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**RESTRUCTURING AND REVITALIZING THE KALININGRAD REGION*
(PHASE I-A)**

TF/RUS/94/001 and US/RUS/93/134

RUSSIAN FEDERATION

Technical report: Study on food processing**

Prepared for the Kaliningrad Administration
by the United Nations Industrial Development Organization

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ANNEX

1. EXECUTIVE SUMMARY

1.1. The agricultural production has dropped considerably during the years since 1990. The production of grain and livestock is at present only 30 to 40 percent of the level of 1990. Import of food has increased, especially during the period when the Kaliningrad region was operating as a free economic zone. The domestic food industry has had little possibility to compete with imported low priced and good quality food items. In spite of foreign import, the prices for agricultural commodities paid to the farmers have relatively high, in some cases even higher than world market level. Even if the prices are in line with the surrounding countries, a large part of the farming sector has turned into subsistence farming by the farming community. The amount of traded commodities to the processing industries from the private and collective farms have dropped considerably, and the reduction has been enforced by the poor and delayed payment for supplied commodities.

1.2. In order to develop a viable food processing industry in the Kaliningrad region, possible investment projects in the sector have to involve investments not only in processing equipment but also in the production systems to ensure the raw-material supply. Only the modernization of processing lines cannot be justified due to the low level of raw material supply, and existing constraints in management capacity as well as other bottlenecks. The cancellation, in April 1995, by the Government of the free trade status and introduction of import duties on food commodities will help the food processing enterprises to improve their market share and increase the operational margin.

1.3. Several of the large food processing enterprises have expressed interest to obtain long term investment funds for the modernization and rehabilitation of their processing lines. Feasibility reports for these proposed investments have to be prepared, with special emphasis on the supply of raw material and the integration with the producers, as well as on the market possibilities. In addition, it is expected that the ongoing operations have to be analyzed in depth and possibly restructured in order to obtain maximum profitability before additional investments are made.

1.4. The highest priority for foreign investment resources is the need to establish a fund to finance new entrepreneurs who will invest in different agro- and food processing enterprises. Such a fund of about US \$ one million could finance about 150 small new enterprises, create additional employment of some 400-500 persons and stimulate new economical activities, mainly in the rural areas. Small processing projects will have the possibility to stimulate agricultural production and raising livestock, since the processor would have a close link with the farmers supplying his plant. The distribution and marketing would be over relatively limited area, which makes it possible for the entrepreneur to read and obtain direct market signals with regard to his products. Limited capability by the lending institutions to evaluate investment projects makes it important that small projects are financed, thus distributing the risk and reducing the negative effect of projects not performing according to the projected plan.

1.5. A fund of US \$ one million should be established for the financing of small private enterprises, with a maximum investment to one single borrower of US \$ 10,000. The management of the fund could possibly be, after appropriate appraisal, the Kaliningrad Business Development Center (KALBUD) and an acceptable bank. Additional training is needed for two main sectors:

(i) the preparation of business plans and feasibility studies, with emphasis on supply of raw material and marketing;

(ii) evaluation and appraising of the investment proposals, as well as the preparation of approval routines, supervision guidelines and debt collection systems.

Most appropriate would be that the KALBUD would be the unit helping the entrepreneur to put together business plans and feasibility studies and an acceptable bank creates a small project team which would be specially trained and have the full responsibility to lend and collect the funds allocated through the program.

2. BACKGROUND

2.1. Objectives

2.1.1. The objective of this report is (i) to prepare a detailed regional development survey of the agro-industries in the Kaliningrad region; (ii) to identify industrial investment projects; and (iii) to advise on policy and institutional measures to be taken by the Government for restructuring and revitalizing the agro-industries in the Kaliningrad region.

2.1.2. More in detail, the study will analyze the agricultural production in the region for the supply of raw material to the food industries; analyze the level of technology in the industry; specify requirements for increasing the food processing level; and identify potential investment projects to act as models for further investments.

2.2. Scope of Work

2.2.1. The work has included a review of existing reports and data with regard to agricultural production and processing in the Kaliningrad region. Discussions have been held with Government officials, managers of different food processing industries and other institutions involved in the development of the sector. In addition several collective farms were visited. A list of persons and institutions met is given in Annex 1.

2.2.2. A summary sheet of basic data with regard to the Kaliningrad region, is given in Annex 2, and the last years Ruble exchange rate against the US \$ is shown in Annex 3.

2.3. History and Trends

2.3.1. During the last five years agricultural production and, especially, the output from the food processing industries has dropped considerably. On average, the food processing industries are only producing some 50 percent of the output produced in 1991 (further details are presented in Annex 4 with regard to the food processing in Kaliningrad, and Annex 5 regarding Russia as such). Moreover, the output from the processing industry is continuing to drop. In the Kaliningrad region the food production dropped 23.5 percent between January - May 1994 to January - May 1995. For more details see Annex 6. The demand for locally produced food is low, due to increased prices and poor quality. The increase of food price in beginning 1995 has been the following:

January	1995	23 %
February		13 %
March		11 %
April		11 %
May		10 %

Price increases in May were relatively high for meat - 20%, flour - 18%, and potatoes - 14%. The Regional Government have reduced their purchase of meat and milk with 50 % during the last year, which can be seen as a positive trend.

2.3.2. The increases in food prices since 1990 have been drastic, calculated in Rubles, see Annex 7. For example, the price for bread has increased 12,000 times during the last five years. The high inflation has affected particularly people with low income and those who are living out of pensions.

2.3.3. The food industries in the Kaliningrad region are geared to the primary processing of livestock, milk and fish, as well as milling of wheat and rye for manufacturing of bread and feed. Due to a lack of raw materials, competition from imports in domestic markets and the lack of export markets, the industries are, at present, operating at low capacity. These problems are compounded by the technologies used which are, in many cases, outdated and producing products of low quality.

2.3.4. Agricultural production and the production of meat and milk has dropped drastically during the last few years. Several of the slaughterhouses/meat processing plants and the dairies have closed since raw material is not available. In addition, a considerable portion of the land which could be cultivated, is at present left fallow.

2.3.5. The whole industry is in a phase of transition, from being processing units in a planned economy, to independent companies which have to survive in a competitive environment, where neither the supply of raw material nor distribution and market share are guaranteed.

2.3.6. The ownership of the processing plants have changed, but in most cases, the management structure is still the same. In most cases the majority of the new owners are the workers in the plant, no capital is available for the modernization and restructuring of the plants, and, often, the working capital has gradually been used to cover operational cost, leaving most of the enterprises with negative cash flow. The suppliers of raw material have also been badly hurt, losing all incentives to produce for anyone other than themselves and the nearby local markets.

2.3.7. The importance of the main food processing industries in the total economy of the Kaliningrad region can be shown by the following four tables:

Production output (year 1990 = 100)

Industry sector	1990	1991	1992	1993	1994
Meat	100	91.8	66.9	53.5	45.8
Dairy	100	95.5	72.8	68.0	47.9
Flour/Feed	100	98.6	74.5	62.5	21.8

The Food industry value of production of total industrial output (in percent):

Industry sector	1990	1991	1992	1993	1994
Meat	4.0	7.8	4.9	3.0	8.4
Dairy	3.4	4.5	3.9	5.9	6.3
Flour/Feed	4.4	2.6	5.1	5.1	3.9

Number of employees in percent of total:

Industry	1990	1991	1992	1993	1994
Meat	1.4	1.9	1.5	1.7	1.8
Dairy	1.8	2.0	2.1	2.2	3.1
Flour/Feed	0.4	0.5	1.0	1.0	0.9

Fixed assets of the three main sub-sectors as percentage of total in the industry:

Industry	1990	1991	1992	1993	1994
Meat	0.6	0.6	0.5	0.5	n.a.
Milk	1.6	1.6	1.6	1.6	n.a.
Flour/Feed	0.9	0.3	0.5	0.7	n.a.

3. AGRICULTURAL PRODUCTION

3.1. **Introduction.** Prior to the second World War, the Kaliningrad region was a large producer of grain, the main use of which was feeding livestock. The area was cultivated by medium sized farms, which normally undertook both grain and livestock production. Meat and milk products were shipped out of the region, as well as some grain. The soil quality is relatively good, and most agricultural land is located on sandy and clay loam. The soil is, however, relatively heavy, and most areas require efficient drainage. The acidity of the land is around a pH value of 5.5. The climate is determined by eastern continental and western maritime air flows which lead to moderate summers and cool to cold winter temperatures. Total rainfall is on average around 700 millimeters per year. The average annual temperature is around 8 degrees centigrade. Precipitation in the growing season varies between 380 to 480 mm, with wet conditions in spring and fall, and occasional draughts during summer. The length of the growing season is about 160 to 180 days. The climatic conditions favors cool season crops, which include winter/spring grain, rape seed, cabbage, root crops (beets and potatoes), peas, beans, lupine, grass and clovers, and to cool season fruits such as apples, pears, plum, and cherries, The cooler climate produces excellent berries. In addition to main crops, the Kaliningrad region has good prospects for the cultivation of vegetables, fruits (for industrial use), and berries.

3.2. **Distribution of the total land area.** The total area of Kaliningrad is 15,120 square kilometers, with an average population density of 62 persons per square kilometer, to be compared to Lithuania with a size of 65,300 square kilometers and a population density of 57 persons per square kilometer. Out of the total land area of 1,512,500 hectare, 54 percent, or 818,000 hectare, is agricultural land (see Annex 8). According to the statistical data, about 48 percent of the agricultural land, in 1994, was cultivated, and the rest is meadows and pastures. Only 1,500 hectare are garden plots. The actual situation in 1995 shows that considerable less area is used for cultivation and large areas of the agricultural land are left unused. Annex 9 gives the statistical data for 1994, with regard to the classification of the agricultural land.

3.3. **Drainage.** According to the official statistics, 93 percent of the agricultural land has drainage installed. About 300,000 hectare have old drainage systems installed before World War II, by the Germans, but not rehabilitated and the estimated need for restructuring is about 150,000 hectare. However, at present, very little of the drainage is working. The open drainage channels are not maintained and are becoming overgrown with weeds and silt is slowly filling up the channels.

3.4. **Use of cultivated land.** In 1993 about 164,000 hectares (42 percent) were used for grain cultivation which mainly consisted of winter wheat and barley, somewhat less area for perennial grass (123,000 hectares) and some 18,000 hectares of potatoes (see Annex 10). The comparative statistics (also Annex 10) for the years 1990 and 1993 shows that the total cultivated land area is being reduced. In particular the area used for grain production is falling, while the areas used for perennial grass and for the cultivation of potatoes are being increased. The data show that the agricultural area is increasingly being used for extensive production purposes. Given the limited land area available in the Kaliningrad enclave and the soil potential this is a trend which ought to be reversed.

3.5. Yields of main crops. A reduced usage of fertilizers and crop protection chemicals has caused yields to fall considerably over the recent past. During the period 1990 to 1993 the average yield for grain has dropped from 2.7 tones per hectare to 1.7 tones per hectare. A reduction of 37 percent. The harvest of potatoes has dropped nearly 50 percent, from around 14 tones per hectare to 7.3 tones per hectare, and vegetable yields have fallen from 23 tones per hectare to only 10 tones per hectare. Additional yield data is presented in Annex 11. Although neighboring Lithuania has experienced a similar trend, the yields obtained in Kaliningrad are nearly half those in Lithuania despite the superior soil.

