will continue to grow unless the Soviet government is willing to increase meat and milk prices, something that high officials have repeatedly said they would not do. Grain and other feed imports will require very large hard currency expenditures. And the variability of Soviet agricultural production will continue to plague the economy. No measures have been undertaken that would significantly reduce the variability of agricultural output.
PROSPECTS FOR SOVIET AGRICULTURE IN THE 1980s *

D. Gale Johnson

In early 1977 I wrote a monograph with the title The Soviet Impact on World Grain Trade. In the monograph I discussed some of the issues involved in selling grain to a country unwilling to provide timely and reliable information on the progress of its grain crops and considered the size of grain stocks to be a state secret. I argued that whatever its other merits or defects the U.S.-USSR Grain Supply Agreement had the merit of minimizing the ability of the Soviet government to use secretiveness as a means to obtaining an advantage in its import of grain. The agreement, which expires September 30, 1981, permitted the USSR to import up to eight million tons of corn and wheat from the United States without prior approval from our government and required it to buy at least six million tons each year. However, imports in excess of eight million tons required consultation. Since the agreement covered a marketing year starting October 1, it was possible to delay decisions on the lifting of the eight million tons ceiling until there was a considerable amount of information concerning the

*Paper originally presented at Symposium "The USSR in the 1980s: The Unrealized Dream," April 3-4, 1981 at College of St. Thomas, Minneapolis, Minnesota. I want to express my appreciation to Karen Brooks for helpful comments and calling certain materials to my attention.

I ask that those who have copies of the original paper or the revised paper to discard them due to two or three small errors. Revisions are of some importance, especially in the last third of the paper.

size of the grain crop. This feature of the agreement seemed to me to be its major merit—the agreement provided both time and a mechanism (consultation) for eliciting more information.

In the monograph I made a projection of the grain crop of the USSR for the tenth Five-Year Plan, for 1976 through 1980. The grain production goal of the Tenth Plan was an annual average of 215 to 220 million metric tons or some 18 to 21 percent over actual production during the Ninth Plan. I concluded and so stated that I thought actual grain production would not meet this goal: 1 "Average grain production in the range of 205 to 210 million tons seems more reasonable."

Apparently some Canadian papers reported my projection of grain production. One result was an attack on my analysis and projection in the form of a letter to the editor of the Toronto Globe and Mail (September 12, 1977) from a Mr. Ypveny Novikov of the Novesti-Press Agency in Moscow. Among his statements were: "... I think the professor’s attempt to gauge Soviet agriculture with Western yardsticks is absolutely unfounded."
"... I find very unconvincing the conclusion by Professor Johnson that the USSR will not be able to fulfill its five-year plan for grain output."

What was the grain production outcome for the Tenth Five-Year Plan? The official grain production figures for the USSR for 1976-80 average exactly 205 million tons. 2 The 1980 grain crop could have equaled the average for 1976-79 of 214 million tons instead of 189 million and the Tenth Plan performance would have been within the output range that I pro-

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1 Ibid., p. 33. All references to tons in this paper are to metric tons.

jected. In other words, the projection of 205 to 210 million tons did not depend upon there being a poor grain crop in 1980, but only that it be an average crop.

I have presented this brief review of the Soviet reception to a critique of their agricultural policies, planning and performance, at least in part, because I am pleased because I was so close to being correct about the performance of agriculture during the last half of the 1970s. But I have presented it for a more important reason, namely because this little and unimportant story indicates one of the reasons why Soviet agriculture continues to display a disappointing performance. The reason is that there is almost no receptivity within the Soviet government to constructive criticism of their agricultural policies and plans. There is a great deal wrong with Soviet agricultural policy that imposes large costs upon their agriculture and thus upon their economy and citizens. Given the rather strong reaction to a quite innocuous pamphlet of very limited distribution, one can imagine what the reaction would have been if a professor at a university in the Ukraine had published the same criticisms. Unfortunately for the Soviet citizen, one reaction would have been the same, namely to make no adjustment or change in response to valid and constructive suggestions for improving agricultural performance.

In my remarks I shall cover the following major areas: A brief description of the Soviet agricultural system, a summary of the performance of Soviet agriculture since 1950 with a more detailed evaluation of the goals and achievements of the Tenth Plan, the broad outlines of the Eleventh Five-Year Plan for agriculture, and some concluding comments on prospects during the 1980s.
The Soviet Agricultural System

The Soviet agricultural system is one of great complexity, though no more so than that of the United States, the United Kingdom or Canada. Any short description of an agricultural system must be highly simplified. The emphasis will be upon major features that differentiate Soviet agricultural organization from those with which we are more familiar. In a short treatment only the most important differentiating factors can be noted.

Collective and State Farms

Almost all of the agricultural land in the Soviet Union is socialized and operated by either collective or state farms. The average size in 1980 was large—6,600 hectares (16,300 acres) for collective farms and 17,300 hectares (42,730 acres) for the state farms. These two types of farms have a total cultivated area of approximately 225 million hectares (555 million acres) which is some 40 percent larger than the cultivated area in the United States and more than five times that of Canada. Due to the large size of the farms, the total number of farms is quite small, there being, as of the end of 1980, 25,800 collective farms and 21,000 state farms. The total sown area in the socialized sector is divided approximately equally between the collective and state farms, with the state farms having 54 percent of the sown area in 1980. Collective farms have about 515 workers and state farms about 550, annual average basis.¹

In theory a collective farm is a producer cooperative managed by a chairman and board of directors elected by the members. The collective farm is assigned land in perpetuity though the farm can neither sell nor rent the

land. It is not clear that the process of amalgamating collective farms, which resulted in the reduction of more than 200,000 farms, with half of the reduction occurring in one year (1950), was achieved by the free votes of the members of the collective farms.

In fact, collective farms possess only limited decision-making authority. Each farm is required to deliver a substantial amount of its output to the state procurement agencies. Before 1980 for most commodities if sales exceeded the amounts specified, the farms received substantially higher prices. The bonus was generally 50 percent of the procurement price. The method for determining the bonus was changed effective in 1981.¹ Farms may also sell part of their output in the collective farm markets where prices more nearly reflect supply and demand conditions, but such sales are possible only after the planned deliveries are made to the procurement agencies.

