

Food Security in Russia: Economic Growth and Rising Incomes are Reducing Insecurity

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Abstract: Russia's food security problem is not inadequate availability of food. Although production and consumption of livestock products have dropped substantially during the transition period following the dissolution of the Soviet Union, total caloric availability per capita per day in 1999 was only 3 percent lower than at the start of the reform process in 1992. The main food security problem is inadequate access to food by certain socioeconomic groups, which lack sufficient purchasing power to afford a minimally healthy diet. However, the country's improved macroeconomic performance since 1999, with gross domestic product growing at an average annual rate of about 6 percent, has reduced poverty, and thereby the number of food insecure households. A serious food-related health problem is in fact overweight and obesity, which have increased during transition and currently affect over half the adult population.

Keywords: Russia, food security, access, purchasing power, policy reform, poverty, consumers.

Economic reform in Russia has severely decreased agricultural output. Since the early 1990s, the livestock sector—both animal inventories and production—has contracted by about half, and the corresponding decline in feed demand has resulted in grain output falling by about one-third (averaged over the last 5 years; fig. B-1).

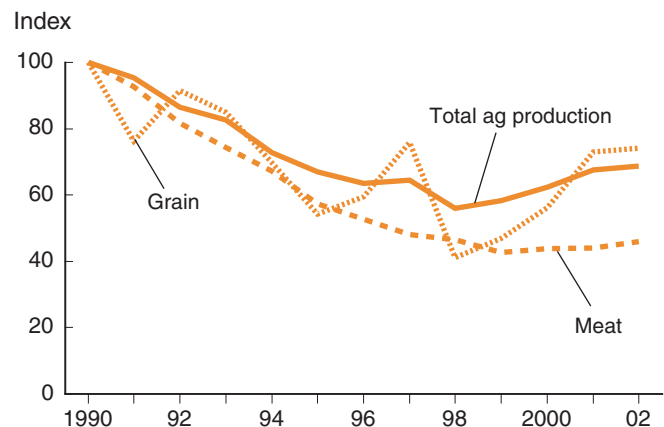
The decline in production and consumption of foodstuffs has raised concerns in Russia that the country has a food security problem. This worry is reinforced by attitudes inherited from the Soviet period which hold that heavy intake of livestock products is necessary for a full and healthy diet. Concern about food security within both Russia and the West motivated substantial food aid to Russia in 1999-2000 from the United States and European Union.

The three main concepts used in analyzing a country's food security are the availability of food, access to food by the population, and nutrition. Throughout the

transition period, Russia's food security problem has not been inadequate availability, or supplies, of food-

Figure B-1

Agricultural output has fallen substantially during transition



Source: Russian Federation State Committee for Statistics-b.

stuffs. Although consumption of high-value livestock products has declined, consumption of staple foods such as bread and potatoes has remained steady or even increased. The drop in consumption of livestock goods is lower than the decrease in domestic output, given that during transition Russia has become a major importer of meat (in particular poultry from the United States).

Russia's main food security problem is inadequate access to food by certain socioeconomic groups. Transition initially resulted in a large share of the population moving into poverty, because of both unemployment and real income-eroding inflation, such that more people had insufficient purchasing power to afford a minimally healthy diet. The most food insecure groups are those with the following traits: low income, large households, and no access to a garden plot on which they can grow food. However, Russia's improving macroeconomic performance over the past few years, involving rising gross domestic product (GDP) and personal income, has substantially reduced the size of the population living below the poverty line, to about 15 percent by 2003. The decline in poverty has consequently decreased the number of food insecure individuals, such that by 2003 the share of the population that is food insecure might be as low as 6 percent.

Russians have a traditional dietary preference for livestock products, such as meat, dairy products, and eggs, which are heavy in fat, protein, and cholesterol. During the Soviet period, state authorities strengthened such preferences by releasing recommended food consumption "norms" heavily favoring livestock products. Despite the fall in intake of these products during transition, overweight and obesity, which affect half the adult population, have been a more serious health problem than underweight or malnutrition. Lifestyle behaviors, such as lack of physical exercise, have probably played a key role in this development.