3.6. Employment in the Agricultural sector. The agricultural sector in the Kaliningrad region employs about 11 percent of the total labor force. The employment has dropped 14 percent from 42,300 to 36,500 between the years 1990 to 1993.

3.7. Collective farms. The main part of the agricultural land is cultivated by collective farms, which were the previous kolkhozes and state farms. The region has in total 186 collective farms using an area of 650,000 hectares. The size of the collective farms varies from 500 hectares up to 8,000 hectares. The average size is 3,500 hectare. The collective farms have been turned over to farm workers, who were given the ownership of buildings, equipment, livestock and land. These collective farms are normally 2,500 - 5,000 hectare units and the center of the village life, from the assurance of water, electricity, and some times health care and schooling. The local administration systems have in many places lost most of there capability to maintain anything due to lack of resources. The managerial task of the collective farms is close to impossible. On one hand managers must motivate workers/owners to work on the farm and on the other hand they must be involved in the most practical matters of the village population. In a very large number of collective farms, the workers have opted for the solution to only grow the agricultural products that his or her family and relatives would use and let the rest of the land be idle. As mentioned above the agricultural production has dropped drastically during the last few years. The farms in the Kaliningrad region are large production units, focused on a high degree of specialization. Previously, the decision of specialization and location were done by the Ministry of Agriculture in Moscow, mainly based on pressure from the regional authorities. Little attention was paid to the local environment or capability. As an example, twelve years ago it was decided that each region in the Kaliningrad sector should have a pig production unit, irrespectively if local raw-material or skill/interest were available. Today, most of the pig-production has collapsed due to lack of both. The lack of working capital of the processing industries have made them to delay payment for months for raw material supplied to them, which means that the collective farms very often have to wait considerable time.

3.8. **Private farms.** In the Kaliningrad region only about 3,300 private farms exist, using a total area of 49,000 hectare. The average size of the private farms is 15.2 hectares in 1994, (a slight reduction from 15.6 ha in 1993). The size distribution of the farms at the mid of 1994 were the following (number of private farms 2,524):

< 10 ha	48.3 %
10 - 50 ha	49.6 %
50 - 75 ha	1.7 %
75 -100 ha	0.2 %
>100 ha	0.3 %

3.9. The development of the private farms are going slower than anticipated, due to Government constraints. Annex 12 gives some data regarding the number of private farms registered since the beginning of 1995, and the allocation of Government funds to develop the private farm sector.

3.10 These private farms are mainly geared only for self sufficiency. The average number of cattle per farm is 1.83 heads, of which 0.60 milking cow, and 1.22 pigs. The private farmers produced about 3 percent of all potatoes, 1 percent of the vegetables, and about 1 percent of the milk.

3.11. **Farm equipment.** The farm equipment used on the collective farms are heavily constructed due to the prevalence of low steel quality and variable workmanship. Most of the repair work is done on the collective farms, without tailor made spare parts or trained mechanics. One of the main problems with the heavy machinery is the compaction of the soil and the immobility when the soil gets wet and muddy. The yields obtained from the harvesting machines are low compared to Western standards mainly due to low tolerances and poor workmanship. The frequent local repairs are, in addition, lowering the performance.

4. CONSUMPTION OF FOOD

4.1. The average consumption of food products has dropped since 1989, which was the last year during the Soviet Union time, when the agricultural production reach a peak. In 1989, an average family used 34 percent of its disposable income for food product. This had risen to 47 percent in 1994. Low income families spent as much as 70 percent of their incomes on food. Compared to 1989, average estimated calorie intake has dropped 12 percent to 2,280 per day, carbohydrate intake dropped 20 percent, protein 30 percent, and fat 3 percent.

4.2. In March 1995 the average salary was 274,600 Ruble (US\$ 61) per month, and the average income per working person was 214,000 Ruble per month.

4.3. The per capita consumption of main food items have dropped in the Kaliningrad Region during the last number of years. See Annex 13, which shows that meat consumption has dropped some 22 percent, milk 21 percent (calculated in milk equivalents) and bread some 10 percent. The same trend is also valid for Russia as such, Annex 14.

4.4. Since the output from the food processing industries have dropped considerably more than the reduction in the per capita consumption, the balance has been supplied through an increase of imports of food products. In 1994, some 15,700 tons of meat was imported, (17 kilos per capita, milk products 20,200 tons (22 kilos per capita) and potatoes 28,500 tons (30 kilos per capita). The potato import in 1994 was quite high, about 40 percent of total production, due to the very dry weather that year.

5. MAIN EXISTING FOOD PROCESSING INDUSTRIES

5.1. **General situation.** Currently there are more than 60 main food processing plants and shops in the Kaliningrad region, located in most of the 25 towns. The main locations are Kaliningrad, Sovetsk, and Chernjahovsk, with the following main industries:

Kaliningrad:	<ul style="list-style-type: none"> Fish canning Poultry processing (two plants) Grain milling Breweries (two plants) Liquor plant Milk processing Bakery (large scale) Slaughterhouse and meat processing Ice cream manufacturing Confectionery production
Sovetsk:	<ul style="list-style-type: none"> Grain milling Bakery (large scale) Yeast production Slaughterhouse and meat processing Vegetable and fruit processing Brewery Milk processing
Chernjahovsk:	<ul style="list-style-type: none"> Slaughterhouse and meat processing Bakery (large scale) Milk processing Confectionery production

Some other food processing plants are located in:

Gvardejsk:	<ul style="list-style-type: none"> Macaroni production Cheese production Bakery (large scale) Slaughterhouse and meat processing
Zheleznodorozhnij:	<ul style="list-style-type: none"> Butter and cheese processing Brewery

5.2. **Output.** The total output of the food industry has dropped considerably during the last few years. Present production levels are 30 - 50 percent of the production in 1990, and statistics indicate that this trend is continuing. Annex 15 gives a detailed list of the output of the main industries in 1994, and the percentage utilization of the capacity. The main reason for the drastic drop is the competition from imported food products, which have higher quality and competitive price levels, and the reduction of the farm output. An increasing share of the farm production stays at the farm level and are consumed on the village level. Annex 5 shows the output of the main industries during the last period January - June 1995 in comparison with the same periods 1994 and 1993.

5.3. **Employment.** The total number of food industries are employing some 10,800 persons in the Kaliningrad region. The processing and output of the main industries has dropped considerably since 1990, but the employment in the different plants has remained rather stable. The work force is consequently very under utilized, and poorly motivated. Both the meat and dairy industries were working at less than 50 percent of the output compared to the level of 1990, but the reduction in the work force is only 3 - 5 percent from 1990 to end 1994, see Annex 16. The salary level varies considerably between the different enterprises, for example Ruble 127,117 per month in 1994 was paid in the Zheleznodorozhnij cheese plant compared to Ruble 514,450 per month in the vodka plant in Kaliningrad. Annex 17 gives some employment data with regard to the main industries in the Region.

Sub sector descriptions

5.4. **Fish processing.** The Kaliningrad harbor is one of the largest Russian ports, which is mainly ice free all year around. The port has a large high-sea fishing fleet. In 1990 799,000 tons of fish were landed although this has dropped to 216,000 tons in 1993. The estimated catch for 1995 is around 150,000 tons. The production of, mainly canned, fish was 586,000 tons in 1990 and 209,000 tons in 1993. In addition 60,000 tons of fish meal was produced in 1990. This, however, fell to 11,000 tons in 1993. The whole sector, including the fishing fleet, employed some 29,200 persons in 1990, which fell to 23,500 in 1993. In 1993, some 54 percent of all fish caught were exported outside Russia, an increase from 16 percent in 1990. An increasing number of vessels fishing on the high sea are selling their catch in the closest port instead of bring the fish back to Russia. Several of the large oil tankers providing the fishing fleet with fuel are no longer operating due to high operating cost, and the same is true of the factory vessels. The Baltic sea and the North Sea are getting higher priority due to less cost of fuel. The consumption of fish in the Kaliningrad region is about 6.0 kilo per capita, compared to the average 10 kilo in Russia, as such.

5.4.1. The fishing vessels mainly belonging to the following four companies:

Tralflot	catch in 1993	178,000 tons
Pborf	catch in 1993	20,000 tons
RIB Prognos	catch in 1993	7,200 tons
Fish Kolkhoz	catch in 1993	10,400 tons

In the year 1993 about 300 vessels were fishing, but during the last two years the number has been reduced. The fishing fleet is getting rather old, and most vessels being more than 25 years old. Many of the fishing boats from the Kaliningrad fleet are not allowed to enter several foreign ports due to poor conditions of the boats. The fishing vessels have old designed engines and the fuel consumption is high compared to more modern boats, making high sea fishing in waters far away not any longer profitable.

5.4.2. In 1994 several private individual companies have been created which are operating one or more vessels. At present some 50 such enterprises are in operation. The enterprises have 20 percent of the Russian fishing quota in the Baltic sea, 24 percent (or about 900 tons) in the Kurskaya lagoon, and 9 percent (or 800 tons) in the Vistula lagoon. The total Kaliningrad quota in the Baltic sea is about 30,000 tons, of which only some 50 percent was used in 1994.

5.4.3. In 1993 some 86 percent of the export of fish was in the form of frozen or salted/smoked. The official statistics shows an export of 14,622 tons of other sea products such as octopus.

5.4.4. Kaliningrad region has four fish canning plants (the employment numbers are from 1993):

Kaliningrad City canning plant	employment 459
Baltic canning plant (in Svetly)	employment 774
Manonovo canning plant	employment 654
Polesk canning plant	employment 214

The Kaliningrad Package material plant is making plastic and other packing material for the canning plants and other enterprises. Due to lack of fish, the Manonovo canning plant has started to process meat. Estimated output of canned fish is about 14 -15,000 tons per year, or about 40 million cans. The canning plants are working well below their capacity.

5.4.5. The market for canned fish in the Russia is good, canned fish being one of the main staple foodstuffs. Most of the canned fish produced goes into main Russia. In 1993 some 33 million cans were sold to Russia. Standard weight of a fish can is 260 gram, and the retail price in May 1995 was between US\$ 0.5 to 0.6 per can, making the retail price around US\$ 2,120 per ton, which is relatively low, compared to canned tuna or sardines, which has an international price of about US\$ 2,500 per ton. However, the canned fish produced in Kaliningrad region is of relatively low quality.

5.4.6. During the last number of years a profitable type of fish processing industry has developed, processing white fish, cod and others, into frozen fish blocks and fish sticks. The plant consist normally of a fish skinning and de-boning unit, fish meat recovery unit producing pulped fish puree, inspection conveyors, packing unit into boxes and plate freezers, possible gyro-freezers. The final products would be frozen blocks (normally 5*40*30 cm) of pure fish filets and frozen blocks of fish filets with addition of fish puree. The final fish processor would cut the blocks into sticks and make crumbled, deep-fried fish sticks according to taste on the particular market. A typical fish processing plant would process some 15 to 25 tons per day in one shift.