The members of the collective farms receive payment on the basis of the number of days worked and factors that reflect the skill required for the work performed. Until fifteen years ago the members were residual claimants to the income of the collective farms. However, in the 1960s a system of minimum monthly payments has been instituted and the collective farms are required to make such payments on a timely basis. On a farm of low productivity the minimum payments, with some adjustments for skill factors, may be all that is received. On a farm with a high productivity, payments can and do exceed the minimum payments by a substantial margin.

The state farm can be reasonably accurately described as a corporate

¹Until 1981 the bonus was determined by the level of planned procurements. This policy apparently resulted in significant favoritism—a modest procurement goal was a valuable asset. Starting in 1981 the bonus will be for sales in excess of actual deliveries for 1976–80. See below for a fuller discussion of the new method of paying bonuses.
farm: workers receive a wage; the state supplies the capital and takes the profit, if any. If there is a loss, this is covered by a subsidy.

When agriculture was first socialized during the late 1920s there were important differences between collective and state farms. However, recent trends indicate that an effort is being made to reduce the differences between the two forms of agricultural firms. The institution of the minimum wage for members of collective farms probably had more than one objective, but one effect was to make the collective farm much more like the state farm. It may also be noted that the relative importance of state farms, as measured by sown area, has increased greatly in the last quarter century. In 1950 state farms cultivated only 12 percent of the sown area; today such farms cultivate approximately half of the sown area.

Management of Agriculture

The management of Soviet agriculture is highly centralized. Most important decisions are made or influenced by Moscow through the five-year plans, annual plans and specific instructions concerning a wide variety of farm activities. Much of the management occurs through directives establishing such goals as size of the livestock herd, planting and harvesting dates and procurement plans. Prices do have some role. As already noted, large premia are paid for above-plan deliveries of many products as well as for the delivery of particular weights and qualities of livestock products.

The assumption or operating principle that seems to guide agricultural planners and officials is that farm managers and farm people generally cannot be trusted to make the appropriate decisions. This view was elaborated in a speech by A. M. Rumyantsev at the International Conference
of Agricultural Economics in Minsk in 1970: 1

Every collective farm cannot take into account society's real needs in agricultural products. This can be done only by socialist society as a whole. The latter makes the necessary information available to all collective farms in a centralized way, by drawing up its firm plan of purchasing farm products, by placing orders with these farms and thus ensuring the stability of their production.

There is an important sense in which the agricultural planners are right in assuming that farm managers will not make the appropriate decisions in the Soviet Union. This is true because the price system, as designed by the planners and officials, does not provide the appropriate information and incentives to guide the farms in making decisions concerning the products to produce and the resource combinations that should be used in order to minimize costs and to achieve maximum output of agricultural products. Unfortunately for the farms and the Soviet consumer the firm plans of purchasing farm products fail to really take into account the "society's real needs in agricultural products." 2

Private Agriculture

Members of collective farms and employees on state farms, as well as large numbers of workers in nonfarm areas, are assigned small plots of land for their personal cultivation. The plots range in size from less than half an acre to somewhat more than an acre.

These plots account for approximately 3 percent of the total sown

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1 Academician A. M. Rumyantsev was a member of the Presidium of Academy of Sciences of the USSR in Moscow.

2 In another paper, "Agricultural Organization and Management in the Soviet Union: Change and Constancy," I have discussed at considerable length the shortcomings of agricultural planning and performance in the Soviet Union. The significant differences in profitability of different products that results from the established purchase prices means that guides other than prices must be used to elicit desired output. (Office of Agricultural Economics Research, University of Chicago, Paper No. 80:26, August 8, 1980.)
area, yet approximately 25 percent of gross agricultural output comes from these plots. In recent years approximately 30 percent of total Soviet meat and milk output has been produced in the private sector. Almost two thirds of all potatoes and two fifths of the fruit and vegetables are grown on the private plots. It has been estimated that 12 percent of net agricultural output is produced on the private plots.¹

This comparison of the importance of the private plots in the sown area and gross or net agricultural output is not intended to indicate differences in productivity between the private and socialized sectors. Most of the concentrate feed for private livestock is produced in the socialized sector and private livestock graze on the common pasture lands of the collective farms and much of the otherwise unused land such as along roads and highways.

The importance of the private plots in gross agricultural output is emphasized to indicate that a substantial part of farm output is not directly under the control of Moscow, except in the long run. In any given year the private sector, especially when crop production is low, presents the central planners with difficult decisions concerning the allocation of feed supplies.

One indicator of when top Soviet officials perceive that agricultural conditions are unsatisfactory and output growth is lagging, especially of those products most desired by consumers, is that some restraints on private agriculture are relaxed. At the recent Congress there was a new decree: "On supplementary measures for improving production of agricultural products in the private agriculture of citizens." The

numbers of various kinds of livestock that can be raised on a private plot are strictly limited by law and regulation. However, for the time being families can take on additional livestock if they enter into agreements to sell the fattened animals or milk to the collective or state farms. Agricultural production purchased in this way can be used toward collective or state farm plan fulfillment and in calculating bonuses for management. The available reports are not very specific about where the added feed is to come from and little has so far been said about the prices that will be paid for the animals and products. An article that describes a similar plan that had been in effect for three years in Voronezh Province noted that pigs were sold to the collective farm for 1.5 rubles per kilogram, a price approximately the same as the state purchase price. In this case the concentrate feed was supplied by the collective farm.  

