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Russia: Organized Health control and Education to reduce food spoilage

Russia is the largest country covering more than one eights of Earth's inhabited area. It has 40% of the world's water and has the fourth largest agriculturally cultivated area. Russia is mainly urban populated, but has rural areas for the production of grain and raising of livestock products. However, small private household plots produce most of the country's yield of potatoes, vegetables and fruits (cia.gov). The country has access to several oceans: Pacific, Atlantic, and Arctic Oceans. This geographical location of Russia allows the country to be a major supplier to the world's fish market. Russia is also one of the top producers of chicken.

I was born in Russia in 1995 and it was the time shortly after Perestroika. Everybody experienced shortage of money, food, and life necessities. My family worked hard to be able to provide food and survive the recovery after Perestroika. My family and many other used food preservation as a way to have food throughout the winter and also had issues with food spoilage. It was possible to find dairy and meat products that were past their expiration date on the shelves of the stores. Everybody tried their best to buy good food. I have gotten a food poisoning before where I had to be rushed to the hospital because the dairy product we bought was past the expiration date. Situations with food poisoning happen very often. Most of the hospitals have separate care units for intestinal infections.

Russian's staple foods are bread, potatoes, and chicken. Beef is considered a luxury among the middle class and rural poor. Since it was so hard to get food at times, Russian people treat food, especially bread, as something sacred. A Russian person would never throw away any food even a dry piece of bread; the leftovers would always be fed to a homeless animal or bird. Rye bread is the country's main and cheapest food. Everybody is able to buy rye bread in Russia. The mentality of respecting food is the norm among the people, especially in rural areas since the living conditions are so harsh. What food is available is in trouble due to the food not being properly stored and preserved in safe manners because of a lack of knowledge, technologies, and resources.

Food quality requires preservation which requires modern technologies and money. The lack of food safety regulation and proper preservation of food are some of the primary causes leading to food spoilage in Russia. Dmitry Medvedev, the former president of Russia, assured small food production businesses they would be allowed to function without government restrictions. Since the Roszdravnadzor, the FDA in Russia, can't properly control small businesses, food preservation and cleanliness is not always practiced in the production process. This leads to the food spoilage and spread of intestinal infections. Since many Russians don't have enough money to buy food at the big stores, where the food preservation and quality is regularly checked by Roszdravnadzor, they purchase food from small food production businesses at farmers' markets and then crudely preserve food at home or store it improperly in bulk resulting in spoilage. With stronger Roszdravnadzor oversight, many of these problems would be resolved.

Since food spoilage is still common in Russia, intestinal infections are frequent. Every hospital has a separate care unit for these types of infections. In order to reduce the spread of intestinal infections, hospitals have to have direct connection with Roszdravnadzor who then can investigate outbreaks and prevent further spread of infections and bacteria from spoiled foods to other products and people. A big factor in fighting intestinal infections from spoiled food is to increase the number of vaccinations available against bacterial infections from products.

Due to the fact that the income of an average rural family is significantly smaller than that of an urban family, an income of approximately \$250 a month which has to cover utility bills, food, clothes, gas, and other everyday needs, there are fewer large chain grocery stores located in rural areas. I have part of my family living in the rural area with a salary of \$250 a month for 3 people. They depend on their crop yield. This factor plays a huge role in the rural family's ability to buy fresh quality food and in getting the balanced nutrition diet. Since the food cannot be purchased consistently from the supermarket, the preservation of food plays a huge role in the rural family's life as a way to survive throughout the winter. Most Russian rural families have to preserve vegetables like cucumbers and tomatoes by flash-heating and bulk store potatoes, beets, cabbage, and apples. Rural families have to either grow their own food or purchase it from local farmers markets and then store and preserve enough food for the winter (ruralrussia.com). If people are not properly educated about preservation techniques, problems will arise. Foods, include meats and dairy products, cannot be preserved through flash heating and bulk-storage. Meat is considered a delicacy for a rural family, so not everybody can afford to purchase it throughout the winter. This causes many rural families to not get proper nutrients (Conference).