Availability

Throughout the transition period, Russia's combined domestic production and imports of foodstuffs have been sufficient to maintain adequate food supplies. In 1999, total caloric availability per capita per day was only 3 percent below that in 1992 (2,880 calories compared with 2,940; Sedik et al.). This is well above the FAO/WHO (Food and Agriculture Organization/World Health Organization) guideline for minimum dietary energy requirements for Russia of 1,970 calories.

Although agricultural output, especially of livestock products, has fallen during transition, the decline has been an inevitable part of market reform. Reform has adjusted the production and consumption of high-value foodstuffs to better reflect Russia's real national product and income in a way that should increase consumer welfare over time. Russia's experience in the restructuring of its agricultural production and consumption during transition is in fact representative of that of all the countries of the former Soviet bloc.¹

Beginning in the early 1970s, the Soviet Union (USSR) began expanding its livestock sector, a policy generally copied by its Eastern European satellite countries. The campaign succeeded, and by 1990 livestock herds and meat production in the USSR (as well as East European countries) were about 50 percent higher than in 1970. Because the main reason for expanding the livestock sector was to improve living standards by increasing consumption of high-value livestock products, the government did not want consumers to have to pay the high cost of livestock production. Thus, consumer prices for livestock goods were set far below production costs. ERS research shows that in 1986, consumer prices for livestock goods in the USSR and many East European countries were about half the prices received by livestock producers (Liefert and Swinnen).²

Massive subsidies to both producers and consumers were required to cover the gap. By 1990, state budget subsidies to the agro-food economy in the USSR equaled about 11 percent of GDP (World Bank, p. 138), with the bulk going to the livestock sector. By 1990, per capita consumption of meat and other livestock products in the USSR and other bloc countries was on a par equal to that in most rich Western countries. For example, in 1990, per capita consumption of meat in Russia, Poland, and Romania was about equal to that in Britain (at about 75 kilograms a year), and in

¹ For detailed analysis as to how reform has restructured agricultural production and consumption in not only Russia, but all the transition economies of the former Soviet bloc, see Liefert and Swinnen, and Cochrane et al.

² Because consumer retail prices for foods include costs for processing and distribution as well as the cost of primary agricultural production, the "consumer prices" used to compute this ratio are the prices paid by the immediate purchasers of the primary agricultural products (typically processors). Soviet policy was to apply the subsidies to agriculture specifically at the processing stage, such that processors' purchaser prices were below the prices received by agricultural producers.

Hungary it was higher (FAO). Since per capita GDP and income in these planned economies were at most half that of the developed Western economies, the former were producing and consuming livestock products at a much higher level than one would predict based on their real income (Sedik). Further evidence that these countries were overconsuming livestock products relative to their real income is that in the more successfully reforming transition economies whose real GDP has surpassed the pre-reform level, consumption of livestock products is still below pre-reform volumes. In 2000, real per capita GDP in Poland, Hungary, and the Czech Republic was, respectively, 43, 12, and 10 percent higher than in 1990 (PlanEcon-a), while per capita consumption of meat was 4, 12, and 24 percent lower, respectively (FAO).