5.5. **Meat Processing.** The Kaliningrad region has five medium to large size slaughterhouses and meat processing plants. They are located in Kaliningrad city, Sovetsk, Chernjahovsk, Bagrationovsk and Gvardejsk. In addition, eight new small meat processing plants have been established in different locations of the region. The production of cattle and pigs has dropped considerably, and the slaughterhouses are working at less than 30 - 40 percent of their capacity.

5.5.1. The annual production capacities of the five larger plants are as follows:

Kaliningrad	Meat production	35,000 tons
	Sausage prod	2,500 tons
	Canned meat	8,500,000 cans
Sovetsk	Meat production	15,000 tons
	Sausage prod.	1,500 tons
Chernjahovsk	Meat production	8,000 tons
	Sausage prod.	800 tons
Bagrationovsk	Meat production	4,000 tons
	Sausage prod.	300 tons
Gvardejsk	Meat production	3,500 tons
	Sausage prod.	350 tons

In 1990 the total production of livestock (live weight) in the region was 103,000 tons. This had, however, decreased by over 35 percent to around 74,000 tons in 1994. The livestock population has also dropped since 1990. By January 1, 1995 the cattle population was 306,600 heads, pigs 150,000, sheep 36,600 and poultry 2.18 million heads. Annex 18 gives further details and trends for the years 1990, 1992 and 1993. In 1994, about 38 percent of the total production of meat took place on the household level, and mainly for own consumption. Of the total population of livestock, 27 percent of cattle (dairy cows 37 percent) and 28 percent of pigs are kept on small household farms. The price paid for livestock are currently relatively high, with cattle selling for around 3,500 Rubles per kilo live weight, and pigs for 5,500 Rubles per kilo. On average cattle sold weigh around 320 kg and pigs around 85 kg.

5.5.2. The real increase in prices has caused the total consumption of produced meat and meat products in the region to drop since 1989:

1989	70,500 tons
1990	66,500 tons
1991	64,000 tons
1992	59,900 tons
1994	57,000 tons, estimate

Currently, the estimated per capita consumption is around 55 kilo per annum.

5.5.3. The level of technology in the main slaughterhouses is low, compared to the equivalent industries in the West. The machinery is old and in most cases constructed in such a way that good cleaning is difficult. In large part this is due to leakages resulting from poor seals and the poor design of drainage. The buildings are in most cases constructed more than 50 years back (before World War II), with little, if any, controlled ventilation. The energy consumption is high, and in the same way as most food processing industries, the boilers are also used for the heating of apartment buildings. The main slaughterhouses have their own cold storage, but are also utilizing general cold storage facilities. The sanitary quality and packages of the finished products are low, compared to equivalent products in the West. Meat cuts used for sausages is, however, of better standard than in the West, more meat is also going into the sausages than in West.

5.5.4. The waste water treatment systems in the different slaughter houses are of poor standard. In the Kaliningrad slaughterhouse the efficiency of the treatment is low, an estimated cleaning effect is only 50 percent.

5.5.5. During the last years, considerable amounts of meat were imported to the Kaliningrad region, due to comparatively low price of imported cattle and pork. In 1994 Kaliningrad meat processing plant imported 25 percent of its livestock requirements. Due to increased import duties in 1995, see Annex 19, (after July 01, 1995 the duty is 15 percent, up from 8 percent. In addition the enterprises have to pay 10 percent value added tax plus a 1.5 percent special tax), the domestic production has got a certain level of protection. The import of food products, including meat has dropped considerably during the last months. If the import of beef and pork is compared between June and August 1995 (new duty was in force in July), the reduction has been 70 percent for beef and for pork 45 percent from the West. At present the import to the Kaliningrad region has re-oriented to other former Soviet Republics, from which the import is free of duty. A large part of the meat produced goes to the production of sausages and in Kaliningrad slaughterhouse also for canning.

5.5.6. The slaughterhouses have normally some own shops for the retail of meat, as well as distribution through contracted shops.

5.5.7. The meat processing industry can be improved considerably by modernizing the processing lines, but the supply of raw material, especially pigs, has to be increased. The integration between the processing plants and collective farms could possibly generate an environment where the production of pigs would be viable.

5.5.8. Poultry for processing is mainly produced by three collective plants, which are both producing and processing the birds at the same locations. The largest plant, "Pribrezhnaja" is located in Kaliningrad. The other plants are located in area of Kaliningrad and Gurjevsk and are specialized in the production of eggs. In 1994 they produced about 5,140 tons (equivalent to about 4.3 million birds).

5.6. **Milk processing.** Total milk production has dropped considerably during the last three years, especially by the collective farms. The production of milk by the collective farms has decreased as follows:

Year 1990	405,000 tons
Year 1991	390,000 tons
Year 1992	310,000 tons
Year 1993	239,000 tons
Year 1994	184,000 tons

The two main reason for the drastic reduction in production are the slaughtering of dairy cows, the number of dairy cows have dropped from about 170,000 in 1990 to about 123,000 in 1995, and the decrease in quality of the feed. Considerably less proteins are added to the feed, which has an effect on the milk yield, as well as the general condition of the calves. Consequently, even if better feed would be used again, it will take a few years before the yields are increasing. The average milk yield in the collective farms was only 1,974 kilos per cow in 1994.

5.6.1. The production in the household sector is expanding reaching a level of about 155,000 tons in 1994, from 133,000 in 1990. The industry lacks working capital, and payment to the farmers are being delayed, decreasing private farmer incentives to produce and sell. The milk production is highly seasonal, with the peak of the production in the summer months. Variation between the low production level in December month to the peak level in June is about seven times. The seasonal fluctuation makes it important to have a processing capacity which can cope with the surplus milk during a limited number of months. The Kaliningrad dairy is at present processing large part of the available milk into skim milk powder and butter.

5.6.2. The milk production is very seasonal, the yields are more than 6-7 times higher during the summer (June - July) than in the winter (December). As mentioned above the annual yield is only about 2,000 kilo per dairy cow.

5.6.3. At present farmers are paid 650 is Rubles per liter (US dollars 0.15 per liter, to be compared to the Lithuanian price of US dollars 0.125 per liter and in Poland about 0.14 for good quality). Including value added tax (11.5 percent) and transportation, the milk processing plants pays, on average, 770 Rubles per liter at the factory gate.

5.6.4. The milk collection system. The milk produced at the milk collectives are normally stored in chilled milk tanks, but the average hygienic level is low, both in the milking system as well as in the storage tanks. Bacterial counts are often over 2-3 million per cubic centimeter, while a good quality milk should not have more than 100,000 - 200,000 bacteria per cubic centimeter. Milk collected from the household sector is mainly stored in milk cans before the milk truck is collecting the milk. The hygiene of the individual farmer is influencing directly the bacterial count, but by mixing the good quality milk with the poor milk, the final result is poor. The up-grading and strict quality control of the milk before the product reach the processing plant is of vital importance, if the dairy sector should be able to produce high quality products and possibly export to other parts of Russia. High quality milk would normally get a bonus of some 30 -40 percent of the average milk price, in order to stimulate the performance of clean milking and storage.

5.6.5. The milk processing industry. The Kaliningrad region has three main milk processing plants, located in Kaliningrad, Sovetsk and Chernjahovsk. In addition, milk is processed (mainly for butter and cheese) in 12 other places, but at small quantities. The main plant is in Kaliningrad, and the plant is at present operating at a capacity level of 60 - 70 percent. The plant obtains presently milk from the Sovetsk region, since the processing plant in Sovetsk is not operating due to financial insolvency.

5.6.6. The milk processing industry will most likely develop in two direction, the modernization of one or two of the large processing plants, and the establishment of small integrated milk processing units linked to the collective farms. The small plants will benefit from the close supply of milk and low overhead costs, as well as the linkage to the market. The small plants will give a higher value added to the milk producers, mainly the collective farms, and create a better environment for milk production, while the large units would be able to run advanced and high speed milk packing machines.

6. PRESENT OUTPUT

6.1. The food industry in the Kaliningrad sector established both before World War II and during the years 1970-88, when two large milk processing plants were built (in Kaliningrad and Sovetsk). The processing plants were geared partly to the local consumption and partly to the production of livestock products such as meat and milk products for the consumption in large cities like Moscow and St Petersburg. The livestock sector was partly using imported feed from overseas and Byelorussia/Ukraine to feed and fatten the animals. The transport costs were thus reduced by shipping final livestock products such as chilled and frozen carcasses and skim milk powder and butter.

6.2. The production of the food processing plants has dropped considerably since 1990, which was the last year when the plants were working with full capacity. In average, the output of the slaughterhouses and dairies has dropped to about 45 percent of the 1990-years level in 1994, while the flour and feed industries have an output in the level of only 20 percent. The low operation level of particular the feed industry is due to the fact that very little feed was imported in 1994, and the feed grain produced at the farms has been kept by the farms for direct feeding of the livestock at the farms. The reduction of the output has gone gradually during the last four years, and the capacity utilization in 1995 has continued to drop. Annex 15 gives the latest data regarding output from the different industries in the Region.

6.3. The food industry has to be adjusted to the new market area which mainly will be the Kaliningrad region. In addition, it would be possible to produce such products which easily can be transported over long distances and which has a high value added, like good quality sausages and smoked meat, selected canned food products as well as frozen fish, meat and vegetable products.

6.4. In order to increase the present low output of the food processing industries, considerable efforts have to be channeled into the production system. See further the section - Raw Material Base.

6.5. The lack of raw material has influenced the out put from the food processing industries, and the trend in the reduction of agricultural production has had a direct impact on the output, which is show by the table below:

Year	Relative output Food industry	Relative output Agriculture
1990	100	100
1991	92.2	96.0
1992	72.2	68.2
1993	58.0	54.5
1994	41.0	48.3

7. EMPLOYMENT

7.1. The output of the main food processing industries have dropped considerably during the last five years, to an average of 40 - 50 percent of the 1990 - years level. The average employment level has only been reduced some 5 - 10 percent, which indicates the serious problems to adjust the industries to the present out-put level. See Annex 16. The main employer in the food processing industry is the milk, meat and bakery industries. The fishing sector are also employing a large number of people, mainly in the fishing fleets and less in the fish processing plants. The large enterprise producing packing material is not only working for the food processing industries but for several other companies. See further Annex 17.

7.2. The food processing industry employs a large share of women and the average age of the employees is high, for example Kaliningrad meat plant has 65 percent women and 33 percent of the employees are over 55 years of age. This has a large influence in the turn-over of the personnel, and in spite of the present apparent under-utilization of the staff, the slaughterhouse is still employing new personnel when the old are leaving. In the year of 1994 the Kaliningrad slaughterhouse hired 179 new staff, while 132 were leaving.

7.3. The relative share of employment in the food processing industries has been increased during the last five years, due to drastic reduction of the work force in other industries. At present, the three main sectors employs about six percent of the work force.

7.4. The large processing plants have to decrease the number of persons employed in order to get a better balance between production and employees. Otherwise, the plants will be running with continuous deficit and not able regain the profitability which is needed to survive in a medium term period. By reducing the number of employees, it would be easier to increase the salary level of the fully occupied workers and staff, as well as to create a better motivation of those persons working.

7.5. The restructuring and reduction of the work force in a number of food processing industries has to be done parallel with a program of education and re-training of the persons without a job. Such programs have to be done at a community level and could involve training in completely new activities. At present, program of this type will be carried out in some district in Lithuania, with the support of Swedish technical assistance.

