Agricultural Production and Trade in Ukraine, Belarus, and Moldova

CARD Director Stanley Johnson, Professor E. Kwan Choi, graduate assistants Sergei Sotnikov, Yuri Yermakov, and Christian Mumssen analyzed agricultural trade and trade policy in the nations of Ukraine, Belarus, and Moldova. This research was conducted under a contract with the World Bank from 1994 to 1996. Csaba Csaki of the Natural Resources Management Division of the World Bank coordinated the project, and economists at the leading agricultural economics institutes in Ukraine, Belarus, and Moldova participated in the analysis. The aim of the project was to provide an initial assessment of agricultural production in these countries and the potential impacts of competitiveness of their agricultural sectors on the international market.

Background
In the past the agricultural sectors of Ukraine, Belarus, and Moldova had discrete roles in the centrally planned economy of the Soviet Union. Agricultural products were produced on large state-owned and state-operated complexes.

Istra River Basin Project Hosts Russian Teachers

In August 1996, CARD hosted fifteen Russian educators involved in the educational component of the Istra River Basin Small Watershed Management Project (funded by the U.S. Agency for International Development and operated by the U.S. Environmental Protection Agency, CARD, and a number of Russian national and regional organizations). The Istra River Basin lies near Moscow. It is an agricultural area in which the large livestock complexes (the Soviet-style collective

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farms of the old command economy) and the rapidly developing new dacha (country house) communities are currently straining the water quality of the Istra River, which is a major source of drinking water for the city of Moscow.

**Project Education Component**

The Istra River Basin project was initiated in 1994. A component of the program has been an ecological education program for Russian school children developed under the direction of Jim Pease, Iowa State University professor of animal ecology and Istra project environmental education coordinator. Pease worked with Moscow State University of Geodesy and Cartography staff members Vasily Malinnikov, head of the Applied Science Department; Anatoliy Zverev, head of the Department of Physical Geography; and Elena Zvereva, biologist and Istra project coordinator. They designed a pilot program for selected schools in the Istra region.

According to Pease, although the U.S. educational system has been teaching environmental education for about 25 years, the development of an environmental education curriculum has been a new experience for Russian educators. Pease found that the methods selected by the Russian teachers he worked with, while unusual by U.S. expectations, fit quite well with Russia’s long history and societal cohesiveness. The Russian teachers felt comfortable taking an attitudinal or strongly moral approach to teaching about the environment. Or, as Tatiana Mikhailova, head of the Istra Region Board of Public Education, observed: “To preserve nature means to preserve the motherland.” Seventeen Russian educators who were part of the pilot program participated in the 1996 Midwest Environmental Education Conference, August 15-19, 1996, in Cedar Falls, Iowa. They gave a presentation on their fledgling Russian ecology curriculum. Accompanying the educators were Anna Sherba, Deputy Regional Administrator, and Vera Saiapina, Chair of the Istra Region Ecology Committee, from the Istra Regional Administration. This entity provided financial support for the teacher exchange and co-financed publication of the project textbooks. During their stay, the group also participated in several workshops on U.S. curricula and discussed environmental education projects with American educators.

**Environmental Education in Russia: Many Roads to the Same Town**

ence, Pease introduced the Istra project team presentation. He provided an overview of the current environmental situation in the Istra region and stated that, as in the United States, many things about the natural world have been taken for granted in the course of Russian industrial and agricultural development. Consequently, the Russians have environmental problems similar to those in the American Midwest, although they are often more serious. “It takes a lot of people to solve these problems,” Pease said. “The Istra River Basin project has attempted to reach as many people as possible with environmental information and one very good place to start is with the children.”

Charles Sauer, CARD Istra project manager described the project’s five components: (1) demonstrations of technology and watershed management methods, (2) ecological educational programs and public participation; (3) computer modeling and monitoring; (4) cooperation with local authorities and institution building; and (5) dissemination of the watershed management plan to other watersheds and river basins throughout Russia. The project is focused particularly on the problems of livestock waste management and contamination from the growing rural settlements. Unfortunately, these dacha settlements are without an adequate waste management infrastructure. The project is developing solutions that do not require a large amount of capital investment, given the realities of the Russian economy.