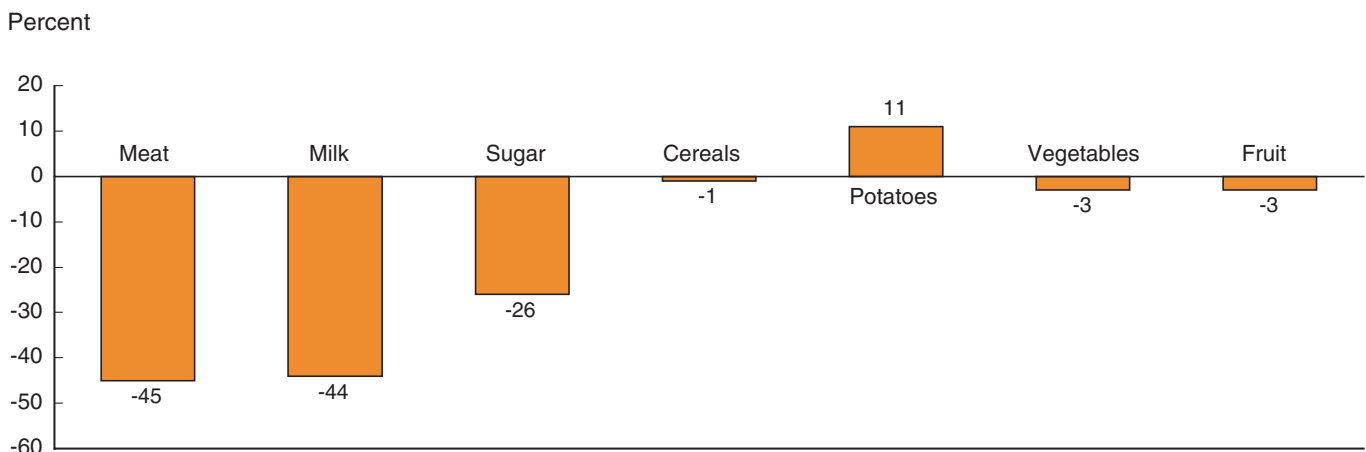
The lead policy of Russia's economic reform begun in 1992 was price liberalization, accompanied by the slashing of subsidies to producers and consumers. The freeing of prices led to huge economywide inflation, which substantially reduced consumers' real incomes as prices rose by a greater percentage than wages and salaries. In 1992 alone, per capita consumer real income in Russia fell 47 percent (PlanEcon-b). Incomes also fell because of a rise in unemployment or underemployment during transition, as old jobs were lost or scaled back faster than new jobs were created. Although in 2002 Russia's official unemployment rate was only 8 percent, this figure probably understates real unemployment. Also, much of the employed labor force is underemployed (and as a

result poorly paid). In 2002, Russian per capita real income was still about 35 percent below that in 1991.

Livestock products have high income elasticity of demand compared to other foodstuffs, which means that demand is fairly responsive to changes in income. Consequently, falling income particularly hurt the livestock sector, as consumers shifted demand away from high-value (and high-cost) foods (fig. B-2). Reform in fact created entirely new goods and, in particular, services (ranging from legal and financial services to car repair and health clubs), which were unavailable under the old regime and to which demand has turned during reform. The demand-driven downsizing of the livestock sector also lowered demand for animal feed (feed grains and oilseeds), which helps explain why Russia's grain output has also plummeted during transition. However, consumer demand in Russia for staple foods, such as bread and potatoes, has remained steady, or even increased (fig. B-2).

The drop in production and consumption of livestock products has therefore been an inevitable part of market reform, as consumers' desires for goods replaced planners' preferences as the dominant force in determining what goods are produced and consumed. The move in consumer demand away from high-value livestock products to other goods and services is part of the economy-wide restructuring of consumer demand that in the long run will increase consumer welfare, as producers respond to what consumers want to purchase at existing prices. It might seem surprising to describe livestock products as goods more favored by planners than consumers. Yet, when the prices of goods began to

Figure B-2
Changes in per capita food consumption: 1990 to 2000



Source: Russian Federation State Committee for Statistics-b.

reflect the full cost of their production, and consumers' real incomes were adjusted to correct for the distorted prices of the pre-reform period, consumers switched from buying high-cost livestock products to other goods and services (see Liefert et al.).

Although production of agricultural goods has fallen during transition, consumption has dropped less than output. By the early 2000s, Russia was a net importer of many foodstuffs, especially of meat and other livestock products. In fact, imports in 2002 accounted for over half of all poultry consumption, with the bulk coming from the United States, and about a quarter of all consumption of beef and pork (mainly from the European Union). Russia's imports of livestock products indicate uncompetitiveness in these products vis-à-vis the world market, which is supported by the fact that when Russia began its reform in the early 1990s, domestic producer prices for most agricultural products were higher than world prices (OECD-a). More specifically, Liefert finds that Russia has a general comparative disadvantage in agricultural outputs compared with agricultural inputs, and a comparative disadvantage in producing meat compared with grain. Although Russia's agricultural uncompetitiveness has contributed to the overall decline in agricultural production during transition, its large food imports have had the effect of raising overall food availability and consumption to levels higher than would exist in the absence of trade. If Russians have the necessary purchasing power, they can obtain through market purchases an adequate supply of food, whether it is produced domestically or imported.³