7.6. The creation of small new enterprises in the food processing sector and the possibility to establish a fund for financing of individual and small enterprises in the rural areas will lessen the burden on un-employment. The possibility to facilitate the creation of very small and small enterprises should be seen as the most promising way to engage the rural population in a economic activity and to reduce the un-employment.

8. RAW MATERIAL BASE

8.1. Without increasing the agricultural production in the Kaliningrad region to a level of self sufficiency the food processing industry has serious problems to survive. The industry needs additional raw material to justify the restructuring and modernization of the processing lines, otherwise the financial return would not be sufficient.

8.2. The present low utilization of the agricultural land seems to be mainly the lack of good and competent farm management. It seems that two main options are available, (i) the creation of a new farm restructuring program under which non-utilized land will go back to the state and leased out to new management teams, or (ii) the complete reorganization and changing of the existing management in poorly operated farms.

8.3. Similar problems existed in North-West of Poland a few years ago. Large state farms were utilized at a very low level and the farm workers had a poor salary, not motivating them to do anything. A new Agency for privatization the state farms was created and which did not sell the state land but, in most cases, has been leased out the state land over periods of normally 10 years (with the option to prolong the lease) to private entrepreneurs, also a number of foreign farm managers. The new enterprises are buying the livestock and farm equipment to market prices and the average lease for the land (depending on the quality of the land) is about US dollars 55-60 per hectare, or 0.33 ton of wheat per one hectare. Most state farms in the North-West of Poland are now in relatively good operation, while still in most cases the labor force has to be reduced. A viable farm of about 1,800 hectare specialized in grain and milk production (400 dairy cows) would be able to operate with about 20-25 persons and a set of good and reliable farm equipment.

9. TECHNOLOGICAL LEVEL

9.1. Most of the existing food industry was constructed twenty to fifty years ago, with the main objective to supply the region with food as well as assist in the food supply to the main cities of St Petersburg and Moscow. The processing industry were to a certain extent geared to manufacture semi-finished products, such as chilled and frozen carcasses and milk-powder.

9.2. The level of technology in the existing industry is relatively low, due to the fact that most of the equipment have been supplied from East European manufactures and the standard of the machinery is well below Western levels, especially with regard to the hygienic aspects and losses of raw material are occurred in the processing.

9.3. The average quality of the civil work in the processing halls as well as in the storage and final product areas is low. Floors are of poor standard, tiles on the walls are missing or falling off, and the ventilation systems are non-existing or working with low efficiency.

9.4. The low utilization of the existing processing capacity makes it difficult to justify expensive modernization programs. The lack of management capacity to run the existing plants more efficiently, is the main bottleneck for the poor financial performance of the industry. Even if the processing technology is low, the existing processing lines can make marketable products and turn out a profit, if operating costs are reduced.

9.5. To overcome the low technology, the most important part is to train and assist the present management in supervision of its labor force, improve the level of hygiene and the packaging (market presentation) of the final products.

9.6. Certain key machinery should be changed in several of the present food processing plants to gain efficiency, saving in energy, or reducing the level of losses. Each possible investment should be analyzed carefully, in order to evaluate the financial return.

10. ENERGY CONSUMPTION

10.1. The average energy consumption of the food processing industries is high compared to similar industries in the Western part of Europe. The plants in the Kaliningrad region were constructed when the cost for energy was low, and additional investment in energy saving facilities did not have high priority. A large part of the energy is lost a few main areas:

- (i) operating large boiler houses, normally constructed to serve several industries in the area, as well as the close by apartment houses. When such large boilers are operated at capacities well below design capacity, the energy losses are high. In addition, considerably amount of energy is lost in the distribution pipes of steam/hot water.
- (ii) use of steam and hot water without a heat recovery system.
- (iii) low efficiency of the heat recovery of drying, pasteurization/sterilization and evaporation operations.
- (iv) large operating halls and other facilities to heat during the winter time.
- (v) high energy consumption of electrical motors in relation to delivered power.

10.2. Several of the existing industries are at present operating at capacities well below the design capacity, which are making most of the machinery running at a high set capacity, without having the corresponding inputs, consequently thus using considerably more energy than needed.

10.3. During the restructuring and modernization of the processing industry special consideration should be taken to the following areas:

- (i) install boiler plants which are matching the capacity of the processing lines;
- (ii) disconnect completely those sections of the processing lines which are not in use; and,
- (iii) install energy saving heat exchanger.

11. QUALITY OF FINISHED PRODUCTS

11.1. In food processing a close relation exists between the quality of the raw material and the quality of the final products. During the Soviet time the amount of production was the main consideration for the planners, quality counted with less importance. Consequently, the agricultural farms focus their effort to product as much as possible, the handling and storage conditions of the farm products were not their priority. Quality of the products were low, and the products marketed either directly to the consumers or to the processing industries were of low standard, creating high losses before consumption or processing.

11.2. The present production of agricultural commodities in the Kaliningrad region has not changed considerably. The quality of milk is low, the animals being slaughtered are thin and not well fed, and vegetables are damaged in the handling and transport.

11.3. Considerably efforts have to go into the training of farm managers to improve the quality of their production, and the mentality has to be changed from that existing during the Soviet period. In addition, the processing industry have to introduce different quality standards on the products they are procuring, and pay a good bonus for the high standard products. Without having a good standard input, the possible improvement in the processing lines have little effect.

11.4. The sector in the different processing plants which needs considerably improvements, is the packing systems. There exist a large difference between the way the products in Western Europe is packed compared to the same products produced in the Kaliningrad region. However, without having better hygienic quality of the food to be packed, advanced packing system do not make sense, because the price of the product will increase with more costly packing material and use of more expensive packing machines. If the consumer will still find low quality product in a sophisticated package, the buyer will choose other products.

11.5. Hygienic control of the processing plants is of highest priority. Non of the processing plants visited during the field trips did have adequate hygienic standard. Domestically built food processing machines are difficult to clean, but never the less, the processing plants have to be absolutely clean between each shift of operation. Non of the processing plants were using high pressure water cleaners, which now are common in all food processing plants in West Europe. Walls and floors have to be disinfected regularly, and damages in the surfaces have to be repaired.

11.6. In order to improve the hygienic standard and the quality of the processed food, the management group in each food processing plant in the Kaliningrad region would have to be properly trained, both theoretically and, most important. training would have to be carried out in the factories. It is recommended that a training program would be designed to train about five food processing engineers, both in Kaliningrad and abroad, for about two - three months in quality control management. These trained engineers would then work with the individual food processing plants to improve their quality level. Such training courses have been financed by the European Union (EU) in Poland and a system is under implementation in Lithuania, also with support of EU (EU-Phare)

12. ENVIRONMENTAL EFFECT

12.1. Non of the food processing plants, at present in operation in the Kaliningrad region, have adequate waste water cleaning system. The plants which have the highest pollution impact are the fish processing plants, the slaughterhouses and the milk processing plants.

12.2. Due to the present low utilization of the plants the pollution effect is not so severe, as if the operation would be running at full capacity. The food processing plants are not, in general, discharging poisonous materials, but are sending out in the waste water lines water with very high COD/BOD (Chemical and Bacteriological Oxygen Demand) content, that is to say that the waste waters contain high level of proteins which feed the bacteria which in turn consume the dissolved oxygen in the water, making the fish and other aquatic products to die, due to lack of oxygen.

12.3. During the restructuring and rehabilitation of the food processing plants, no investment should be done in modernization or expansion without taken into account the improvement of the waste water treatment systems. It would have to be the Environmental Authority which should ensure that adequate standards are followed. These standards should be in level with the prevailing ones in Poland and Lithuania, or if the investment project is financed by international institutes, such institute could have their own requirements.

12.4. In order to enable the Environmental Authority to make those analyses of the waste water which are needed, the institutional laboratories would need improved equipments.

12.5. Air pollution from the food processing plants are not so severe, since gas are used in most cases for heating. Those large boilers which are heated with naphtha would have to be equipped with scrubbers to clean the outgoing smoke from sulphur.

13. THE FOOD MARKETING SYSTEM

13.1. Introduction The Former Soviet Union marketing system was operated by planners. On the basis of information supplied by producers, the farming system, it was decided what would be produced and how it would be distributed to consumers.

13.2 The sovkozes and kolkozes were given production targets for the production they required to supply to the state procurement system. Production in excess of target could be sold to state retailers at "negotiated" prices. The location of storage facilities in urban centers required that agricultural production was moved soon after harvest to food processors and large scale storage facilities, which created a heavy burden on the transport facilities during the harvest period. Often the transport system could not cope with amount of products to be moved, and un-necessary losses were created.

13.3 Food products were, according to the plan, delivered to fairly specialized state retail stores. An over emphasis on the supposed benefits arising from economies of scale in both agricultural production and food processing resulted in these stores being supplied with limited product ranges which failed to cater for the differing needs of consumers. In addition the retail outlets were organized for the convenience of workers rather than consumers. The prevalence of subsidized prices resulted in rationing by queuing.

13.4. Present situation in Kaliningrad The liberalization of trade has created a large number of retail shops in Kaliningrad. However, the consumers demand is being focused on a large variety of imported food products, because those food products are better packed, and, to the benefit of the wholesalers and retailers, have considerably longer shelf life than the domestically produced products. Price wise, the price level of most of the imported products are in line with those domestically produced, except fresh meat and bread. A large part of the foreign import of food items are coming from the close by located Polish cities. A thriving trading sector has been developed in the cities specialized in the food supply to the Kaliningrad region.

13.5 The collective farms in the Kaliningrad region is still using the old supplies of inputs and distribution firms. A small number of new companies are starting to work as wholesalers and distributors. However, the Kaliningrad region is lacking good physical market places which can, particularly where the quality of product is variable and requires inspection, lower the costs of undertaking transactions. In addition to the limited amount of good market places, the institutions required for the efficient operation of such markets, including the informational and legal frameworks that allow producers to identify market opportunities and to be assured that bargains struck will be adhered to or enforced by judicial systems, is very weak. Both are required if there is to be true competition between producers.

13.6 In Kaliningrad, as well as in other part of Russia, it seems that during the early stages of economic transformation 'Western' advisors assumed that the processes of price liberalization and privatization would somehow automatically result in consumer preferences being signalled to producers and those producers in turn responding by producing the goods consumers desire. Such an assumption has proved to be invalid, although retailers have rapidly responded to the changed economic environment by expanding the range of products available at different location -often by renting redundant space to private retailers - and improving the layout of stores, these changes have rarely been reflected back through the food chain. Rather, the consumer demand has increasingly been met by imports with higher quality and well packaged processed food.

13.7 In contrast, in Kaliningrad the domestic food chain has largely broken down. Much agricultural produce is remaining at the farm level as the worker/owners of the privatized state and collective farms produce considerably less than earlier. The high transactions costs of running large scale farms in the absence of coercive labor is resulting in much land being unutilized. The collective farms are still producing the same products as during the former time, without considering new market trends.

13.8 An important reason for the failure of domestic agricultural producers and processors failing to respond to markets is the lack of those institutions required to reduce the costs of making market transactions. Thus there tends to be little information available on the prices or availability of different products and producers have little faith that the terms or conditions of transactions will be adhered to. Low prices and delayed payments are particularly common.