Vasily Malinnikov told the conference that, at the start of the education component of the Istra project, Russian school children were tested to determine what kind of ecology education they already had. The curriculum committee determined that while these students had some basic awareness of the environment, their knowledge was not integrated into a specific body of knowledge. Using this preliminary information as a base, the committee wrote a three-part comprehensive curriculum.

The 1995 pilot study employed a sample comprised of two groups (one study and one control) and a total of 400 children in the middle schools in the Istra district. At the end of the school year, the children in the sample were retested and found to have an increased understanding of environmental problems.

Larisa Achapkina, a seventh grade biology teacher at the Rozhdestvenskaya Middle School in the Istra region, described a gentle approach to the teaching of environmental education. She said “the course is based on the assumption that children are more sensitive to the environment and that they understand that nature is beautiful. The stress is on the moral and ethical side of the environmental issue.”

Tatiana Mikhailova spoke about the project goal of expanding the ecology curriculum to all schools in the Istra region. Mikhailova is enthusiastic about the scheduled elementary school pilot program, which began in the fall of 1996.

Additional information regarding the Istra project is available on the World Wide Web. www.ag.iastate/card/istra
From the Interim CARD Director

We have been missing the leadership that Stan Johnson provided to CARD for many years, but we still benefit from his advice and counsel in key program areas. CARD programs and facilities are highlighted in Campaign Destiny, the current capital campaign of Iowa State University, and Stan is taking a key role in this development effort for the future. Simultaneously, there is a wide search underway for a new CARD director.

Several of the international research and outreach programs of CARD are highlighted in this issue. The National Forum for Agriculture focused on the growing liberalization of global agricultural markets and its implications for the United States. At the conference and in research conducted by CARD, the impacts of policy and market developments in China are seen as a vital but uncertain factor in the growth of U.S. agricultural exports. The studies of competitive advantage and trade prospects in Ukraine, Moldova, and Belarus identified several constraints that have to be overcome to stimulate the development of domestic markets and integration with international markets. The Istra River project in Russia adapts and extends to the Istra River Basin and to scientists and institutions in the region the research and education methods that have proven to be effective in river basin management in the United States.

One of the pleasures of working in CARD comes from seeing the many contributions of former colleagues who have worked with us for short or long periods of time. In this issue we have highlighted three former visiting scholars who are applying their talents and experience in government leadership positions in Latvia and Lithuania. Also noted is a policy seminar we organized and co-sponsored in Lithuania at a crucial time in their policy reform deliberations.

There are mutual benefits to conducting programs such as these in transition economies. It is an excellent learning opportunity for our research staff and our collaborators. We have to adapt our skills and methods to new conditions, and we observe and evaluate the impacts of change as it occurs differently in each country. In February 1997 CARD also initiated a USAID funded project on policy analysis and institution building at the Institute for Agricultural Economics in Ukraine. The learning opportunities are expanding.

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The operating expenses of these facilities were subsidized by the government. The products were then purchased primarily by the government, which distributed them to
meet food and fiber demands in the other regions of the closed economic system. Consumers throughout the vast Soviet Union were able to purchase bread at relatively low (fixed) prices that had not changed in decades. When the Soviet Union dissolved in 1991, the newly formed nations faced common economic problems. They lost their inexpensive, reliable source of energy. Inflation soared, spurred largely by the rapid rise in energy prices. The three countries were also disconnected from the Soviet transportation system that had carried agricultural commodities to markets throughout Russia, Eastern Europe, and Central Asia. The new countries initiated economic barriers to trade in the form of taxes and tariffs as they attempted to protect their national production by blocking foreign competition. Problematic conditions developed: an aging infrastructure that hampered the agricultural processing and distribution system; monopolization of agroprocessing by large complexes left over from the communist system; lack of Western-style expertise in processing, marketing, and accounting; and a credit system marked by high interest rates. The governments of the three countries were slow to initiate economic reform, especially in the agricultural sector. A very real concern over public unrest should prices for staples such as bread and dairy products drastically increase caused government leaders to adopt a conservative stance toward reform.

When the CARD research team began its analysis, the large agricultural production and processing complexes were still intact, privatization had barely begun, and the governments of Ukraine, Belarus, and Moldova were still subsidizing both the cost of agricultural production and the cost of food to the consumer. The governments were often obliged to purchase vital inputs such as energy and commercial feed from the West at international prices. Nonetheless, they were still procuring goods from the agricultural producers at prices well above the producers’ costs. The agricultural producers were not faring well either, given that the governments were slow to pay and inflation was running at approximately 1,000 percent per year.