The only food availability problem of any seriousness during transition has occurred when grain surplus-producing regions within the country banned or restricted grain outflows. The result has been that grain-deficit regions in the north and east have been unable to obtain needed supplies. Although imports could conceivably make up any shortfalls, the affected regions tend to be geographically isolated, such that imports have difficulty penetrating, or only with high transport and transaction costs. Also, because the

³ In 2003, Russia imposed tariff-rate quotas for its imports of beef and pork, and a pure quota for imports of poultry. The annual low-tariff quota for beef (0.42 million metric tons) and pork (0.45 million tons) and quota for poultry (1.05 million tons) were set at about two-thirds of the volume of imports in 2003. Although these trade restrictions should reduce domestic meat consumption, they will not in any way threaten food security.

regional bans can be imposed without much warning, deficit regions might lack the time to acquire substitute foreign supplies. Although the outflow restrictions violate federal law, the federal government has not been able to prevent them.

Controls on grain outflows usually occur when poor harvests raise concerns by local authorities that regional production will not satisfy local requirements. Russia's bumper grain harvests of 2001 and 2002 largely eliminated these measures, but poor harvests could bring them back.

Access

The main food security problem in Russia during transition has been insufficient access to food by certain socioeconomic groups. The transition experience increased poverty in Russia, such that part of the population has insufficient purchasing power to afford a minimally healthy diet. Based on per capita food availability data and assumptions concerning the distribution of caloric consumption throughout the population, FAO estimates that in 1996-98 about 6 percent of Russia's population had inadequate food consumption (defined by FAO and throughout this article as daily caloric intake below the FAO/WHO/UNU minimum daily requirement for Russia of 1,970 calories; Sedik et al.).

The incidence of inadequate food consumption in Russia can also be roughly estimated from the Food Security Survey done for FAO by Russia's Association Agro in 11 Russian oblasts (regions) in December 2000-January 2001 (Sedik et al.). The survey was limited to households (including single-person ones) at or below the official poverty line. The survey found that 41 percent of the poor experienced inadequate food consumption. In 2000, 29 percent of the Russian population had money incomes below the poverty line, and in 2001 the figure fell slightly to 28 percent (Russian Federation State Committee for Statistics-b). If one assumes no individuals or households above the poverty line were food inadequate, one can estimate the share of the country's total population that was food inadequate by multiplying the percentage that was poor (29 percent in 2000) by the percentage of poor who were food inadequate (41 percent). The resulting figure is 12 percent. The most likely reason why this calculation for 2000 finds a greater incidence of food inadequacy than the FAO does for 1996-98 based on food availability is that Russia's severe economic crisis that struck in 1998 reduced GDP and personal incomes, and thereby increased poverty.

The major cause of the growth in poverty during transition has been the decline in real per capita income (as discussed earlier), the two big drops occurring in the first half of the 1990s and in 1998-99 following the economic crisis that hit in August 1998. Not only have incomes dropped, but the move from a planned to a market economy has made the distribution of income more unequal. In 1990, the top 20 percent of income earners received 33 percent of all income and the bottom 20 percent received only 10 percent. By 2000, the share of the top 20 percent had risen to 48 percent, and that of the bottom 20 percent had fallen to 6 percent (Russian Federation State Committee for Statistics-b).

Aggravating the poverty-generating effects of the decline in income, and the growing inequality of income distribution, has been the weakening of the state social welfare system. During transition, both the federal and regional governments have faced severe funding constraints for social welfare expenditure. The state welfare system has been unable to maintain a safety net guaranteeing that all individuals live above the poverty level and have a minimally healthy diet. In 2002, social welfare transfers from the state comprised a larger share of personal income than in 1992—35 percent versus 31 percent (Mroz et al.). Yet, given that real income fell substantially during this period, the value of total social welfare transfers in real terms clearly dropped.

Pensions have continued to be the most important state transfer payment, though they have steadily declined in real terms—from 1994 to 1999 by 52 percent, mainly because nominal payments were not adjusted for inflation (OECD-b). Certain transfer programs of the Soviet period, however, have suffered even larger reductions, one example being universal child allowances. These payments fell in real terms from 1994 to 1999 by 60 percent, and by the late 1990s the bulk of eligible households were receiving no benefit whatsoever (OECD-b). Medical and educational services have deteriorated during the transition period, such that formal or informal charges have become necessary for service. Most social welfare benefits in fact favor households with above-average incomes. In 1998, the top 30 percent of income earners received 48 percent of all benefits, while the bottom 40 percent received only 25 percent (OECD-b). Subsidies favoring the better off include those for housing, fuel, and transport.