13.9 The lack of independent storage and transportation facilities are particularly detrimental to the marketing of produce. Through the increasing number of private small farmers, the demand for transportation and storage has increased considerably.

13.10 In addition, within the farming community there is an ingrained philosophy against wholesaling and distribution activities. Under the Soviet system, the purchase of a product for subsequent resale at a higher price was determined to be 'speculation' and illegal. Only producers could 'sell' their output. Most of the large collective farms in the Kaliningrad region are not having any direct sales by themselves, the farms are producing only for a number of processing industries, which, at present, are operating with a number of serious problems.

13.11. Retail prices for main food products are listed in Annex 20.

14. MANAGEMENT

14.1. Most of the managers in the food processing plants have an education as engineers or economist, which are a remnant of the old Soviet planning system, with the priority on the physical production. Few of the managers have been trained in financial aspects, marketing or strategic planning.

14.2. It should be mentioned that a number of successful industrial privatization programs in Poland have been implemented mainly by training and assisting the management groups in the newly privatized enterprises. The same is valid for the large collective farms.

14.3. A common fault in the privatization process is to believe that additional investments would solve the existing operational problems. Most efficient is to help and train the existing management (in certain cases the management teams have to be changed), in improving the on-going operation by:

- improving quality and hygiene;
- reduce cost and losses in the operation;
- start to introduce management information systems (MIS), and learn how to read different indicators;
- start to train the managers to make their products to fulfill the consumer demand;
- start to train managers in strategic thinking and planning;
- improve the relation to the raw-material suppliers (agricultural farms) by integrate to operations as much as possible.

14.4 European Community, or bilateral funding, could finance training and assistance for the managers of the food processing plants. Most important is however that each management group gets one or two advisors to work closely with the present (or improved) management systems for periods over several months, only theoretical training is not cost effective.

14.5. One of the most important task for the food processing management groups is to increase the motivation of the workers, by better salaries and bonuses, as well as to make a clear distinction between those workers who are motivated to develop the enterprise, and those who are just present to obtain a salary. The labor force in nearly all food processing plants would have to be reduced in order to improve the motivation and salary of those workers running the plant.

14.6 The new small enterprises being established are normally managed by the investor himself and his family. The management problems are small and easy to address, if any. Administration and overhead costs are small and this type of companies can easily compete with the large enterprises, which normally have the same level of technology,

14.7. The lack of efficient management in the collective farms are one of the major problems in the food processing industry, because without proper supply of agricultural products, the food processing industry can not survive. In order to assist the collective farms to be managed in an acceptable way, it is recommended that small management teams (two to three persons) are created, most likely with technical assistance from abroad, which can work in a close relationship with the existing management. The labor force has to be reduced, the workers engaged should be paid well, and a high demand on the quality of work should be enforced.

15. STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND THREATS

15.1. Strengths

15.1.1. **Market.** The Kaliningrad region has a population of about 0.9 million, which forms a base for a relatively large domestic market. The market can be differentiated into three segments: (i) the ten percent highest income group with 31 percent of the total income (estimated annual per capita income US\$ 5,700, according to statistics from the first five months of 1995); (ii) a middle class with an average annual salary of about US\$ 580; and (iii) the ten percent lowest income with about US\$ 20 per month. The differentiation has increased since 1994. Consequently, the Kaliningrad region has a market, however narrow, for high quality food products, as well as a larger segment for relatively cheap products. Competition from imported products exist, but the custom protection is sufficient to make the production and processing of several food products a viable undertaking.

15.1.2. **Labor Cost.** The salaries paid for both qualified staff, skilled workers and other workers in the Kaliningrad region are low, compared to the neighboring countries. Low labor cost makes the production of labor intensive food products cheap. Such activities would include the production and processing of selected fruits, berries and vegetables, as well as de-boned meat products, goose down, certain cheeses, honey, traditional cakes and bakeries and dried spices and vegetables. The labor cost will continue to be low for the next number of years and the closeness to the large markets in Germany, and Scandinavia would make it interesting to penetrate a number of niche markets and to produce in bulk such products like frozen berries and vegetables.

15.1.3. **Cheap land.** In 1994 a new land tax system was introduced. For the Kaliningrad region the average land tax is Ruble 2,315 per hectare of cultivated land and year. The normative price of land is 200 times the land tax, and the average price would be about US\$ 185 per hectare. A large part of the arable land is at present un-utilized, and it is obvious that most farm workers at the collective farms are not able to cultivate the areas previously organized under the collective farm system. Land not utilized under regular farming can be used for grazing of beef cattle and/or distribution of pig manure. Consequently, in the Kaliningrad region an increase in pig production could take place since apparently land is available for the disposal of manure.

15.1.4. **Good soil.** The Kaliningrad region has good soil, and with an increased level of fertilizers, improved drainage and proper preparation of the earth, the production can increase to North European standard. In addition, the region has the possibility to grow a number of crops which are labor intensive, and considered less profitable in the West part of Europe.

15.2. Weaknesses

15.2.1. **Declining supply of raw material.** The Kaliningrad enclave previously imported certain quantities of feed grain for the production of meat and milk, and wheat for the production of bread (locally produced wheat was mainly used for feed). With the sharply reduced import of feed, the production of meat and milk has dropped considerably. Dairy cows are now mainly grazed, which result in very seasonal production during the summer, while the production of pork has declined substantially. The main existing food processing industries linked to the processing of milk and meat are at present operating at very low capacity due to the lack of raw material. Most of the collective farms, now managed and operated by farm workers, are utilizing their land very little and most likely the production will drop further, which will have a serious impact on the further operation of the food industries.

15.2.2. **High production cost for agricultural products.** Due to the inefficient farming system, with old and large farm equipment, poor management, unmotivated workers and high losses, the farm gate price for most agricultural products is above world market level, despite the low labor cost. The high cost of raw material, makes the existing food processing industry uncompetitive with imports.

15.2.3. **Weak management.** Most of the managers of the food processing plants have the main skill in the management of the processing system but lack skills in distribution and marketing as well as managing the supply of raw material. Management of a food processing plant during a period of transition, when most factors to be managed are changing, is a very difficult task, and few managers have the requisite skills.

15.2.4. **Outdated processing technology.** Almost all of the existing food processing lines are out dated compared to Western technology. The main concern is not the function of the unit operation (like heating, chilling, grinding etc.) but the inefficient use of energy, water, poor sanitary design, non-uniform performance, non working control system and poor packaging. A considerable part of the food processing machinery needs to be up-graded.

15.2.5. **Weak infrastructure.** The supply of electricity, water, distribution, telecommunications, and transports are all in a state of disrepair and their guaranteed supply is not available. In addition, many of the repair shops at the different processing plants are in poor condition, lacking the facility to make proper repair jobs. This task is further hampered by the absence of spare parts.

15.2.6. **No long term capital for restructuring of the industry.** The available capital is mainly used for the financing of short term operations, like import of different types of consumer goods. Long term capital, to finance viable investments, at reasonable market rates is not available. In addition, the commercial banks have no experience to make professional judgements of investment proposals. In consequence they rely on oversized collateral.

15.3. Opportunities

15.3.1. Production of berries and vegetables for export. The use of cheap labor to produce labor intensive berries and vegetables to be frozen and exported in bulk, could be a viable business concept if the production can be made without loosing the crops to thieves. In addition, storage facilities have to be improved. The prices for frozen berries and vegetables are good for acceptable quality, and the volumes traded of various products are large. Additional production would therefore be easily marketed.

15.3.2. Increase pork production for the regional market and rest of Russia. Russia is today importing large quantities of pork from West Europe, due to the drop in the domestic production. A reasonably efficient production of pigs and production of pork, sausages and smoked meat could be a viable operation, if feed were to be produced locally and vitamins and protein components imported.

15.3.3. Diversification and modernization of the industry to supply the regional market. The existing industries have been constructed to supply semi-processed goods for other parts of the Soviet Union, while the regional and domestic market today require high quality finished products. The industries need to diversify and widen the output of marketable well packaged food products.

15.3.4. Penetration of selected niche markets in West Europe. The Kaliningrad region is closely located to the large European market, which, however, is very difficult to penetrate for a number of basic food products, due to the protection of the home markets. A number of smaller volume, less regulated food products, are easier to produce and export, and production in Kaliningrad could be geared to such niche markets. The production of such products is often labor intensive which gives Kaliningrad a competitive advantage in their production.

15.4. Threats

15.4.1. Uncertainties with regard to long term policies. A number of policies relating to price regulations, import and export duties, and distribution in addition to changing laws with regard to land ownership and the privatization of industries, makes the planning of investment and the long term development of the industries very difficult. Continuous changes and uncertainties are a serious threat to long term development in Kaliningrad.

15.4.2. Unstable raw material supply. The production of agricultural produce has to be changed and stabilized. The industry must have a stable supply and good control of the quality, time of delivery and price of the products to be processed. If the collective farms can not be made to produce, the agricultural production system must be transformed into a system capable of supplying the processing plants.

15.4.3. Competition from imports. The regional food processing plants must have temporary protection from low priced products during a period of modernization, training and change of management, as well as the establishment of a distribution system. If not, the industry will not be able to survive the transition period.

15.4.4. Increasing inflation. Continuous high inflation is a serious threat to the investment to obtain a modernized industry.

16. STRATEGIC ISSUES

16.1. Declining agricultural production for processing. The agricultural production system with a large number of non working collective farms must be changed.

16.2. Management of collective farms and food processing industries. Changes and training of managers have to be made in order to obtain management systems which are able to operate in an environment regulated by market forces.

16.3. Limited capacity to make qualified investment analyses. Consulting firms have to be trained to make proper feasibility studies for investment proposals, otherwise the commercial banks cannot make correct financing decisions.

16.4. Lack of collateral for obtaining long term credit, and legal framework for realizing foreclosure. During a period before the legal framework has been established, the commercial banks need a set of decrees to be able to guarantee the recovery of their loans in the case of non-performance of the borrower.

16.5. Ownership of land. The re-registration of land ownership have to be speeded up, and the establishment of a land market is urgently needed in order to create a viable farming system.

17. PROJECT CONCEPTS. POSSIBLE INVESTMENT PROJECTS WITH REGARD TO EXPANSION AND REHABILITATION

17.1. A number of project proposals have been discussed, during the visits to the Kaliningrad region, for investment in on-going industries. As mentioned above, two main reasons are making most of the food enterprises to operate with low profit or at losses: (i) lack of raw material or poor quality of the raw material, (ii) low capability of the management. Most of those companies which are operation without restriction on the raw material are operating with good success, like bakeries which get the flour through import and soft drink manufacturer which get the flavor and bottle blanks also through import. A possible investment in an enterprise would have to be followed with an in depth review of the operation in order to ensure that the enterprise will be able to run its business with profit. The industrial environment in the Kaliningrad Region is relatively favorably for food processing with the existing relatively high protection tariffs and a domestic demand for food products.