CARD Research Approach
The research team identified the major agricultural commodities produced in each nation and translated the subsidized prices into real costs of production. These costs were then compared to international prices for similar commodities. Because Russia remains a dominant market, commodity prices were also compared to prices in Russia.

Previous analyses of agricultural competitiveness in the Former Soviet Union (FSU) have used the final product price for comparison without making allowances for the heavy subsidization that the governments of these nations provided to agricultural producers. Analyses based on these figures are favorable to products from the FSU but are possibly extremely inaccurate since the entire cost of production was never calculated.

The World Bank/CARD analyses are unique in their attempt to determine total cost of production and in the use of raw data obtained directly from agricultural agencies and institutions in the three nations. In this analysis, Ukrainian, Belarus, and Moldovan agricultural commodities compared less favorably both in terms of price and quality with other commodities on the international market.

Ukraine
Approximately 15 percent of the arable land of the Soviet Union was located in Ukraine, and the region produced 60 percent of the corn, 50 percent of the sugarbeet, and 40 percent of the sunflower seed and winter wheat consumed by populations throughout the
entire system. Ukraine was, indeed, the breadbasket of the Soviet system. Choi and Yermakov worked in Ukraine with experts from the Ukrainian Institute of Agricultural Economics and the Ukrainian Ministry of Agriculture and Food to analyze sugarbeet and sugar, sunflower seed and oil, winter wheat and wheat flour, corn and formula feed, hogs and pork, and poultry production.

Traditionally Ukraine has been a major agricultural exporter, especially in wheat, corn, formula feed, and sunflower seed and oil. Choi and Yermakov estimated Ukrainian agricultural export potential during the short-run economic transition period and in the longer run on the international market. All indications are that Ukraine will retain its position as a leading agricultural producer and exporter among the nations of the FSU. Ukraine also has the potential to become an exporter of sunflower seed and oil, wheat, and corn on the world market.

Belarus
In contrast to Ukraine and Moldova, Belarus is primarily an industrial nation. Due in large part to the subsidy and procurement policies of the Soviet Union, however, Belarus did develop a substantial agricultural sector in beef, pork, poultry and eggs, dairy, flax, rapeseed, grains, and sugarbeet and sugar. Sotnikov worked with the Belarus Institute of Agricultural Economics and the Ministry of Food and Agriculture to determine what portion of this agricultural production will be viable when government support is removed from production of these commodities.

According to the analysis by Johnson and Sotnikov, Belarus has only one product that is an outstanding candidate for international export: flax. However, the fact that Belarus is industrialized may enable the agricultural sector to be more viable than otherwise might be indicated by the average soil and weather conditions. Also, a more open market system, a usual feature of industrialized nations, may make exports from Belarus less affected by restrictive border policies than exports from other nations of the FSU.

Moldova
Moldova's more southern location and temperate climate destined this small, agricultural nation to be a major supplier of fruits, vegetables, wine, and tobacco to the Soviet system. Sugarbeet and sugar, sunflower and vegetable oil, wheat flour and bread, corn, hogs and pork, and poultry and eggs round out the list of agricultural commodities produced in Moldova. Mumssen worked with the Moldova Institute for Agrarian Economy and a representative of the Moldova Parliament to determine the outlook for agricultural production in that country.

The quality of agricultural produce and marketing expertise are important issues in the Moldovan analysis. For example, high-quality bulk fruits and vegetables may be competitive in Western markets using targeting marketing approaches.

Comparative Analysis
When the individual studies were completed, the researchers then compared the countries to each other, to Russia and the remainder of the FSU, and to agricultural exporters in the world at large. The researchers concluded that for all three countries "The major current obstacles to the development of agriculture, and increased participation of agriculture in international markets, are institutional." Such features as monopolization, failure to privatize, and regulatory barriers to trade make export of agricultural products in these nations costly and difficult. The analysis concluded with a number of suggested policy changes that could improve the export potential of many of the commodities that Ukraine, Belarus, and Moldova can produce.

World Bank
Technical Reports
The results of this project have been published in three