Agricultural Performance Since 1950

In terms of overall output growth, USSR agriculture has performed

1G. Lisichk, "The Peasant Farmyard as an Ally of Communal Production," in Literaturnaya gazeta, Dec. 17, 1980; translation in Current Digest of the Soviet Press, XXXIII, No. 4 (Feb. 25, 1980). The chairman of the May Day Collective Farm describes the advantages of the approach: "On the collective farm's livestock sections we use 12 to 13 centners of feed units per centner of added weight. But for the animals raised in cooperative arrangements with collective farmers, we use just 4 centners. We gain space for animals in the communal livestock sections, and this space isn't cheap." The collective farm chairman was not without some self interest in the matter. He, his wife, son and daughter-in-law raised 20 pigs in one year on 0.15 hectares of land and earned 3,000 rubles. And he indicated that he thought he could increase his income to 5,000 rubles by increasing the number of pigs raised to 35. In an article translated in the same issue of the Current Digest of the Soviet Press that consisted of questions and answers on the degree on private livestock, it was stated that for the RSFSR it was anticipated that 8 million pigs and 300 million young fowl would be produced in this manner in a year. It was noted that the feed would be supplied by the farms. It was also indicated that credit of up to 3,000 rubles for up to 50 percent of the cost of constructing facilities on the private plots for raising livestock to be sold to the farms was to be made available. The number of livestock that families will be permitted to have appears to be quite substantial, if the above example is at all a realistic one.
well compared with that in Western Europe and North America since 1950. This was particularly true for 1950 through 1971 when agricultural output in the USSR increased at an annual compound rate of 3.9 percent compared to 2.0 percent for U.S. farm output. However, during the 1970s agricultural output growth in USSR has slowed and sharply so. For 1970 to 1978-80, the growth rate was 1.2 percent. Agricultural production in 1978, a record grain production year, was only 5 percent above 1973, an earlier year of record grain production. Thus from peak to peak, so to speak, production grew at no more than 1 percent annually. For the entire period since 1950, the output record remains a respectable one of 3.0 percent annual growth. However, the slowdown in output growth during the 1970's has significant negative implications.

The success in achieving a relatively high output growth rate since 1950 tells only part of the story. Measured by other criteria, the performance of Soviet agriculture during the past three decades leaves much to be desired. Three particular difficulties will be discussed.

A first shortcoming is that while output growth has been rapid, it has not kept pace with the growth of demand. To meet the demand growth, the Soviet Union has had to depend increasingly upon imported grains and feedstuffs. With the Soviet population growing at a slow pace—less than 1.5 percent between 1950 and 1970 and 1 percent in recent years—why has the USSR found it necessary to import food and feeding materials? An important reason is that retail prices of meat and milk in state stores have remained constant since 1962 and hardly changed since the mid-1950s, while money incomes per capita have increased substantially. A political decision has been made to hold constant retail prices of meat, milk and most other foods, even though procurement prices for livestock products may have
doubled since 1964. The fixed retail prices do not equate supply and demand and have been maintained only by payment of enormous subsidies on meat and milk production. In 1980, the total subsidy bill for meat, milk, potatoes and cereals, including bread, may have reached 30 billion rubles—an enormous sum. In 1977, the subsidies cost 22 billion rubles or 18 percent of gross agricultural output.¹

The subsidy levels are very substantial. It has been reported that the "state's outlays for the production, processing and sale of products in the mid-seventies double the retail price of beef, 1.4-fold higher for mutton, 1.3-fold higher for pork, 1.4-fold higher for butter and 1.3-fold higher for potatoes."² Since in 1979 the prices paid to farms for milk increased by 15 percent and for potatoes by 32 percent, as well as an increase for mutton, the current subsidy rates for these products are significantly higher than what was true in the mid-1970's.

Per capita meat consumption, even though it has doubled since 1950, remains substantially below the level in other industrial countries with approximately the same income levels. On a comparable basis, per capita meat consumption is significantly lower in the USSR than in Poland, by at least 40 percent. One of the nice ironies of the day is that the USSR is subsidizing the Poles who eat considerably more meat than Soviet citizens. Because there has been and continues to be a very high income elasticity of demand for meat, per capita demand has been growing at an annual rate of about 2 percent. Not all of this demand has been met in the state stores

²Izvestiya Akademii Nauk SSSR—Seriiya Ekonomicheskaya, No. 1, 1980. Translation in KPRS, 75754, May 22, 1980, p. 2. In 1980 per capita consumption of meat and fat in the USSR was 55 kilograms; for Poland meat alone was 70 kilograms.
at the official prices; a significant amount of meat is sold in the collective farm markets at prices substantially higher than the official retail prices. In recent years, the meat prices in the collective farm markets have been more than double the official prices.

A second shortcoming of Soviet agriculture continues to be the very high costs of producing livestock products. There is frequent discussion in the Soviet press that even the high livestock prices do not occur the full cost of production even though the costs as calculated exclude a return for land and include only depreciation (no interest) on capital. In 1977, prior to the increase in milk prices in 1979, it was stated that milk production involved a loss on 47 percent of the farms, wool on 73 percent and potatoes on 70 percent.¹

The third shortcoming has been the remarkably high percentage of total investment that has been allocated to agriculture during the 1970's. Agriculture's share of national investment increased from less than 20 percent during 1961-65 to about 27 percent during the Tenth Plan. Total agricultural investment during the Tenth Plan (1976-80) was approximately double that for 1966-70. It appears that during 1976-80 the gross investment to net output percentage in the Soviet Union was double that in the United States—on a reasonably comparable basis agricultural investment in the Soviet Union was 35 percent of the value of net output while it was 17 percent in the United States.

¹U.S.D.A., Supplement 1 to WAS-18, p. 25. Procurement prices in 1977 for live animals (primarily beef and pork) averaged 1,570 rubles per ton (71 rubles per hundred weight); eggs, 0.83 rubles per dozen; grain, 107 rubles per ton. In 1979 milk prices were 277 rubles per ton (12.5 rubles per hundred weight). How much is a ruble worth? It depends on what the ruble is spent for. The official rate of exchange was approximately $1.50 per ruble in 1980 but in June, 1981 the rate was $1.35. For many purposes either is an overestimate of the value of the ruble.
Agriculture in the Tenth Plan Period

The Tenth Plan for Agriculture had the general appearance of a moderate and realistic plan in terms of the possibility of achieving in whole or in large part the goals that were established. In another sense, the "output objectives of the plan can be described as pessimistic." Or so I wrote in 1976. I went on to note that if the plan objectives were met, there would be little or no improvement in per capita food consumption, in terms of either quantity or composition. The only significant planned increases in food consumption per capita were for vegetables, fruits and melons. Perhaps the most striking figure in the plan was that grain consumption per capita was to remain unchanged during the plan period after significant declines in recent years. 1 At the per capita income level of the USSR, stable per capita grain consumption would not occur in an economy in which consumer preferences had a significant influence upon food consumption or one in which supply equalled demand at the prevailing prices for all food items.