17.2 During the first survey of the food processing industry sector three projects for possible investments were selected:

(i) **Improvement of the Kaliningrad milk processing plant.** The processing plant is at present the largest milk processing unit in Kaliningrad region and is operating with about 40 - 50 percent of its capacity. The plant needs additional investments in packing machines and an overall modernization of the plant. However, a proper feasibility study has to be made, which also takes into account the improvement of the milk supply.

(ii) **Installation of a new sausage processing plant in the slaughterhouse and meat processing plant located in Chernjahovsk** to improve the quality of sausage and reduce losses of raw material. The enterprise, "Instermeat", has been in operation several decades, and has a well established distribution network. The existing sausage line is run down and the quality of the products produced is not optimal, due to the problem of cleaning and operating the equipment. In addition, losses of meat in the process is high since the flow of product is uneven and difficult to control. The enterprise is at present lacking raw material, especially pork. A closely located collective farm, which some 14 years back constructed a large pig production unit, should, in connection of the rehabilitation of the meat processing line, also be restructured and the pig production should start again. In addition the present feed plant in Chernjahovsk should be put into operation by obtaining working capital and the cooperation with the tannery, located in the center of Chernjahovsk, should be analyzed. The location of the tannery should also be evaluated for long term strategy. The total project would involve the pig production, feed making, pork processing and the utilization of by-products like skins. The integrated project, when implemented, would have a major impact on the agro-industries in the region.

(iii) Production and processing of vegetable and berries for freezing and export. Some of the large collective farms have good possibility to produce berries and vegetables, especially those types which need a high level of manual labor for production and harvest. Collective farms close to Kaliningrad city have, at present, certain problems with pilferage. A part of the production can be contracted to individual farmers which thus would limit the problems with theft. The European market for frozen berries and vegetables is large, as long as the quality of the production is acceptable. Investment in a freezing line should be done where idle freezing compressor capacity is available, as well as sufficient cold storage. Otherwise the investment cost would be too high in relation to the expected profit, especially during the first years. Two plants can be involved in the project, (i) in the collective farm "Primorsky" the construction has started on the building for a vegetable processing unit (10 million cans) including freezing (1,000 tons), and (ii) in Sovetsk an old plant has been in operation since several years and a new is close to be ready, but the final works have stopped due to the lack of funds.

18. CONCRETE PROJECT PROPOSALS.

18.1. In order to start economic activities in the agro-industrial and food processing sector, investments in small integrated food processing enterprises have the highest priority. Experience from Latvia, Lithuania and Poland shows that a number of entrepreneurs are interested to make small investments in small processing plants for meat and milk processing, bakeries, poultry production and processing, wood processing and a number of other activities.

18.2. The Duma passed April 27, 1995 a new law which supports and regulates the development of small scale business. The regulations took one and a half year to prepare.

18.3. The Kaliningrad Business Development Center has created a closed stock company with 17 shareholders, including two banks, training institutes, research units and the Regional administration. At present 60 enterprises have filed requests for small loans to a wide range of activities, such as:

- bakeries
- processing of meat
- processing and packing of juice
- processing of fish
- manufacturing of furniture
- driers to farmers
- tractors
- production of fast food
- processing of milk

18.4 A program for the development of small and medium industries (SMIs) has already started since one year, and investments in several small scale plants including bakeries, meat and milk processing, have taken place. The financing has mainly been for used equipment from Germany and Belgium. The Business Development Center is normally leasing the equipment to the end user.

18.5. It is worth noting that Russian equipment manufacturer are making very few small scale machinery, so consequently almost all equipment is coming from West Europe.

18.6. A few consulting enterprises are in operation in the Kaliningrad region, which can make small feasibility reports for entrepreneurs. The cost for a small business plan is about Ruble 1,000,000 or US\$ 200-300.

18.7. Commercial banks need refinancing of long term (2-4 years) loans. Commercial credits cost (in Rubles) in 1994 about 200-220 percent per year, but the interest rate has dropped to 150-180 percent in 1995. With this interest rate long term investment can not be financed, but certain funds have been available for investment in machinery at a rate of 60 percent per year. Presently the inflation is dropping and the interest rate should also be reduced. Loans in dollars or other hard currency carries an interest rate of about 30 percent per year.

18.8. Project Proposal:

A fund of US\$ one million should be established for the financing of small private enterprises, with a maximum investment to one single borrower of US\$ 10,000. The management of the fund could possibly be, after appropriate appraisal, the Kaliningrad Business Development Center (KALBUD) or an acceptable bank. Additional training is needed for two main sectors:

(i) the preparation of business plans and feasibility studies, with emphasis on supply of raw material and marketing;

(ii) evaluation and appraising of the investment proposals, as well as the preparation of approval routines, supervision guidelines and debt collection systems.

Most appropriate would be that the KALBUD would be the unit helping the entrepreneur to put together business plans and feasibility studies and an acceptable bank creates a small group which would be specially trained and have the full responsibility to lend and collect the funds allocated to the program.

18.9. Technical Assistance:

In order to train staff in project preparation and evaluation, a Technical Assistance program has to be established. This program would include on site training of one group in the Business Development Center and another group in the selected bank. The Terms of Reference for the Technical Assistance program should include: Background, Objectives, Methodology, Measurable Output, Responsible Institution in the Kaliningrad region, Timetable and Financing Proposal. The estimated cost of the Technical Assistance is about US\$ 300,000, involving 12 man months foreign experts.

18.10. Possible Action Plan

An action plan for the establishment of the Development Fund could be as follows:

(i) Follow up with the Central Authorities to find out if a Development Fund can be established and if domestic resources can be included.

(ii) A request to European Bank for Reconstruction and Development or World Bank including a list of possible sub-projects to be financed, amount needed, and arrangement for technical assistance. It is very possible that the amount of funds are too small for a direct involvement of the two Institutions, and that the funds could be reallocated from some of the on-going credit lines to Russia. Another approach would be to ask for bilateral financing of the Development Fund through institutions such as Swede Fund.

- (iii) Terms of Reference for the Technical Assistance should be prepared.
- (iv) A request for bilateral or European Union financing of the Technical Assistance. Bilateral donors should be addressed through the Administration of the Kaliningrad region.
- (v) A possible bank through which the funds can be channeled should be identified for the further evaluation of the refinancing institution.

19. INTERRELATION BETWEEN FOOD/AGRO INDUSTRY AND OTHER INDUSTRIES

19.1. The food industry in the Kaliningrad region is influenced by several other industrial sub-sectors, such as:

- paper industry for production of packaging material
- Kaliningrad Packing Plant are making cans for the fish processing industry, but can make cans for any other products, like lubrication oil
- manufacturing industry for food processing industries and well as manufacturing of small farm equipment
- tannery making hides and skins for the manufacturing of cloths and leather bags
- plants making plastic products would be able to supply packing material

ANNEX 1 (Page 1)

KALININGRAD REGION

FOOD PROCESSING INDUSTRY
SURVEYRECOMMENDATIONS
FOR

RESTRUCTURING AND REVITALIZING THE INDUSTRIES

LIST OF PERSONS AND INSTITUTIONS MET

- Mr. Alexy Ignat'ev, Chief Development Committee
Mr. Arthur Usanov, dept chief Development Committee
Mr. Maxim Savinov, consultant Development Committee
Mr. Oleg Tihononenko, Department of Agriculture
Mr. Roman Chirnajvskij, Department of Agriculture
Mr. Gennady Fyodorov, Rector University of Kaliningrad
Mr. Yuriy Zverev, Associate Professor, University of Kaliningrad
Mr. Istvan Ipper, Senior Banker, European Bank for Restruc.
Mr. Vladislav Voropinov, Director, Baltik Bank
Mrs. Wanda Marachovskaya, dept.chairman Agroprom Bank
Mr. Igor Kirikov, President, Moloko, Kaliningrad Milk processing
Mr. Michail Masliany, Director Instermeat, Chernjahovsk
Mr. Vasily Korniets, Feed Processing Plant, Chernjahovsk
Mrs. Olga Smirnova, Director Tannery Plant, Chernjahovsk
Mr. Sergey Zagrebelny, Director, Kaliningrad Slaughterhouse
Mr. Vasily Karlov, Chief Eng. Kaliningrad Slaughterhouse
Mr. Yury Balchenkov, Director, Kaliningrad fish canning plant
Mr. Evgeny Korobov, Director, Kaliningrad Business Dev. Center
Mr. Michael Ilchuk, Director, Russki Biznes Ltd
Mr. Sergey Khrutko, Director, Baltminvody
Mr. Valery Evdokimov, Director, Tipek Ltd, Bakery Sovetsk
Mr. Klaus-Reiner Dauert, Verwaltungsberatung, Königsberg
Mr. Ivan Dudanov, Director, Agroinvest Stock Company
Mr. Alexandr Yeskov, dept Dir. Agroinvest Stock Company
Mr. Vladimir Fedotov, director of Collective farm, Melnikovo
Mr. V.G. Shulepov, Chief Kaliningradpromproject, consult.comp.

ANNEX 1 (Page 2)

Visits to following processing plants:

Kaliningrad Milk processing plant, "Moloko"
Kaliningrad Mineral water and soft drink plant, "Baltminvody"
Kaliningrad Slaughterhouse, "Kaliningradskij"
Meat Processing Plant in Chernjahovsk, "Instermeat"
Tannery in Chernjahovsk
Feed Processing Plant in Chernjahovsk
Bakery in Sovetsk, "Tipek"
Vegetable/fruit Processing Plant in Sovetsk

Visits to Collective Farms in

Rzhevskoe, close to Sovetsk (milk and meat production)
Kamenskoe, close to Chernjahovsk (closed down unit for pigs)
Melnikovo, 25 km outside Kaliningrad (pigs and feed grain)

Visits to Institutions:

Investment Company "Agroinvest"
Agroindustrial Bank, Kaliningrad
Center for support of Small Scale Business
Department of Agriculture
Sovetsk City Administration
Kaliningrad Regional Administration

Additional business information collected from:

Margarine plant, "Znamensk"
Butter and Cheese plant, Ozersk
Dairy plant, Chernjahovsk
Confectionery plant in Chernjahovsk, "Charodejka"
Pulp and Paper plant, Kaliningrad, "Darita"
Poultry plant, Kaliningrad, "Pribreschnaj"
Canned Fish plant, Kaliningrad
Confectionery plant, Kaliningrad, "Konditer"
Bakery No 2, Kaliningrad
Flour Mill, Kaliningrad
Bakery No 1, Kaliningrad
Liquor/Vodka plant, Kaliningrad, "Roswestalko"

ANNEX 2

KALININGRAD REGION
FOOD PROCESSING INDUSTRIAL SURVEY
RECOMMENDATIONS
FOR
RESTRUCTURING AND REVITALIZING THE INDUSTRIES

BASIC DATA

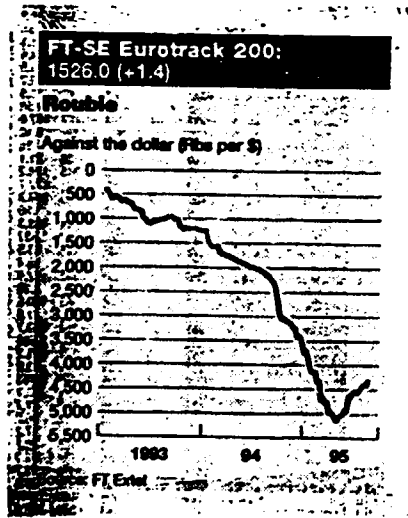
Land area	15,125 square kilometers, of which 8,185 square kilometers is classified as agricultural land.
Borders	To Poland, and Lithuania.
Population	926,500 persons, of which urban population is 723,200
Average income	Rubles 322,000 per capita and month (May 1995), equivalent to US\$ 75.
Industrial production	Rubles 1,082,000 million (1994) of which agricultural and food (also fish) production Rouble 502,000 million
Rain fall	average 700 mm per year
Growing season	160 - 180 days

