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AN ASSESSMENT OF THE STORAGE
OF GRAINS IN UKRAINE AND RUSSIA



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USA

**AN ASSESSMENT OF THE
STORAGE OF GRAINS IN UKRAINE AND RUSSIA**

by

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for the

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The contents, recommendations, and conclusions contained in this report do not necessarily reflect the views and policies of the United States Agency for International Development.

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SECTION I
INTRODUCTION

Statement of Work

The assessment of grain storage in Ukraine and Russia was done under the following statement of work developed by the Agency for International Development (AID), Washington, D.C.

Objective. The objective of this activity is to improve upon the storage of grains in the New Independent States (NIS), giving emphasis to the emerging private sector and the need for low-cost storage in the agricultural producing regions.

Background. There is considerable concern over food availability for the next few years given the dramatic political and economic changes that have taken place over the last year in the former USSR, and the significant reduction in agricultural productivity in 1991 (grain production down 25%; down 10% overall). The current collapse of the centralized command input and output distribution systems, while viewed favorably in the long-term, is also expected to further reduce food availability in the short-term. All of these pressures argue strongly to try to reduce postharvest losses which are estimated to be 20% to 40% of total grain production.

Attention in this scope of work will be given to storage since substantial losses occur while agricultural outputs are in storage, and because private on-farm storage and nearby facilities are generally rudimentary to the extent they exist. The development of private low-cost on-farm and/or nearby private storage and the provision of technical assistance and training in the producing areas have been cited as important ways to reduce storage losses. In addition, losses in existing food- and feed-storage facilities, which, in general, have been larger facilities controlled and operated by the government could be reduced significantly by providing some technical assistance and training.

In carrying out this scope of work, the team will work mainly with wheat storage, since this crop accounts for a substantial share of the food diet in NIS. The team will focus on Russia and Ukraine, since they are large producers and consumers of grains.

Duties. Duties were listed as follows:

1. Identify storage constraints (e.g., technical, facilities, equipment, policy, training, and management practices) at the farm level through regional and urban storage centers to retail outlets. Develop recommendations to address constraints, including how to better utilize existing storage facilities. Particular attention will be given to the need for private low-cost on-farm and/or nearby storage facilities. Provide AID with recommendations on potential support (e.g. technical assistance, training, facilities, and equipment) that AID or other donors could

provide to assist with food and feed storage to help increase food availability for the 1992-93 and 1993-94 winters.

2. If private low-cost on-farm and/or nearby storage facilities should prove to be a feasible priority, provide recommendations on the type of facilities, equipment, and training needed. Identify and make recommendations on issues that may arise, e.g., ownership, management, maintenance, and operational responsibility for the facilities and equipment.
3. Provide technical assistance to host-country counterparts on technical aspects of establishing, operating, and maintaining storage facilities that will minimize losses. This will include a review of not only facilities but storage equipment, e.g., dryers, aerators, handling/moving equipment, temperature/humidity measuring equipment, etc.
4. Identify training and technical assistance needs at all levels related to storage and develop a short-term training and technical assistance plan focused on in-country training, which can be implemented in time to benefit the fall harvest. This in-country training and technical assistance program should take advantage of in-country organizations and relevant training institutions in order to train trainers, where possible, to increase the spread effect. Provide recommendations on how any longer-term training and technical assistance needs could be met.
5. Identify potential marketing and investment opportunities for U.S. manufacturers and suppliers of storage facilities, equipment, and technology. In this regard, interact with U.S. businesses already established in the areas to be visited to learn from their experience and to help strengthen U.S. investments.
6. Prepare a report on storage facilities and other agribusiness opportunities for U.S. businesses and present the findings at a one-day workshop with U.S. agribusinesses in or near Washington, D.C.
7. Coordinate with the USDA Wholesale Market Program and identify areas where close collaboration will be mutually beneficial.

Team Composition

The team was composed of Roe Borsdorf, Kansas State University, Food and Feed Grains Institute (KSU/FFGI) Manhattan, KS; Larry Dirksen, Omega Ten Corporation, San Diego, CA; Virgil Eihusen, Chief Industries, Grand Island, NE; and Roger Wolfe, White Cloud Grain Company, Hiawatha, KS.

USDA Wholesale Market Program

The team could not establish contact with the USDA wholesale market program. No guidance was given to the team on establishment of contacts and time constraints prevented necessary prearrangements for such contacts.

Team Time Utilization

The team spent nearly one-half of their work time in identifying possible marketing and investment opportunity leads and information for U.S. manufacturers and suppliers of grain storage and related equipment for the purposes of presentation at the workshop held September 11, 1992, in Washington, D.C. Appendix I contains a list of team contacts. Appendix II contains a report prepared for the workshop.

SECTION II

GRAIN PRODUCTION AND UTILIZATION

Ukraine

Ukraine encompasses 60.4 M hectares, of which slightly more than 32 M are under crop production. Of the some 32 M hectares under cultivation, grain crops occupy nearly half of the area. Wheat production accounts for nearly half of the crop area in grains and more than one-half of the total grain production in latter years.

The average total production of grain in Ukraine for 1986-90 was 47.4 M mt compared to 41.4 and 37.7 M mt for 1976-80 and 1981-85, respectively. The 1992 forecast of grain production is 43 to 46 M mt.

Wheat is the principal grain, comprising approximately 51% of the total grain production. Barley and corn comprise 19% and 13%, respectively. Rye, oats, millet, buckwheat, rice, and pulses make up the other 17% of the grain production. Table 1 provides production information on grains from 1976 to 1992.

State purchases of grain include wheat, corn, and barley. It is reported that the state procurement target is 17 M mt annually. The State Grain Committee (SGC) of Ukraine stated that of the 17 M mt, 10 M mt would be corn and barley. This leaves 7 M mt of wheat procurement for flour milling.

Given a population of 52 million people, this results in an annual consumption rate of 135 kg per capita. This result is comparable to the historical consumption of wheat used for food in the former USSR as shown in Table 2.

It was stated by district officials and collective farm managers that one-third of the total grain production was sold to the state. The balance of grain produced was reported to be utilized as follows: 20% for worker payments, 50% for animal feed, and 30% stored over a ten-month period and sold-out in small amounts. The latter was considered a risk fund which assisted in supporting farm operations. Table 3 illustrates the amount of state procurement and grain remaining on the state and collective farms from 1981 through 1991.

Russia

Russia is a major producer of small grains (wheat, barley, rye, oats), sugar beets, sunflower seed, and flax. Production of corn is primarily for green-chop and silage. Production of corn for grain is constrained by the relatively far northern location of the Russian growing areas.

The total land area of Russia is 1,708 M hectares of which approximately 120 M hectares (or 7% of total land area) is arable, cultivated land. Of this amount under cultivation, grain crops occupy 54% of the area. Wheat is the principal grain, comprising approximately 43% of the total grain production. Barley, rye, and oats comprise 24%, 11%, and 12%, respectively. Corn, millet, buckwheat,

rice, and pulses make up the other 10% of grain production. Table 4 provides production information on grains from 1976 to 1992.

The average annual total production of grain in Russia for 1986-90 was 104.2 M mt compared to 105.9 and 91.9 M mt for 1976-80 and 1981-85, respectively. The 1992 forecast of grain production is 93 to 98 M mt.

State purchases of grain include wheat, barley, rye, and pulses. The state has purchased an average of one-third of the total grain production from 1981 to 1991. However, the percentage of production procured has declined over time as shown in Table 5. Wheat procurement by the state represents 55% of total state grain procurement for the period 1981 to 1991. Again, the percentage of wheat production procured by the state has declined over this time period, as illustrated in Table 6.

TABLE 1

UKRAINE GRAIN PRODUCTION
 Million Metric Tons
 (Clean Weight)

Year	Wheat	Rye	Corn	Barley	Oats	Millet	Buck- wheat	Rice	Pulses	Total
1976-80 Ave	21.2	1.2	4.4	10.2	1.4	0.5	0.3		2.2	41.4
1981-85 Ave	18.1	1.1	6.5	7.6	1.1	0.4	0.3	0.1	2.5	37.7
1986	18.4	1.0	8.0	10.0	1.3	0.5	0.3	0.2	1.8	41.5
1987	19.7	1.4	8.3	12.2	1.7	0.7	0.4	0.2	3.4	48.0
1988	21.7	1.1	8.6	8.8	1.2	0.6	0.3	0.2	2.9	45.4
1989	27.4	1.3	7.0	10.1	1.4	0.4	0.3	0.2	3.1	51.2
1990	30.4	1.3	4.7	9.2	1.3	0.3	0.4	0.1	3.3	51.0
1991	23.0									38.6
1992 Est	22-24.0									43-46.0

Source: Various USDA Publications

TABLE 2
WHEAT AND BREAD CONSUMPTION
Kilograms per Capita

Region	USA	USA	Former USSR	Former USSR	Western Europe	Western Europe	Eastern Europe
Product	Wheat	Bread Products	Wheat	Bread Products	Wheat	Bread Products	Bread Products
	(1)	(2)	(3)		(4)	(5)	(6)
Year							
1984						21.71	103.43
1985						25.65	105.83
1986	79.36			132		24.89	106.51
1987	80.72		127.8	132	108.86	24.94	107.01
1988	79.58	38.22	130	131	111.94	25.77	109.63
1989	82.88	40.03	128.8	129	109.82	27.81	109.98
1990	86.81	39.56	128.2	133	109.04		
1991	88.49	40.04	118.8		112.49		
1992		40.59					
Average	82.97	39.69	126.7	131.4	110.43	25.13	107.07

- (1) Unmilled wheat used for food.
(2) 57% of this consumption can be attributed to bread only.
(3) Unmilled wheat used for food.
(4) All countries in Western Europe, including East Germany.
(5) Data corresponds to production of bread, biscuits, and other bakers' wares in Belgium, Denmark, France, Germany, Netherlands, Portugal, and Spain -- countries which contain approximately one-half of the total population of Western Europe.
(6) Data corresponds to production of bread, biscuits, and other bakers' wares in Bulgaria, Czechoslovakia, Hungary, Poland, Romania, and Yugoslavia.

Sources: Various USDA Reports, U.S. Wheat Marketing Plans, FAO Yearbooks, U.S. Industrial Statistics Yearbook, International Monetary Fund, and U.S. Embassy Reports.

TABLE 3
GRAIN MOVEMENT
Ukraine
Million Metric Tons
(Clean Weight)

Year	Total Production	State Procurement		Balance Held On-Farm	
	M mt	M mt	%	M mt	%
1981-85 Ave	37.7	13.4	(35.5)	24.3	(64.5)
1986	41.5	15.2	(36.6)	28.3	(63.4)
1987	48.0	18.1	(37.7)	29.9	(62.3)
1988	45.4	17.3	(35.7)	28.1	(64.3)
1989	51.2	17.7	(34.6)	33.4	(65.4)
1990	51.0	15.4	(30.2)	35.5	(69.8)
1991	38.6	11.3	(29.3)	27.2	(70.7)

Source: Various USDA Publications

TABLE 4
RUSSIAN FEDERATION GRAIN PRODUCTION
Million Metric Tons
(Clean Weight)

Year	Wheat	Rye	Corn	Barley	Oats	Millet	Buck- wheat	Rice	Pulses	Total
1976-80 Ave	50.5	6.2	1.8	28.6	12.5	1.1	0.4	1.1	3.7	105.9
1981-85 Ave	38.7	9.0	2.8	21.7	13.0	1.3	0.5	1.1	3.8	91.9
1986	47.4	9.7	1.7	25.6	15.7	1.4	0.5	1.2	4.2	107.4
1987	36.9	11.1	3.8	26.1	12.3	2.1	0.6	1.1	4.2	98.5
1988	40.0	12.5	3.8	19.4	10.6	1.8	0.5	1.1	4.1	93.8
1989	44.0	12.6	4.7	22.2	12.0	2.8	0.8	1.0	4.7	104.8
1990	49.6	16.4	2.5	27.2	12.3	1.9	0.8	0.9	4.9	116.5
1991	38.0									89.1
1992										93-98.0

Source: Various USDA Publications

TABLE 5

GRAIN MOVEMENT
Russian Federation
Million Metric Tons
(Clean weight)

Year	Total Production	State Procurement		Balance Held On-Farm	
	M mt	M mt	%	M mt	%
1981-85 Ave	91.9	35.0	(38.1)	56.9	(61.9)
1986	107.4	42.1	(39.2)	65.3	(60.8)
1987	98.5	35.1	(35.6)	63.4	(64.4)
1988	93.8	29.2	(31.1)	64.6	(68.9)
1989	104.8	31.2	(29.8)	73.6	(70.2)
1990	116.5	34.0	(29.2)	82.5	(70.8)
1991	89.1	22.5	(25.3)	66.6	(74.7)
1992 target		29			

Source: Various USDA Publications

TABLE 6

WHEAT MOVEMENT
Russian Federation
Million Metric Tons
(Clean weight)

Year	Total Production	State Procurement		Balance Held On-Farm	
	M mt	M mt	%	M mt	%
1981-85 Ave	38.7	16.6	(42.9)	22.1	(57.1)
1986	47.4	22.6	(47.7)	24.8	(52.3)
1987	36.9	15.1	(40.9)	21.8	(59.1)
1988	40.0	16.3	(40.8)	23.7	(59.3)
1989	44.0	17.4	(39.5)	26.6	(60.5)
1990	49.6	18.4	(37.1)	31.2	(62.9)
1991	38.0				

Source: Various USDA Publications

SECTION III
GRAIN STORAGE

Existing facilities for grain storage in both Ukraine and Russia consist of the State Elevator System (SES) and storage on collective and state farms. The design of facilities are the same throughout both countries. Since the privatization process is relatively new, little or no storage exists on individual private farms.

Ukraine

There are approximately 200 state elevators within the 25 regions, with individual capacities from 10,000 to 150,000 mt each. Additionally, there are a few port elevators with a capacity of 250,000 mt, for a total estimated 20 M mt capacity within SES. The configuration of these elevators is a combination of vertical concrete (pre-cast block cell type) and flat storage. The team was told that most of the concrete structures were built within the last ten years, although some of the structures seen appeared to be older.

The state elevator visited near Kharkov was built in 1976, and had a 150,000 mt capacity. Its daily receiving capacity is 8,000 mt, or 1,000 mt/hr. Drying capacity was reported to be 150 mt/hr. This facility employed 30 people. Incoming grain was tested for moisture, density, foreign material, and gluten content. There was no evidence of any aeration equipment or activity, although they referred to the dust control equipment as aeration equipment.

Collective and State Farm Storage. It is estimated that there is 30 M mt of grain storage located on state and collective farms within Ukraine. Virtually all of the on-farm storage observed were very old, rectangular buildings built of block or stone, approximately 50' wide by varying lengths of up to several hundred feet long. The roofs were generally pitched 1:4 or 1:5 and constructed of corrugated asbestos sheets, placed on wood under-structure. End doors were double-swing type, 18' wide x 12' high, and for the most part did not have a tight fit so as to be considered rodent proof. The eaves were generally open, and certainly not bird proof. There was no aeration equipment observed at any location visited. There are no aeration systems.

Individual Private-Farm Storage. The team was unable to meet any individual private farmers, even though it was requested several times that such meetings be placed on the itinerary.

Russia

It is reported that Russia has 100 M mt of grain storage in SES, involving 4,500 facilities. Approximately one-third, or 1,500, of these are vertical concrete facilities, of pre-cast block cell construction, with a capacity of 45 M mt. These block cells are 3 m square by 1.2 m high by 15 cm wall thickness. Aeration is used very little and the effectiveness does not seem to be well understood.

The team did not find any aeration in the vertical facilities observed, and were told that the grain is conditioned by turning. The aeration observed was in the older flat storage facilities. It was stated that for dry-grain aeration, a vertical air flow of 10-12 cubic meters per ton per hour (.054 cfm/bushel equivalent) was used. For wet grain aeration, a horizontal airflow of up to 40 cubic meters per ton per hour (.195 cfm/bushel equivalent) was used. When asked what static pressure was developed during aeration of their vertical concrete structures, the response was 2,000 Pascal, or 200 kg per square meter (7.88 inches of water equivalent).

It is reported that within the black soil area, the average distance for grain to be transported to a state elevator is 30 km. In the non-black soil area, a distance up to 100 km is not uncommon.¹

Collective and State Farm Storage. The collective and state farm storage observed in Russia was the same rectangular building built of block or stone as observed in Ukraine. These storage units had the same approximate size, characteristics, and deficiencies as the collective and state farm storage units in Ukraine.

It is reported by the World Bank that one 1988 inventory of farm buildings shows on-farm grain storage to be nearly 90 million mt. However, the inventory does not provide age, condition, or type of storage other than to identify 8 M mt of capacity as having mechanized handling capacity.

Saratov Region Observations

In the Krasney Kut District, the team visited a "tok" (an open area, asphalt or packed earth surface, utilized for piling grain, which is generally not covered by a roof) on a state farm. There were several piles of grain on this "tok" which were estimated at 500 ton. The piles were covered with birds. There were two piles of rotten, spoiled grain, which were estimated at 20 tons each. This was the first spoiled grain encountered.

At a non-hard surfaced grain "tok" belonging to a former state farm that had been converted to a joint-stock company, the team observed several grain piles estimated at about 1,400 tons. They were pre-cleaning, cleaning, and trucking (without weighing -- although there were truck scales) to a destination which we were unable to ascertain. The team was told that the only storage the farm had was for the seed needed for next year. It appeared that there was significant grain loss at this location, as evidenced by grain spilled everywhere on traffic-ways and the ground.

¹ The Black Soil area comprises roughly the northern half of European Russia, while the non-Black Soil area comprises roughly the southern half of European Russia. The non-black zone accounts for almost all of the Russian imports of grain. One-half of the grain needs of the non-black zone come from imports.

Rostov Region Observations

At a state farm near Rostov, which had been formed into a joint-stock company, thousands of tons of wheat were in open storage (outside). The farm had 19,000 hectares of which 11,000 hectares were under cultivation. They stated they started harvesting wheat at 28% moisture and by the time they were finished, the moisture percentage had declined to 11%.

The head of the department of agriculture for the Rostov Region stated that storage was the most needed thing to improve the farmers' income and reduce losses. Many farms are 40 to 100 km from state elevators and are on unimproved roads. They have major storage, drying, and spoilage problems. The losses could be 60% of the crop. There is little interest in concrete storage structures because it takes two-three years to build and the interest rates during this time make them prohibitive. They want something that can be built quickly with aeration capabilities. The price of grain usually increases later in the year so they want to hold their grain as long as possible but cannot because of the lack of storage.

In discussions with agricultural officials in the Martinorsky District, it was stated that there is an estimated 20% loss of grain because of lack of storage.

Voronezh Region Observations

An older state storage complex in the Voronezh Region was inspected by the team. The total quoted capacity was 80,000 tons. Sixteen-thousand tons were in a vertical-poured concrete elevator built in 1956. The elevator was in very bad condition and renovations were being made by placing a steel rebar mat and a 6 cm concrete liner on the inside walls of the bins. It would be more practical and probably less expensive to demolish the structure and replace it with a new, all-steel facility. The balance was in conventional flat brick-wall type storage building.

The flat storage building was the same as all other flat storage buildings observed at the state elevator system. The building had overhead filling conveyors, sub-floor aeration channels, and seemed to be of sufficient structure to hold grain. The elevator is to receive 24,000 tons of grain for state purchase and so far had received over 20,000 tons.

A visit to a feed mill, owned by a group of cooperative farms, revealed storage buildings similar in size, characteristics, and poor maintenance as those seen throughout Ukraine and the Russian Federation.

The team visited a joint-stock farm which was engaged in cattle raising, hog raising, and meat processing. Their storage facilities consisted of one of the few covered "tok" areas visited by the team as well as flat storage in brick buildings. They raised a small amount of grain and had adequate storage to hold their production.

Individual Private-Farm Storage. As a result of the team's experience in Ukraine, more emphasis was placed on visits to individual private farms in the Russian Federation. Since privatization of farms began in earnest less than two

years ago, no storage on private farms was observed. Without exception, the private farmers visited expressed concern of their dependence on the state grain elevator system or the former collective or state farms to store their grain. The need for private or cooperative grain storage was one of their priority items.

Seed Storage

Storage of grain for seed utilized either steel or wood containers within flat warehouses or above ground hopper-bottom tanks. Virtually every seed storage facility observed was equipped with aeration. In general, it could be stated that seed utilized for planting was placed in the best storage space available.

Storage Utilization Changes

As depicted in Figure 1, grain stored on-farm, as a percentage of production in Ukraine, has increased over the past five years while the amount of grain procured by SES has declined.

Grain stored on-farm, as a percentage of production in the Russian Federation, has also increased over the past five years, but at a higher rate than in Ukraine. This is illustrated in Figure 2. Wheat stored on-farm, as shown Figure 3, has the same increasing percentage of production, although at a lower rate of increase. While total grain procurement of SES in Russia has declined, wheat stored in SES has remained nearly a stable percentage of production.

Technical Assistance

Opportunities for the team to provide technical assistance were severely limited due to time constraints and the exploratory nature of the mission. Discussions were held with contacts (Appendix I) concerning aeration, building designs, mechanized handling, drying equipment, and the use of galvanized steel versus aluminum in the manufacturing of metal bins.

Summary

The majority of storage units owned and operated by the SES are concrete silos, with steel silos and older flat storage buildings equipped with primitive handling systems being in the minority. The modern concrete silos are of precast concrete construction. The technology of slipform concrete construction has apparently not been used since the 1950s and the one silo visited evidenced poor slipform techniques. Aeration of grain seems to be an unknown technology.

State and collective farm storage consists solely of flat warehouse type buildings in which grain is stored in bulk. The vast majority of such buildings inspected revealed poor maintenance of facilities. There were cracks in floors and walls. Doors fit improperly. Eave areas were open. The presence of such conditions creates a perfect environment for grain loss and deterioration due to insect infestation and predation by rats, mice, and birds. These warehouses were usually situated with the floor level being the same as ground level, therefore creating the possibility of water runoff during rains penetrating the storage buildings.

Appendix III provides photographs of grain harvesting, grain handling, and grain storage facilities.

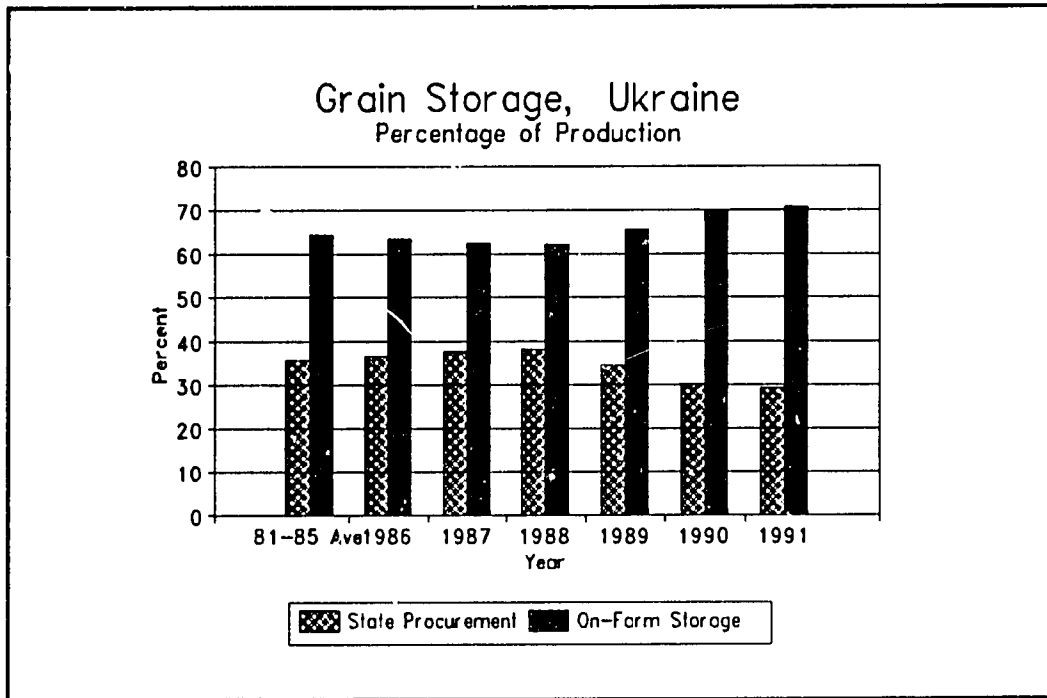


Figure 1. Grain Storage, Ukraine - Percentage of Production.