The meat and milk goals were extremely modest with planned increases of approximately 7 to 11 percent for the Tenth Plan compared to the Ninth. The planned increases were very small compared to the potential growth in demand; for meat per capita demand probably increased by at least 10 percent during the five years while the planned supply increase was approximately 3 percent. At the time I noted that the grain and livestock goals were quite well related to each other, gross farm output was to increase by 14 to 17 percent with grain output to increase by 18-21 percent; the 1976-80 goals are given in Table 1.

1In fact, per capita grain consumption may have declined between 1975 and 1980 but only by 2 kilograms or by 1.4 percent. Between 1970 and 1975 the decline was 8 kilograms or 5 percent, a rather more reasonable rate of decline. See The USSR in Figures: 1980, p. 182 (Russian edition).
<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity or Value</th>
<th>Increase Over Previous Five Years</th>
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<tr>
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<tr>
<td><strong>-- Percent --</strong></td>
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<td>Fruits and berries</td>
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NA = not available.


1 Calculated from information on 1976 plan.  
2 Gross weight, including excess moisture and waste.  
3 The announced target for 1980 is 9.0 million metric tons.  
4 Calculated from 1971-74 data and 1975 estimates.  
5 Including slaughter fats.  
6 Billions.  
7 Excludes grapes.
But performance fell significantly below these modest goals. Earlier I referred to the shortfall in grain production; the increase for the five years was 13 percent instead of 18-21 percent. The shortfall in meat production was even sharper. The 1980 goal was 17.3 million tons of meat and edible slaughter fats; actual 1980 output has been reported as 15.1 million tons. The 1980 output of meat and fat was only slightly larger than the 1975 output of 15.0 million tons and at 57 kilograms per capita meat consumption was the same in the two years. For the plan period annual average meat output increased 6 percent over the previous plan and thus fell below the low end of the percentage increase for the goal.

Table 2 presents data on 1976-80 goals and performance and 1980 goals and performance.

Milk production fell short of both the Tenth Plan and 1980 goals, though the major problem with milk in the Soviet Union is not the output level but the inadequate utilization of the available supplies. Egg output met both the Tenth Plan and 1980 goals.

Cotton was the only crop for which the Tenth Plan and 1980 goals were met. For the other six crops, besides grain, for which we have data for both production and 1976-80 goals, production fell significantly short of the goals. Sugar beet production, which was to increase 25-29 percent, fell some 8 percent below the Tenth Plan goal. No 1980 goal was given for sugar beets. Vegetable production was to increase 23 percent for the plan; production fell short of the plan goal of 28.1 million tons by 7 percent for the period and 1980 production was 14 percent short of the 1980 goal. Production of fruits and berries during the Tenth Plan fell short of the goal by 9 percent.
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<td>0.515</td>
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</tbody>
</table>

<sup>a</sup>Based on mid-point of 1976-80 plan goals. Actual/plan means actual output divided by plan output multiplied by 100 to convert to percent.
Sunflower seed production was to have increased by 27 percent for the plan; instead of increasing production averaged 11 percent below 1971-75. Potato production was to increase 14 percent during the plan period; instead average output was 8 percent below the previous plan period. The 1980 potato output was the smallest in almost three decades and was only three fifths of the 1980 goal.

The Tenth Plan period can only be described as a disastrous one in terms of agricultural performance. Even though there was enormous capital investment, and increases in machinery deliveries and fertilizer supplied to agriculture, grain imports increased significantly. During the Ninth Plan, net grain imports totaled 55 million tons; during the Tenth Plan 102 million tons.

In my opinion one of the most disquieting aspects of the Tenth Plan was that grain fed to livestock increased from an estimated annual rate during the Ninth Plan of 94 million tons to 121 million tons or 28 percent. Over the same span of time meat and milk production each increased by only a little more than 6 percent. Only egg output increased even approximately in proportion to the increase in grain used as feed and at a 23 percent increase did not quite equal the 28 percent increase in grain used as feed. With meat and milk production in 1980 little above the level five years earlier, the large increase in grain used as feed raises questions about the potentials for further increases in livestock production.

1The Tenth Plan had an ambitious goal for the delivery of fertilizer to agriculture, with a planned increase of 52 percent. Actual deliveries fell short of this, increasing by 31 percent. Machinery deliveries generally increased significantly during the plan period, though not at the rate originally planned. However, high scrappage rates held the growth in machinery inventories to a very modest rate. Fertilizer deliveries during the Tenth Plan averaged 18.1 million tons in terms of nutrient weight and 13.8 million tons during the Ninth Plan.
and milk production based on increased amounts of grain. I shall discuss this point further in the concluding part of my remarks.

Prospects for the 1980s

Before turning to the goals of the Eleventh Plan, and less information has so far been released about the current plan than was true of the previous plan, I shall make some general comments about factors that are likely to affect the performance of USSR agriculture during the 1980s.