A factor that has greatly mitigated the food insecurity risk to the population from falling money income and the weakening of the social welfare system is that most Russians have a farm or garden plot on which to grow foodstuffs. All households on former state and collective farms independently operate a plot of land, averaging about half a hectare in size, used to produce livestock products as well as potatoes, vegetables, and fruit. Seventy-one percent of urban residents also have a garden plot (though only 46 percent in oblast capital cities), usually located at their country dacha, or cottage (Sedik et al.). The garden plots also typically grow potatoes, vegetables, and fruit, thereby providing a valuable supplement to households' food supply obtained from commercial purchase. A garden plot appears to be a sufficient guarantee in Russia against food insecurity.

A recent FAO study found that the most food insecure groups in Russia are those with one or more of the following traits: low income, large households, and no garden plot (Sedik et al.). Table B-1 gives results from the FAO-sponsored survey on food security in Russia by Association Agro, which (as discussed earlier) covers only the poor, not the entire population. Nonetheless, the table shows a clear inverse relationship between income and inadequate food consumption. Fifty-seven percent of individuals in the lowest income decile (among the poor) had inadequate

Table B-1—Food inadequacy among the poor negatively correlated with income

Per capita monthly cash and plot income	Average consumption (Kcal/capita/day)	Food inadequate population Percent
Lowest decile	1,995	57
Second decile	2,176	46
Third decile	1,935	64
Fourth decile	2,273	38
Fifth decile	2,191	46
Sixth decile	2,280	38
Seventh decile	2,223	43
Eighth decile	2,376	41
Ninth decile	2,551	29
Highest decile	3,128	13
All poor households	2,326	41

Note: The table covers only the population living at or below the poverty level.

Source: Sedik, Wiesmann, and Sotnikov.

consumption, compared with only 13 percent in the highest income decile (also among only the poor).

Table B-2, which draws from the same survey, shows a positive relationship between family size and inadequate food consumption. Only 16 percent of 1-adult-only households are food inadequate (daily per capita consumption below 1,970 calories); 28 percent of 2-adult-only households are food inadequate; 50 percent of households with 2 adults, 3 or more children, and no relatives; and 73 percent of households with 1 adult, 3 or more children, and no relatives.

The third main trait of the food insecure is that they have no garden plot on which to grow food (mainly potatoes, vegetables, and fruit). Given that urban dwellers are less likely to have a garden plot than the rural population, they have a higher incidence of food inadequacy.

During the last few years, the macroeconomic situation in Russia has improved substantially, such that poverty is declining (Russian Federation State Committee for Statistics-b). Since 1999 (the year following Russia's serious financial crisis), GDP has grown at an average annual rate of 6 percent. The unemployment rate has dropped from 12 to 8 percent, though much underemployment continues. From 1999 to 2002, real wages rose

by about one-third. GDP growth has increased government revenue, making more funding available for social welfare expenditures. From 1999 to 2002, real government expenditures on welfare increased by about two-thirds. The resulting decline in poverty in all likelihood has reduced the size of the food insecure population.

Most macroeconomic forecasters predict that Russia's GDP will continue to grow throughout the decade at 4-5 percent a year. Such growth should further reduce poverty and food insecurity. Yet, forecasters acknowledge that Russia's macroeconomic improvement is fragile, and could be reversed. Two of the main reasons for Russia's macroeconomic turnaround following the financial crisis of 1998 was the rise in world energy prices and the severe depreciation of the ruble, in both nominal and real terms. Energy exports (mainly oil and natural gas) continue to provide about half of Russia's hard currency export earnings, as well as government tax revenue. A major downturn in world energy prices would severely hurt state finances.