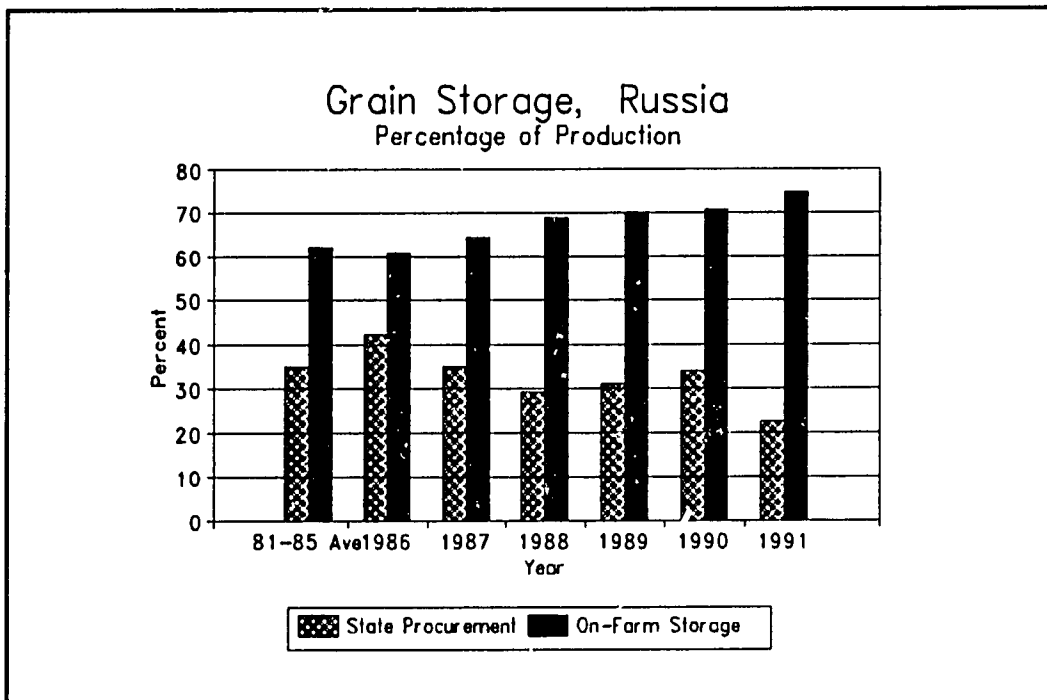


Figure 2. Grain Storage, Russia - Percentage of Production.

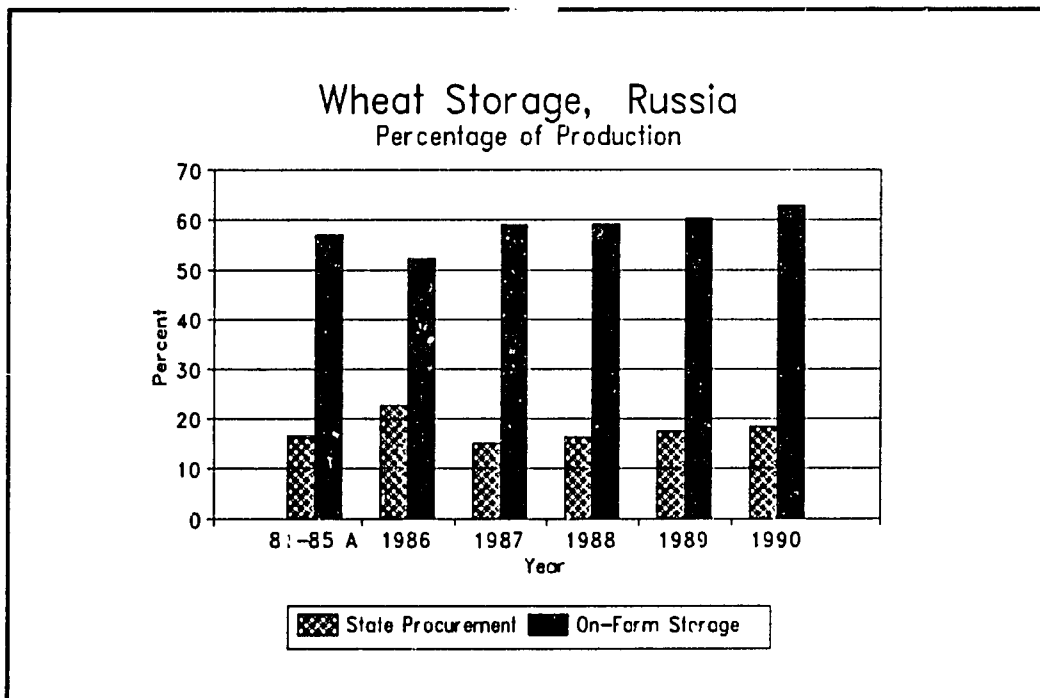


Figure 3. Wheat Storage, Russia - Percentage of Production.

SECTION IV

GRAIN HANDLING METHODS

After the grain is harvested, it is transported to a "tok" (an open area, asphalt or packed earth surface, utilized for piling grain, which is generally not covered by a roof) where the truckers end-dump the grain into long rows approximately 5 m wide, peaked at the center. The "first cleaning," as it is called locally, involves the use of a small, portable, electrically-powered cleaner that is worked through the long pile from one end to the other. This cleaner is basically an aspirated oscillating screen that discharges the clean grain to the rear and the screenings to the side. Generally, several persons operate this cleaner, with two in front to assist in moving grain to the gathering conveyor, one person on the side handling the screenings, and another at the rear, assisting the configuration of the cleaned grain pile.

After this first cleaning, the grain is then transported (by truck) to cleaning facilities, generally located adjacent to the grain piles. These cleaning facilities generally consist of a back-up type ramp equipped with a hydraulic truck hoist, a bucket elevator, an overhead cleaner(s), and several small overhead tanks to which the cleaned grain flows by gravity or horizontal conveyor. If dryers are available, it then moves to the dryers. The clean (and dried) grain is discharged from the overhead tanks to trucks below. The grain is then transported by trucks to the state elevators, which are also equipped with cleaning equipment, or placed into the on-farm flat storage buildings.

By the time the grain is weighed-in at the state elevator or stored on-farm, it will have been loaded onto trucks at least three times and unloaded twice. It will have been cleaned twice.

All of this handling is before it has been dumped into the state elevator's receiving hoppers, if the grain is sold to the state. During its tenure in the state elevator, it could be elevated for wet holding, re-elevated for drying, re-elevated for cleaning, re-elevated for storage, re-elevated for turning (as they have no aeration to control temperature), and re-elevated for load-out.

Summary

The grain handling and conditioning (drying and cleaning) process after harvest is quite a disjointed procedure. Wet grain may be dried or not dried depending on the availability of drying equipment. In most cases, the facilities at state and collective farms are separated with storage in one area, precleaning in another area, and final cleaning (and drying if available) in another area.

SECTION V

GRAIN LOSSES

Grain losses from the point of harvest to end use as food or feed can be categorized into harvest losses, handling losses, storage losses, low conversion rates of grain into meat, milk, or eggs in animal production, and high seeding rates. While low conversion rates and high seeding rates are not direct grain losses, they result in the reduction of the amount of grain available for food consumption.

Harvest Losses

Reported harvest losses, due to poor harvesting equipment, are given as 5% to 10%. This could not be confirmed by the team. Several harvesting locations were observed, and grain loss counts conducted (primarily loss from header). Header loss was estimated at 1% to 2%. However, since the straw is collected in stacking wagons or stacking units, the total harvest loss percentage cannot be identified. If combine "throw-over" with straw is equal or greater than header loss, then the combine loss could be well within the 5% to 10% range stated to the team.

Harvest losses may be compounded by the two-stage harvest practice. In most cases, the grain is cut and windrowed to allow drying of grain and weeds. Several days later, the combines move into the field to complete the harvesting. This loss-creating step could be greatly reduced or eliminated by better management of weed control practices. Also, this practice seems to be common even if the standing grain is dry and relatively free of weeds.

Handling Losses

Handling and cleaning losses are suspected to be quite high. The "first cleaning" procedure, the normal cleaning, in addition to the multiple handling required to position the grain into the mill, creates a significant loss before the crop is ever loaded onto rail cars destined for the flour mills, where additional loss is experienced.

In Russia, there was evidence of transport loss, primarily at roadside. The sealing integrity of the grain truck bodies was not good. It was reported that burlap was used to seal the corners, although our observations indicated that this was not always the case. At one point during train travel, the leakage of grain from rail cars was observed on the rail bed.

Storage Losses

It appears that it would be virtually impossible to quantify an accurate percentage of grain losses that occur during storage. The team did not observe any significant amount of spoiled or rotted grain. However, birds and rodents certainly have access to the grain in all aspects of processing and storing, with the exception of concrete storage at the state elevator. As almost every farm

visited on the entire five-week mission had livestock, it is logical that out-of-condition grain would be fed to livestock rather than wasted.

Further, since no old crop grain was left in storage at this time, the team could not ascertain the condition of grain held under storage for many months.

Low Conversion Rate Losses

The team was informed that the local feed to meat conversion efficiency was from one-half to one-third of that in the U.S. This may very well represent the most significant area in which technical assistance and the availability of high protein components in livestock rations could free-up huge amounts of grain for human consumption.

Seeding Rates

It appears that approximately 12% of an average crop is used to plant the next season's crop. In the U.S., approximately 4% is used. This differential is significant, and could be reduced by the availability of high quality seeds. Again, improvement in this area could free up huge amounts of grain for human consumption.

Summary

Overall loss rates were originally given to the team as 20% to 40% of production, not including the 5% to 10% harvest loss previously discussed. These loss rates were continually repeated to the team throughout the trip. Based on limited actual observation, this could not be verified.

Several harvesting observations were made, but due to the method of straw collection, loss percentages could not be verified or refuted.

The archaic process of piling grain on an asphalt or packed earth surface ("tok") for a precleaning activity probably results in a loss of 5% just from handling alone. The fact that grain is piled outside, subject to weather, makes it an obvious assumption that additional losses will occur.

Storage buildings had been cleaned in preparation for the new crop and in many cases already filled. This made it impossible to determine what losses had actually occurred while grain was in storage in the past, or to estimate what losses will occur while the current year's crop is in storage. Given the observations of storage conditions and availability, the team believes that loss rates will vary by geographic location, management ability, and the end use of the grain. The only way that actual storage loss, the condition of grain during a 12-month storage period, and causes of any loss can be verified is with inspections during the storage period. Inspection time frames would be October, December, February, and April. The team was simply in-country during the wrong time period to ascertain the results of storage under the conditions previously described.

Given data available from USDA, there is a conflict in numbers provided and statements given to the team. Appendix IV details this conflict.

SECTION VI
PRIVATIZATION

Ukraine

Price liberalization, privatization, land reform, agricultural reform, and agriculture support has received considerable attention by the government. Many viewpoints are being considered and discussed. A privatization law was passed by Parliament about four months ago and then immediately repealed. A new privatization law is currently under consideration. In the interim, privatization of industry and agriculture is proceeding in a slow, measured manner.

The privatization movement is just being started in agriculture. In the spring of 1992, 6,800 private farms were registered with 132,000 hectares of land, including 107,600 hectares of cultivatable land. These private farms average 20 hectares in size with 16 hectares of tillable land. This amount of land constitutes less than 0.3% of the total land area of Ukraine. By July 1992, the total number of private farms numbered 10,000. Even though the team often requested, we were unable to visit a private farm.

The team was told that privatization was more active in the western part of the republic than in the east. The private farms in Western Ukraine would average 50-100 hectares in size.

The transformation of the collective farm into a joint-stock company or corporate farm is being widely considered, discussed, and planned in the Kiev Region, but is just being planned in the Kharkov Region. The format presented to us, explaining the land and asset distribution of privatized state and collective farms varied somewhat, but generally was premised on the individual's length of service, compensation rate, and hierarchal position. The directors of all of the farms visited stated that their organizations had either commenced or completed the privatization process. Generally, we were told that few, if any, of the farm members chose to break-off into a private farm.

Russia

There is ample evidence of operating private farms, cooperative associations of private farms, and state or collective farms transformed into autonomous units as joint-stock companies, independent of government control or subsidy.

In late 1990, the Russian Parliament passed legislation that established the individual private farm as a legal entity. Also adopted were laws which allowed aspiring individual farmers to receive land from a reserve of land which came from collective and state farms. In principle, this legislation gave the responsibility to each region for determining the amount of land an applicant could receive free. Each region was also supposed to establish the maximum amount of land the individual private farmers could own, which was to correspond generally to the area that could be farmed by a single family's labor. Land in excess of ownership maximum could be rented. The meaning of ownership in the legislation is ambiguous. Answers to questions posed by the team reveal that

there were many different understandings of ownership and lease or rental conditions. There is no set pattern from region to region pertaining to distribution, ownership, or leasing rights of the land. At this time, many types of arrangements have been made.

At the beginning of 1992, there were about 50,000 individual private farms registered in Russia with a land area of slightly over 2 M hectares. At this time, 135,000 individual private farms have been registered. The Russian Association of Farmer Enterprises and Agricultural Cooperative Societies (AKKOR) now includes 1,300 district organizations, with 85,000 members. One of the primary functions of AKKOR is the administration of low-interest government loans to private farmers.

Saratov Region Observations. The Saratov Region consists of approximately 5.5 M hectares, of which 4 M is under cultivation. Approximately 400,000 hectares of this is held by individual private farmers.

In the Krasney Kut District, the team visited a private farm made up of four families. They had 614 hectares of land which they have been farming since April 15, 1992, with R. 242,000 of credit. They were raising 170 hectares of wheat, 96 hectares of barley, 187 hectares of millet, 50 hectares of sunflower, 30 hectares of sudan, 6 hectares of buckwheat, and were fallowing the rest. Their farming equipment included two combines, two crawler tractors, a one-wheeled tractor, one truck, one grain drill, one baler, one grain cleaner, and other miscellaneous equipment. The location of the farm was about 3 km from a paved road and about 40 km from Krasney Kut, where they would market their grain. At the time of the visit, the barley crop had just been harvested and the wheat harvest was to begin in about five days. The harvest of barley had been piled on the ground and there was no storage space for the wheat to be harvested. A metal flat storage building was in the initial stage of construction. It's capacity would be approximately 600 mt of grain.

The team met with an individual private farmer at the AKKOR office in Saratov. He represented a group of 15 farmers who had produced 5,000 tons of grain this year. This group had a shortage of storage space, and expressed a desire to build a 10,000-ton elevator. They expressed interest in having a U.S. firm as a joint-venture partner.

In the Novie Burasi District, the team visited a state elevator that had been sold to a group of 25 private farmers. The facility had a rail siding and a large amount of land area. This was the first facility sold by SES and the first privately operated grain elevator in Russia. The facility was reported to have a total capacity of 30,000 mt with 20,000 mt usable and 10,000 mt needing repair. It was difficult to ascertain which portion was considered usable. The facility was built in the 1950s, and apparently had little maintenance. The association purchased this facility for R. 900,000 and felt they had purchased a real bargain. AKKOR had provided financing to an association set up by the farmers (Agrocompany "Prigoradnoye") to purchase and operate this elevator facility. They were using the facility to dry and store grain belonging to the group. They would also dry and store grain for other farmers for a fee.

While at the elevator, the team met an individual private farmer who was delivering his grain for storage. He was formally the director of a state farm who had borrowed R. 3,500,000 to purchase equipment and was now completing his first year of operation. His grain production was primarily barley and wheat and the total production was expected to exceed 700 mt. He felt he could pay off his loan and have adequate operating capital after this first year of operation.

In this district, visits were made with other private farmers just starting operations involving a small livestock operation, an orchard, and a honey production operation.

Rostov Region Observations. According to the regional AKKOR private-farmer association, there are 6,000 private farms in the region of 80 to 100 hectares each. There are essentially three zones: (1) farms of 5-10 hectares involved in the labor-intensive growing vegetable crops, (2) farms of up to 200 hectares with good soil, and (3) farms up to 1,000 hectares where the soil is not good and are primarily used for livestock production. AKKOR could only grant credit for the 1990-91 crop year of R. 200,000 because of the lack of funds. The 1991-92 crop years' credit was available for up to R. 2,000,000, depending on the farmer's ability to repay.

The team visited the Martinorsky District which consisted of 180,000 hectares of which 120,000 are under cultivation. All state farms have been privatized. The total value of the state farm was determined and shares were issued based on years of service. Land was divided into 10 hectares per person with a five-person family receiving 50 hectares.

There are 240 private farmers, many of which have formed joint-stock companies or partnerships. Forty private farmers formed an association in order to own and service machinery. Sixty to seventy private farmers formed two limited partnerships. The district has 150 current applications from individuals wishing to become private farmers. After harvest, the applications will be approved. One of the major problems in the district is lack of storage. There is no state elevator in the district and it is up to 45 km to the nearest elevator over bad and often muddy roads.

The team interviewed two individual private farmers. The first farmer had 60 hectares of land with a three-family operation. He had a college degree in agronomy and had worked for a state farm. The second farmer visited had 75 hectares and was a builder who had worked on a state farm. Both farmers believe they can do better on their own. Both stated that they needed storage badly.

The first farmer's crops were barley, sunflowers, and fruit. He had no livestock production at this time. He had received credit of R. 800,000 with a five-year loan at 8% interest per year. His equipment consisted of two tractors, one harvester, and other miscellaneous equipment, all used.

The second farmer's crops were wheat and barley and he was raising 40 pigs. He had received credit of R. 1,100,000 for five years at 8% interest per year. His equipment consisted of four tractors, one bulldozer, one combine (owned in partnership), all used. He believes that individual farmers need to form partnerships with other farmers to own and service equipment.

All the farmers have problems servicing and maintaining their equipment. Used repair parts are available but sometimes hard to find. They can purchase repair parts from parts supply facilities maintained by collective farms. They can lease more land if so needed. They do not have to pay taxes for five years. However, if they cannot pay taxes, meet lease payments, or pay principal and interest on their debt, they realize that they will go bankrupt. This makes them cautious of how much land or debt they take on.

Voronezh Region Observations. The Voronezh Region has approximately 1.5 M hectares under cultivation, of which 180,000 hectares are in sugar beets, 200,000 hectares in sunflower, 16,500 hectares in orchards, and the rest in grain production. The size of private farms varied from 15 to 600 hectares, with the average being 50 to 60 hectares.

The team visited an individual private farmer who had been a state-farm veterinarian prior to obtaining land. This farmer had purchased a considerable inventory of new farm equipment prior to the radical inflationary cycle and intends to perform custom farming for others. The land area he farmed was 170 hectares which had been planted in sugar beets and sunflowers. He had no immediate need for storage, but stated if needed, he could store grain on the collective farm where he formerly worked.

The team visited with a group of ten individual private farmers who were working cooperatively in all phases of their operation. This group of farmers had received approximately 40 hectares each, for a total of 400 hectares, the majority of which was in grain production. They were hopeful that they would be allocated more land next year because their time and ability was under-utilized. They had received some used farm equipment at their separation from the collective farm and had purchased some new equipment. They had no storage which would require them to use either the collective farm storage or store their grain at the state elevator. They expressed a desire to have their own storage as well as feed processing, flour milling, and a brewery.

Agri-Industry. Privatization of much of Russia's industry is currently under way. A decree from President Yeltsin directed that plans for privatizing must be in place by November 1, 1992. It should be noted that this is only a decree and is not a law passed by Parliament. On the contrary, privatization of the state grain elevator system is not planned at this time, because the flow of wheat to flour to bread is a very strategic requirement and the government seems very reluctant to give up this authority.

SECTION VII

IN-COUNTRY ORGANIZATIONS

Meetings were conducted with organizations for the purpose of appraising such organizations for future activities in postharvest grain systems development.

Technical Institutions

In-country technical institutions were reviewed to determine if such institutions had the interest or potential for collaboration in training and technical assistance efforts in the development of grain storage, conditioning, and handling systems.

Ukraine. Two research institutions contacted were oriented to production agriculture, with specific interest in plant genetics, plant varieties, and seed production. These were the Ukrainian Academy of Agricultural Sciences, Kiev; and the Plant Growing, Selection, and Genetics Research Institute, Kharkov. They stated that in the past, all research associated with postharvest grains systems had been centered in Moscow. No extension or short-term training programs in production agriculture could be identified.

Visits were made to the Institute on Production Grain Facilities, Kiev; and the Project Institute for Agriculture, Kharkov. These are basically design institutes for all types of agricultural facilities and are structured like engineering consultant firms and construction supervision firms.

Russian Federation. Discussions were conducted with a broad range of technical institutions. They were: All-Russian Market Research Institute, Moscow; All-Russian Research Institute for Grain and Grain Products, Moscow; Agribusiness Department, Institute of World Economics and International Relations, Moscow; Scientific and Research Institute of Agriculture of SouthEast Russia, Saratov; and Research Institute on Crops and Plant Breeding, Krasney Kut.

The All-Russian Market Research Institute performs the following primary functions:

1. Provides market information and conducts market research for Russian and foreign clients;
2. Conducts feasibility studies for agricultural, commercial, and industrial projects;
3. Provides consultancy on trade and investment opportunities;
4. Conducts short- and medium-term economic forecasts by individual countries and specific commodity markets; and
5. Publishes the Bulletin of Foreign Commercial Information three times a week.

This institute expressed a strong interest in technical assistance and training activities in the postharvest grains sector. They believe that their experience in all aspects of marketing research and information would be a strong asset in the development of the technical aspects involved in the postharvest grains sector.

The All-Russian Research Institute for Grain and Grain Products conducts research into the technical aspects of grain storage and processing. The discussions centered more on commercial aspects of their business venture "Scientific and Production Amalgamation 'Zernoproduct'" than on research interests. New systems and training questions and inquiries did not receive a positive response.

The Agribusiness Department, Institute of World Economics and International Relations, is involved in academic training within the institute and the conduct of research in agribusiness and marketing operations. They conducted market research in animal health products, fertilizer, agricultural chemicals, and overall economic conditions in agriculture for foreign clients. They feel their expertise is in conducting research for marketing and the agribusiness operations area and that they should remain specifically in this field.

The Scientific and Research Institute of Agriculture of Southeast Russia in Saratov conducts research in production agriculture and production of seed. They expressed a strong interest in extending their research efforts into different aspects of the postharvest grains system. This interest involved the development of training and extension programs related to postharvest grains systems. They felt that their current expertise in production agriculture would assist their expansion into the postharvest area.

The Research Institute on Crops and Plant Breeding at Krasney Kut primarily conducts research in plant genetics and variety selection for arid area crops. They seem to have a strong program in peas and durum wheat. They also produce seed. Interest in the postharvest area could not be clarified or identified.

Farmer Organizations

In Ukraine, the team was unable to contact the Peasant Farmers Association. Therefore, no appraisal was conducted.