It is common to attribute a significant part of the difficulties that USSR agriculture has in expanding output to its climate and to excuse the large year to year output variability upon weather fluctuations. There is validity to the description of the Soviet agricultural areas that says that where there is adequate moisture it is too cool and where there is enough warmth it is too dry. But I believe that climatic factors are given too much weight in attempts to explain the slow growth and variability of USSR farm output. Agricultural policy influences production variability. The USSR could have reduced variability of grain production in its dry areas if it used fallow more extensively than it has in the past or currently. Canada, which produces almost all of its wheat under climatic conditions as subject to drought or cold as does the Soviet Union, has achieved much greater output stability through the large scale use of summer fallow. It is probable that extending the use of summer fallow for grain would reduce total grain production somewhat, but it would permit significantly greater stability. And given the very high seeding rates used in the Soviet Union--240 kilograms per hectare compared to less than 85 in the United States--the saving of seed by increasing fallowing would offset a significant part of the output loss.
It appears unlikely that there will be a reversal of several of the factors that have affected the cost structure of agriculture during the past two decades. These cost factors have necessitated the significant increases in prices paid to the farms; these price increases when associated with fixed retail prices have resulted in the enormous subsidy burden that now exists and which increases each year. In an economy that claims to have controlled inflation, production costs for major farm products increased significantly during the 1970s. Between 1970 and 1979 the cost of producing grain on collective farms increased by 55 percent; the cost of producing milk increased by 51 percent, cotton by 17 percent, sunflowers by 42 percent, sugar beets by 43 percent and eggs by 17 percent. While farm wages and earnings were increased significantly during the decade, labor costs per unit of output either remained stable or declined. The increases in costs were apparently due to the costly means adopted for replacing labor and/or sharp increases in the prices of farm inputs and machinery.

There have been substantial increases in the prices of many farm inputs. In a period specified as "in recent years" the price paid per horsepower for tractors and attachments has increased by 70 percent; the prices of mineral fertilizers by 20 percent; mixed feeds by 100 percent, and the costs of cattle and hog barns by 130 to 300 percent.

Another factor in increasing costs has been the deterioration in performance of major farm machines between 1970 and 1976 (and perhaps since then). The daily output of work per tractor declined from 7.2 to 7.0 hectares; for combines even more drastically from 7.3 to 6.4 hectares, a decline of 12 percent. The percentage decline in the amount of grain per combine day was at least equal to the percentage increase in the number of
combines between 1970 and 1976. Consequently, there was no reduction in
the amount of time required to complete the harvesting of grain, and the
losses from a too-extended period of harvesting were at least as great at
the end of the period as at the beginning. There is general agreement
among those acquainted with Soviet agriculture that the length of time re-
quired to complete the grain harvest results in substantial output losses
in most years.

A further factor causing high costs in agriculture is the inability
of the system to retain the skilled workers required to operate the rather
complex machinery that is now in use. Between 1971 and 1974, 2.6 million
tractor drivers and machine and combine operators were trained but during
those years the total supply of such workers in agriculture increased by
only 269,000. In 1979, 1.4 million tractor, combine and auto driver/
mechanics were trained for agricultural work, but the number employed on
farms increased by only 32,000. Obviously a very large fraction of those
trained decided to use their newly acquired skills in other and more re-
warding activities. This loss of trained manpower is due, not to the
weather, but to policy choices that have been made. And, if anything, con-
ditions deteriorated during the 1970s.

Poor quality of farm machines and/or poor maintenance results in
a high rate of scrappage of farm machinery, rates much higher than in the
United States for example. Grain combines had an annual scrappage rate of
12 percent in the USSR for 1971-75 and 8 percent in the United States. For
tractors the rate was 12 percent in the Soviet Union and about 4 percent in
the United States. The scrappage rate for windrowers in the USSR was an
astronomically high figure of almost 18 percent—an average life of only a
little more than five years. The windrower is a relatively simple machine
that cuts the grain and puts the grain in rows—a slightly complicated hay mower. The grain, with the straw, dries for a few days and is then combined from the windrow. The high rate of scrappage results in a slowly growing inventory of farm machines.

The above data on scrappage rates refer to 1971-75. Data for 1976-80 indicate that scrappage rates had increased in the USSR. For tractors the scrappage rate was 13.4 percent and for harvesters, 14.8 percent. The scrappage rate for trucks was even higher at 17 percent.¹

It is generally agreed that the usable inventory of farm machines in the USSR is too small for adequate and timely performance of numerous farm operations, including both seeding or planting and harvesting of many crops. One of the important contributions of mechanization to agriculture in North America has been to permit more timely operations and higher output as a result.

I believe there exists a substantial potential for increasing farm production in the nonchernozem or nonblack soil zone of the USSR. This is a very large geographical area of 112 million hectares of farm land—this is as much farm land as in twelve Minnesotas. It is an area with adequate rainfall and temperatures suitable for small grains, potatoes, hay, and green fodder. The soil is low in quality, requires drainage and liming as well as large annual inputs of fertilizer. It also requires a high level of management and care and this may well be the reason why efforts to increase production in the area have met with such little success.

Hay yields in the USSR, including those in the nonchernozem region, are abysmally low. For all of the country yields are less than two tons per hectare; in states with climatic and soil conditions similar to the

major hay-growing regions of the USSR, yields average four to five tons per hectare and this is for tame hay excluding alfalfa. If alfalfa is included the yields for Michigan, Minnesota and Wisconsin are about six tons per hectare. Yields of tame hay in the Prairie Provinces average four tons per hectare. Because tame hay is harvested from 40 million hectares in the USSR, a doubling of yields would have a major impact upon feed supplies. It would be equivalent to 30 million tons of grain or the output from more than 20 million hectares of grain. Wild hay is harvested from an even greater area than tame hay and offers a significant potential, either through improvement of the wild hay yields or a transfer to tame hay by drainage and liming for increased feed production.

I reemphasize the point I made earlier—both the level and variability of agricultural production in the USSR are influenced a great deal by policy decisions as well as by climate. The quality of farm machinery, the timeliness of delivery of fertilizer to farms, the limited use of summer fallow, the neglect of hay as a feed crop, and the failure to hold large stocks of grain are not due to climatic factors but are policy matters. There is much that can be done to offset climatic variability, either in terms of its effect upon average output or in fluctuations in that output. For whatever the reasons may be, the USSR has chosen to undertake or encourage few internal measures designed to stabilize production. Instead there appears to have been a reliance upon the international grain and feed markets as the mechanism for evening out feed production variations and for meeting the growing demand for livestock products. In the process the large and largely uncontrolled variability of Soviet agricultural production has had to be absorbed by the rest of the world.
The Eleventh Plan for Agriculture

Even though we are now in the first year of the Eleventh Plan and many of the decisions affecting agricultural production and incomes for 1981 have already been made, relatively little information has been made available concerning the Eleventh Plan for agriculture. A few goals have been set as averages for the plan period, but the goals included in the plan directives published in December 1980 were little changed from the general indications of plans announced in 1978. The December 1980 directives seem to have taken no notice of the present low level of meat output and the difficulties there will be in increasing meat output significantly during the first two years of the plan. However, at the recent Party Congress it was indicated that the 1985 goal for meat production was 18.2 million tons instead of the earlier figure of 19.5 million tons.