The depreciation of the ruble following the financial crisis substantially improved the price competitiveness of all Russia's tradable goods, providing an engine for GDP growth. However, since 1999 the ruble has been appreciating in real terms, as the inflation rate has exceeded any nominal depreciation in the exchange rate. Macroeconomic forecasters (such as PlanEcon) believe that the ruble is still undervalued in real terms, and that real appreciation should continue in the short to medium term. By harming the competitiveness of Russian industry and agriculture, real appreciation of the currency has the isolated effect of inhibiting GDP and income growth.

Table B-2—Food inadequacy among the poor positively correlated with household size

Household type	Average	Food
	consumption	inadequate
	(Kcal/capita/day)	population
		Percent
All household members	2,326	41
Children	2,259	42
Pensioners	2,537	28
<i>By household type</i>		
1 adult only	3,341	16
1 adult, 1-2 children, no relatives	2,304	34
1 adult, 1-2 children, relatives	1,811	41
1 adult, 3+ children, no relatives	1,665	73
1 adult, no children, relatives	2,099	62
Pensioner family of 1	2,873	19
2 adults only	2,608	28
2 adults, 1-2 children, no relatives	2,142	48
2 adults, 1-2 children, relatives	2,209	45
2 adults, 3+ children, no relatives	2,128	50
2 adults, 3+ children, relatives	2,650	35

Note: The table covers only the population living at or below the poverty level.

Source: Sedik, Wiesmann, and Sotnikov.

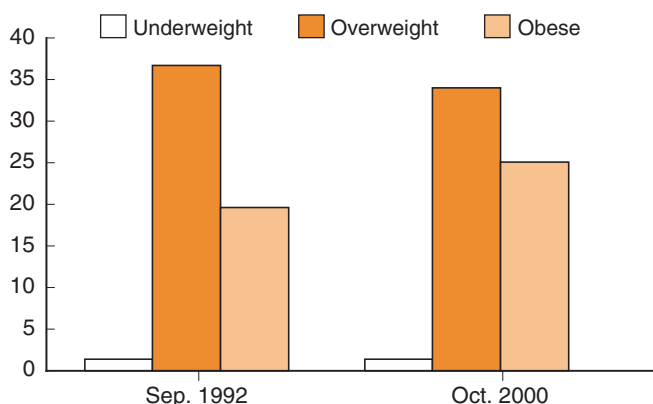
Nutrition

Sedik et al. argue that in Russia overweight and obesity are more serious health problems than underweight or nutritionally deficient diets. More than half of the adult population is overweight or obese (fig. B-3), and for those aged 60 and above the figure is about two-thirds. (In the figure, the obese are not included among the overweight.) This challenges any belief that the elderly in Russia suffer from food insecurity more than other age groups. In even the lowest income groups, overweight and obesity are much more common than underweight, though a correlation exists between overweight and income. Obesity has in fact increased during transition, rising from 23 percent of the population in 1992 to 33 percent in 2000.

Figure B-3

**Overweight and obesity is a serious problem:
Adults 30+**

Percent



Source: Zohoori, Gleiter, and Popkin.

One reason for the prevalence of overweight and obesity in Russia is traditional dietary preferences for animal products high in protein and fat, to the relative neglect of vegetables and fruit. The Soviet policy of pushing the production and consumption of livestock goods during the 1970s and 1980s, which included the publication of recommended food consumption “norms,” catered to these preferences. During transition, the per capita consumption of healthier foods such as vegetables and fruit initially dipped, but has since rebounded to close to pre-reform levels. Per capita consumption of sugar has fallen, that of bread products has remained steady, while that of potatoes has risen (fig. B-2).

It seems paradoxical that although consumption of high fat and cholesterol livestock products as well as sugar has fallen substantially during the transition period—along with total per capita caloric consumption—overweight and obesity have increased. Part of the explanation appears to be that overweight and obesity have grown disproportionately among the elderly. The elderly in fact have not economically suffered unduly during transition relative to the overall population, as indicated by an elderly poverty rate in recent years below that of the population as a whole (Russian Federation State Committee for Statistics-a). They have become more overweight while other groups have suffered more from declining food intake.