In the Russian Federation, AKKOR includes 1,300 district organizations, with 85,000 members. While its primary function seems to be the administration of low-interest government loans to private farmers, it considers itself an organization which represents the interests of the private farmer. Region and district AKKOR representatives seem enthusiastic and are working closely with the emerging private individual farmers and farmer groups. A strong interest was evidenced in the Kansas State University (KSU) Grain Team's schedule and questions. Support provided to the team in conducting interviews with private farmers and supplying information was excellent.

SECTION VIII

CONCLUSIONS

Immediate Grain Storage Constraints

Ukraine. There is no indication of any grain storage constraints in Ukraine that will cause any shortage of cereal-based foods during the winter of 1992-93 and 1993-94. The elevator system of SGC appears to have the capacity to receive, condition, and store grain under its control. Even though storage conditions on the collective and state farms are substandard and not conducive to holding grain in good condition for more than a short period of time, storage capacities seem to be sufficient so that grain will not have to be piled outdoors.

Russia. One of the most significant factors affecting the grain storage situation in Russia is the conflict that currently exists between the state and farmers concerning the price the state is willing to pay the farmers for wheat required to be delivered under state order. The farmers are reluctant to accept the price of 10,000 rubles/metric ton being offered by the state and are hesitant to deliver wheat to the state elevators. Government has raised its offering price to 12,500 rubles/metric ton and hearings were being held in Saratov to determine what agreement could be reached to resolve the impasse between the farmers and the government. It has been further reported that the prices have been increased beyond the recent 12,500 rubles/metric ton. Appendix V provides a price comparison between the state price set August 11 and U.S. Grain price. It appears that if producers deliver grain into state elevator control in quantities approximating the state order, existing grain storage constraints will not cause any shortage of cereal-grain food products during the winter of 1992-93.

The system in place for the past 70 years has taken away the initiative for decision-making at the local level as to the type and amount of grain storage needed. The centrally controlled economy did not recognize the needs at the local level. The system served the needs of the planners, not the needs of the producers.

The reported postharvest losses of up to 40% were impossible to document. This number was given to the team many times, but an explanation of this loss was not forthcoming. It is believed that these losses include field losses due to harvesting, excess moisture loss, and loss from trash or foreign material brought in with the grain. In other words, the difference between bunker weight and clean grain is considered postharvest loss. We are not able to give a percentage of harvested, clean, usable grain, but we feel that the percentage is considerably below the 40% factor that is consistently used. As privatization progresses in both production agriculture and the grain handling industry, losses presently occurring should diminish. It is reasonable to assume, from observations and discussions, that any grain belonging to the private sector would be treated with more care and concern than grain belonging to the public sector. When the individual responsible has something to lose personally, they will give much greater attention to the preservation of quality and quantity.

With only approximately 30% of grain production being procured by the state, the big question is what happens to the other 70%. The team was given a variety of scenarios as to the use of this grain.

1. Payment to workers as wages. Obviously, this grain will be used somehow; either for personal food supply, feed for the worker's own livestock, or sold/bartered for food or livestock feed. This is evidenced by the fact that while overall livestock production declined by 7% in 1991, the production by the private sector (or farm workers) increased by 50%.
2. Grain used for livestock feeds. While a portion of the grain procured by the state goes into the mixed feed industry, figures for the amount of grain fed directly by the collective or state farm is not tabulated. Farms having a surplus of grain beyond their own needs sell/barter to farms producing livestock and poultry beyond their ability to produce grain. This situation is especially true in the areas directly adjacent to the large industrialized, metropolitan areas. The team found evidence of a shortage of grain in the area around Moscow, but this was not caused by the unavailability of grain. It was caused by the fact that livestock and poultry producers could not afford to pay the cost of grain and transportation considering the value of their products in the market place.
3. Pilfering. While no amount was given for this loss factor, it was readily acknowledged that the disappearance of grain just "happened." It is a safe assumption that this grain is not simply wasted; it is used for human food or livestock feed.

There is no way to address the problem of any outside piling of grain for the 92-93 winter season. The 1992 crop has been harvested and by the time storage is obtained, shipped, and erected, it will be too late to control any storage losses that might occur.

The use of the "tok" is a custom passed down through the years and in most cases has absolutely no beneficial function in today's postharvest procedures. This method of piling and cleaning grain is not practiced in the U.S. or Western Europe. It is a procedure which adds to handling shrink, exposes grain to severe losses from the elements, invites contamination by rodents and birds, and pilferage from humans.

While there is absolutely no question that modern grain storage and handling systems are needed by the private sector on the farm or near the farm, **THE LACK THEREOF IS NOT GOING TO HAVE AN EFFECT ON THE FOOD SUPPLY FOR THE 92-93 WINTER, AND PROBABLY NOT FOR THE 93-94 WINTER.**

On-Farm Grain Storage and Conditioning Systems

The increasing rate of grains stored on-farm over the past five years implies that attention should be given to improving storage and conditioning capacities at the farm level. The storage conditions on the collective and state farms are substandard and not conducive to holding grain in good condition. They lack

aeration systems. They are not rodent or bird proof. Cleaning and drying units, where they exist, are not necessarily coordinated with storage units either in accessibility or with modern mechanical handling systems.

Individual private farmers have no storage facilities. They must either sell grain at harvest or rent storage in the state elevator system or at state/collective farms.

More than just modern grain storage structures are needed. The need for grain storage and conditioning at state and collective farms encompasses a complex in which grain can be dried, cleaned, and handled a minimum number of times, thereby reducing loss. Such modern grain storage, aerating, and cleaning needs to become integrated into the current antiquated storage units.

The individual private farmer, or groups of private farmers need simple, modern grain storage and conditioning systems which are adaptable to the size and scope of the individual private farmer's operation. However, the design of such systems should allow for expansion.

On-farm or near-farm storage is of particular importance in freeing the farmers from the control of a single major monopoly market; i.e. SES (state elevator system). SES in Russia has the capacity to store the entire year's grain production, but this is a detriment to a market pricing or "free market" system. Private or cooperative storage is needed to encourage and facilitate this system. Without the farmers' ability to condition and keep grain in good condition in storage, alternative markets for their grain will be slow in developing. This will hinder the agricultural privatization process that is currently underway.

The vastness of some of the larger regions and the distance of some farms from the state elevators, occasionally up to 100 km, creates a problem in delivering grain to market, particularly at harvest time. This results in piling of the grain out-of-doors, subjecting it to the elements. The roads from these remote farms are virtually nonexistent, little or no hard surface or gravel, and in wet weather, they are probably close to impassable. It is in this situation that temporary tarp-covered storage would be very usable. This needs to be located in an area with available electric power or generators in order to operate aeration.

Of equal importance is the education that must be co-introduced and propagated during modernization. Without the knowledge of the proper use and benefits, an infusion of hardware will be wasted.

Technical Assistance/Training

When giving thought to technical assistance and training, the first thing to be taken into consideration is the centrally controlled economic system that has been in place for the past 75 years. The centralized planning and management which flowed from Moscow was more extreme and constraining than most people can imagine. The economic system, as we know it in the U.S., is based on communications and input from top to bottom, bottom to top, and horizontally. Unfortunately, in Russia and Ukraine, the flow was downward from the central bureaucracy at the top with no consideration given that a wrong decision could be made.

In agriculture, the decision can best be made by the person managing the farm because he knows what effect the weather, soil conditions, climatic constraints, pests, and market conditions will have on his operation. Because of the conditions of the past 75 years, the first and fundamental step will be training people how to reason things out. The farmer and prospective business-person must be trained to address the problem, look at the alternatives, and make the decision that will best fill the need.

On a more specific target of postharvest grain handling and storage, the need for training falls in three spheres: the individual farmer, farmer cooperatives, and joint-stock company farms. The ultimate needs are the same, but the approach will be different. The starting point will begin with weed management in the field, proper harvest techniques, and management of drying, cleaning, handling, and storage operations and facilities. If done properly, the first two items will enhance the farmers ability to properly manage his grain in storage. This training should be done at the region level. It should incorporate demonstration projects of modern facilities as well as rehabilitated current flat storage facilities, which can train the farmer in proper handling and cleaning techniques, aeration of grain stocks, management and quality maintenance of grain while in storage, and the economics in cleaning and drying grain to the optimum level.

As with grain storage facilities, training and technical assistance requirements as set forth in the above paragraph cannot be implemented in time to benefit this fall's harvest. To have any lasting affect, a training/technical assistance and demonstration program should be designed to change and alter thinking as well as impart technical information. To do this requires time.

In-Country Organizations

Technical Institutions. In-country technical institutions were reviewed to determine if such organizations had the interest or potential for collaboration in training and technical assistance efforts in the development of grain storage, conditioning, and handling systems.

In Ukraine, interest in entering the area of postharvest grain systems could not be either clarified or identified for institutions oriented to production agriculture. While the institutes involved with facility construction design and supervision have a vested interest in grain storage, conditioning, and handling facilities, their capability in collaborating in technical assistance and training activities could not be determined.

Two institutions in the Russian Federation which expressed a strong interest in training and technical assistance activities were the All-Russian Market Research Institute and the Scientific and Research Institute of Agriculture for SouthEast Russia. Both institutes possess comparatively strong organizational structures. The former possesses a wide range of expertise as well as experienced personnel in marketing analysis and information. The latter has considerable expertise in the areas of production agriculture as well as an operating subsidiary involved in agricultural production. No other institutions were considered to be qualified at this time; either because of the lack of interest or the inadequate response to issues presented by the team.

Farmer Organization. The AKKOR organization, because of its large membership and district organizational structure, must be included as a collaborative agency in any development project targeted at the private-farmer sector. Its strong representation of private farmers provides total direct access to individual private farmers across the Russian Federation. Provided with the proper support, it could easily develop a training mission directed towards improving the technical capability of its large membership.

SECTION IX

RECOMMENDATIONS

Given the conclusions on the need for improvement in grain storage, aeration, drying and handling systems, and management, it is recommended that the approach to needs in this area be addressed through the implementation of demonstration pilot projects which would incorporate simple, proven, modern technology and methods, technical assistance, and training into a complete package.

Target Recipients

Given the structure of the emerging private sector in agriculture, two primary recipient groups can be targeted: (1) an individual, or a small group of private farmers operating as a single unit, with grain production of 400-700 hectares, and (2) an association of private farmers who are cooperating to condition, store, and merchandise their grain in one central location.

A secondary recipient group, that of the privatized state or collective farms could be included.

Goal

The goal of the pilot project program would be to assist the Ukrainian and Russian farmer in reducing the loss of grain due to harvesting, conditioning, storage, and transportation problems which occur between the field and the market place.

Description

1. Introduce technically sound storage and handling systems which are applicable to each specific target group in terms of technology, culture, and understanding. Introduce such technology through the application of a combination of hardware, technical assistance, and training.
2. Measure the cost-benefits (economics) of each system or systems. The knowledge gained from this will be useful to the producer and U.S. business interests.
3. Improve the management of grain harvesting, conditioning, and handling processes related to all types of storage systems so as to enable producers to effectively control costs and increase profits. This also may include improvement in certain aspects of production, such as weed control, which would eliminate the two-stage harvest process and therefore not only reduce harvest losses but provide cleaner grain from the field.
4. Introduce grain quality preservation practices as needed in all types of private-sector storage so as to maintain a quality product in storage. This would include necessary adaptations of needed equipment (such as aeration) to upgrade current grain storage facilities, training in

inspection procedures and practices in handling of grain in flat-storage units.

5. Act as a liaison organization at the regional level between private Ukrainian and Russian agribusiness companies or producer associations, and American companies in developing the Ukrainian and Russian capability through joint-ventures, licensing agreements, or importation of U.S. manufactured products to: (1) supply Ukrainian and Russian agriculture, and (2) process Ukrainian and Russian grain products.
6. Supply technical assistance and training as required in the areas of feed processing, feed utilization, and local grain milling or processing for cereal foods or other products.
7. Develop an information system and conduit by which producers can be provided with specific technical information currently in existence in the western world.
8. Develop an information system and conduit on available markets, prices, and cost of marketing for distribution to producers and producer associations.

Details of the activities listed in this description as well as sub-objectives are provided in Appendix VI.

Target Areas

Project activities would be conducted at the regional and district level in conjunction with regional and district agricultural administrative authorities, regional and district AKKOR association staff in Russia, and other appropriate regional and district organizations.

The target regions would be the Kiev and Kharkov Regions in Ukraine, and the Rostov, Saratov, and Voronezh Regions in Russia. The team believes that other target areas could be identified based on a high level of grain production and a needs identification survey which could be accomplished through AKKOR.

Linkages

Training and technical assistance programs for the Russian Federation will be developed to incorporate the All-Russian Market Research Institute and the Scientific and Research Institute of Agriculture for Southeast Russia.

Rationale

The demonstration pilot project approach will introduce a balanced project operation using a combination of simple proven technology applicable to each situation (facilities and equipment), technical assistance, and training. Without this balance, there is no way to effectively introduce new concepts and ideas into the production sector.

The selected regions are based on team visits and the identification of potential counterpart (administrative, technical, and producer) organizations.

Issues

Management, maintenance, and operational responsibility for facilities and equipment will reside with specific target recipient groups. The target groups will agree in contractual form to undertake the responsibility of day-to-day management, maintenance, and operation of such facilities and equipment provided by a development program. Overall management and assistance will be provided by the development program. In return for undertaking these responsibilities, the target group will rent the facilities and/or equipment on a rent-free basis. Ownership of the facility will reside with the development program until such time as the design and operation of facilities and equipment prove to be totally workable in the Ukraine or Russian operating environment. At such a time, based on prior agreement, the facility or equipment would be sold to the recipient group based on an in-country production price in local currency at the time of installation, less a depreciation allowance based on life of equipment.

Timing

Demonstration pilot projects need to be commenced without delay. There is nothing that can be done in regard to the 1992 crop production year. However, if project operations are commenced in the fall of 1992, many producer benefits can be derived for the 1993 and 1994 crop production years. In all regions visited by the team, with one exception, there was criticism of the many "study" teams and "visiting" delegations that have come and gone without any positive response or development assistance actions. The Ukrainians and Russians are putting forth their best effort to be good hosts, but simply do not understand the lack of response from "study" teams and "visiting" delegations.

Complementary Action

It is suggested that AID coordinate activities between the Overseas Private Investment Corporation (OPIC), U.S. Department of Commerce, U.S. Export-Import Bank, and other relevant U.S. government organizations in supporting American private-sector business investments in Ukraine and Russia in the production of grain storage facilities and equipment. Such action should begin with the September 11, NIS Agribusiness Workshop, covering trade and investment opportunities in Ukraine and the Russian Federation (Appendix II). When described project actions are implemented, the project should become a part of the coordinating action. The objective is to integrate American businesses into NIS.

APPENDIX I
LIST OF CONTACTS

Ukraine

July 21

Kiev

Ministry of Agriculture

Alexandr V. Shashrov, Leading Expert, Department of Foreign Economic Relations

Ukrainian Academy of Agricultural Sciences

Professor Vladimir M. Krut, Vice-President

July 22

Kiev

Visit to Academy of Agricultural Sciences Research Farm

State Grains Committee of Ukraine

Alexandr Androvitch, Deputy Chairman

Eugeny N. Kovtoomyuk, Manager, Foreign Relations Dept

July 23

Kiev

Kagarlik District

Roman Kusch, District Agriculture Officer

Petro Olevchenko, Senior Engineer

"The Winner" Collective (Joint-Stock) Farm, Kagarlik District

Petro K. Papizhenko, Head

July 24

Kiev

Monsanto Chemical Company

Phillip W. Stahlman, Kansas State University

Branko Brkic, Monsanto Chemical Company

Vladimir M. Kudriachov, Monsanto Chemical Company

Volunteers for Overseas Cooperative Assistance (VOCA)

Martin C. Robinson, Country Director

"Illich" Collective Farm, Kiev District

Petro P. Pertomkivskiy, Head

Ministry of Agriculture Workshop

Leontin L. Zinevich, Head of Main Agriculture Department

July 25

Kharkov

Kharkov Regional Soviet of People's Committee
Vozny Viktor Sergeevich, Deputy Chairman of Executive Committee

Kharkov Region Government Committee on Agriculture
Sergei B. Solodovnikov, Head of Committee
Vitaly A. Matviyenko, First Deputy Chairman
Valentina A. Novikova, Executive Assistant

Plant Growing, Selection, and Genetics Research Institute, Anatolia
Golik, Hard Wheat Expert

Vladimir O. Scheiban, General Director, Oil Extraction Factory,
Pricolotnoye, Velikoburlutsky District

July 26

Kharkov

Kharkov Region State Elevator
Vladimir V. Tarasenko, Director

"Mayak" Collective Farm, Kharkov Region
Valeriy N. Belokudria, Head

"Ukraine" Collective Farm
Nikolaj F. Goriajnov, Head

July 27

Kharkov

Project Institute for Agriculture
Oleg P. Nikonenko, Director
Valerij F. Gorbachev, Main Engineer

"Ullich" State Farm, Kharkov Region, Kharkov District

July 28

Kiev

Ukragrobusiness
Vladimir S. Mokrous, Deputy General Director
Sergi Borodin, Expert

State Grain Committee of Ukraine
Oleg B. Persiyanov, Head of Committee

July 29

Kiev

Industrial Enterprise AGROMASH Inc.
Vasily F. Shpak, General Director
Victor N. Yakimchuk, Vice-General Director
Igon I. Kibat, Vice-Engineer

July 30

Kiev

Institute on Production Grain Facilities
Nikolaj G. Shtepa, Main Engineer
Vladimir I. Marion, Vice-Main Engineer, Technologist

July 31

Kiev

Scientific Production Amalgamation for Zinc-Coated Products/Scientific and Production Association
Zirovijn N. Feldman, Commercial and Technical Director

Russia

August 3

Moscow

Embassy of the United State of America
Karen Jo McLane, Economics Officer

All-Russian Market Research Institute
Vsevolod O. Volkov, Director
Alexander A. Ivashchenko, Deputy Director

Volunteers for Overseas Cooperation (VOCA)
Bryan Foster, Country Representative
Tatinana Khinkis, Country Director

August 4

Moscow

Embassy of the United States of America
S. Rodrick McSherry, Agricultural Attache

All-Russian Research Institute for Grain and Grain Products
G.S. Zelinsky, General Director
Leonid A. Tesler, Chief, International Economics and Scientific Department

Russian Association of Farmers Enterprises and Agricultural Cooperative Societies
Valdimir F. Bashmachnikov, President

August 5

Moscow

Russia's Cooperative-State Objedinenie for Construction (Rosagropromstroy)
Victor M. Vidmanov, President
Victor K. Doroshenko, Chairman of Management Board

Association for Construction in Russia Non-Chernozemia Region (Nechornozemagropromstroy)
Leonid Y. Ivanov, Chairman

Inter-Republican Association of Enterprises for Building of Units
for Grain Storage and Processing (STREL)
Petr A. Soldatenkov, Vice-President

August 6 Moscow

Russian Federation Committee of Grain Products
Leonid S. Tcheshinsky, Chairman
Arkadii S. Nikolaev, Foreign Relations Department

Agroproduct
Vyacheslav I. Chernoiyanov, General Director

Agribusiness Department, Institute of World Economics and International Relations
Sergey B. Andreyev, Head

August 7 Bogrodskiye

Ministry of Agriculture Grain Storage Facility (Pilot Project)
David Lavan, Project Engineer, North American Agriculture, Inc.

August 8 Moscow

USAID/Moscow
Fred Zobrist, A.I.D. Representative (Acting)

August 10 Saratov Region

Saratov Town Council
Mikhail V. Harkhardin, Vice-Mayor, Chairman Economics Committee
Viktor P. Solomatin, Vice-Chairman Economics Committee

Saratov Association of Agricultural Cooperative Societies and Farms
"Vozrojdenie"
Anatoliy N. Musikhin, President

Association of Farmers Enterprises and Agricultural Cooperatives of Saratov Region
Victor S. Kuzmin, Director

Scientific and Research Institute of Agriculture of SouthEast Russia/Scientific-Production Corporation
Vladimir F. Unhgenfuht, General Director
Anatoly I. Shabaev, Deputy General Director

Fregat Production Association
Yuri S. Shaposhnikov, General Director

Rostov Region

Head of Rostov Region Department of Agriculture
Yuva Ouchavova

Private Manufacturer
Valantin Dormostuk

State Farm
Mr. Koerenko, Manager

August 11 Saratov Region

Head of Administration of Krasni Kut District
Tikonov Valentin Tranovich

State Farm

Private Farmer

Research Institute on Crops and Plant Breeding

State Farm Wheat Harvest

Rostov Region

Martinorsky District
Mr. Bolshay, District Administrator

Private Farmers (3)

Private Farmers
Mr. Sergie
Mr. Nickolis

August 12 Saratov Region

Head of Administration of Novie Burasi District
Sorshvnin Ivav Ivanovich

Private Farmer
Director of Agrocompany "Prigoradnoye"
Glazunov Vladimir Ivanovitch

Private Farmer
Nazarov Konstantin Grigorievich

Private Farmer
Batraev Vladimir Aleksandrovich

Agrocompany "Prigoradnoye" Storage Facilities

State Farm Flour mill

Rostov Region

Construction Company
Mr. Dyachenko
Mr. Alex Ivanovich

August 13 Saratov Region

Fregat Production Association manufacturing facilities
Yuri S. Shaposhnikov, General Director

Rostov Region

AKKOR Private-Farmer Association

August 14 Moscow

All-Russian Market Research Institute
Vsevolod O. Volkov, Director

Cargill International S.A., Geneva Branch
Daniel Th. Pletscher, Deputy Vice President

Cargill Enterprises, Inc.
Mikhail I. Soroko, Merchant

North American Agriculture, Inc.
Mike Carroll

August 17 Voronezh Region

Director of Agricultural Department of Voronezh Regional Administration

Trunov Vladimir Ivanovich

Deputy Director of Agricultural Department of Voronezh Regional Administration

Gribanov Nikolai Alekseyevith

Deputy Chairman of Voronezh Association of Agricultural Cooperative Societies and Farmers Group "Niva"

Sulheenko Nikoli Anatclievich

State Elevator

Private Farmer
Ivanov Vyacheslaw Konstantinovich

Feed Plant owned by State and Collective Farms

August 18 Voronezh Region

Farmers Association
10 Private Farmers

Head of Administration of Verkhnekhavski District
Visloguzov Albert Mikhailovich

Deputy Head of Administration of Verkhnekhavski District
Krestnikov Nikolai Maksimovich

Private Farmer, Chairman of Regional Department of AKKOR in
Verkhnyaya Khava "Russian Steppe"
Pisareva Valentina Petrovna

Joint-Stock (Corporate) Farm

August 19 Moscow

USAID/Moscow Debriefing
Fred Zobrist, AID Representative (Acting)
Michael Farbman, USAID
Brian Foster, Country Representative, VOCA
Richard Selby, Project Development Specialist, VOCA
David Schoonover, Minister-Counselor for Agricultural Affairs, USDA

August 20 Moscow

All-Russian Market Research Institute
Data Collection

All-Russian Market Research Institute
Vsevolod O. Volkov, Director

APPENDIX II
MARKETING AND INVESTMENT IN THE GRAINS AREA
UKRAINE AND RUSSIA

by

Roe Borsdorf
Larry Dirksen
Virgil Eihusen
Roger Wolfe

for

"Opportunities in Ukraine and Russia" Workshop
Trade and Investment Potential in Potatoes and Grain
September 11, 1992 - Washington, D.C.

Agency for International Development
Washington, D.C.
Grant No. CGS-0000-G-00-0000-00

Kansas State University
Food and Feed Grains Institute
Manhattan, Kansas

The contents, recommendations, and conclusions contained in this report do not necessarily reflect the views and policies of the United States Agency for International Development.

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SECTION I

GRAIN STORAGE

Existing facilities for grain storage in both Ukraine and Russia consist of the state elevator system and storage on collective and state farms. The design of these facilities is the same throughout both countries.