Table 3 gives the information that has been provided for the output goals of the Eleventh Plan and provides comparisons with the actual and planned outputs for the Tenth Plan. Annual average production is planned to increase by 12 to 14 percent or by 2.3 to 2.7 percent annually. Grain production is planned to increase by 17 percent compared to a 13 percent increase for the Tenth Plan. The cotton production goal is for an increase of a modest 4 percent and no goal has been published for potatoes. Sugar beet production is planned to increase by 15 percent.

Meat production is planned for a 16 percent increase, after an increase of only 6 percent during the Tenth Plan. Milk output is planned for a small increase of 5 percent while planned egg output would represent an increase of 14 percent.

There appears to be an imbalance between the planned increase in grain production and the meat output goal. Unless other feed components
## TABLE 3

**ELEVENTH PLAN AGRICULTURAL GOALS WITH COMPARISONS TO THE TENTH PLAN**

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Million tons)</td>
<td>1976-80 Plan</td>
<td>Actual&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Gross Agricultural Output</strong></td>
<td></td>
<td></td>
<td>112-114</td>
</tr>
<tr>
<td><strong>Grain</strong></td>
<td>238-243</td>
<td>110.6</td>
<td>117.3</td>
</tr>
<tr>
<td><strong>Cotton (unginned)</strong></td>
<td>9.2-9.3</td>
<td>108.8</td>
<td>103.9</td>
</tr>
<tr>
<td><strong>Sunflower seeds</strong></td>
<td>6.8</td>
<td>89.5</td>
<td>128.3</td>
</tr>
<tr>
<td><strong>Sugar beets</strong></td>
<td>100-103</td>
<td>105.2</td>
<td>114.8</td>
</tr>
<tr>
<td><strong>Meat (slaughter weight)</strong></td>
<td>17.0-17.5</td>
<td>112.7</td>
<td>115.8</td>
</tr>
<tr>
<td><strong>Milk</strong></td>
<td>97-99</td>
<td>103.2</td>
<td>105.2</td>
</tr>
<tr>
<td><strong>Wool</strong></td>
<td>0.47-0.48</td>
<td>102.6</td>
<td>103.0</td>
</tr>
<tr>
<td><strong>Eggs (billion units)</strong></td>
<td>72</td>
<td>121.0</td>
<td>114.3</td>
</tr>
<tr>
<td><strong>Vegetables</strong></td>
<td>29.4</td>
<td>104.6</td>
<td>113.1</td>
</tr>
<tr>
<td><strong>Fruits and berries</strong></td>
<td>11.5</td>
<td>110.6</td>
<td>122.4</td>
</tr>
</tbody>
</table>


<sup>a</sup> Increase based on mid-point of range in goals, where the goal is given as a range.
are to increase significantly, the increase in grain availability would not be large enough to permit the planned increase in livestock output. There appears to be no possibility, if the livestock output goals are to be met, for a reduction in the recent high levels of grain imports.

Investment and Input Supply

Limited information has been provided on planned deliveries of trucks, tractors, and fertilizer as well as a projection of investment in agriculture for 1981-85. There can be no question that the growth rate of investment has slowed down and will grow slowly during the present plan period. Starting with the Eighth Plan (1966-70) annual growth rates of investment have been 9.1, 9.7 and 2.5 percent with a planned rate for Eleventh Plan of 3.3. True, given the current high levels of annual investment any increase in investment will yield a very large total. The Tenth Plan investment total for agriculture of 172 billion rubles was almost met—the shortfall was only 0.6 percent. The 1981-85 plan, if fulfilled, would push the five-year investment level to the enormous total of 195 billion rubles, or an annual average of 39 billion. If this level of investment were efficiently used, it is more than adequate for achieving a significant rate of output growth. Agricultural investment is planned to account for 27 percent of total national investment.¹

The tractor delivery goals during the Tenth Plan was not quite met, tractor deliveries falling 5 percent short; truck and combine deliveries

¹U.S. Department of Agriculture, Economics and Statistics Service, Agricultural Situation: USSR; Review of 1980 and Outlook for 1981, Sup. 1 to WAS-24, p. 23. N. A. Tikhonov in his report to the 26th Party Congress noted that the agro-industrial complex would receive nearly one-third of the total capital investment in the national economy for its development and improvement, much of this directly to boost farm production.
were at plan levels. Actual deliveries were greater than those of the Ninth Plan, by 8 percent for tractors, 22 percent for trucks and 20 percent for combines.\(^1\) The Eleventh Plan calls for a 4 percent greater tractor deliveries, 11 percent more combines and 8 percent more trucks.

Mineral fertilizers were to have increased at an annual rate of almost 10 percent in the most recent plan; actual deliveries increased at an annual rate of 3 percent. The new plan calls for a 6 percent annual growth. The plan for the 1985 year calls for 115 million tons of chemical fertilizer to be used on crops; the 1980 goal was also 115 million tons.

Policy Changes

Based on the information made available there have been no significant policy changes that would be likely to lead to a sharp turn around in the performance of Soviet agriculture. One trend that apparently will continue is the expansion of the industrialized livestock enterprises --large, capital intensive feeding enterprises quite divorced from the traditional collective or state farms and thus dependent upon the purchase of all or most of their inputs, including feed. The available information may be briefly summarized--these complexes produce about 12 percent of the beef and pork together and 4 percent of the milk in the socialized sector. Capital invested per head of livestock on the complexes

\(^1\)Ibid. However, due to the high scrappage rates referred to above, inventories of these machines increased very little between 1975 and 1980. The number of tractors delivered was 1,805,000; the inventory increased by only 246,000 or 10.5 percent. The number of combines or grain harvesters delivered was 539,000 and the inventory increased by 35,000 or 6.4 percent. Truck deliveries were 1,344,000 and inventories increased by 10.5 percent or 147,000. The number of trucks delivered during 1976-80 were almost the same as the inventory at the end of 1975 of 1,396,000, yet the increase in inventory was as indicated. See USSR in Figures: 1979, pp. 130-31 (English edition) and 1980, pp. 122-24 (Russian edition).
is double to quadruple the investments on collective and state farms. And the investments per head on the ordinary Soviet farms is much greater than in the United States under similar climatic conditions. This huge investment has resulted in some reduction in feed used per unit of output, quite modest for milk but perhaps about a third for pork and beef. The labor savings have been modest for milk (about a third) and very large for beef and pork, of the order of 50 to 80 percent.