ANNEX 3

KALININGRAD REGION
FOOD PROCESSING INDUSTRIAL SURVEY
RECOMMENDATIONS
FOR
RESTRUCTURING AND REVITALIZING THE INDUSTRIES

EXCHANGE RATE US DOLLAR / RUBLE

1993 TO 1995



ANNEX 4

KALININGRAD REGION
FOOD PROCESSING INDUSTRIAL SURVEY
RECOMMENDATIONS
FOR
RESTRUCTURING AND REVITALIZING THE INDUSTRIES
PRODUCTION OF THE FOOD INDUSTRY

Products	1985	1990	1991	1992	1993	1994	1994 compar ed to 1990
Meat(slaughter weight) '000 tons	40.4	41.7	38.9	33.4	25.3	19.8	47.0
Sausage prod. '000 tons	14.2	14.8	13.4	11.5	10.5	10.8	73.0
Milk prod. '000 tons	114.2	143.1	133.5	61.0	54.3	53.0	37.0
Butter, '000 tons		13.3	13.1	10.7	8.5	4.6	34.6
Cheese, '000	3.8	4.4	4.3	3.3	3.0	2.5	56.8
Margarine, '000 tons	9.9	9.8	6.7	6.1	2.7	1.6	16.3
Canned meat, '000 cans	7,012	4,656	5,061	4,121	4,028	2,211	47.5
Canned milk, '000 cans	61	519	762	730	924	656	126.4
Canned fruits and vegetables, '000 cans	6,877	7,630	6,710	5,533	4,700	1,700	22.3
Confectionery, '000 tons	12.7	16.7	15.6	10.9	9.0	5.4	32.3
Macaroni products, '000 tons	11.1	10.0	13.5	15.5	11.2	5.1	51.0
Liquor, '000 liters	12180	16160	17510	12760	11760	12580	77.8
Flour, supplied by state factories, '000 tons	303.3	261.1	257.1	251.8	218	71.8	27.5
Cereals, '000 tons	1.6	1.8	1.7	1.8	1.9	0.5	27.8
Bakery products, '000 tons	113.5	114.3	117.2	101.7	110.8	89.2	78.0
Beer, '000 liters	25430	26390	24900	20630	16880	12490	47.3

ANNEX 5

KALININGRAD REGION
FOOD PROCESSING INDUSTRY
SURVEY
RECOMMENDATIONS
FOR
RESTRUCTURING AND REVITALIZING THE INDUSTRIES

RUSSIA

DECREASE IN PRODUCTION BETWEEN 1991 TO 1995

(Year 1991 = 100 %)

Meat processing	59 %
Butter production	44 %
Sugar	35 %
Confectionery	50 %
Canned fruits/vegetables	70 %
Vegetable oil	30 %

ANNEX 6

KALININGRAD REGION
FOOD PROCESSING INDUSTRY
SURVEY
RECOMMENDATIONS
FOR
RESTRUCTURING AND REVITALIZING THE INDUSTRIES
FOOD PRODUCTION IN KALININGRAD REGION

ITEM	Jan-June 1995	Jan-June 1994	Jan-June 1993
Meat, ton	4,200	8,400	10,240
Sausage, ton	3,800	5,200	4,300
Butter, ton	1,600	2,500	3,470
Cheese, ton	1,200	1,380	1,510
Liquid milk, ton	11,800	25,100	23,900
Bread, ton	39,700	45,100	55,000
Confectionery, ton	1,900	2,900	5,270
Macaroni, ton	1,700	2,900	7,440
Margarine, ton	300	1,150	1,200
Fish, 1,000,000 cans	21.3	22.7	31.5
Veg/fruit, 1,000,000 cans	0.3	0.6	1.9
Meat, 1,000,000 cans	0.4	1.0	1.7
Milk, 1,000,000 cans	0.2	0.4	0.4
Meat/veg, 1,000,000 can	0.1	-	-
Soft drink, 10,000 lit	240	370	445
Min. water, 10,000 lit	954	3,080	3,240
Vodka, 10,000 lit	630	557	558
Beer, 10,000 lit	488	625	890
Flour, ton	29,500	35,120	106,400
Cereals, ton	200	400	1,050
Fish, catch, 1,000 ton	110.0	120	153
Proc. fish, 1,000 ton	89.9	106	122
Mixed feed, ton	35,600	50,100	102,200

Standard can is 325 gram

ANNEX 7

KALININGRAD REGION
FOOD PROCESSING INDUSTRY
SURVEY
RECOMMENDATIONS
FOR
RESTRUCTURING AND REVITALIZING THE INDUSTRIES

INCREASE IN FOOD PRICES
FROM 1990 TO 1995
In Rubles

ITEM	TIMES
Bread	12,000
Canned products	7,800
Vegetables	20,900
Sugar	6,400
Meat	5,000
Fish	5,600
Milk products	16,000

ANNEX 8

KALININGRAD REGION
FOOD PROCESSING INDUSTRIAL SURVEY
RECOMMENDATIONS
FOR
RESTRUCTURING AND REVITALIZING THE INDUSTRIES

DISTRIBUTION OF THE TOTAL LAND AREA

AS OF 1994

Total Area	1,512,500 hectare
Agricultural land	818,500 hectare
Forest	290,500 hectare
Water	198,400 hectare
Urban and military use	215,100 hectare

ANNEX 9

KALININGRAD REGION
FOOD PROCESSING INDUSTRIAL SURVEY
RECOMMENDATIONS
FOR
RESTRUCTURING AND REVITALIZING THE INDUSTRIES

CLASSIFICATION OF THE USAGE OF AGRICULTURAL LAND

Cultivated land	394,900 hectare
Garden plots	1,500 hectare
Meadows	145,100 hectare
Pastures	255,000 hectare

KALININGRAD REGION
FOOD PROCESSING INDUSTRY
SURVEY
RECOMMENDATIONS
FOR
RESTRUCTURING AND REVITALIZING THE INDUSTRIES

CHANGES IN THE USE OF CULTIVATED LAND

YEAR 1990 TO 1993

(in thousand hectares)

CROP	1990	1993
Total cultivated land	416.3	390.5
Cereals	183.6	164.4
Potatoes	14.1	17.8
Vegetables	2.3	4.6
Root crops for fodder	4.7	3.0
Corn for ensilage	53.6	62.9
Annual grass	19.9	13.4
Perennial grass	132.3	122.6

ANNEX 11

KALININGRAD REGION
FOOD PROCESSING INDUSTRY
SURVEY
RECOMMENDATIONS
FOR
RESTRUCTURING AND REVITALIZING THE INDUSTRIES

AVERAGE YIELDS OF MAIN CROPS

KALININGRAD REGION

YEAR 1990 AND 1993

(kilo per hectare)

CROP	1990	1993
Grain	2,660	1,670
Potato	14,460	7,300
Vegetable	23,460	10,130
Beet roots	41,320	13,270
Silage	28,800	12,450
Annual grass	14,010	11,130
Green feed crop	13,360	11,400
Hay	38,600	24,400

ANNEX 12

KALININGRAD REGION
FOOD PROCESSING INDUSTRY
SURVEY
RECOMMENDATIONS
FOR
RESTRUCTURING AND REVITALIZING THE INDUSTRIES

DEVELOPMENT OF PRIVATE FARMS

DATE	NUMBER	AREA (hectare)
January 01, 1995	3,107	46,981
February 01, 1995	3,158	47,900
March 01, 1995	3,196	48,557
April 01, 1995	3,233	48,957

Average size of a private farm is 15.1 hectare

Government budget for the development of private farms (Million Rubles)

Item	1992	1993	1994
Support to private farmers	172.1	4044.9	2128.7
of which capital construction	78.5	2692.9	2084.9
of which drainage	20.5	530.9	886.7
Credit guarantee	93.6	-	-
Other support	-	1052	43.8
Interest support	-	300	-
Central bank credit	305.4	998.9	709.8(1)

(1) Budget allocation was originally 3,830.2 million, but disbursed to farmers only 709.8 million

ANNEX 13

KALININGRAD REGION
FOOD PROCESSING INDUSTRY
SURVEY
RECOMMENDATIONS
FOR
RESTRUCTURING AND REVITALIZING THE INDUSTRIES

PER CAPITA CONSUMPTION
IN KALININGRAD REGION
(IN KILO PER YEAR)

ITEM	1990	1993	1994
Meat and meat products	77	63	60
Milk and milk products, in milk equivalents	416	329	330
Eggs, units	348	206	203
Bread and flour products	118	126	101
Potatoes	150	90	90
Vegetables	84	76	68

ANNEX 14

KALININGRAD REGION
FOOD PROCESSING INDUSTRY
SURVEY
RECOMMENDATIONS
FOR
RESTRUCTURING AND REVITALIZING THE INDUSTRIES

PER CAPITA CONSUMPTION OF MAIN FOOD PRODUCTS

IN RUSSIA (SOVIET UNION)

(KILO PER YEAR)

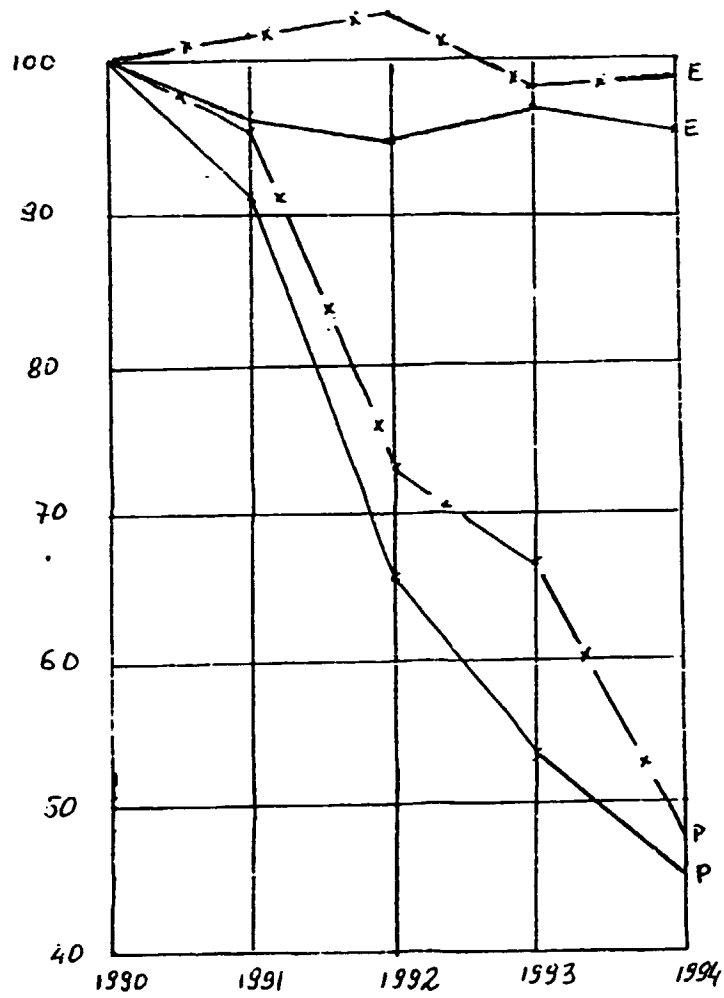
ITEM	1989	1991	1992	1993
Flour products	98	98	104	109
of which wheat bread	68	73	71	70
rye bread	24	25	27	27
Potatoes	94	98	106	118
Vegetables	91	87	83	74
Fruit/berries	41	37	34	37
Sugar/confectionery	21	18	17	22
Meat and meat prod.	75	65	54	58
of which beef	19	16	14	17
sheep	2.2	1.5	1.4	1.2
pork	10.4	9.5	10.3	11.0
poultry	13.5	12.6	10.3	8.7
sausage	14.4	13.0	10.4	10.5
Fish and fish prod.	16.1	14.1	11.6	12.0
Milk prod.(milk equivalents)	397	348	299	298
of which liq.milk	117	118	106	99.5
cream prod	14.1	13.3	6.5	6.5
butter	7.1	5.5	5.6	5.8
Eggs, units	237	229	243	255
Vegetable oil/Margarine	6.9	6.1	6.5	7.2