State Elevator System

Newer elevators are constructed of vertical concrete (pre-cast block cell type). The team was informed that elevators of this design were constructed beginning in the middle 1970s. There was no evidence of aeration systems in any of the elevators inspected, although there were air systems for dust control.

Older storage complexes, built in the 1950s, consisted of flat storage buildings, with legs and belt conveying systems for the handling of grain. There is a vertical elevator of slip-form concrete construction in one of the complexes inspected. The use of the slip-form concrete construction technique has not been a part of the elevator construction process for at least 25 years. The flat storage units are rectangular buildings built of concrete block and stone approximately 50' in width and up to 200' long. These buildings have aeration ducts in the floors with access for fan units in the walls of the building. All of these types of complexes are in poor condition due to a lack of maintenance.

Both elevators and older storage complexes have grain drying facilities.

Collective and State Farm Storage

Nearly all of the on-farm storage facilities observed are rectangular buildings constructed of block or stone, approximately 50' wide by varying lengths of up to several hundred feet long. The roofs are generally pitched 1:4 or 1:5 and constructed of corrugated asbestos sheets, placed on pitched wood rafters. Doors are generally the double swing type, 18' wide x 12' high, and do not have a tight enough fit to be considered rodent-proof. The eaves are generally open, and certainly not bird-proof. The buildings are the same general design as the flat storage buildings in the state elevator system, however, at no location visited was any aeration equipment observed.

Most of the farms have grain drying facilities. These buildings are of the same general design as the flat storage warehouses in the older state elevator complexes. The exception is that there is no aeration system.

The use of corrugated galvanized steel in the construction of grain storage, either in the state elevator system or on farms is an area in which there is little knowledge.

Individual Private Farms

Since the privatization process is relatively new, little or no storage exists on individual private farms. Only two instances of storage were observed by the

team. In one case, a group of 25 farmers had purchased an older storage complex from the state and were utilizing this facility to dry and store grain. In another case, a three-family farm was constructing a metal flat storage building in which to store grain.

SECTION II

UKRAINE

Ukraine, located in the southern part of Eastern Europe, shares borders with Byelarus, Russia, Moldova, Poland, Hungary, Romania, Czech, and the Slovak Federal Republic. Ukraine is mostly plains except for the Carpathian Mountains in the west and the Crimean Mountains along the southern edge of the Crimean Peninsula. The population is estimated at 51.9 million.

Summary of Privatization

Price liberalization, privatization, land reform, agricultural reform, and agriculture support have received considerable attention from the government. Many viewpoints are being considered and discussed. A privatization law was passed by parliament about four months ago and then immediately repealed. A new privatization law is currently under consideration. In the interim, privatization of industry and agriculture is proceeding in a slow, measured manner.

The privatization movement is just beginning in agriculture. In the spring of 1992, 6,800 private farms were registered with 132,000 hectares of land, including 107,600 hectares of cultivatable land. These private farms average 20 hectares in size with 16 hectares of tillable land. This amount of land constitutes less than 0.3% of the total land area of Ukraine. By July 1992, the total number of private farms numbered 10,000.

The transformation of the collective farm into a joint-stock company or corporate farm is being widely considered, discussed, and planned in the Kiev Region, but is just being considered in the Kharkov Region.

Summary of Grain Production and Distribution

Ukraine has often been referred to as the breadbasket of the former Soviet Union because of its relative importance in agricultural production. Its land, resources, and climate provide great potential for agricultural production. The agricultural sector produces a wide variety of commodities, including grains, fruits, vegetables, meat, milk, eggs, potatoes, sugar beets, and various oilseeds. Historically, Ukraine was a net exporter of agricultural products to the other Soviet Union Republics. However, at the same time, Ukraine had a trade deficit in foreign agricultural trade. At the present time, Ukraine is not exporting grain to other republics of the former USSR.

Ukraine encompasses 60.4 M hectares, of which slightly more than 32 M are under crop production. Of the some 32 M hectares under cultivation, grain crops occupy nearly half of the area. Wheat production accounts for nearly half of the crop area in grains, and in latter years, more than one-half of the total grain production.

	Average 1986-90	1990	1991	Est. 1992
Crop Area (MHA)				
Total Grains	15.5	14.6	14.4	
Wheat	6.4	7.8	7.0	
Production (MMT)				
Total Grains	47.4	51.0	38.6	43-46
Wheat	23.5	30.4	23.0	24-26
Corn	8.0	4.7		
Barley	10.3	9.2		
Other	5.6	6.7		

State purchases of grain include wheat, corn, and barley. Historical procurement by the state is as follows.

Year	Total Production M mt	State Procurement		Balance Held On-Farm	
		M mt	%	M mt	%
1981-85 Ave	37.7	13.4	(35.5)	24.3	(64.5)
1986	41.5	15.2	(36.6)	28.3	(63.4)
1987	48.0	18.1	(37.7)	29.9	(62.3)
1988	45.4	17.3	(35.7)	28.1	(64.3)
1989	51.2	17.7	(34.6)	33.4	(65.4)
1990	51.0	15.4	(30.2)	35.5	(69.8)
1991	38.6	11.3	(29.3)	27.2	(70.7)

Expressed Needs

A very large demand exists for all types of agricultural equipment and facilities, particularly pesticide sprayers, combines, grain storage facilities, and grain conditioning equipment. These needs were expressed many times to the Kansas State University (KSU) team. Although not directly expressed, there seems to be a need for feed mill equipment and facilities of the size and type applicable to the large corporate farms.

Interest was expressed by trading firms in small-scale production equipment which would be appropriate for use by individual farmers cultivating 20 to 70 hectares of land.

Potential Contacts

A brief list of potential contacts gathered by the KSU team is provided. For further information, it is suggested that inquiries be addressed to the Embassy of Ukraine, Washington, D.C. Two publications, "The Business Directory of the

New Independent States" and "The Joint Venture Directory of the New Independent States" can provide additional information.

Embassy of Ukraine

Embassy of Ukraine
1828 L Street, N.W.
Suite 711
Washington, D.C. 20036
Telephone 202-296-6960
Contacts: Oleh Bilorus, Ambassador to the United States of America
Ihor Dunalsky, Economic Counselor

Embassy of the United State of America

Embassy of the United State of America
Yuria Kotsususbinshkoho, 10
4252053 Kiev
Ukraine
Telephone 244-7344
244-7349
FAX 244-7350
INMANSAT FAX 011-873-151-3424

Marketing

UKRAGOBUSINESS
Trehsvyatilsraya St, 4B
252002 Kiev
Ukraine
Telephone (44) 228-2641 or 228-7738
FAX (44) 228-8143
Telex 131186 UKRAB SU
Contact: Sergei V. Borodin, Director "Agropostavka" Company

Ukragobusiness expressed an interest in commercial proposals and information on (1) 3,000 to 6,000 mt capacity storage facilities and related equipment, and (2) production equipment for 20 to 70 hectare private farms.

Joint Venture

Scientific and Production Association
NPO "Ukrstalkonstruktziya" 11V
Ur. K.Marx 252001 Kiev
Ukraine
Telephone (44) 229-7157 or 228-3029
Contact: Zirovij N. Feldman, Commercial and Technical Director

AGROMASH, Inc.
7 Veskresenskaya St.
252137 Kiev, 137
Ukraine

Telephone (44) 543-8051 or 543-9852
Contact: Vasily F. Shpak, Director
Victor N. Yakimchuk, Vice General Director
Igor I. Kibat, Vice Engineer

The above two firms expressed an interest in joint ventures in manufacturing of all types of agriculture and agribusiness equipment.

Ukraine Trade Fair

It has been reported that a trade exposition entitled American-Ukraine Trade Expo '92 will be held December 2 to 5, 1992, in Las Vegas, Nevada. It is further reported that approximately 140 Ukrainian firms will be in attendance. For additional information, contact Susan Bracken, telephone 703-631-6200 or AMUKE Group of Companies, San Francisco, telephone 415-661-7284. No other information could be obtained.

Agricultural Production and Processing Contacts

Kagazlyk District Agricultural Government Board
Kiev Region
Kagazlyk, 255420
Contact: Roman N. Kusch, Head of Board

"Winner" Collective (Joint-Stock) Farm
Kiev Region, Kagazlyk 255420
Kadomka
Ukraine
Telephone (273) 5-2285
(273) 3-2381
Contact: Petro K. Papizhenko, Head of Farm

"Illich" Collective Farm
Kiev Region, Kagazlyk 255420
Kodaki
Ukraine
Contact: Petro K. Petrankivskiy, Head of Farm

Oil Extraction Factory
Via Pricolotnoye, Velikoburlutskiy District
Kharkov Reg'on
312540, Ukraine
Telephone (05752)5-310
Contact: Vladimir O. Scherban, General Director

"Mayak" Collective Farm
Balakleyevskij District
Via Savintsy
Kharkov Region
Ukraine

Telephone (057) 5-3331
(057) 3-1232
Contact: Valeriy N. Belokudria, Head of Farm

"Ukraina" Collective Farm
Balakleyevskij District
Via Borschivka
Kharkov Region
Ukraine
Contact: Nikolaj F. Goriajnov, Head of Farm

Other Contacts

The Ukrainian Academy of Agricultural Sciences
Suvorov St., 9
252010, Kiev-100
Ukraine
Telephone 290-4245
FAX 290-4255
Telex 13187 FAVN
Contact: Vladimir M. Krut, Vice-President

Kharkov Project Institute for Agriculture
Lenina St., 50
Kharkov - 72
310072 Ukraine
Telephone 232-2089
Contact: Oleg P. Nikonenko, Director
Valerij F. Gorbachov, Main Engineer

Institute on Production Grain Facilities (Institute Promzernoproekt)
Mezhigorskaya St., 83
Kiev - 80
252080 Ukraine
Telephone 417-3200
417-3028
Nikolaj G. Shtepa, Main Engineer
Vladimir I. Marion, Technologist

Other Sources of Information

The Business Directory of the New Independent States
The Joint Venture Directory of the New Independent States

Published by: Market Knowledge, Inc.
1100 West 31st Street, Suite 520
Oakbrook Terrace, Illinois
Telephone 708-969-1000

Support Information

The following information is provided as a guide to American firms interested in traveling to Ukraine.

Visa Information

Single Entry Visa

Requirements: 1 completed visa application form
\$30.00 company check or money order (no personal checks)

Additional

Information: The processing time is one week.

There is a rush option. For \$60.00 one can have the visa issued the same day.

Single entry visas are good for one month - unless stipulated by an official invitation for a longer stay.

To obtain a one-month single entry visa, no invitation form is required.

There are currently no restrictions on travel in Ukraine.

Hotel accommodations are no longer required for visa issuance.

Multiple Entry Visa

Requirements: One completed visa application form
One official invitation form either from the Ukrainian government or from a business firm in Ukraine
\$120.00 company check or money order (no personal checks)

Additional

Information: The processing time is three weeks.

This type of visa is good for one year.

Hotel Information

Hotel Intourist

Gospitalnaya St., 12
252023 Kiev
Telephone (44) 220-4144

Hotel Dnipro

Khreshchatik St., 1/2
252023 Kiev
Telephone (44) 229-8387

Hotel Khreshchatik
Khreshchatik St., 14
252023 Kiev
Telephone (44) 229-7193

Interpreter Information

Pedagogical Institute of Foreign Languages
Chervonoarmijska St, 73
252150 Kiev, 150
Ukraine

Contact: Galik I. Artemchuk, Rector
Telephone (44) 227-3372
Secretary
Telephone (44) 227-2636

Money

The most commonly accepted money is U.S. dollars. The Intourist Hotel listed above will accept credit cards (American Express, Visa, and Mastercard) with limits. Team was informed that the following bank would cash traveler's checks at a 5% cashing fee.

Agriculture Industrial Bank
Oktyabrskoi Revolutsii, 12
Kiev

Contact: Mr. Sherbokov, 9:30AM to 2:30PM, Monday-Friday

SECTION III

RUSSIAN FEDERATION

The Russian Federation spans Europe and Asia. The large plains of European Russia are bounded on the east by the Ural mountains, which are generally accepted as the delineation line between Europe and Asia. The major agricultural production area of the European region lies between 45 and 60 degrees latitude. This latitude is equivalent to the production areas in the United States and Canada from North Dakota through the Manitoba Province. The population of the Russian Federation is estimated at 148.5 million.

Summary of Privatization

Governmental policy in the Russian Federation has decreed that privatization move at a very rapid pace. Privatization of much of Russia's industry is currently under way. A presidential decree has directed that plans for privatizing must be in place by November 1, 1992. It should be noted that this is only a decree and is not a law passed by the Parliament. However, certain sectors will not be privatized at this time, such as the state grain elevator system.

Privatization of farms in Russia appears to be moving at a very rapid pace. There is ample evidence of operating private farms, cooperative associations of private farms, and state or collective farms transformed into autonomous units as joint-stock companies, independent of government control or subsidy. There is no set pattern from region to region pertaining to distribution, ownership, or leasing rights of the land. At this time, many types of arrangements have been made.

At the beginning of 1992, there were about 50,000 individual private farms registered in Russia with a land area of slightly over two million hectares. At this time, 135,000 individual private farms have been registered. The Russian Association of Farmer Enterprises and Agricultural Cooperative Societies (AKKOR) now includes 1,300 district organizations with 85,000 members. One of the primary functions of AKKOR is the administrating of low-interest government loans to private farmers.

Summary of Grain Production and Distribution

Russia is a major producer of small grains (wheat, barley, rye, buckwheat, sugar beets, sunflower seed, and flax). Production of corn is primarily for green-chop and silage. Production of corn for grain is constrained by the relatively far northern location of the Russian growing areas.

The total land area of Russia is 1,708 M hectares of which approximately 120 M hectares (or 7% of total land area) is under cultivation. Of the 120 M hectares under cultivation, grain crops occupy 54% of the area. Wheat production accounts for 38% of the crop area in grains and slightly over 40% of total grain production.

The average annual total production of grain in Russia for 1986-91 was 104.2 M mt compared to 105.9 and 91.9 M mt for 1976-80 and 1981-85, respectively. The 1992 forecast of grain production is 93 to 98 M mt.

Wheat is the principal grain, comprising approximately 43% of the total grain production. Barley, rye, and oats comprise 24%, 11%, and 12%, respectively. Corn, millet, buckwheat, rice, and pulses make up the other 10% of grain production.

	Average 1986-90	1990	1991	Est. 1992
Crop Area (MHA)				
Total Grains	65.6	63.1	62.3	
Wheat	24.6	24.2	23.2	
Production (MMT)				
Total Grains	92.0	116.5	89.1	93-98
Wheat	38.7	49.6	38.0	
Rye	11.5	16.4		
Barley	23.3	27.2		
Oats	12.7	12.3		
Other	5.8	11.0		

State purchases of grain include wheat, barley, rye, and pulses. The State has purchased an average of one-third of the total grain production from 1981 to 1991. Wheat procurement by the State represents 55% of the total state grain procurement for the period 1981 to 1991.

Year	Total Production M mt	State Procurement		Balance Held On-Farm	
		M mt	%	M mt	%
1981-85 Ave	91.9	35.0	(38.1)	56.9	(61.9)
1986	107.4	42.1	(39.2)	65.3	(60.8)
1987	98.5	35.1	(35.6)	63.4	(64.4)
1988	93.8	29.2	(31.1)	64.6	(68.9)
1989	104.8	31.2	(29.8)	73.6	(70.2)
1990	116.5	34.0	(29.2)	82.5	(70.8)
1991	89.1	22.5	(25.3)	66.6	(74.7)
1992 target		29			

Expressed Needs

A large demand exists for the full cycle of grain production; from new varieties and hybrid seeds, to pesticides, fertilizers, harvesting machinery, grain drying/handling/storage equipment, to processing equipment for flour and animal feeds. Because of the increasing numbers of individual private farmers, there

is a demand for equipment that is applicable to the size of the individual operation.

Potential Contacts

A brief list of potential contacts gathered by the KSU team is provided. For further information, it is suggested that inquiries be addressed to the Embassy of the Russian Federation, Washington, D.C. The publications, "The Business Directory of the New Independent States" and "The Joint Venture Directory of the New Independent States," can be consulted for additional information.

Embassy of the Russian Federation

Embassy of the Russian Federation
1125 16th Street, N.W.
Washington, D.C. 20036
Telephone 202-628-7551
FAX 202-397-5028
Contacts: Logvin Overchuk, Agricultural Attache
Robert Ruzanov, Commercial Attache

Joint Ventures

Cooperative-State Objedinenie for Construction (Rosagropromstroy)
16, Krasin Lane
Moscow, 123056, Russia
Telephone 255-0525
Contact: Victor M. Vidmanov, President

Association for Construction in the Russian Non-Chernozemia Zone
(Nechernozemagropromstroy)
5/1, Tolstoy St.
Moscow, 119862, Russia
Telephone 245-0595
FAX 246-6779
Contact: Leonid Y. Ivanov, Chairman

Inter-Republican Association of Enterprises in Building Units for Grain Storage
and Processing (STREL)
2 bld. 13, Barklay St.
Moscow, 123056, Russia
Telephone 145-1483
145-1845
FAX 145-5314
Contact: Petr A. Soldatenkov, Vice-President

AgroProduct
1 Institutsky pr., 1
Moscow, 109428, Russia
Telephone 171-3727
371-4681

FAX 371-4482
Contact: Vjacheslav I. Chernoiivanov

FREGAT Production Association
60/62 Chernishevski St.
Saratov, 410004, Russia
Telephone 25-1608
44-7293
FAX 25-3666
Telex 412663 REYE
Contact: Yuri S. Shaposhnikov, General Director

The above firms expressed an interest in joint ventures in manufacturing of all types of agriculture and agribusiness equipment.

Other Contacts

Russian Association of Farmers Enterprises and Agricultural Cooperative Societies (AKKOR)
3, Oriykov pereulok.
Moscow, 107802, Russia
Telephone 204-4027
204-4147
FAX 208-5824
Contact: Vladimir F. Bashmachnikov, President

Scientific and Production Amalgamation "Zernoproduct"
Dmitrovskoye Chaussee, 11
Moscow, 127434, Russia
Telephone 216-3300
216-0940
Contact: G.S. Zelinsky, General Director
Leonid A. Tesler, Chief International Economic and Scientific Relations
Department

Market Research Institute
Pudovkin St., 4
Moscow, 119285, Russia
Telephone 145-0261
FAX 143-0271
Telex 64-411380
Contact: Vsevolod O. Volkov, Director

Saratov Association of Agricultural Cooperative Societies and Farms "Vozrojdenie"
(Regional AKKOR Association)
Universitetskaja St., 45/51
Saratov, 410071, Russia
Telephone 24-6317
FAX 24-6317
Contact: Anatolij N. Musikhin, President
Victor S. Kuzmin, Director

Agricultural Institute of SouthEast Russia
Scientific-Production Corporation "Elita Povolgja"
Tulajkov, 7
Saratov, 410020, Russia
Telephone 64-0565
Contact: Vladimir F. Unhgenfuet, General Director
Anatoly I. Shabaea, Deputy General Director

Agricultural Department of Voronezh Regional Administration
Lenin Square, 12
Voronezh City, 394000, Russia
Telephone 55-2864
55-6723
Contact: Trundv Vladimir Ivanovich, Director
Gribanov Nikolia Alekseyevich, Deputy Director

Voronezh Association of Agricultural Cooperative Societies and Farmers "Niva"
(Regional AKKOR Association)
Plekhanov St., 53
Voronezh City, 394000, Russian Federation
Telephone 52-5508
52-4977
Contact: Sulhgenko Nikolai Anatolievich

Other Sources of Information

The Business Directory of the New Independent States
The Joint Venture Directory of the New Independent States

Published by: Market Knowledge, Inc.
1100 West 31st Street, Suite 520
Oakbrook Terrace, Illinois
Telephone 708-969-1000

Support Information

The following information is provided as a guide to American firms interested in traveling to the Russian Federation.

Embassy of the United States of America

Embassy of the United States of America
Ulitsa Chaykovskogo 19/21/23
Moscow, Russia
Telephone: 255-9957
255-9270
FAX 255-9965

Visa Information

Requirements: One visa application form and copy of itinerary.
Copy of passport: first two pages showing photo, signature and vital statistics. Do not send passport.
Three passport style photos.
Invitation from Russia. Must be official letter of invitation stating length of stay, purpose of trip, etc.

Additional

Information: Regular service - \$55.00 plus return mail (more than three weeks for processing).

Rush service - \$80.00 plus return mail (more than five days processing).

Urgent service - \$125.00 plus return mail (within five days processing).

Next day service - \$175.00 plus return mail.

Same day service - \$225.00 plus return mail (only if invitation is sponsored by Russian government).

Return mail cost - \$15.50 via Federal Express or \$4.75 via certified mail.

Guide to Hotels, Interpreters, and Other Services

Moscow Business Telephone Guide
A monthly publication
CMS New York Inc.
1925 Clove Road
Staten Island, New York 10304
Telephone 718-448-9354
FAX 718-448-9353

SECTION IV

CONSTRAINTS

American business firms should be aware that numerous constraints exist in both the sale of products to Ukraine or Russia, and in joint-venture investments within Ukraine or Russia.

The major constraint to the sale of products is the lack of "hard" currency needed for import transactions. As a result, a firm must be prepared to conduct barter trade, whenever it is so required.

Investment in equipment, facilities, and credit through joint ventures should be considered as a moderate- to high-risk operation. The best summary of risks is presented in "Obstacles to Trade and Investment in the New Republics of the Former Soviet Union, by the International Trade Administration, U.S. Department of Commerce, March 1992. This report is based on surveys of nearly 100 American companies who have conducted business operations in Republics of the former Soviet Union. A copy of this publication may be obtained from the U.S. Department of Commerce.

In April 1992, Ukraine passed legislation concerning foreign investment. A copy of the "Law of Ukraine for Foreign Investment" is appended as Annex I. A copy of the Russian Soviet Federative Socialist Republic law on foreign investment is appended as Annex II. It cannot be determined whether this law is still valid.

ANNEX I

LAW OF UKRAINE
"ON FOREIGN INVESTMENTS"

The Law of Ukraine "On Foreign Investments" is based on the goals, principles and provisions of the laws of the Ukrainian SSR "On Foreign Economic Activity" and "On Investment Activity", and stipulates the terms and conditions for foreign investment within the territory of Ukraine.

SECTION I. GENERAL PROVISIONS

Article 1. Definition of Terms

In this Law the following terms are used with the meanings defined below:

Foreign investors: legal persons established in accordance with laws other than those of Ukraine; physical persons who do not reside permanently on the territory of Ukraine; foreign states, international governmental and non-governmental organizations; other foreign entities engaged in business activity which are defined as such according to Ukrainian legislation.

Foreign investments: all forms of value that have been directly invested in enterprises and other forms of commercial activity by foreign investors, in accordance with Article 3 of this Law, with the aim of gaining profit (income) or providing social benefit.

Enterprise with foreign investments: any legal form of enterprise established in compliance with Ukrainian law, where a foreign investor controls, on average, no less than 20 percent of the [declared authorized capital] or a share valued at no less than U.S.\$100,000, during a given calendar year.

In this regard, with reference to newly formed enterprises this last criterion is based on the sum used in the formation of [initial capital] in accordance with Ukrainian laws.

Article 2. Applicability of this Law

This Law applies exclusively to foreign investors and enterprises with foreign investment, in which the share of foreign investment amounts to no less than 20 percent of the [declared authorized capital] or at least U.S.\$100,000.