The most significant production growth rate for the past 15 years has been for poultry for which production increased by 180 percent between 1966 and 1979 while meat production other than poultry increased by less than 35 percent. But the amount of information on feeding efficiency of the broiler industry has been limited, indeed. Individuals who have visited the broiler factories in the Soviet Union believe that feed use per unit of output is significantly higher than in the United States, probably by at least 50 percent and perhaps double.

The further expansion of the livestock complexes, including broilers, during the 1980s will depend upon the availability of grain concentrates, protein meals and adequate supplies of protective materials such as antibiotics. The first will probably require expanded import levels of protein meals or oilseeds since recent performance shows a probable decline in USSR production of such necessary feeds.

Two modest policy changes were referred to earlier--the encouragement of expansion of livestock production on private plots if the production were sold to state and collective farms and the change in the method of establishing the base for calculating the amount of sales or deliveries for which bonuses are paid. A third policy change was to increase the base procurement price by inclusion of the prior bonus payments in calculating pro-
curement prices for 1981 and subsequent years. In other words, the average price received for some unstated past period now becomes the procurement price to which the 50 percent bonus will be added, if the bonus is earned.

A fourth policy change involved additional increases in the procurement prices of a number of farm products. The increases in 1981 procurement prices are (in percent of 1980 procurement prices):  

<table>
<thead>
<tr>
<th>Product</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>26</td>
</tr>
<tr>
<td>Peas</td>
<td>25-36</td>
</tr>
<tr>
<td>Vetch</td>
<td>50</td>
</tr>
<tr>
<td>Millet</td>
<td>33</td>
</tr>
<tr>
<td>Rye</td>
<td>33</td>
</tr>
<tr>
<td>Soybeans</td>
<td>35</td>
</tr>
<tr>
<td>Cotton</td>
<td>10</td>
</tr>
<tr>
<td>Flax</td>
<td>13-50</td>
</tr>
</tbody>
</table>

Milk prices were increased an unspecified amount. The increase in milk prices followed a significant increase in 1977. These two types of price increases should have some positive output effects, though the increases may represent little more than catching up with past cost increases.  

A fifth change instituted was that starting in 1981 procurement agencies are to be responsible for all transportation and procurement costs. It is not clear how much this will increase the net prices received by farmers but for farms located some distance from procurement points the savings could be substantial.

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1. Sel'skaia Zhizn, February 12, 1981. The new soybean price is 350 rubles per ton. The farm price of soybeans in the United States in mid-1980 was about $270 per ton.

2. These two new forms of price increases will involve substantial budgetary costs. The previous bonus system provided payments averaging 3 to 3.5 billion dollars; presumably about this amount was added to the base procurement prices. The new bonus system has been estimated to increase farm incomes by 4 billion rubles. The two changes here in prices paid to farms will result in an increase in agricultural price subsidies of as much as 7.5 billion rubles in 1981 compared to 1980. Thus total agricultural output price subsidies might be as much as 35 billion rubles in 1981.
Except perhaps for the increased emphasis upon the industrialized livestock complexes, the policy changes that have been introduced recently will have a positive effect on farm output. The calculation of bonuses on procurement on the basis of past deliveries rather than the procurement plan represents an improvement and reduces arbitrary decisions by the procurement agency. The decree encouraging more livestock production on the private plots if the products are sold to the collective farms should have a modest output effect. Finally, while the increase in prices for some farm products as of the beginning of 1981 may have done little more than offset past cost increases but even so represent a positive change.

Probable Output Achievements

The modest policy changes and the investment and input supply plans do not give great confidence that the output goals of the Eleventh Plan will be fulfilled. The goals for grain and livestock appear to me to be too high, not outrageously so but perhaps by 4 or 5 percent. In other words, the mid-point of the increase in grain production may be more reasonably put at a 12 to 13 percent increase instead of 16 to 18 percent for the plan period. The grain projection that I have given is not based on any econometric model but is derived from two quite simple approaches. One is that weather during the Eleventh Plan will be approximately the same as for the Tenth Plan and that grain yields will increase about 2.25 percent annually. This projection, which assumes a constant grain area, gives annual production of about 229 million tons. The other projection is even cruder, perhaps. It is based on possible distributions of annual grain production that would be required to reach an annual average of 240 million tons. One such distribution would be the following in terms of annual outputs (in million tons): 270, 270, 240, 216 and 205. Three of the outputs would have to be records—higher than any output level achieved up to the present time and the lowest output would have to be 15 percent greater than the lowest output of the Tenth Plan. This seems to me an unlikely outcome. A more reasonable distribution with a mean of 230 million tons still requires two record outcomes (in million tons): 260, 260, 230, 205 and 195. These
goal (240.5 million tons) could well be 8 to 11 million tons annually. This is approximately the same as the shortfall during the Tenth Plan and would result in an average grain output level of about 230 million tons.

An argument can be made in support of a higher grain output level than 230 million tons on the basis that weather was less favorable than average during the Tenth Plan. Thus weather improvement between the plan periods could account for a grain output increase of a few percent which would be in addition to the other factors increasing output. However, I do not believe that the weather was all that unfavorable during the Tenth Plan. There were two bumper grain years (1976 and 1978), one average year (1977), and two poor years (1979 and 1980). This was about par for most recent five year periods.