Another likely cause of overweight and obesity is that society in general has become less physically active and healthy, a plausible response to the psychological tensions experienced by many during transition. The

combination of a high fat and cholesterol diet in Russia and inadequate exercise results in high prevalence of cardiovascular disease, diabetes, and cancer. These diseases have all increased during transition, and therefore have contributed to the disturbing rise in Russian mortality rates and fall in life expectancy during transition (especially for men). Male life expectancy in Russia fell from 64 years in 1990 to 58 years in 2002 (Russian Federation State Committee for Statistics-b).⁴

Although malnutrition is not a serious problem in Russia for either children or adults, the country suffers from some specific micronutrient deficiencies. Most of the Russian population (both children and adults) are deficient in iodine (70 percent), fluoride, and selenium (Sedik et al.). Iodine deficiency is the second most common micronutrient deficiency in the world, suffered by one-third of the earth’s population, and the most common cause of preventable mental retardation.

Conclusion

The two main food-related problems in Russia are inadequate access to food by a minority of the population, and overweight and obesity. Russia’s most food insecure groups have the following traits: low income, large households, and urban residency with no garden plot. Targeted transfers of food or money to such groups could therefore be a cost-effective way to reduce food insecurity.

The agricultural establishment in Russia argues for a different response to the problem, and in fact identifies the problem differently. Agricultural interests contend that the drop in production and consumption of livestock products during transition is evidence by itself of a serious food security problem, and uses the argument to lobby for increased state support and trade protection. Yet, as mentioned before, food consumption measured in per capita caloric intake has dropped only marginally during transition. Although consumption of high-value and high-cost livestock products has fallen substantially, consumption of staple foods such as bread and potatoes has remained steady or even increased. Russia does not suffer from inadequate food

⁴ Other likely reasons for increasing mortality include the surge in alcohol consumption and growing demoralization and depression from the disruptions and pressures of reform, which increase accidents, murders, and suicides.

availability. Raising subsidies and trade protection for Russian agriculture in order to improve food security through increased domestic production of foodstuffs would be an expensive and inefficient response to a misdiagnosed problem.

Russia's improving macroeconomic performance of the past few years has substantially reduced poverty and improved access to food by the poor. The macroeconomic upturn expands the income of the poor by reducing unemployment and increasing real wages. In addition, economic growth raises government revenue, which can be used to strengthen the social welfare system. Projected annual growth rates of GDP and personal income over the coming decade of 4-5 percent provide a basis for believing that Russia's food security will improve rather than worsen. State policies that promote growth and macroeconomic stability would therefore also improve food security.

Although the Soviet practice of pushing heavy consumption of livestock products has been largely discontinued, Russians retain traditional preferences for livestock products heavy in fat, protein, and cholesterol—such as meat, dairy products, and eggs. This contributes to the second major food-related problem—overweight and obesity—which increased during transition. The growth in obesity has probably contributed to the rise in the mortality rate and drop in life expectancy (especially among males) during transition. Public promotion of a diet involving more vegetables and fruit, as well as of behavioral changes such as more exercise, would bring health benefits.

U.S. and Western Food Aid to Russia

In 5 years during the period 1990-2000, food security concerns about Russia motivated the United States and other Western countries, mainly the European Union (EU), to provide food aid to the country. The main reason these years generated aid was poor Russian grain harvests caused largely by bad weather.

The largest aid package was given in 1999-2000, motivated mainly by Russia's lowest grain harvest in 50 years (48 million metric tons). Both the United States and EU provided aid, with some targeted specifically to needy social groups and regions. The U.S. package involved 3.1 million tons of commodities. Of that total, 1.9 million tons of commodities were donated, including 1.7 million tons of wheat from the Commodity Credit Corporation and 0.2 million tons of various commodities from the U.S. Food for Progress Program. The donations were worth \$589 million, broken down into \$409 million for the commodities and \$180 million for transportation. The United States also gave Russia a \$520 million trade credit to purchase 1.3 million tons of commodities such as corn, soybeans, and meat under P.L. 480 Title I. The EU package provided 1.8 million tons of agricultural goods (including 1 million tons of wheat) worth \$470 million (Liefert and Liefert).

EU food aid shipments, as well as much of the U.S. aid, were sold on the market at existing prices, with the revenue going to the state pension fund. However, part of the Food for Progress donation was distributed by private voluntary organizations to the poor, while the remainder was sold, with the revenue supporting seed research institutes and credit facilities.

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