The applicability of this Law does not extend to foreign investments effected in Soviet karbovantsi (rubles), payment documents denominated in karbovantsi, commercial instruments denominated in karbovantsi which originate from countries other

than Ukraine, as well as to foreign investments in the form of commodities that originated in countries on whose territory the currency in circulation is the Soviet karbovants, with the exception of goods that are highly liquid assets on world markets. The regime of foreign investment set forth in this section is regulated by the general legislation of Ukraine on investment activities, unless otherwise stipulated by international agreements to which Ukraine is a party.

Article 3. Types of Foreign Investments

Foreign investors are entitled to carry out investments in Ukraine in the form of:

a) foreign hard currency, other convertible instruments; hard currency in circulation on the territory of Ukraine;

b) any form of movable or immovable property (land, buildings, structures, equipment and machinery, and other material resources) and any property rights assigned thereto;

c) stocks, bonds and other commercial instruments, or any other forms of participation in an enterprise;

d) monetary claims and the right to claim against the fulfillment of contractual obligations that have value;

e) any form of intellectual property which has value, including author's rights, rights to inventions, trademark rights (product and service trademarks), company names, industrial models, know-how, and others;

f) the right to carry out commercial activities, including the right of exploration, development, mining, or exploitation of natural resources, as granted under law or by agreement;

g) paid services;

h) other forms of investment not prohibited by the laws of Ukraine.

Foreign investment of any kind may not be prohibited or restricted except in accordance with clear and specific provisions of the laws of Ukraine.

Article 4. Methods of Realizing Foreign Investments

Foreign investors have the right to realize all forms of investment as defined in Article 3 of this Law, in the following ways:

Article 6. Legislation Concerning Investment Activities and Commercial Activities of Foreign Investors on the Territory of Ukraine

Relations (activities) stemming from foreign investments in Ukraine are regulated by this Law and other legislative acts as well as international agreements to which Ukraine is a party, as in effect on the territory of Ukraine.

If international agreements in effect in Ukraine establish rights other than those set forth in the legislative acts of Ukraine, then the provisions of the international agreements shall govern.

Article 7. Government Policy in the Sphere of Foreign Investments

Government policy in the sphere of foreign investment and state programs to encourage foreign investment shall be developed by the Cabinet of Ministers of Ukraine jointly with the National Bank of Ukraine, and shall be approved by the Supreme Council of Ukraine.

SECTION II. GOVERNMENT GUARANTEES FOR THE PROTECTION OF FOREIGN INVESTMENTS

Article 8. Legal Status of Foreign Investments

With the exception of those cases envisaged by this Law and other laws and international agreements binding on Ukraine, a national regime for investments and other commercial activities exists in Ukraine with regard to foreign investment and the forms of its implementation on Ukrainian territory.

Under current government programs designed to attract foreign investment, additional privileges may be extended to foreign investors in key sectors of the economic and social spheres.

The laws of Ukraine may, for reasons of national security, designate territories wherein the activities of foreign investors or enterprises with foreign investment may be restricted or prohibited.

Article 9. Guarantees Against Changes in Legislation

In the event that subsequent legislation concerning foreign investment in Ukraine changes the protection extended to foreign investment under this Law, then, if required by the foreign investor, the legislation in effect at the time of registration of the foreign investment shall continue to apply to the investment for a period of 10 (ten) years..

a) ownership shares in enterprises that have been established jointly with Ukrainian legal and physical persons, or the acquisition of shares in existing enterprises;

b) the establishment of enterprises that are wholly owned by foreign investors, affiliates, or other entities owned by foreign legal persons, or the acquisition of the entire ownership of existing enterprises;

c) any acquisition not expressly prohibited by the laws of Ukraine, of movable or immovable property, including parcels of land, buildings, apartments, facilities, equipment and machinery, means of transport, and other objects of ownership with the intent of possessing property or proprietary assets directly, or in the form of stocks, bonds and other commercial instruments;

d) the acquisition, independently or jointly with Ukrainian legal or physical persons, of the rights to use land or concessions for the exploitation of natural resources on the territory of Ukraine;

e) the acquisition of other property rights;

f) other means of implementing investments and, in particular, those based on agreements with subjects of commercial activity in Ukraine, that are not clearly and expressly prohibited by the existing laws of Ukraine.

Article 5. Valuation of Foreign Investments

If requested by a foreign investor, foreign investments, including contributions to the authorized capital of enterprises with foreign investments, shall be valued in freely convertible foreign currency, or in the currency in circulation on the territory of Ukraine.

Foreign investments, including contributions to the authorized capital of enterprises with foreign investments, shall be assessed, by mutual agreement of the parties (participants) involved, on the basis of current world market prices.

Foreign currency shall be converted into the currency in circulation on the territory of Ukraine with regard to foreign investments, including contributions to the authorized capital of enterprises with foreign investments, in accordance with a rate agreed upon by all parties (participants), but shall not be less than the current exchange rate for that foreign currency on the territory of Ukraine, as determined by the National Bank of Ukraine.

Article 10. Guarantees Against Expropriation and Unlawful Acts of Government Bodies and Officials

Foreign investments in Ukraine are not subject to nationalization. Government bodies cannot expropriate foreign investments, with the exception of emergency measures in the event of natural disasters, accidents, epidemics, or epizooty. A specific instance of expropriation may be enforced on the basis of a decision taken by bodies authorized by the Cabinet of Ministers of Ukraine.

A decision to expropriate a foreign investment and agreements regarding compensation may be challenged in a legal proceeding, as provided in Article 49 of this Law.

Article 11. Compensation and Damages for Losses Incurred by Foreign Investors

Foreign investors have the right to compensation for their losses, including lost opportunities (benefits) and non-material (intangible) damages, incurred as a result of actions or omissions on the part of governing bodies of Ukraine or government officials that contradict legislation effective in Ukraine, and also as a result of the improper (negligent) performance on the part of such governing bodies or officials of obligations and duties required by law, with respect to foreign investors or enterprises with foreign investment.

All expenses and losses incurred by foreign investors as a consequence of the events described in Article 10 and the first paragraph of Article 11 of this Law, shall be indemnified at current market rates and/or established values certified by independent auditors.

Compensation paid to foreign investors shall be prompt, adequate and effective, and shall be calculated as of the moment of the actual implementation of the decision to expropriate.

Compensation shall be paid without delay in the currency in which the investment was made or in any other currency acceptable to the investor in accordance with the effective legislation of Ukraine on foreign currency. Beginning with the emergence of the right to compensation and up until the moment that compensation is paid, interest rates for the entire amount to be paid as compensation shall be calculated in accordance with current interest rates effective for current deposits on the credit market of Ukraine.

Compensation of losses incurred by foreign investors shall be made at the expense of the state budget of Ukraine or from other sources pursuant to procedures stipulated by the Cabinet of Ministers of Ukraine.

Article 12. Guarantees Against Termination of Investment Activity

In the event of the suspension or termination of investment activity, a foreign investor shall have the right within six months from the date of the termination of the investment to recoup his investment together with proceeds therefrom in the form of money or commodities based on actual market value as of the moment of the termination of the investment activity, unless otherwise stipulated by the legislation of Ukraine or agreements between the participants (parties).

Article 13. Guarantees for Remittance of Revenues, Profits and Other Sums in Connection with Foreign Investments

Upon payment of taxes and other mandatory duties, foreign investors are guaranteed the right to the unimpeded and prompt remittance abroad (repatriation) of their revenues, profits, and other funds in foreign convertible currency obtained legally in connection with their investments.

The procedures for the remittance abroad of revenues, profits and other funds obtained from foreign investments shall be specified by the National Bank of Ukraine.

Article 14. Guarantees of Disposal of Revenues, Profits, and Other Assets Obtained in Connection with Foreign Investments on the Territory of Ukraine

Revenues, profits or other funds obtained by a foreign investor in Ukraine in the currency circulating on its territory or in a foreign currency as a result of investment activities may be reinvested in Ukraine. The procedure for reinvestment of such revenues are set forth in the Law of Ukraine "On the Investment Activity" and in this Law.

In order to save (preserve) revenues, profits and other funds denominated in the currency of Ukraine, foreign investors can open deposit and settlement accounts in Ukrainian banks pursuant to the legislation on banks and banking activities and currency legislation.

Foreign investors have the right to apply funds denominated in the currency of Ukraine in these deposit accounts to acquire foreign currency on the domestic currency market pursuant to Ukrainian legislation or to purchase goods on the domestic market of Ukraine for their export abroad without license.

Article 15 of this Law within 21 days, from the submission by a foreign investor of the information mentioned in Article 15.

Article 17. Denial of Registration of Foreign Investments

Registration of a foreign investment may be denied only if the foreign investor violates the investment procedure established by the legislation of Ukraine or if the submitted information fails to comply with registration requirements. A denial of registration shall be documented in written form, shall specify the reasons for denial, and may be challenged in a court proceeding.

Article 18. Period of Validity of a Registration Certificate

An investment certificate shall be valid during the period for which it is issued. This term must correspond to the period of investment declared by the foreign investor upon registration and may be extended at the request of the investor.

Article 19. Recording and Statistical Information on Foreign Investments

Customs and banking institutions shall keep records related to the actual implementation of (operations) foreign investments. Foreign investors shall submit monthly consolidated reports on operations to the Ministry of Finance, Ministry of Statistics, Ministry of Foreign Economic Relations of Ukraine and to the National Bank of Ukraine.

SECTION IV. ENTERPRISES WITH FOREIGN INVESTMENTS

Article 20. Organizational and Juridical Forms of Enterprises with Foreign Investments

Enterprises with foreign investments on the territory of Ukraine shall be organized and shall act within the organizational and legal forms envisaged by the legislation of Ukraine.

Article 21. Procedure for Establishing Enterprises with Foreign Investments

An enterprise with foreign investments can be organized by forming a new enterprise, as a result of the acquisition by a foreign investor of a portion (shares, stocks) of an enterprise formed earlier without foreign investments or by purchasing an entire enterprise.

SECTION III. GOVERNMENT REGISTRATION AND CONTROL OF FOREIGN INVESTMENTS

Article 15. Procedure for Government Registration of Foreign Investments

The Ministry of Finance of Ukraine shall register foreign investments prior to, during or after the actual implementation of the investments upon the submission in duplicate by the foreign investor of an application setting forth the general scope, form, implementation period, investment objective, legal (company) name, legal status and state affiliation (if any) of the foreign investor and his representative in Ukraine to the Ministry of Finance in accordance with the format established by the Ministry. The information specified in this Article may be submitted by the foreign investor in person, through an official representative of the foreign investor, or by mail.

In the event a foreign investor requests additional preferences under the government program for the encouragement of investments, he or she shall submit additional information to the Ministry of Finance of Ukraine confirming compliance with the criteria set forth by the government program.

Information or documents, other than those specified by this Article, may not be required of the investor during the registration.

The duplicate copy of the information report on foreign investments submitted (sent) to the Ministry of Finance of Ukraine is marked by a special stamp during registration and is returned to the foreign investor to attest the fact of the government registration of his or her investment. If a foreign investor is granted preferences in connection with the government program to promote foreign investment, he or she is provided with an investment certificate of a standard format that shall serve as the basis for obtaining such preferences.

The investment certificate shall be issued upon the payment of a registration fee which shall be determined by the Ministry of Finance of Ukraine but which shall not exceed the actual costs (disbursements) incurred by the government body in connection with the registration of the investment.

Unregistered foreign investments do not entitle the investor to the privileges provided by this Law.

Article 16. Foreign Investor Registration Terms

The Ministry of Finance of Ukraine shall register foreign investments or disclose the reasons for the denial of registration within 3 working days, and in cases specified by paragraph 2 of

Foreign investment enterprises are created pursuant to procedures set forth in legislation effective on Ukrainian territory.

The acquisition by a foreign investor of a portion (shares, stocks) of an enterprise formed originally without foreign investment, as well as the purchase of an entire enterprise shall be effected in accordance with legislation in effect on the territory of Ukraine taking into account the supplemental provisions set forth in this Law.

Article 22. Organizational Documents of Newly Formed Foreign Investment Enterprises

The organizational documents of newly formed foreign investment enterprises shall contain the information required pursuant to the legislation in force in Ukraine for the legal form of the enterprise as well as information on the country of origin of the partners (founders) of the enterprise.

Article 23. State Registration of Foreign Investment Enterprises

Foreign investment enterprises shall be registered pursuant to procedures in effect under legislation in force in Ukraine.

Article 24. Nature of Activity

An enterprise with foreign investments may engage in any kind of activity corresponding to the goals identified in its statute (charter), other than those activities prohibited by legislation in force in Ukraine.

In order to conduct insurance and brokerage activities related to the trading of commercial paper (securities), an enterprise with foreign investment shall obtain a license of the Ministry of Finance of Ukraine. In order to conduct banking operations, the enterprise shall receive a license from the National Bank of Ukraine.

Article 25. Subsidiaries, Affiliates and Representative Offices of Enterprises with Foreign Investments

An enterprise with foreign investments may create subsidiaries with the rights of a legal entity as well as affiliates and representative offices in Ukraine and abroad in keeping with the requirements set forth by the legislation of Ukraine and of relevant foreign countries.

Preferences and guarantees stipulated by this Law for enterprises

with foreign investments extend to subsidiaries of the enterprise, provided that at least 51 percent of the authorized capital is owned by the foreign investment enterprise that acted as the founder (incorporator) of the subsidiary in question.

Article 26. Conditions for Distribution of Products and Provision of Services in the Ukrainian Market

An enterprise with foreign investment may establish the terms of the distribution of products (works and services) on the Ukrainian market on a contractual basis including the prices of products (services) as well as the terms of delivery, labor and servicing within the market.

The settlement (accounting) of foreign convertible currency used in these transactions shall be determined pursuant to foreign currency legislation in effect in Ukraine.

Article 27. Associations and Unions of Enterprises with Foreign Investments

Enterprises with foreign investments may form voluntary partnerships, unions, concerns, inter-branch, regional and other associations that do not conflict with the anti-monopoly legislation in effect in Ukraine.

Article 28. Customs Duties

Property imported to Ukraine as part of the contribution of the foreign investor to the authorized capital of an enterprise with foreign investments is exempt from customs duties and import tax for the periods established by the Law of Ukraine "On Business Associations".

Property imported to Ukraine for investment on the basis of business agreements (contracts) is exempt from customs duties and import taxes for the periods established by the investment agreements (contracts).

Finished products, raw materials, semi-manufactured goods, components, spares parts and accessories imported to Ukraine for the use (needs) of enterprises with foreign investments are exempt from customs duties and import taxes.

Property imported to Ukraine by foreign employees of enterprises with foreign investments for their individual needs is exempt from customs duties and import taxes.

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Investments.

With the exception of enterprises created in the sphere of wholesale and retail trade and brokerage activity, enterprises with foreign investments and participation of Ukrainian capital shall be exempt from income taxation for 5 years from the declaration of the first income, and thereafter shall pay taxes at the rate of 50 percent of the tax rates stipulated by the legislation of Ukraine.

Newly created enterprises with foreign investments and participation of Ukrainian capital operating in the sphere of wholesale and retail trade are exempted from income taxation for three years, and the enterprises operating in brokerage activity shall be exempt for two years from the declaration of the first income, and thereafter shall pay taxes at the rate of 70 percent of the tax rates established by the legislation of Ukraine.

Enterprises with foreign investments and participation of Ukrainian capital that were created prior to the adoption of this Law as well as enterprises with participation of Ukrainian capital that have become enterprises with foreign investments at some point subsequent to their organization (incorporation) are exempt from income tax in accordance with paragraphs 3 and 4 of this Article, including the period of time that elapsed since the declaration of the first income by these enterprises relative to the moment of the adoption of this Law or the transformation of the enterprise into an enterprise with foreign investments.

Foreign investment enterprises whose capital is owned entirely by foreign investors are entitled to reduce their taxable income to the amount of actually realized investments converted to the currency effective on the territory of Ukraine applying the exchange rate used for the valuation of foreign investments in accordance with Article 5 of this Law. In the event the amount of the actually realized (performed) foreign investments exceeds the aggregate income of an enterprise with foreign investments for one fiscal year, the aggregate income from future years subject to taxation shall be decreased by the amount of the said excess.

The aggregate taxable income of an enterprise with foreign investments shall be reduced by the amount of funds that are reinvested within the territory of Ukraine.

Products, labor and services of an enterprise with foreign investments and participation of Ukrainian capital are exempted from value-added taxes for a period of five years from the moment of the official registration of the enterprise.

For enterprises with foreign investments in priority branches of the national economy included in the government programs for the promotion of foreign investments or covered by legislation on special (free) economic zones, additional tax privileges may be established.

Article 29. Export and Import of Products, Labor and Services

Enterprises with foreign investments may export products, labor and services and import products, labor and services for their own needs without a license, except in those cases envisaged by legislative acts and international agreements effective on the territory of Ukraine. The procedures for classifying the products, labor and services to be exported as proprietary production are based on commodity origin rules forming part of the customs legislation of Ukraine. The determination of which imported products, labor and services are intended exclusively for the use of an enterprise shall be based on the organizational documents of the enterprise.

The proceeds from exports of the products, labor and services of the enterprises which are denominated in foreign convertible currency shall remain at the complete disposal of such enterprises. The products, labor and services of third parties shall be exported by enterprises with foreign investments in accordance with general principles.

Article 30. Currency Regulation

All expenses of enterprises with foreign investments related to the use of foreign convertible currency in connection with the performance of various kinds of business activity in Ukraine, including the remittance abroad of a share of the profit belonging to the foreign investor, shall be borne by the foreign investment enterprise from the foreign currency proceeds derived from such activity, as well as other authorized sources of foreign currency pursuant to legislation. Foreign currency transactions shall be effected by enterprises with foreign investments pursuant to the procedures in effect under legislation in force in Ukraine.

Article 31. Property and Risk Insurance

Property and risk insurance of enterprises with foreign investments shall be secured at the discretion of the enterprise unless otherwise provided by the legislation in effect in Ukraine.

Article 32. Taxation

Enterprises with foreign investment shall be subject to taxation according to the legislation in effect in Ukraine, with the exceptions stipulated in this Law.

If the legislation of Ukraine imposes new taxes that did not exist at the time of the adoption of this Law, existing enterprises with foreign investments shall receive tax exemptions for the periods envisaged in this Law for newly created enterprises with foreign

SECTION V. ACQUISITION OF PROPERTY AND INDIVIDUAL PROPERTY RIGHTS BY FOREIGN INVESTORS

Article 39. Acquisition of Stocks, Shares and other Securities of an Enterprise by Foreign Investors

Foreign investors have the right to acquire stocks, shares and other securities of enterprises located on the territory of Ukraine. Foreign investors may use Ukrainian currency obtained as revenues (profit) from their operations in Ukraine and foreign currency to purchase stocks and shares of enterprises.

The currency exchange rate in effect pursuant to the Ukrainian currency legislation shall apply to the acquisition of securities described in this Article.

The acquisition of shares and other securities by foreign investors at stock exchanges shall be regulated by the legislative acts of Ukraine on securities and stock exchanges.

Article 40. Acquisition of State Securities by Foreign Investors

Foreign investors may acquire state securities in compliance with the Law of Ukraine "On Securities and Stock Exchange"

Article 41. Participation of Foreign Investors in Privatization

Foreign investors may take part in the privatization of state and municipal enterprises as well as the objects of incomplete capital construction on the territory of Ukraine. The terms of their participation in auctions and public tenders (competitive bidding) in the privatization of state-owned and municipal enterprises shall be determined by legislation in effect in Ukraine.

For purposes of participating in privatization, foreign investors may use the currency in effect on Ukrainian territory (Ukrainian currency) which they have on deposit from revenues (profits) derived from sources on the territory of Ukraine.

Article 42. Property Rights to Land and Other Natural Resources

The granting of property rights to land and other natural resources to foreign investors is regulated by the Land Code of Ukraine and other legislative acts effective on the territory of Ukraine.

that will regulate labor relations shall be valid provided that the regime (rights) in question bears a close relationship to labor relations and does not undermine (reduce) the rights of employees in comparison to those envisaged by the legislation of Ukraine. Foreign law shall not apply to those issues covered by imperative norms of the labor law of Ukraine.

The activities of professional associations at enterprises with foreign investments shall be regulated by legislation in effect on the territory of Ukraine.

Article 37. Social Insurance and Security for Employees of Enterprises with Foreign Investments

Social insurance of employees of enterprises with foreign investments as well as their social security (other than the pensions of foreign nationals) are regulated by legislation in effect in Ukraine.

Pension payments to foreign employees of an enterprise with foreign investments shall be remitted to the appropriate funds in countries of their permanent residence in the currency and on terms and conditions valid in these countries.

Enterprises with foreign investments shall make payments to the state social insurance fund on behalf of Ukrainian and foreign employees as well as payments to secure pensions for Ukrainian workers in accordance with the rates established for enterprises and organizations in Ukraine.

Article 38. Termination of the Activity of Enterprises with Foreign Investments

The activity of enterprises with foreign investments shall be suspended or terminated in accordance with the procedures set forth by legislation in effect in Ukraine according to the relevant organizational and legal form of enterprise in question, and only in the event of:

- a) decision made by the owners in keeping with the organizational (statutory) documents of the enterprise;
- b) the expiration of the term of the agreement establishing the enterprise;
- c) a relevant court decision.

When remitting (repatriating) a portion of profits belonging to a foreign investor from the activity of enterprises with foreign investments, the foreign investment enterprise shall pay a tax equal to 15 percent of the sum remitted or repatriated.

Reviews of the commercial and financial activities of enterprises with foreign investments, including reviews for taxation purposes, shall be conducted only by officially registered auditor organizations of Ukraine.

Article 33. Accounting and Reporting

The accounting of and preparation of financial reports concerning enterprises with foreign investments shall be conducted in accordance with the principles (rules) set forth by the legislation of Ukraine.

Provided they comply with the requirements of the first paragraph of this Article, enterprises with foreign investments may also calculate and report financial information based on the accounting rules effective in the country of the foreign investor.

In preparing the financial statements of an enterprise with foreign investments calculations in foreign currency shall be converted into the currency circulating in Ukraine based on the exchange rate determined according to Article 5 of this Law and the currency legislation of Ukraine.

Article 34. Securing Obligations

The property of an enterprise with foreign investments may be used to secure obligations of all kinds, as well as to attract credit. Property rights to buildings, structures and equipment as well as other property rights may also be used to secure the undertaken obligations.

The mortgaged property or property rights may be sold by the security holder for convertible currency in circulation on the territory of Ukraine or for foreign convertible currency at contractual prices, at auctions or otherwise to legal and physical entities of Ukraine and, if envisaged by the effective legislation of Ukraine, to foreign legal and physical persons or to associations of the latter.

Article 35. Intellectual property rights

The intellectual property rights of an enterprise with foreign investments shall be protected and realized in accordance with the legislation in effect on the territory of Ukraine.

Employees of enterprises with foreign investments have the right to enter into agreements with their employers specifying their rights to intellectual property that emerges from their work product pursuant to assignments confirmed by the documentation of an enterprise.

Enterprises with foreign investments are entitled to use rights to the objects of intellectual property specified in the second paragraph of this Article only after signing relevant agreements with the employees who are the authors of inventions, prototypes, trademarks and other objects of intellectual property.

Patents and other legal titles for the objects of intellectual property (inventions, industrial prototypes, trademarks, etc.) are issued to an enterprise after the conclusion of an agreement between employee and employer. In addition to the concession (abandonment) on the part of the employee to the right to obtain a patent or some other legal title to the work product in favor of the enterprise, the agreement shall specify the obligations of the enterprise to create appropriate material, work (production), and social conditions for the employee. In the event an agreement between the employee and the enterprise with foreign investments was not concluded, the patent or other legal title is issued to the author of an invention, industrial prototype, trademark, etc. The enterprise has the right to use these subject to terms specified by the contract with the owner of the legal title.