ANNEX 15 (Page 1 and 2)

KALININGRAD REGION
 FOOD PROCESSING INDUSTRY
 SURVEY
 RECOMMENDATIONS
 FOR
 RESTRUCTURING AND REVITALIZING THE INDUSTRIES
 PRODUCTION OF THE MAIN FOOD PROCESSING INDUSTRIES
 YEAR 1994

Type of production	Enterprise	Annual production outlet (tones)	Utiliization of average annual capacity (%)
Milk	Cheese factory in Pravdinsk	486.7	
	Butter and cheese factory in Gusev	3930	
	Dairy in Sovetsk	10062.3	
	Dairy in Chernjahovsk	101519	
	Dairy in Kaliningrad	1069720	
	Butter and cheese factory in Nesterov	1365.0	
	Cheese factory in Gvardejsk	1269.0	
	Cheese factory in Bagrationovsk	439.0	
	Cheese factory in Krasnoznamensk	561.5	
	Meat	Canned meat combinate in Kaliningrad	5232.5
Meat processing plant in Sovetsk		2838	19.4
Meat processing plant in Chernjahovsk		4052	57.9
Meat processing plant in Gvardejsk		913	91.1
Meat processing plant in Bagrationovsk		699	26.4
Poultry processing plant "Gurievskaj"		462	100
Poultry processing plant "Pribrezhnaja"		4234	81.1
Poultry processing plant "Kaliningradskaja"		598	67.8
Butter	Butter/cheese plant in Ozersk	161.2	29.9
	Butter/cheese plant in Gusev	340	73.6
	Dairy in Sovetsk	707	10.7

	Dairy in Chernjahovsk	451	67.4
	Dairy in Kaliningrad	756	14.7
	Cheese plant in Slavsk (closed in 1995)	299	100
	Butter/cheese plant in Nesterovsk	451	55.3
	Butter/cheese plant in Zheleznodorozhniy	325	57.8
Skimmed milk powder, milk substitutes	Dairy in Sovetsk	1095	31.9
	Dairy in Chernjahovsk	414	85.9
	Dairy in Kaliningrad	801	30.3
	Skim milk line in Slavsk (closed in 1995)	162	20.9
	Butter/cheese plant in Zheleznodorozhniy	38	4.1
Cheese	Cheese plant in Chernjahovsk	33	28.2
	Butter/cheese plant in Ozersk	92	100
	Cheese plant in Pravdinsk	120	100
	Butter/cheese plant in Gusev	121	100
	Cheese plant in Slavsk	261	100
	Cheese plant in Nesterov	150	100
	Cheese plant in Gvardejsk	79	100
	Cheese plant in Bagrationovsk	103	100
	Cheese plant in Krasnoznamensk	71	100
	In Zalesie	154	100
	In Ladushkinsk	257(1990)	100
	In Kirovsk	148(1989)	100
	In Zheleznodorozhniy	41	100
	Canned meat plant in Kaliningrad	2500	100
Sausage	Meat processing plant in Sovetsk	2794	79.8
	Meat processing plant in Chernjahovsk	3227	80.7
	Meat processing plant in Gvardejsk	640	100
	Meat processing plant in Bagrationovsk	895	100



The Dynamic of Production and Number of Workers
in Meat and Milk Industry (1990-100%)

- - meat industry
- x- - milk industry
- P - production
- E - number of workers

ANNEX 17

KALININGRAD REGION

FOOD PROCESSING INDUSTRY
SURVEYRECOMMENDATIONS
FORRESTRUCTURING AND REVITALIZING THE INDUSTRIES
MAIN EMPLOYER IN THE FOOD PROCESSING INDUSTRIES

Sector	Name/Location of Plant	Employment Year 1993	Employment Year 1994
Meat	Bagrationsvsk	138	132
	Gvardejsk	106	105
	Kaliningrad	618	635
	Sovetsk	347	333
	Chernajahovsk	431	411
Butter/Cheese/milk	Bagrationsvsk	42	42
	Gvardejsk	72	72
	Laduchkin	43	43
	Zheleznodorozhny	70	77
	Krasnoznamensk	66	69
	Kirovsk	44	41
	Nesterov	110	108
	Ozersk	72	73
	Zalesie	46	46
	Slavsk	129	145
	Chernajhovsk	286	319
	Kaliningrad	728	729
	Sovetsk	364	291
Pravdinsk	76	87	
Alcohol	"Roswestalko"	423	475
Soft drink	"Baltminvody"	180	164
Brewery	Zheleznodorozhny	168	160
Brewery	"Citron" in Sovetsk	111	102
Fruit/Vegetable	Sovetsk	152	129
Confectionery	Chernajhovsk	177	167

ANNEX 18

KALININGRAD REGION
FOOD PROCESSING INDUSTRY
SURVEY
 - RECOMMENDATIONS
 FOR
RESTRUCTURING AND REVITALIZING THE INDUSTRIES

LIVESTOCK POPULATION

(1,000 heads)

TYPE	1990	1992	1993
Total cattle in region	467.5	425.3	376.2
of which dairy cows	170.1	159.5	147.0
Pigs in region	270.5	198.8	175.2
Sheep in region	42.4	47.5	43.3
Poultry in region (collective farms)	3,011.3	2,787.8	2,584.6
Cattle collec. farms	376.3	319.3	278.7
dairy cows coll. farm	127.4	106.1	93.1
Pigs, collec. farms	176.8	120.8	100.7
Sheep, collec. farms	0.3	-	-
Poultry collec farms	3,011.3	2,787.8	2,584.6
Cattle family farms	80.2	92.6	85.2
dairy cows family f	40.4	48.8	49.3
Pigs, family farms	54.2	48.6	46.8
Sheep, family farms	41.7	45.0	40.6
Cattle, new private farms	-	3.7	4.9
dairy cows, new	-	1.8	2.5
Pigs, new priv.	-	2.6	3.9
Sheep, new priv	-	2.2	2.4
Poultry, new priv	-	-	302.6

ANNEX 19 (Page 1 and 2)

KALININGRAD REGION
FOOD PROCESSING INDUSTRY
SURVEY
RECOMMENDATIONS
FOR
RESTRUCTURING AND REVITALIZING THE INDUSTRIES

RUSSIAN IMPORT DUTIES
(August 1995)

ITEM	DUTY
Live animals	5%
Beef and Pork products	15%
Chicken	25%
Fish	10%
Milk	15%
Yoghurt	10%
Butter	20%
Vegetables	15%
Potatoes	25%
Bananas and citrus prod.	5%
Apples	0.2 ECU/kg
Vegetable oil	15%
Sausage	20%, not less 0.4ECU/kg
Canned meat, smoked meat	15%, not less 0.4ECU/kg
Canned fish, fish products	25%
Sugar, white sugar	25%
Sweets, confectionery	20%
Chocolate	0.6ECU/kg
Juice	10%

Mineral water	20%
Soft drinks	25%
Beer	0.6ECU/liter
Liqueur	2.0ECU/liter
Feed, except cat/dog	0.0%
Cigarettes	30%, not less 3ECU/1,000
Flour	10%
Grain	1%

ANNEX 20

KALININGRAD REGION
FOOD PROCESSING INDUSTRY
SURVEY
RECOMMENDATIONS
FOR
RESTRUCTURING AND REVITALIZING THE INDUSTRIES

RETAIL PRICES OF MAIN FOOD PRODUCTS

(as of June 16, 1995, exchange rate US\$ 1 = Ruble 4,600)

ITEM	MAX	AVERAGE	MIN
Cabbage, kg	5,600	4,168	3,000
Potatoes, kg	2,500	2,073	1,800
Onions, Dutch, kg	6,000	4,700	3,500
Carrots, kg	5,000	4,109	3,500
Tomatoes, kg	10,000	8,629	7,000
Pear, kg	10,000	8,967	7,800
Lemons, kg	8,000	6,442	5,000
Apple, Dutch, kg	9,900	8,513	7,400
Pea, green, 400 gram	5,100	4,278	3,370
Ketchup, 500 gram	5,620	4,531	3,800
Mayonnaise, 310 gram	4,600	4,078	3,750
Vegetable oil, import, 1 lt	10,000	8,878	7,500
Milk, in cartons, 1 lt	2,250	2,150	2,100
Butter import, kg	17,300	16,242	14,850
Margarine, kg	7,730	7,717	7,700
Milk, concentrate, 400 gram	4,950	4,268	3,630
Buck wheat, kg	3,750	3,350	3,000
Flour, high quality, kg	2,700	2,385	1,900
Rice, kg	4,000	3,378	3,120

Sugar, kg	4,750	4,144	3,400
Barley, fine milled, kg	1,600	1,550	1,500
Macaroni, high qual, kg	6,490	4,773	3,300
Macaroni, imported, 500 g	4,250	3,305	2,500
Coffee, 100 gram	9,130	6,703	5,380
Tea, 250 gram	7,500	6,199	3,500
Soft drink, 1.5 liter	3,700	3,426	2,900
Juice, Tetra Pak, 0.2 lit.	2,200	1,796	1,250
Juice, Tetra Pak, 1.0 lit	6,500	5,261	4,500
Beer, bottle, imp. 0.33lit	4,800	3,896	3,100
Beer, bottle, imp. 0.33lit	4,000	3,617	3,200
Champagne, 0.75 lit	16,000	13,662	11,000
Champagne, import, 0.75 lit	17,400	14,452	10,500
Vodka, 0.5 lit	9,060	7,153	5,800
Pork, kg	15,700	13,397	11,000
Herring, frozen, kg	6,000	4,528	3,170
Chicken legs, USA	10,700	9,737	8,800
Liver, kg	12,800	12,092	11,800

Whole sale prices are about 16 - 25 percent lower, retail margin on domestically produced food is controlled to be maximum 16. percent