The meat goals of 17.0 to 17.5 million tons for average output during the period and 18.2 million tons for 1985 are not likely to be achieved. As I noted earlier, the increase in grain production and in meat production do not appear to be consistent. While the increase in grain for feed could be as much as 30 percent if grain production averaged 240 million tons and imports averaged 20 million tons, this is little greater than the percentage increase during the Tenth Plan when meat output increased by only 6 percent and grain used for feed by 28 percent. It is true that meeting the milk output goal (an increase of 5 percent) would not require much additional grain, but it is also true that there was only a slightly greater actual increase in milk production during the Tenth Plan (an actual increase of 6.5 percent).

distributions are based, in part, on the assumption that the maximum grain production during a five year period is about a third larger than the smallest output. During the Ninth Plan the difference was almost 60 percent; in the Tenth Plan, 32 percent.
More grain alone is unlikely to be enough to permit meeting the meat goal. The output of fodder crops must increase significantly and more high protein feeds, such as the oilmeals, must be provided. Oilmeals must be imported if availability is to be increased significantly during the current plan period. The plan goals for hay, haylage (hay cut green and fed immediately) and silage are beyond any achievable level.\(^1\) If the 1985 goals for these sources of feed have been used in estimating the available feed supply, the livestock goal will not be met. While it appears to be true that livestock inventories have not been reduced due to the poor 1979 and 1980 grain and feed crops, probably all feed inventories have been. Thus for at least the first year or two of the plan period rebuilding grain and feed inventories will compete to some degree with the increase in livestock production. Stock rebuilding could require as much as 20 to 25 million tons.

It should be noted that even if the grain production goal were met, grain imports of at least the level of the Tenth Plan of 20 million tons annually would be required to give the Soviets any chance of meeting the livestock goals. My estimate of a 30 percent increase in grain available for feed assumed that average grain imports would be at the Tenth Plan level. Thus even with record grain crops significant grain import would occur and with an average grain crop annual imports of 35 million tons of grain would be a reasonable expectation. I believe that it will be difficult to increase

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\(^1\)Recent output levels and the 1985 goals are given in U.S. Department of Agriculture, Economics and Statistics Service, *Agricultural Situation: USSR; Review of 1980 and Outlook for 1981*, Supplement 1 to WAS-24, April 1981, p. 5. The 1985 goal for hay is 48 percent greater than 1980 output; for silage 61 percent. The goal for haylage calls for only 13 percent increase but this source of feed is much less important than either hay or silage.
meat output by as much as 10 to 12 percent during the Eleventh Plan or to more than 16.5-16.8 million tons.

But even if the plan goal of 17.0-17.5 million tons were met, per capita consumption would not exceed 62 kilograms. This would give little relief to the harrassed Soviet consumer who now finds almost no red meat in the state stores. This small an increase, assuming a continuation of present policy, would result in no noticeable change to the Soviet consumer that did not have special access to meat, such as at the place of work.¹

The goal for agricultural output of a 12-14 percent increase is not likely to be attained. How large the shortfall may be will depend primarily

¹Moscow News, an English language weekly (No. 23, 1981) carried a full page article on the meat and milk situation in the USSR by Lev Voškresensky. The article starts with the following provocative question: "Why is the USSR having difficulties with meat and dairy products production?" His main argument was that demand was growing too fast, though he does not note the near absence of any per capita supply growth after 1975. But he makes two interesting points. One is that a significant part of the meat supply goes around the state food stores and therefore the supply in the stores is not an adequate indication of the meat supply. He notes the expansion of the public catering network and that many enterprises "also have food order systems." Thus some workers can purchase food at their place of work: "Of course, certain people are bypassed by these channels of food distribution . . ." (p. 12).

Another factor the author notes is that prices are not a barrier to increased demand. After noting that meat and milk and other subsidies cost 26 billion rubles (the figure for 1980 is 30 billion rubles of which all but 1.5 billion rubles was for food products) he wrote: "Economists can argue endlessly and make as many declarations as they please about the expediency of the current system of subsidized low prices, but the pricing policy is not going to change. Keeping strictly to this policy, the state travels from the premise that the growing demand for livestock produce is a justifiable phenomenon."

In a visit to the Alma Ata and Tashkent in June 1981, meat was plentiful in the collective farm markets at prices double or more than in the state store: 6R for lamb, 5R for beef and 4R for pork (per kilogram). But I saw no fresh meat in the several food stores that I visited except for about ten hog heads. When sausage was available, there were lengthy queues.
upon the distribution of climatic factors during the five years. But even with very favorable weather, it will be difficult to meet the output goal and with average weather the shortfall would be significant, perhaps of the order of 3 to 5 percent.

There are some positive elements in recent discussions, including those of the Eleventh Plan, that should be noted. Emphasis is to be given to feedcrops other than grain: A great increase (60 percent) in investment is planned to increase storage capacity and reduce post-harvest losses and to cut the losses in fertilizer between production and the farms. Priority is to be given to improve the quality of farm machinery and of fertilizer production and distribution. And farms are to be given greater discretion in their own management, with Moscow to restrict its interventions. True, most of these things have been said or promised before. It is possible that this time some positive moves will occur. If so, it would be possible to reduce the output shortfall that I have projected by as much as a third during the current plan.

Concluding Comments

I see no evidence that there will be significant improvements in the basic performance indicators of USSR agriculture during the first half of the 1980s. It will continue to be high cost, requiring a high percentage of national investment, increasing annual levels of nonfarm inputs, and a large and growing annual budget drain to cover the shortfall in the value of retail sales compared to payments for farm output plus processing, transporting and marketing costs. Continued high levels of grain and feed imports will be required if any progress is made in increasing per capita meat production.
If the food price subsidy policy is continued for another five years, and it seems very likely it will be, no progress will be made toward reducing the gap between demand and supply at the state store prices during the first half of 1981. In fact, it is almost certain that the gap will be enlarged bringing with it a wider disparity between prices in the collective farm market and the state stores and longer queues at the state stores. Presumably there will come a time when the demand-supply gap becomes so large that it can no longer be tolerated. But, and Soviet officials must understand this, the larger the gap is permitted to become the more difficult it will be to eliminate it.