An enterprise with foreign investments shall make its own independent determination as to the patenting (registration) abroad of inventions, industrial prototypes, and other objects of intellectual property that belong to it.

Article 36. Labor Relations

All labor relations with hired workers, including admission and discharge, work routine and leisure time, salary, guarantees and compensation at enterprises with foreign investments, are regulated by the collective contract and individual labor agreements. If agreed between the parties, the employer may sign a labor agreement with an employee.

The terms of the collective contract and labor agreements may not undermine (worsen) the position of the hired workers of these enterprises in comparison to conditions stipulated by labor legislation in effect in Ukraine.

Labor relations with employees who have no permanent place of residence in Ukraine are regulated by the legislation of Ukraine if in negotiating the terms of the labor agreement (contract) or in a subsequent agreement the parties have not chosen the legislation of another country to regulate individual elements of labor relations. The selection by the contracting parties of a legal regime (rights)

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Article 43. Leasing Property

Property may be leased by foreign investors subject to lease agreements in compliance with the legislation in effect on the territory of Ukraine.

Property owned by state or municipal authorities whose book value exceeds the equivalent of U.S. \$1,000,000 may be leased with the permission of the relevant governmental entity authorized to operate the property.

Article 44. Concession Agreements

Rights to mine and utilize renewable and non-renewable natural resources as well as to conduct business activities related to the operation of objects owned by the state and not transferred to enterprises, institutions or organizations for complete disposal or control shall be granted to foreign investors on the basis of concession agreements that are signed by the Cabinet of Ministers of Ukraine or by another state organ authorized to do so in keeping with the legislation of Ukraine on concessions with foreign investors.

The term of the concession agreement shall depend on the character and conditions of the concession but may not cover a period in excess of 99 years.

Unilateral changes to the terms of concession agreements shall not be permitted unless specifically authorized by the agreement.

Concession agreements may contain exceptions to the legislation effective in Ukraine. However, in those cases the agreements must be approved by the Parliament of Ukraine.

SECTION VI. FOREIGN INVESTMENTS ON THE BASIS OF AGREEMENTS (CONTRACTS) ON PRODUCTION COOPERATION, JOINT PRODUCTION AND OTHER FORMS OF JOINT ACTIVITY

Article 45. Types of Agreements (Contracts)

The provisions of Section VI of this Law shall extend to agreements (contracts) on production cooperation, joint production and other kinds of joint activity that do not involve the creation of a separate legal entity if these agreements (contracts) provide for the implementation of foreign investments on the territory of Ukraine in the forms set forth in Article 3 of this Law.

Article 46. Legal Basis of Agreements (Contracts)

The provisions of the law of Ukraine "On Foreign Economic Activity" apply to the agreements (contracts) described in Article 45 of this Law.

Article 47. Regulation of Business Activity in Compliance with the Agreements (Contracts)

Unless otherwise specified by the legislation of Ukraine or the agreement between the parties the relevant provisions of Section IV of this Law shall apply to the business activities regulated by agreements (contracts) described in Article 45 of the present Law.

The preferences set forth in paragraphs 3 and 4 of Article 32 of this Law shall not apply for the benefit of the business activity regulated by agreements (contracts) described in Article 45 of this Law.

Proceeds from the business activities described in this Article shall be taxed at a rate of 30 percent of the rates established by the legislation of Ukraine.

Parties to the agreements (contracts) described in Article 45 of this Law shall implement a separate accounting and reporting system for operations related to these agreements (contracts) and are entitled to open joint deposit accounts with banking institutions in Ukraine to perform settlements related to the performance of such agreements (contracts).

SECTION VII. FOREIGN INVESTMENTS IN SPECIAL (FREE) ECONOMIC ZONES

Article 48. Regulation of Foreign Investments in Special (Free) Economic Zones

Foreign investments in special (free) economic zones are regulated by the special rules established by the Ukrainian legislation on special (free) economic zones.

The legal regimes created in special (free) economic zones in terms of foreign investments shall not involve any investment conditions and conditions for economic activity that are less favorable than those stipulated by this Law.

SECTION VIII. DISPUTE RESOLUTION

Article 45. Procedure for the Settlement of Disputes Involving Foreign Investors

Disputes between foreign investors and the government on issues of state regulation of foreign investments shall be examined by the courts of Ukraine if not otherwise specified by international agreements on the protection of foreign investments to which Ukraine is a party.

All other disputes not covered by the first paragraph of this Article shall be examined by the courts and/or arbitration tribunals of Ukraine or, if agreed by the parties, by conciliatory courts, including those abroad.

Translated by the Council of Advisors to the Parliament of Ukraine,
April 14, 1992.

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ANNEX II

LAW

of the Russian Soviet Federative Socialist Republic on Foreign Investments in the RSFSR

(effective from September 1, 1991)

The present Law defines the legal and economic principles of foreign investments on the territory of the RSFSR and aims to attract and make effective use of foreign material and financial resources, advanced foreign machinery and technologies, managerial experience in the national economy of the Russian Federation.

The provisions of the present Law shall be effective on the territory of the RSFSR conformably to all foreign investors and enterprises with foreign investments.

Chapter I

GENERAL CLAUSES

Article 1. Foreign Investors

Foreign investors in the RSFSR may be:

foreign juridical persons including, in particular, companies, firms, enterprises, organizations or associations set up and entitled to make investments in accordance with the legislation of the country of their seat;

foreign nationals, stateless persons, Soviet citizens domiciled abroad, provided they are registered for carrying out business activity in the country of their citizenship or domicile;

foreign states;

international organizations.

Article 2. Foreign Investments

Foreign investments shall be all types of property and intellectual values put by foreign investors in projects of entrepreneurial and other types of activity with a view of deriving profit (income).

Article 3. Making Foreign Investments

Foreign investors have the right to make investments on the territory of the RSFSR through:

participation in enterprises set up in conjunction with juridical persons and citizens of the RSFSR and other Union republics;

the establishment of enterprises fully belonging to foreign investors as well as affiliated branches of foreign juridical persons;

the acquisition of enterprises, property complexes, buildings, structures, a share in enterprises, contributions, shares, bonds and other securities as well as other property which in accordance with the legislation in force on the territory of the RSFSR may belong to foreign investors;

the acquisition of the right to use land and other natural resources;

the acquisition of other property rights;

other investment activity which is not prohibited by the legislation in force on the territory of the RSFSR, including the granting of loans, credits, property and property rights.

Soviet currency shall be used by foreign investors to make investments in the manner and on the terms laid down by the legislation effective on the territory of the RSFSR.

Article 4. Objects of Foreign Investments

Foreign investments on the territory of the RSFSR may be made in any projects which are not prohibited for such investments by legislation. They may include:

newly established and modernized fixed assets and working resources in all sectors and spheres of the national economy;

securities;

tied money deposits;

scientific and technical products;

rights to intellectual values;

property rights.

Article 5. Legal Regulation of Foreign Investments in the RSFSR

The relations connected with foreign investments in the RSFSR shall be governed by the present Law and other legislative acts effective on the territory of the RSFSR as well as by international agreements. If an international agreement in force on the territory of the RSFSR lays down rules other than those contained in legislative acts of the RSFSR, the provisions of the international agreement shall be applicable.

Chapter 2

STATE GUARANTEES OF FOREIGN INVESTMENT PROTECTION

Article 6. Legal Conditions for Foreign Investments

Foreign investments on the territory of the RSFSR shall be accorded full and indisputable legal protection, which is assured by the present Law, other legislative acts and international agreements in force on the territory of

the RSFSR. Legal conditions for foreign investments and the activity of foreign investors to realize them cannot be less favourable than those for the property, property rights and investment activity of juridical persons and citizens of the RSFSR, except for the exemptions provided for by the present Law.

Article 7. Guarantees against Compulsory Withdrawals and Illegal Actions of State Administrative Bodies and Their Officials

Foreign investments in the RSFSR shall not be subject to nationalization and cannot be requisitioned or confiscated except for cases envisaged by legislative acts, when these measures are taken in public interests. In the event of nationalization or requisition foreign investors shall be paid prompt, adequate and effective compensation.

Decisions on nationalization are taken by the Supreme Soviet of the RSFSR. Decisions on requisition and confiscation are taken in the manner laid down by the legislation effective on the territory of the RSFSR.

Decisions by state administrative bodies on foreign investment withdrawals may be appealed against in courts of the RSFSR.

Foreign investors have the right to compensation for losses, including a loss of profit, caused as a result of the fulfilment of instructions from state agencies of the RSFSR or their officials, which are at variance with the legislation in force on the territory of the RSFSR, and also because of the improper discharge of duties by such agencies or their officials in respect to foreign investors or enterprises with foreign investments.

Article 8. Compensation for and Making Good Losses Incurred by Foreign Investors

The compensation paid to foreign investors shall correspond to the real value of the investments to be nationalized or requisitioned directly before the time of formal notice about the actual execution of or the coming nationalization or requisition.

Compensation shall be paid without unfounded delay in the currency of the original investments or in any other foreign currency acceptable to the foreign investor. Prior to the time of payment, interest is added to the compensation sum according to the interest rate in force on the territory of the RSFSR.

Losses, including a loss of profit, caused to foreign investors as a result of actions referred to in Article 7, point 2 of the present Law, shall be made good by the agency responsible for the above-said actions.

Article 9. Procedure for Settling Disputes

Investment disputes, including disputes over the size, terms or manner of compensation to be paid shall be settled in the Supreme Court of the RSFSR or the Higher Arbitration Court of the RSFSR, unless otherwise provided for in an international agreement in force on the territory of the RSFSR.

Disputes of foreign investors and enterprises with foreign investments with state agencies of the RSFSR enterprises, public organizations and other legal persons the RSFSR, disputes between investors and enterprises with foreign investments over questions relating to the business activity, and also disputes between participants an enterprise with foreign investments and the enterprise itself shall be subject to consideration in courts of the RSFSR or by agreement between the parties in an arbitration court, and in cases envisaged by the law — in agencies set up to consider business disputes.

The international agreement in force on the territory of the RSFSR may provide for application to international instruments for settling disputes arising as a result of foreign investments on the territory of the RSFSR.

Article 10. Guarantees of Payments Transfer in Connection with Foreign Investments

Foreign investors, after payment of appropriate tax and levies, shall be guaranteed unhindered transfer abroad of payments connected with their investments, provided these payments are made in foreign currency, and in particular:

investment incomes, including those in the form of profit, a share of profit, dividends, interest, licence remuneration and commission, payments for technical assistance and technical services as well as other rewards;

sums payable on the basis of money-demand rights and requirements for the discharge of contractual obligations of an economic character;

sums received by investors in connection with the liquidation or sale of their investments in full or in part;

compensation provided for in Article 8 of the present Law.

Article 11. Guarantees of the Use of Payments in Soviet Currency on the Territory of the RSFSR

Payments referred to in Article 10 of the present Law and received by foreign investors in Soviet currency from sources on the territory of the RSFSR and other Union republics, may be re-invested on the territory of the RSFSR and used in accordance with the legislation in force in the RSFSR.

To keep their financial resources in Soviet currency foreign investors may keep current accounts in banks on the territory of the RSFSR, which have an appropriate licence from the Central Bank of the RSFSR, without the right to transfer sums from these accounts abroad.

Foreign investors may use ruble resources on such accounts to obtain foreign currency on the domestic market in the manner provided for by the legislation in force on the territory of the RSFSR.

For enterprises with foreign investments, manufacturing import-replacing products of macroeconomic importance a fact which should be confirmed by a conclusion of the RSFSR Ministry of Foreign Economic Relations, the RSFSR Council of Ministers and the Council of Ministers

of the republics within the RSFSR, may respectively at the expense of the RSFSR currency fund and the currency funds of the republics within the RSFSR, by agreement with a foreign investor, convert his profit in Soviet currency into foreign currency at the mutually agreed rate, but not higher than the rate of the State Bank of the USSR applicable to foreign economic transactions.

Chapter 3

ESTABLISHMENT AND LIQUIDATION OF ENTERPRISES WITH FOREIGN INVESTMENTS

Article 12. Organizational and Legal Forms and Types of Enterprises with Foreign Investments

On the territory of the RSFSR enterprises with foreign investments may be set up and operate in the form of joint-stock companies and other business associations and companies as provided for by the legislation of the RSFSR.

The following enterprises may be established and operate on the territory of the RSFSR:

enterprises with a share of foreign investments (joint ventures) as well as their subsidiaries and affiliated branches;

enterprises fully belonging to foreign investors as well as their subsidiaries and affiliated branches;

affiliated branches of foreign juridical persons.

Article 13. Procedure for Setting up Enterprises with Foreign Investments

An enterprise with foreign investments may be set up either by its establishment or as a result of acquisition by a foreign investor of a share (contributions, shares) in a previously founded enterprise without foreign investments, or by acquiring such an enterprise in full.

An enterprise with foreign investments may be set up in the manner provided for by the RSFSR legislation on enterprises and entrepreneurial activity, business associations and companies, with due regard for the addenda laid down by the present Law.

The acquisition by a foreign investor of a share (contributions, shares) in a previously founded enterprise without foreign investments, and the acquisition of such an enterprise in full may be effected in the manner provided for by the RSFSR legislation in force, with due regard for the addenda laid down by the present Law.

Article 14. Examination of Enterprises with Foreign Investments

In setting up enterprises with foreign investments connected with large-scale construction work or modernization, their appropriate preliminary examination is required.

Whenever necessary the establishment of enterprises with foreign investments an appropriate conclusion of sanitary and epidemiological experts and an ecological ex-

amination shall be made. All types of examinations and the issue of permissions shall be effected in the general manner in accordance with the RSFSR legislation in force.

For enterprises with foreign investments, whose ecological influence may affect the territory of more than one republic within the RSFSR, an ecological examination shall be carried out by a joint commission set up on a parity basis by the relevant bodies of interested republics within the RSFSR. Permissions shall be granted by the RSFSR State Committee on Ecology and the Use of Natural Resources on the basis of the conclusion of the joint expert commission.

Article 15. Founding Documents of Enterprises with Foreign Investments

The founding documents of enterprises with foreign investments shall define the subject and purposes of the activity of enterprises, the composition of their participants, the size and order of forming their authorized fund, the size of participants' shares in an enterprise, the structure, composition and competence of the management bodies, the procedure for taking decisions, the list of questions requiring unanimity, the procedure for liquidating enterprises.

Contributions to the authorized fund of an enterprise with foreign investments shall be assessed by agreement between its participants on the basis of world prices. In the absence of such prices the value of contributions shall be determined by agreement between participants. The assessment shall be effected both in Soviet and foreign currency, with the evaluation of the contributions in terms of rubles being made at the rate of the State Bank of the USSR applicable to foreign economic transactions.

Article 16. State Registration of Enterprises with Foreign Investments

State registration of enterprises with foreign investments is effected by the RSFSR Ministry of Finance or any other specially authorized state agency.

Enterprises where the volume of foreign investments exceeds 100 million rubles are registered by the RSFSR Ministry of Finance after permission of the RSFSR Council of Ministers. The RSFSR Council of Ministers is obliged, within two months from the date of application to the RSFSR Ministry of Finance, to grant permission or else motivate its refusal.

State registration of enterprises with foreign investments shall be effected given the following documents:

- 1) for joint ventures:
 - a) a written application of the founders for registering the enterprise to be set up;
 - b) notarized copies of the founding documents in duplicate;
 - c) conclusions of appropriate examinations in cases provided for by the law;
 - d) for Soviet juridical persons — notarized copies of the decision of the owner of property to set up an enterprise, or copies of the decision of the agen...

authorized by him, and also notarized copies of the founding documents for each Soviet juridical person participating in setting up a joint venture;

e) a document on the solvency of the foreign investor, issued by the bank servicing him or by any other financial-credit agency (with a certified Russian translation);

f) extracts from the trade register of the country of origin or from any other equivalent evidence of the foreign investor's legal status in accordance with the legislation of the country of his seat, citizenship or domicile (with a certified Russian translation);

2) for enterprises fully belonging to foreign investors:

a) a written application from a foreign investor for registration;

b) a notarized copy of the founding documents (in duplicate);

c) a document on the solvency of the foreign investor, issued by the bank servicing him or by any other financial-credit agency (with a certified Russian translation);

d) an extract from the trade register of the country of origin for a foreign investor (with a certified Russian translation);

e) a conclusion of appropriate examinations in cases provided by the law;

3) for affiliated branches of enterprises with foreign investments and affiliated branches of foreign juridical persons:

a) an application for registration signed by the head of the enterprise setting up an affiliated branch;

b) a notarized copy of the extract from the decision of a competent body of the enterprise's management to set up an affiliated branch;

c) a notarized copy of the statutes of an affiliated branch (in duplicate);

d) notarized copies of the founding documents of an enterprise setting up an affiliated branch;

e) for a foreign juridical person — an extract from the trade register of the country of origin or from any other equivalent evidence of its legal status in accordance with the legislation of the country of its seat (with a certified Russian translation);

f) a conclusion of appropriate examinations in cases provided for by the law.

All addenda to and changes in the founding documents of already registered enterprises with foreign investments and of affiliated branches, data on their liquidation are subject to state registration.

A notarized copy of the decision of an enterprise's competent body to introduce amendments or addenda into the founding documents shall be submitted by the enterprise with foreign investments to the registry not later than 30 days after their adoption. The amendments and addenda to the founding documents shall come into force only after their registration.

Article 17. Time-Limits for Registering Enterprises with Foreign Investments

The RSFSR Ministry of Finance or any other duly authorized state agency are obliged within 21 days from

the date of an application to register the given enterprise with foreign investments or notify the applicant of the reasons for the refusal to do so.

The registered enterprise with foreign investments shall be given a registration certificate of the established pattern. The enterprise with foreign investments shall acquire the right of a juridical person from the date of registration. The information about the registration shall be reported by the local organ of power where the enterprise is located. The report about registration shall be published in the press.

Article 18. Refusal to Register Enterprises with Foreign Investments

State registration of an enterprise with foreign investments may only be denied in the event of violation of the procedure for setting up such an enterprise as established by the RSFSR legislation in force or the documents submitted for the purpose do not meet the requirements of this procedure. Denial of registration may serve as a basis for a legal appeal.

Article 19. Liquidation of Enterprises with Foreign Investments

Enterprises with foreign investments will go into liquidation in cases and in the manner envisaged by the RSFSR legislation in force for the relevant organizational and legal forms of enterprises.

In the absence, one year after an enterprise with foreign investments is registered, of documented confirmation of the fact that each of the participants in the enterprise have contributed at least 50% of the sums indicated in its founding documents to its authorized fund, the agency which has registered the given enterprise shall recognize it as unestablished and shall decide to liquidate it. Information about any such action shall be published in the press.

Registration of the fact of liquidating an enterprise with foreign investments shall be effected by the agency which has registered it according to a notification from the winding-up commission and the liquidation balance confirmed by an auditing organization. Information about the liquidation of an enterprise shall be published in the press.

Chapter 4

TYPES AND TERMS OF ACTIVITY OF ENTERPRISES WITH FOREIGN INVESTMENTS

Article 20. Types of Activity

An enterprise with foreign investments may carry out any type of activity which serves the purposes envisaged in its charter, except for those prohibited by the RSFSR legislation in force.

To carry out insurance activity and also intermediary activity connected with the movement of securities an enterprise with foreign investments should obtain a licence

from the RSFSR Ministry of Finance. For banking activity a licence is needed from the RSFSR Central Bank. The RSFSR Council of Ministers may determine other types of activity for enterprises with foreign investments that may be carried out only on the basis of a special permission (licence).

Article 21. Subsidiaries, Affiliated Branches and Offices of Enterprises with Foreign Investments

An enterprise with foreign investments may set up subsidiaries with the rights of a juridical person as well as affiliated branches and offices on the territory of the RSFSR and outside it, including those in other countries, with observance of the terms laid down by the RSFSR legislation in force, the legislation of Union republics and the relevant legislation of foreign states.

Affiliated branches and offices of enterprises with foreign investments shall function on the basis of their statutes approved by the relevant enterprise with foreign investments. They shall have the right to open accounts in banking institutions of the RSFSR.

Article 22. Terms of Realization of Goods, Work and Services on the Market of the RSFSR

An enterprise with foreign investments may on a contractual basis define the terms of realization of its products (work, services) on the market of the RSFSR, including the price for them, and also the terms of delivery of goods and provision of services from this market. Payment by an enterprise with foreign investments for the supply of goods and services from the market of the RSFSR, including payment for the use of living accommodation and uninhabitable premises on the territory of the RSFSR, shall be made in Soviet currency.

Article 23. Associations and Unions of Enterprises with Foreign Investments

Enterprises with foreign investments may on a voluntary basis unite in unions, associations, concerns, intersectoral regional and other amalgamations on terms not contradicting the antimonopoly legislation in force on the territory of the RSFSR, and in the manner envisaged by RSFSR legislative acts.

Within the framework of such amalgamations enterprises with foreign investments may secure their currency self-recoupment.

Article 24. Customs Taxation

Property imported into the RSFSR as foreign investors' contribution to the authorized fund of enterprises with foreign investments, within the time-limits fixed by the founding documents for their formation, and also property intended for an enterprise's own material production, shall

be exempted from customs duties and shall not be subject to the import tax.

Property imported into the RSFSR by foreign workers of enterprises with foreign investments for their own needs shall be exempted from customs duties.

Article 25. Export and Import of Goods and Services

Enterprises fully belonging to foreign investors as well as joint ventures in whose authorized fund foreign investments account for over 30% have the right to export without licences products of their own make and import products for their own needs, except for the cases envisaged in the international agreements effective on the territory of the RSFSR. The procedure for determining export products of one's own make and products imported by enterprises for their own needs shall be established by the RSFSR Council of Ministers on the basis of the rules of goods' origin corresponding to world practice.

Currency earnings of the above-said enterprises from the export of their own products shall remain fully at their disposal. The export and import of other products (services) shall be made by all enterprises with foreign investments on general principles.

Article 26. Currency Self-Recoupment

All currency expenditures connected with the performance by enterprises with foreign investments of different types of business activity on the territory of the RSFSR, including the transfer of a share of a foreign investor's profit abroad, shall be covered from their own currency earnings from that particular activity and also from other foreign currency sources permitted by legislative acts. Transactions in foreign currency shall be effected by enterprises with foreign investments in the manner laid down by the RSFSR legislation in force.

Article 27. Property and Risk Insurance

Property and risk insurance of an enterprise with foreign investments shall be effected at its discretion, unless otherwise is envisaged by the RSFSR legislation in force.

Article 28. Taxation

Enterprises with foreign investments and foreign investors shall pay taxes fixed by the RSFSR legislation in force.

A preferential taxation order may be established for enterprises with foreign investments operating in priority sectors of the economy and in certain regions.

Article 29. Checking for Purposes of Taxation

Checking for taxation purposes of the financial and commercial activity of enterprises with foreign investments shall be effected by auditing organizations of the RSFSR.

Article 30. Book-keeping and Accounting

Book-keeping and accounting at enterprises with foreign investments on the territory of the RSFSR shall be conducted according to RSFSR regulations or, if a foreign investor so desires, by the regulations of the country of his origin.

For the financial balance and accountancy purposes an enterprise with foreign investments shall evaluate foreign currency in terms of rubles at the rate applicable by the State Bank of the USSR for foreign economic transactions.

Article 31. Security of Obligations

The property of an enterprise with foreign investments may be used by it as a security for all types of obligations, including attraction of borrowed resources. Its property rights to buildings, structures, equipment as well as other property rights may serve as a security for obligations.

Mortgaged property or property rights may be sold by the mortgagee for Soviet currency or foreign currency at agreed prices, as well as sold at auctions to juridical persons and citizens of the RSFSR, and in the cases envisaged by legislative acts in force in the RSFSR — also to foreign juridical and physical persons and their associations.

Article 32. Rights to Intellectual Property

Rights to the intellectual property of enterprises with foreign investments are protected and exercised in accordance with the RSFSR legislation in force.

Enterprises with foreign investments shall sign with their workers an agreement concerning the rights to objects of intellectual property, created in accordance with assignments confirmed by an enterprise's documents.

A patent for an invention, an industrial sample and a trade mark shall be granted to the enterprise on signing an appropriate agreement between the worker and the enterprise. This agreement along with the cession by the worker to the enterprise of the right to the patent shall determine the enterprise's reciprocal obligations to assure conditions of a material, production and social nature with respect to the worker. If such an agreement between a worker and an enterprise with foreign investments has not been signed, then the patent shall be granted to the author of the invention, industrial sample or trade mark. The enterprise shall have the right to use this invention, industrial sample or trade mark on terms laid down in the agreement with the author — the patent holder.

An enterprise with foreign investments independently takes decisions on patenting abroad the inventions and industrial samples belonging to it.

Article 33. Labour Relations

Labour relations, including questions of hire and dismissal, conditions of work and rest, terms of payment for

labour, guarantees and compensations at an enterprise with foreign investments shall be regulated by a collective agreement and individual labour agreements (contracts).

The provisions of a collective agreement and individual labour contracts may not worsen the condition of workers of enterprises as compared with the conditions envisaged by the RSFSR legislation in force.

The staff of white- and blue-collar workers and managerial bodies of enterprises with foreign investments may include foreign nationals. The conditions of hire, work and rest and of the provision of pensions for foreign workers shall be agreed in an individual labour contract with each of them. Wages received by foreign workers in foreign currency may after payment of tax be transferred by them abroad.

The activity of trade unions at enterprises with foreign investments shall be conducted on the basis of the RSFSR legislation in force.

Article 34. Social Insurance and Security for Workers at Enterprises with Foreign Investments

Social insurance of workers at enterprises with foreign investments and their social security (except the provision of pensions for foreign workers) shall be governed by norms of the RSFSR legislation in force.

Payments for the provision of pensions for the foreign workers of an enterprise with foreign investments shall be transferred to the relevant funds of the countries of their domicile in the currency and on the terms of the countries.

Enterprises with foreign investments shall make deductions for the state social insurance of Soviet and foreign workers and deductions for the provision of pensions for Soviet workers at the rates fixed for enterprises and organizations of the RSFSR.

Chapter 5

ACQUISITION BY FOREIGN INVESTORS OF STOCKHOLDINGS IN ENTERPRISES, SHARES AND OTHER SECURITIES

Article 35. Acquisition by Foreign Investors of Stockholdings, Contributions, Shares and Other Securities of Enterprises

Foreign investors have the right to acquire stockholdings, contributions, shares and other securities of enterprises sited on the territory of the RSFSR. Stockholdings (contributions, shares) in enterprises may be obtained by foreign investors for Soviet currency received as income from sources within the territory of the RSFSR and of the Union republics, and also for foreign currency. In the latter case evaluation of foreign currency in terms of rubles may be effected at the rate of the State Bank of the USSR applicable for foreign economic transactions.

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ACQUISITION BY FOREIGN INVESTORS AND ENTERPRISES WITH FOREIGN INVESTMENTS OF THE RIGHT TO USE LAND AND OTHER PROPERTY RIGHTS

Article 38. The Right to Use Land and Other Natural Resources

The granting to foreign investors and enterprises with foreign investments of the right to use land, including its lease, and other natural resources is governed by the RSFSR Land Code and other legislative acts in force on the territory of the RSFSR.

Article 39. Lease of Property

The granting of property on lease to foreign investors and enterprises with foreign investments shall be effected by lessors under a lease in conformity with the legislation in force on the territory of the RSFSR.

The lease of property in the federal possession of the RSFSR to the value of more than 100 million rubles shall be effected with the permission of a state agency entitled to manage this property.

Article 40. Concessive Agreements

The granting to foreign investors of the right to develop renewable and nonrenewable natural resources and carry out business activity connected with the use of projects in the possession of the state but not handed over to enterprises, institutions or organizations for their full economic use or operational management, shall be effected on the basis of concessive agreements to be signed with foreign investors by the RSFSR Council of Ministers or any other specially authorized state agency in the manner laid down by the RSFSR legislation on concessions.

The validity of a concessive agreement shall depend on the nature and terms of the concession, but may not be more than 50 years.

A unilateral alteration of the terms of a concessive agreement shall not be allowed, unless otherwise envisaged in the agreement.

Concessive agreements may contain exemptions from the legislation in force on the territory of the RSFSR. In this case they shall be subject to approval by the Supreme Soviet of the RSFSR.

Chapter 7

FOREIGN INVESTMENTS IN FREE ECONOMIC ZONES

Article 41. Free Economic Zones

With a view to attracting foreign capital, advanced foreign machinery, technologies and managerial experience, and developing the export potential of the

Foreign investors shall not have a right to use Soviet currency purchased at the rate below than that applied by the State Bank of the USSR in respect of foreign economic transactions to purchase stockholdings, its contributions, shares and other securities.

If stockholdings (contributions, shares) in an enterprise have been paid for by a foreign investor for foreign currency, then the particular enterprise shall be considered as an enterprise with foreign investments.

In the event of payment in Soviet currency, an enterprise shall be considered an enterprise with foreign investments if the foreign investor owns over 50% of the stockholdings (contributions, shares). In this case the references provided for in Article 25 of the present Law shall apply to the given enterprise.

Acquisition by foreign investors of stockholdings, contributions, shares and other securities shall be subject to registration with the RSFSR Ministry of Finance or other duly authorized state agencies.

Acquisition by foreign investors of shares and other securities on stock exchanges shall be governed by the RSFSR legislative acts on stock exchanges and exchange business.

Article 35. Acquisition by Foreign Investors of State Securities

Acquisition by foreign investors of state securities may take place with the permission of the RSFSR Ministry of Finance or central financial agencies of republics within the RSFSR.

Article 37. Participation of Foreign Investors in Privatization

Foreign investors may participate in privatizing state and municipal enterprises and capital projects in progress on the territory of the RSFSR. The terms of their participation in competitions and auctions connected with the privatization of state and municipal enterprises are defined by the RSFSR legislation in force.

The cost of the acquired enterprises or stockholdings (contributions, shares) shall be paid in Soviet currency.

Foreign investors may for privatization purposes use funds in Soviet currency on their accounts, which have been received as an income from sources located on the territory of the RSFSR and other Union republics.

Foreign investors shall not have a right to use for privatization purposes Soviet currency purchased at the rate below that applied by the State Bank of the USSR for foreign economic transactions.

Foreign investors may exchange foreign currency resources at their disposal for Soviet currency at the rate used by the State Bank of the USSR for foreign economic transactions and place them in special accounts with the Central Bank of the RSFSR and other specially authorized banks. Resources from the above-said accounts may be spent exclusively on privatization purposes. Foreign investors shall have the right to reconvert the remaining sums in these accounts into foreign currency.

RSFSR, free economic zones shall be set up on its territory. In the said areas preferential conditions, as compared with common treatment, shall be established for the business activity of foreign investors and enterprises with foreign investments.

Article 42. Conditions for the Business Activity of Foreign Investors and Enterprises with Foreign Investments in Free Economic Zones

Foreign investors and enterprises with foreign investments engaged in business activity in free economic zones may, besides the rights and guarantees envisaged by the legislation in force on the territory of the RSFSR, be granted additional privileges:

a simplified manner for registering enterprises with foreign investments; enterprises with a volume of foreign investments up to 75 million rubles shall be subject to registration with specially authorized agencies directly in free economic zones;

preferential taxation conditions: foreign investors and enterprises with foreign investments shall be subject to

taxation at reduced tax rates, including the tax on profits transferable abroad. These tax rates may not be less than 50% of the tax rates in force on the territory of the RSFSR for foreign investors and enterprises with foreign investments;

reduced rates for the use of land and other natural resources; granting of the right to long-term lease for a period of up to 70 years with the right of sublease;

special customs conditions, including reduced customs duties on the import and export of goods; a simplified procedure for crossing the state border;

a simplified procedure for the entry and exit of foreigners and foreigners, including visa-free trips.

The types and volumes of privileges on the territory of free economic zones shall be established by the RSFSR Council of Ministers and approved by the Supreme Soviet of the RSFSR.

Boris Yeltsin

Chairman of the Supreme Soviet of the RSFSR

Moscow, the House of Soviets of the RSFSR

July 4, 1990

TRADE and INVESTMENT POTENTIAL
IN THE COMMONWEALTH OF INDEPENDENT STATES
AS PERTAINING TO THE GRAIN ISSUE

Trade with Russia, Ukraine and other republics of the Commonwealth of Independent States (CIS) has generally developed in several directions. The republics mostly sell raw materials and natural resources like oil, gas, coal, ferrous and nonferrous metals, etc. The revenues from these sales are, for the most part, directed toward providing the people with the bare essentials: foodstuffs, medication, consumer goods. The remainder of these moneys is used to obtain the necessary technologies and equipment (usually for the same essential industries) and to cover debts.

Currently many European and several American companies working with the CIS trade for roubles. These are mostly companies that are involved in joint ventures or have their own enterprises on the territory of the CIS. The roubles are utilized to cover a variety of expenses, such as the purchase of raw materials, local employee salaries, utilities, taxes, etc. Roubles are obtained through either exchange transactions for hard currency (usually dollars) or through payments for sales of products.

On the other hand, companies selling products to the CIS and expecting payment in hard currency can follow a more indirect (and more feasible) route to obtaining that hard currency rather than just a direct payment. The present improvement of conversion (exchange) of roubles within the CIS allows companies to sell their products for roubles and subsequently convert (exchange) these roubles into hard currency. In such a scheme American companies must be extremely careful and attentive to the currency/rouble market as the rates constantly, and sometimes severely, fluctuate.

With the increase in the purchase price of grain, farmers have the opportunity to purchase new agricultural technologies and storage equipment. There are two most feasible ways in which this is accomplished:

1. The farmers purchase equipment from American companies for roubles. The companies subsequently convert the roubles into dollars. (When doing this companies must be very familiar with the taxation and duty system and its regulations in the various republics and regions of the CIS.)
2. Purchase can be made for grain, i.e. the price of technology and/or equipment must be established as to tonnage of grain (in accordance with the world market grain prices).

The scenario is as follows: The farmer brings his grain to the state elevator and receives for it appropriate equipment, i.e. pays the American company in grain. The grain is placed in the state bins in accordance with an established register (grain-to-equipment exchange plan). At this point the grain is the property of the American company selling the equipment (according to the register). As soon as the grain is placed into storage, specialized agencies of the republic government purchase this grain from the American company for hard currency in accordance with predetermined rates. Today it is the republic governmental agency, rather than a national agency, that handles these transactions. In essence, the American company sells its equipment for hard currency to the republic and the farmer exchanges his grain for equipment with the republic. All ends are met.

The above structure has very serious advantages in the search of immediate development of the CIS economy.

1. The farmer has great incentive to do this for a number of reasons. First, he is in great need of this equipment since it will bring him higher productivity and immediate greater profit. Second, he obtains this equipment through a very simple structure of bringing his grain to the state and obtaining for it modern highly productive equipment. The structure is simple because the farmer does not have deal with the various bureaucratic processes such as opening hard currency accounts in banks, registering with foreign trade organizations, obtaining a series of licenses and permits, learning the rules and regulations for international trade, signing contracts with possible liabilities, etc. The result is, that the producing capacity of the agricultural industry greatly increases.
2. The government receives grain for its state reserves. This is a great accomplishment, since state elevators have been empty due to the lack of incentive from farmers (in light of the privatization of farming) to give up their grain to the government. This has been as extreme as farmers actually destroying their access grain instead of providing it to the state. But, with the stated structure, the grain is saved, not only from destruction, but also from rotting as newer more efficient technology comes into use. The grain stays within the country. The government no longer must purchase foreign grain, expenses for which include not only the actual cost of grain, but also delivery, licensing, temporary storage, additional specialized personnel, customs, transportation of the grain from port to storage, etc. Today the purchase of grain takes

\$10 - \$12 million a day. Enormous resources can be saved and directed toward the purchase of new technology, equipment and consumer goods, all resulting in an improved economy and an improved life for the population.

Investment into the CIS must be very thoroughly thought out, down to the minutest detail. The better investment into the agricultural industry is into joint ventures to produce equipment for grain storage, elevators, drying, cleaning, and laboratory equipment for the storage and processing of grain and seed. The decision to form a joint venture may be made only with the provision of a reliable partner from the CIS side.

Investment is preferable in the form of technology and equipment. Equipment should only be that, which is absolutely necessary and cannot be substituted by local equipment. The proper CIS partner, in turn invests the real estate, buildings, structures, qualified personnel, utilities, general plant equipment. The partner must also be in possession of a considerable amount of roubles necessary to begin operations. The joint venture must be conceived with a business plan and feasibility study which will encompass all economic, financial and contractual matters.

Joint venture projects are currently being facilitated by governmental decrees. Such decrees give the joint venture permission for the international sale of natural resources such as oil for hard currency to help fund the project.

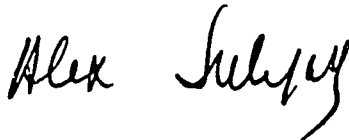
Pricing of the manufactured product must be carefully and correctly determined. There are a number of considerations in this matter. For example, there may be certain parts to the finished equipment that must be supplied from foreign sources and purchased for hard currency. Prices of the final product should reflect this. Also, if the final product is to be sold for roubles, the fluctuating rouble exchange in relation to hard currency should be reflected and pricing perhaps made flexible to compensate for it.

It is advisable to have the help of a U.S. international marketing firm to guide the company and handle all the necessary work to successfully create the joint venture. One of the difficulties in operating and organizing a joint venture are the constantly changing governmental laws and guidelines. Communication is a vital matter. It is absolutely essential that there are no misunderstandings between the parties involved during negotiations and compilation and signing of documents. The American company

must be absolutely certain, that the information it receives through an interpreter is complete and accurate and that documents are translated correctly. A reliable partner that will work for the American side and have all the right interests in mind is imperative - a marketing firm is such a partner.

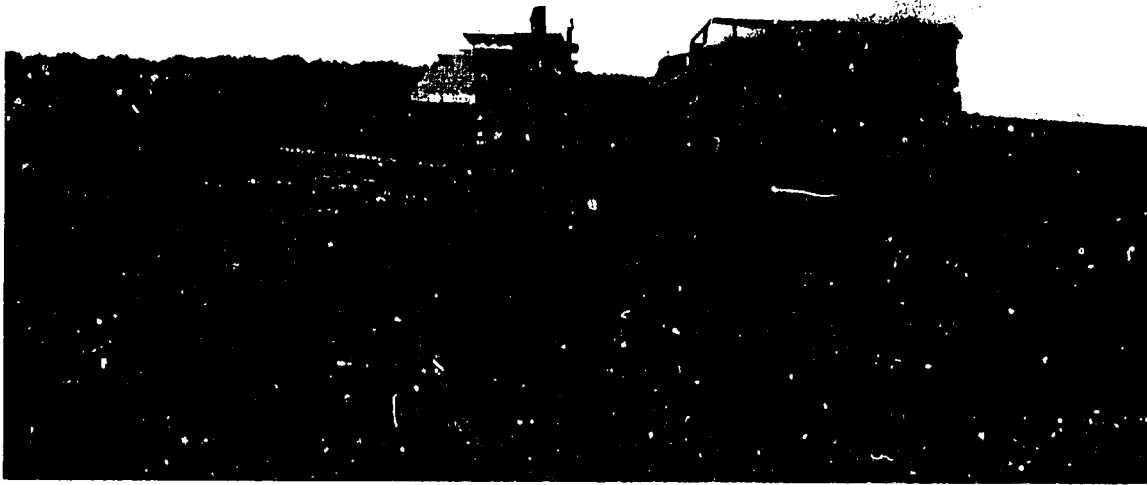
Today the CIS is the largest, yet still raw, international market in the world and the U.S. businessman must take part in taming it. An improved economy and a better life for the populace are the absolutely essential conditions for the preservation of a democratic structure within the CIS. Today companies all over the world are racing to establish business contacts in the CIS. The American businessman should lead this movement. It is a very specific, difficult, complicated, risky, uncharted, and yet potentially booming and necessary business. It is, likewise, imperative to sustain peace on earth.

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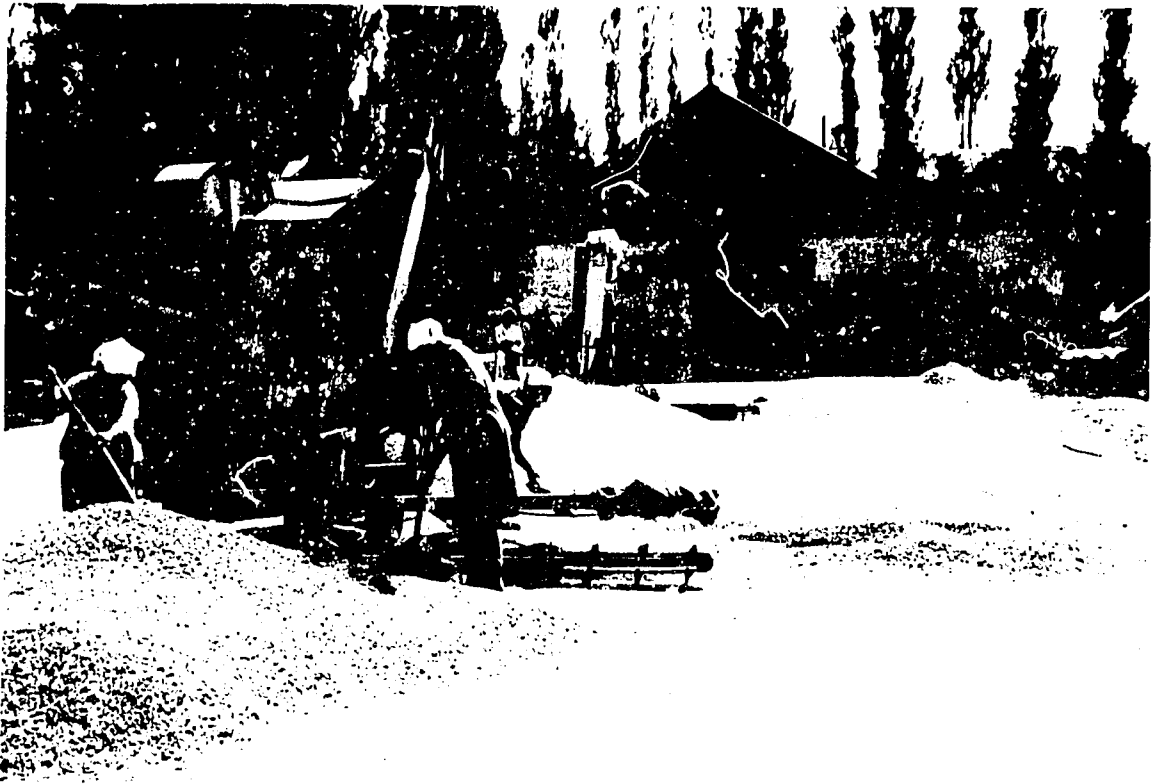
APPENDIX III
HARVESTING, HANDLING, AND STORAGE PHOTOGRAPHS



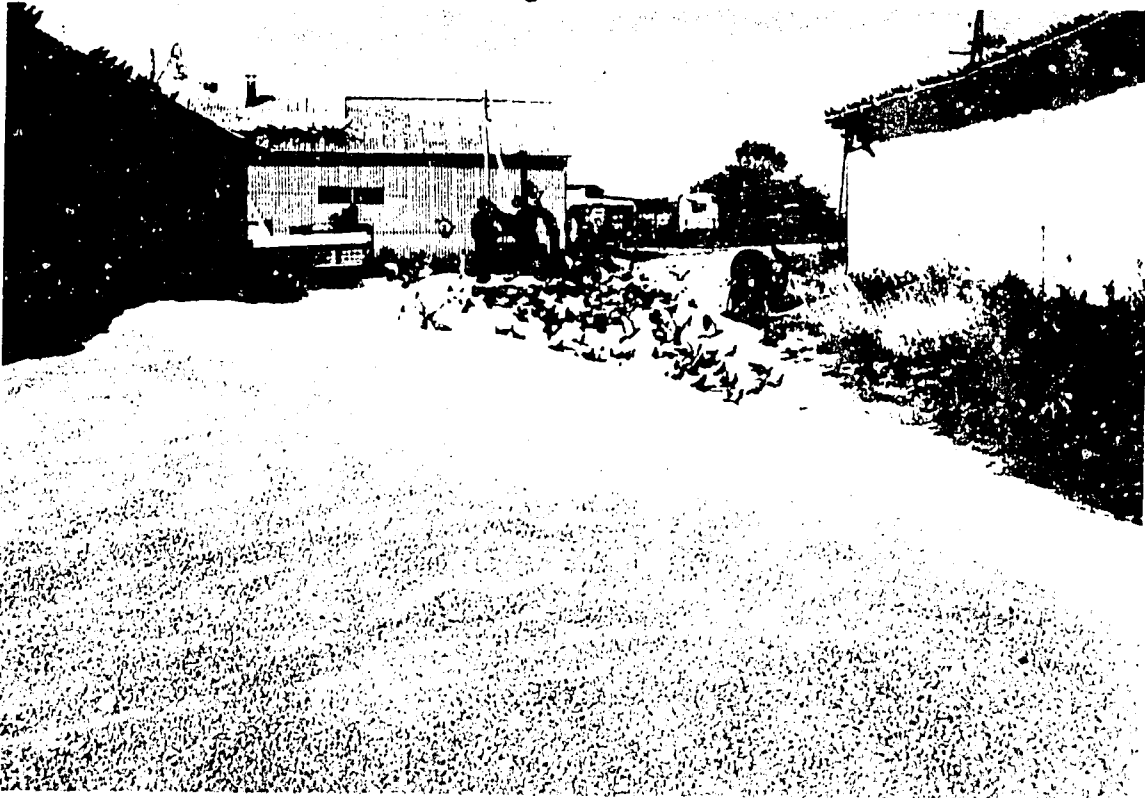
Wheat Harvesting Operation



Pile of Wheat After "Pre-Cleaning"



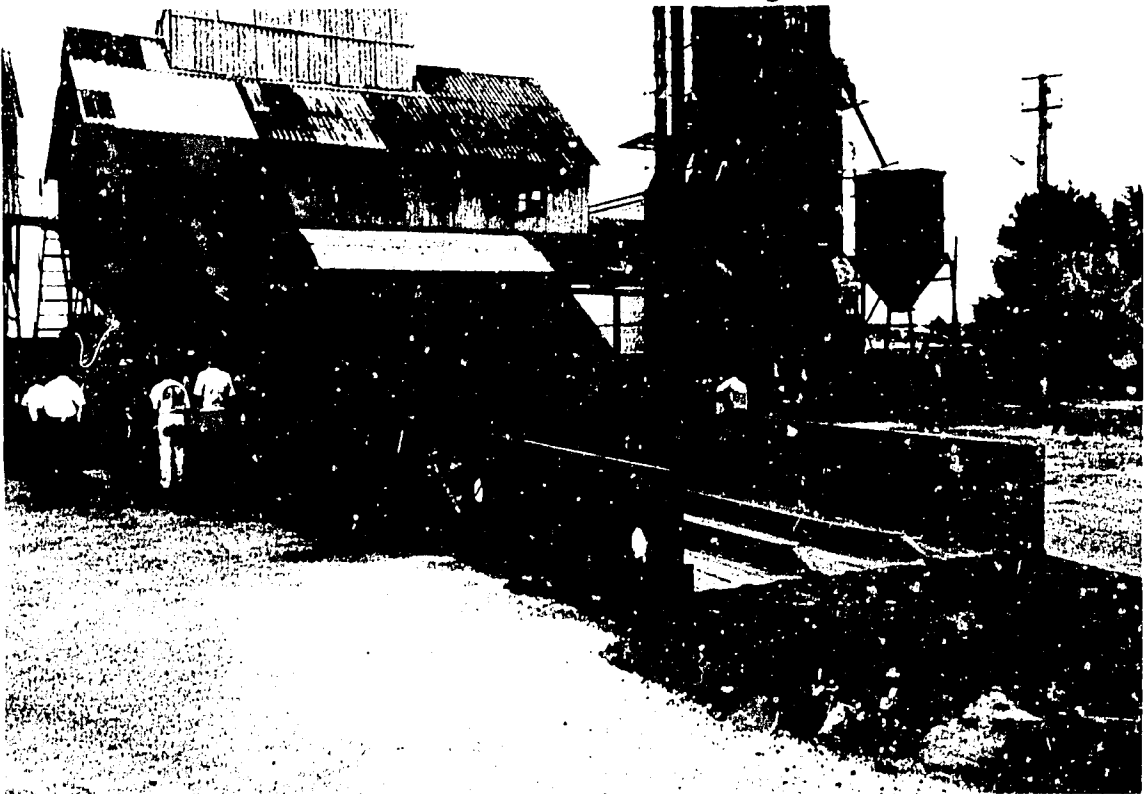
"Pre-Cleaning" of Peas on a "Tok"



Wheat Piled on a "Tok"



Truck Dump Platform at Cleaning House

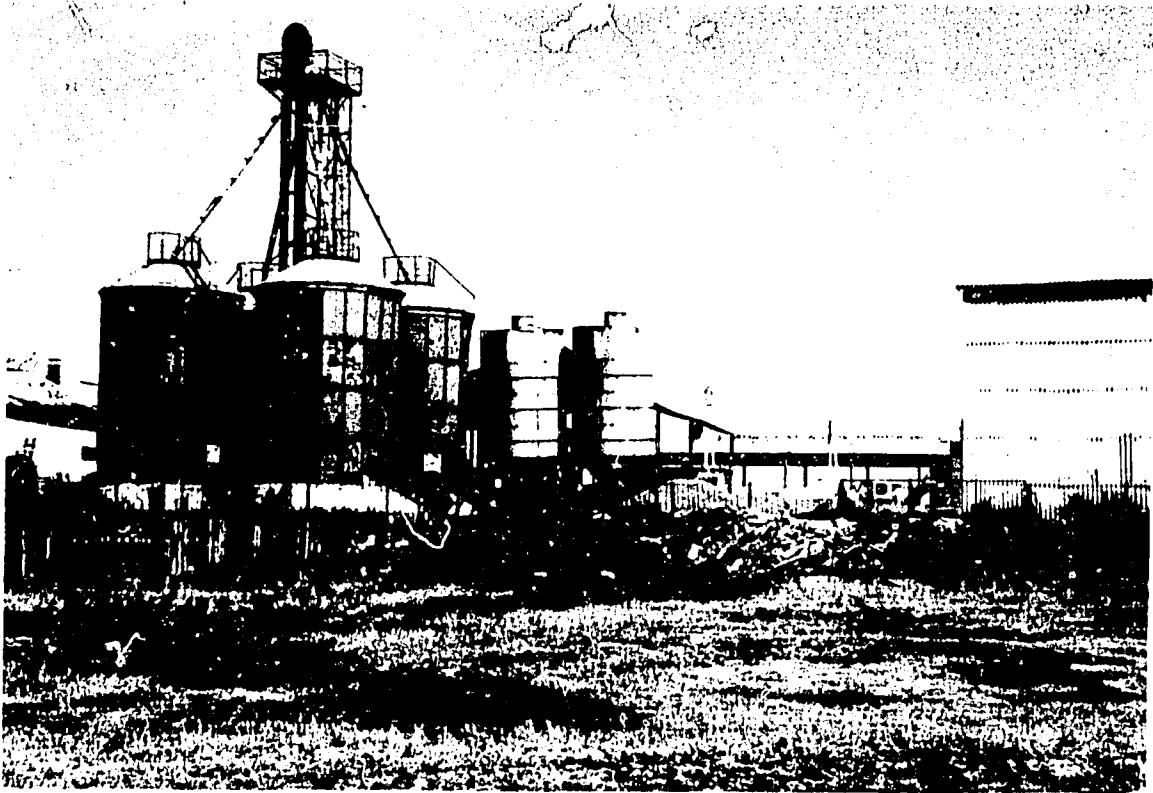


System for Receiving, Shelling, and Drying Corn

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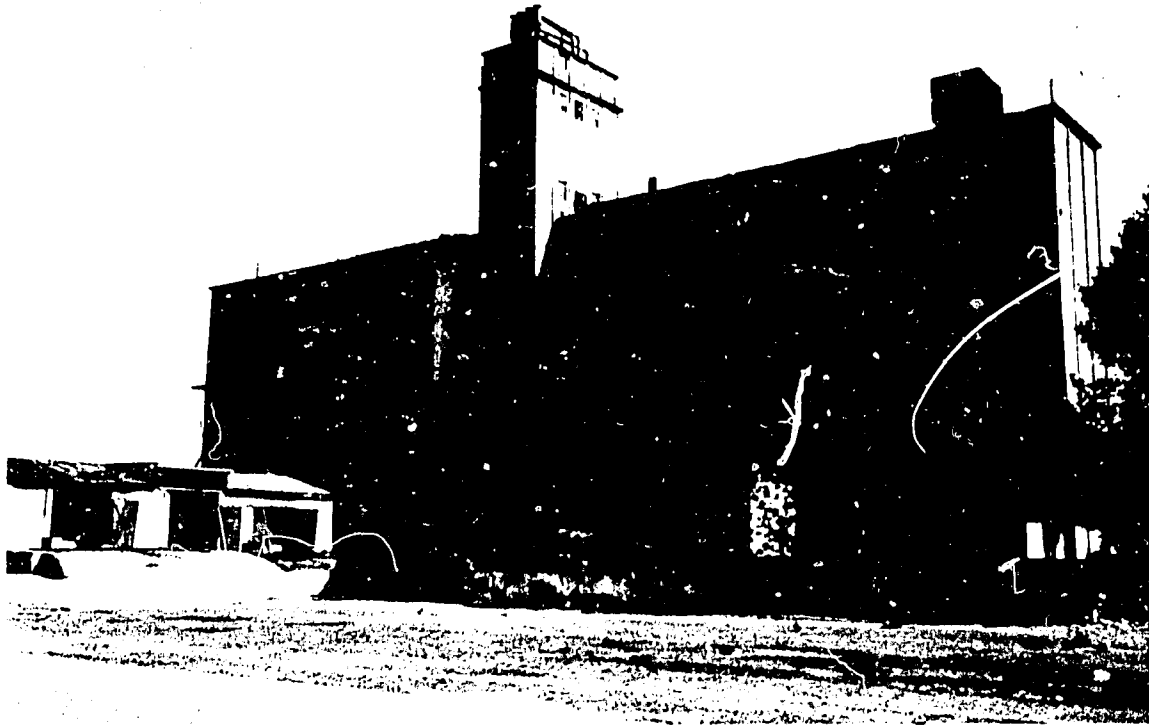
Flat Storage As Seen On Collective and State Farms



Metal Bin Storage System



State Elevator, Pre-Cast Construction



Monolithic-Type Construction Built in the 1950s



Condition of Above Elevator

APPENDIX IV

THE QUESTION OF GRAIN LOSSES

As stated in the body of the report, overall loss rates were originally given to the team as 20% to 40% of production. Further, the World Bank quotes "Russian Experts" estimate of grain losses at 25% to 30%. These loss rates were continually repeated to the team throughout the trip. Based on limited actual observation, these loss rates could not be verified.

Given the data available from USDA, there is a conflict in numbers provided and statements given to the team. Production and supply data from USDA sources, given on the following page, indicates a range of loss (or disappearance) from 8% to 17% of production.

Three important facts must be considered in evaluating this data. First, at best, there is probably a wide range of error in the data collected by USDA from various sources. Even if the error range is 25%, this places losses still within the range of 11% to 22%, not the 20% to 40% continually talked about.

Second, the seed use estimate closely corresponds to a range of 12% of production which is similar to the findings of the KSU grain storage team.

Finally, if one evaluates the calculated loss for total grains in 1000 mt and compares that result to imports of total grains, the amount of calculated loss is quite close to the amounts imported. However, when the calculated loss of wheat in 1000 mt is compared to import levels, it is similar in only two of the five years presented.

The only conclusion that can be drawn is that quantity losses (or disappearance) of grain is substantially high, but not the 20% to 40% range stated to the team. However, a reduction in losses would reduce dramatically the level of imports required.

It is important to note that no consideration by anyone has been given to quality loss. This may prove to be as an important aspect in improving grain storage and conditioning systems as the quantity loss factor. Reduction in quality may direct more wheat and other food grains into domestic feed use rather than domestic food use. This again may have important consequences in import levels of wheat and the high grain to livestock products conversion ratios.

There are many inconsistencies in statements and numbers on grain losses which cannot be resolved by this investigative team. Neither does the team agree among itself on the level of grain losses.

FORMER USSR GRAIN PRODUCTION AND SUPPLY
 USDA DATA BY MARKETING YEAR
 1,000 MT

Market Year	Production	Beginning + Stocks	+ Import	Total = Supply	- Export	Domestic Food - Use	Domestic Food - Use	Ending + Stocks	- Balance	Seed - Use	Industrial - Use	- Loss	Loss as % of Production	Loss as % of Supply
						Total	Gain							
1987/88	207,307	35,400	32,998	275,705	666	124,965	48,362	39,265	62,447	25,000	5,000	32,447	15.7	11.8
1988/89	191,791	39,265	38,500	269,556	650	126,813	50,535	37,765	53,793	25,000	5,000	23,793	12.4	8.8
1989/90	207,309	37,765	38,500	283,574	650	130,715	50,367	41,765	60,077	25,000	5,000	30,077	14.5	10.6
1990/91	234,900	41,765	26,600	303,265	650	136,000	49,509	45,765	71,341	25,000	5,000	41,341	17.6	13.6
1991/92	164,700	45,765	39,800	250,265	700	118,900	48,563	38,265	43,837	25,000	5,000	13,837	8.4	5.5
						Wheat								
1987/88	85,312	24,200	21,500	129,012	500	40,500	36,000	27,012	25,000	11,000	1,000	13,000	15.6	10.1
1988/89	84,445	27,012	15,500	126,957	500	51,445	37,000	26,012	22,000	11,000	1,000	10,000	11.8	7.9
1989/90	92,307	26,012	14,600	132,919	500	41,407	37,000	29,012	25,000	11,000	1,000	13,000	14.1	9.8
1990/91	108,000	29,012	14,800	151,812	500	53,300	37,000	32,012	29,000	11,000	1,000	17,000	15.7	11.2
1991/92	78,000	32,012	23,000	133,012	500	49,500	24,500	26,512	22,000	11,000	1,000	10,000	12.8	7.5

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APPENDIX V

PRICE COMPARISONS

	Russian Federation		Futures (3)	United States of America		Estimated CIF (6)
	Rubles per mt (1)	US\$ mt (2)		Cash (4)	Port (5)	
Hard wheat						
Grade I	24,000	133.33		131.87(7)	131.87(8)	
Grade II	20,000	111.11	109.92(9)	116.81(10)	126.00(11)	145.50
Grade III	17,000	94.44				
No grade	12,000	66.67				
Soft wheat						
Grade I(23)	20,000	111.11				
Grade I	17,000	94.44				
Grade II	15,000	83.33	112.61(12)	108.36(13)	117.91(14)	
Grade III	12,000	66.67				
Grade IV (24)	10,000	55.56				
Grade IV (25)	8,000	44.44				
For special diet	25,000	138.89				
Rye	8,000	44.44		93.67(15)		
Millet						
Higher grades	16,000	88.89				
Standards	11,000	61.11				
Buckwheat						
Higher grades	26,000	144.44				
Standard	22,000	122.22				
For special diet	33,000	183.33				
Rice-grain(26)						
Long-grain types	30,000	166.67		330.60(16)	363.66(17)	
Higher grade types	25,000	138.89		319.58(18)		
Standard grade	19,000	105.56				
For special diet	27,000	150.00				
Barley						
Beer grades	15,000	83.33		82.65(19)		
Higher grade types	10,000	55.56		75.30(20)	93.67(21)	
Standard grade	8,000	44.44				
Oats						
Higher grade types	13,000	72.22				
High grade	10,000	55.56		106.76(22)		
Standard grade	8,000	44.44				
For special diet	20,000	111.11				
Green peas						
Higher grade types	20,000	111.11				
Standard grade	16,000	88.89				
Peas for food (27)	14,000	77.78				

- (1) Purchase prices for 1992 grain supplied to the state reserve as of August 11, 1992, per Resolution of the Government of the Russian Federation #570.
- (2) At exchange rate of Rubles 180 to U.S. \$1.00, bank rate for week of August 11.
- (3) Based on futures close price August 11, 1992.
- (4) Selected cash market prices August 11 or 12, 1992.
- (5) Selected port elevator prices August 11 or 12, 1992.
- (6) Estimated CIF price based on FOB port price plus insurance and freight quotes.
- (7) Dark Northern Spring wheat, 14% protein, Minneapolis.
- (8) Dark Northern Spring wheat, 14% protein, Duluth.
- (9) Hard Red Winter wheat, U.S.D.A. No. 2, September Futures, KCBOT.
- (10) Hard Red Winter wheat, U.S.D.A. No. 2, Kansas City terminal.
- (11) Hard Red Winter wheat, U.S.D.A. No. 2, Port of Houston.
- (12) Soft Spring wheat, U.S.D.A. No. 2, September Futures, CBOT.
- (13) Soft Spring wheat, U.S.D.A. No. 2, Kansas City terminal.
- (14) Soft Spring wheat, U.S.D.A. No. 2, Port of Houston.
- (15) Minneapolis.
- (16) Milled rice, long-grain, Louisiana.
- (17) Milled rice, long-grain, Port of Houston.
- (18) Milled rice, medium-grain, Louisiana.
- (19) Malting barley, Minneapolis.
- (20) Feed barley, Duluth.
- (21) Feed barley, Portland.
- (22) U.S.D.A. No. 2, Toledo.
- (23) With gluten content of 40% or more.
- (24) With gluten content of 18% to 23%.
- (25) With gluten content of less than 18%.
- (26) Terminology unknown, assumed milled rice since the term grain used.
- (27) Various types and color mixtures.

APPENDIX VI

DETAIL OF DESCRIPTION AND RECOMMENDATIONS²

1. Introduce technically sound storage and handling systems which are applicable to each specific target group in terms of technology, culture, and understanding. Introduce such technology through the application of a combination of hardware, technical assistance, and training.
 - A. A demonstration project (one or more) for private-sector farmer cooperatives and joint-stock company (JSC) farms.
 - (1) Suggested hardware needs: galvanized, corrugated steel bin unit with the following minimum equipment.
 - a. Two 1000-ton bins with maintenance aeration;
 - b. Four 250-ton bins with different types of wet grain holding aeration;
 - c. Above six bins to be equipped with temperature monitoring equipment;
 - d. One-bin system with six 50-ton product segregation bins (to be used for blending);
 - e. One overhead load-out bin system with two 50-ton load-out bins;
 - f. A grain drying system consisting of a grain dryer, a 100-ton wet grain bin, and a 100-ton dry grain bin;
 - g. Necessary bucket elevators and conveyors to tie the system together. Conveyors should include chain drag, screw, and belt types for demonstration;
 - h. Platform truck scales and scale house; and
 - i. Grain testing equipment consisting of moisture tester, density scales, and sieves.
 - B. A demonstration project for individual private farmers or a small group of individual farmers. This would be considered on-farm storage.
 - (1) Suggested hardware needs:
 - a. One 100-ton bin with crop dryer equipment;

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Prepared by Roe Borsdorf and Roger Wolfe.

- b. One 100-ton bin with maintenance aeration;
- c. Complete package of sidewall panels, waterproof conveying, and aeration equipment, making up a temporary tarp-covered unit; and
- d. Portable grain auger - handling capacity 50 to 75 tons per hour.

It is important that all equipment used be simple and basic in nature. It would serve no purpose to install a state-of-the-art, centrally controlled integrated system. This would be extremely difficult to maintain and costly to install. Also, a complex structure would impede the ability to teach the basic elements of grain storage and drying.

(2) Technical assistance objectives:

- a. Demonstrate new and appropriate (to CIS) technology and its relationship to grain quality preservation;
- b. Demonstrate the correct use of such equipment in handling and storing grain;
- c. Demonstrate how the configuration of a storage and handling unit reduces time and grain waste; and
- d. Demonstrate required maintenance procedures.

(3) Training objectives:

- a. Technology use (what is available and how to set up configurations that work);
- b. How the handling, conditioning, and storage complex work;
- c. Why and when the use of such a facility is important;
- d. Maintenance procedures;
- e. Principles of aeration; and
- f. Principles of drying.

C. A demonstration project (one or more) consisting of a reconfigured and physically improved existing flat storage unit with appropriate handling equipment and aeration and drying systems.

(1) Suggested hardware needs:

- a. Aeration ducts and fans;

- b. Temperature monitoring equipment;
- c. Portable grain augers for loading and unloading buildings; and
- d. Materials for enclosing buildings to make rodent- and bird-proof.

(2) Technical assistance objectives:

- a. Demonstrate rehabilitation techniques;
- b. Demonstrate the reconfiguration of the storage unit and allied equipment;
- c. Demonstrate how the configuration of a storage and handling unit reduces time and grain waste;
- d. Demonstrate how the combination of old facilities and new handling and conditioning equipment can work;
- e. Demonstrate how the use of precleaning is not required; and
- f. Demonstrate maintenance procedures.

(3) Training objectives:

- a. Technology use (combining modern equipment with old storage units);
- b. How the handling, conditioning, and storage complex works;
- c. Why and when the use of such a facility is important; and
- d. Maintenance procedures.

2. Measure the cost-benefits (economics) of each system or systems. The knowledge gained from this will be useful to the producer and U.S. business interests.

Measure the costs and returns on each system installed above:

A. Technical assistance objectives:

- (1) Collect data on inbound and outbound grain (weight, quality factors, class, type). Observe changes in quality and note handling shrink;

- (2) Collect costs of operation including labor, utilities, and maintenance. Determine which functions can yield the most profit and which functions are not profitable and are possibly unnecessary.
- (3) Collect prices of grain sold. Develop information showing advantages of placing grain in storage, maintaining quality, and marketing at optimum time.

Analyze each system:

B. Training Objective:

- (1) Training course presented to individual farmers, cooperative managers, and to JSC farm unit managers concerning cost and profit involved in each type of system; and
- (2) Management training courses in general management, marketing management, financial management, and operational management with emphasis directed towards two different groups: farmer cooperative associations and JSC farm managers.

3. Improve the management of grain harvesting, conditioning, and handling processes related to all types of storage systems so as to enable producers to effectively control costs and increase profits. This also may include improvement in certain aspects of production, such as weed control, which would eliminate the two-stage harvest process and therefore not only reduce harvest losses but provide cleaner grain from the field.

A. Technical assistance objectives:

- (1) The combination of a short growing season and many weeds in the growing wheat cause many problems in the natural drying process of growing wheat. Proper weed control measures such as cultivation practices and proper use of herbicides will eliminate or greatly reduce weeds in the growing crop. Introduction of these measures will have a very positive effect;
- (2) Introduce modifications in handling procedures with emphasis on elimination of use of the tok. The grain waste and additional expense will be documented and proof given that this is an unnecessary and expensive process; and
- (3) Assistance in redesign and improvement of existing facilities will be given so as to provide adequate storage at a fraction of the cost of building all new storage.

B. Training objectives:

- (1) Train farm production people in proper weed control techniques;

- (2) Prove to individual farmers and JSC farm managers that use of the tok is an archaic, expensive, wasteful, and unnecessary procedure; and
 - (3) Demonstrate to JSC and SES managers the benefits of making facilities free of bird and rodent contamination.
4. Introduce grain quality preservation practices as needed in all types of private-sector storage so as to maintain a quality product in storage. This would include necessary adaptations of needed equipment (such as aeration) upgrading current grain storage facilities, training in inspection procedures, and practices in handling of grain in flat-storage units.
- A. Technical assistance objectives:
- (1) Provide assistance in identification and installation of proper aeration equipment in existing flat storage buildings;
 - (2) Demonstrate pre-storage preparation of storage units using proper cleanup and bin fogging;
 - (3) Provide assistance in rehabilitating current flat storage units to seal off from birds and rodents;
 - (4) Show proper monitoring of grain in storage by demonstrating proper inspection procedure and use of temperature control equipment; and
 - (5) Demonstrate proper use of grain protectants and fumigants for control of infestation in stored grain.
- A. Training Objectives:
- Train all facility managers in:
- (1) Practices for quality preservation of grain;
 - (2) Inspection and monitoring procedures;
 - (3) Prevention of grain going out of condition and procedures when it is going out of condition;
 - (4) Proper handling of grain in flat storage units; and
 - (5) General grain storage management and handling techniques.
5. Act as a liaison organization at the regional level between private Ukrainian and Russian agribusiness companies, or producer associations, and American companies in developing the Ukrainian and Russian capability through joint-ventures, licensing agreements, or importation of U.S.

manufactured products to: (1) supply Ukrainian and Russian agriculture, and (2) process Ukrainian and Russian grain products.

Set up a procedure to do feasibility analysis on projected enterprises and possible joint ventures. Sort out possible investors and in-country firms as to financial and technical capabilities.

A. Technical assistance objectives:

- (1) Conduct feasibility analyses on projected enterprises and joint ventures; and
- (2) Coordinate efforts in putting organization together based on needs and opportunities.

B. Training objectives:

- (1) Teach feasibility analysis;
- (2) Teach economic analysis;
- (3) Teach financial analysis;
- (4) Teach information gathering in operations, marketing, and procurement of raw materials; and
- (5) Training course in planning for managers.

6. Supply technical assistance and training as required in the areas of feed processing, feed utilization, and feed formulating.

Develop an institutional structure or unit which can supply expertise and assistance in feed processing and feed utilization.

A. Technical assistance objectives:

- (1) Provide assistance in feed processing operations using existing equipment with necessary modifications;
- (2) Provide assistance in animal nutrition, feed formulation, and feed formulating constraints; and
- (3) Provide trouble shooting.

B. Training objectives:

Establish the following training courses for the involved people:

- (1) Feed processing operations;
- (2) Feed processing equipment installation and maintenance;

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- (3) Livestock nutrition needs;
 - (4) Feed formulation; and
 - (5) Feed formulation under supply constraints.
7. Develop an information system and conduit by which producers and managers can be provided with specific technical information currently in existence in the western world.
- A. Technical assistance objective:
 - (1) Assimilate pertinent technical material, assist in translation to appropriate language, and disseminate to farmers, farm managers, and grain storage managers.
 - B. Training objective:
 - a. To provide technical information to producers on a wide variety of production and processing subjects.
8. Develop an information system and conduit on available markets, prices, and cost of marketing for distribution to producers and producer associations.
- A. Technical assistance objective:
 - (1) Develop a structure which supplies market information (prices, flows, whatever else is available) to individual farmers through local associations, or directly to JSC farms, a list of available information in the appropriate language.
 - B. Training objective:
 - (1) To provide market information to producers on a wide variety of crops and finished products; and
 - (2) To teach farmers and farm managers proper decision making techniques for optimum marketing of their production.

APPENDIX VII

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