In order to improve food preservation, reduce food spoilage, and develop rural areas there has to be investment by the government. The Russian government should provide education about new technologies available for agricultural use. By supplying the rural areas with new machinery, this will provide more jobs to people and help the economy in rural areas to slowly grow. This trend can also help to stabilize the population of rural areas and reduce the migration of younger population to cities.

The rural areas need grocery stores where everything is checked by Roszdravnadzor (equivalent of American FDA). This would provide well preserved foods to farm families, create more jobs, reduce malnutrition, improve quality of foods, lessen intestinal infections, and reduce urbanization. In order for this to take place, the Russian government will have to invest into rural farms and new machinery which can cost around 24 trillion rubles per city like it has been done in the city of Bryansk. Dmitriy Medvedev visited Bryansk's local farm and discussed the project. The plan was put into work. It consisted of checking the health and physical condition of livestock, vaccinating the livestock, raising more of it, providing new machinery, teaching new techniques of care and breeding, and providing more jobs, which in turn was planned to raise economy (miratorg.ru).

In Russian culture it is very common to use flash-heating method to preserve food for a long period of time. Usually, rural families preserve vegetables or mushrooms to store them through winter. The danger factor of flash-heating is the lack of knowledge about growth and spread of bacteria and unsanitary environment when flash-heating. It is very common to see older generation people selling flash-heated preserved foods at farmer markets or in rural areas – in front of food stores. Currently, Roszdravnadzor is trying to prevent the distribution of this type of foods since the preservation is often done in an unsafe manner.

In Russia, the farmer markets are highly developed and are very popular. In contrast with US farmer markets, Russian markets work 7 days a week, all year round. The prices at farmer markets are often less than in big chain food supermarkets or private food stores. Since big chain food supermarkets are strictly checked by Roszdravnadzor, they often have a higher quality products and better preserved foods which leads to more expensive prices for items. However, since farmer markets are so developed, the Roszdravnadzor checks them as well, but farmer markets have a higher chance of food spoilage and growth and spread of bacteria. The foods that are in danger of spoilage at the markets are often fish, meats, and dairy products, since they are improperly stored and put out in unfavorable temperatures. The rural families like any urban family have an easier access to farmer markets rather than big chain food stores.

Food preservation and reducing of food spoilage has improved from the past. Since some meats are not an everyday food for rural families and for some middle class people, the meats are commonly preserved in the form of sausage or kielbasa. In kielbasa and sausage, different types of meat are grounded up with certain preserves to keep kielbasa fresh longer and to stop bacteria from growing. In the past the expiration date for sausages and kielbasas were within couple of days, and now it can be a week or even longer. It clearly shows that more chemicals and new technologies are being used to preserve foods in Russia and increase storage period (www.proz.com).

Since rural communities have fewer jobs available and smaller income, the economy is not growing. The Russian government does not invest enough resources and money in rural areas and it doesn't help farmers to prosper and produce for the markets, like it's done in the USA (fda.gov). The situation in rural areas gets only worse with the young generation moving to bigger cities. This leaves older generations in rural areas with lack of new strength, new knowledge, and new technologies (international projects). The unemployment is also affected by the fact that there are more women than men according to Anne White. Also, the average life span for men is 65 and for women is 74. The biggest factor contributing to the relatively low life expectancy for males is a high mortality rate among working-age men from preventable causes like alcohol poisoning, smoking, or traffic accidents (National Center for Biotechnology Information). As a result of the large gender difference in life expectancy and because of the lasting effect of high casualties in World War II, the gender imbalance remains to this day in contemporary Russia. If rural families would have jobs, they would have more money, they would be able to buy better foods, refrigerators and store food longer and safer reducing food spoilage. The economic development would improve consumption, and production. It would benefit in the fact that more products would be sold and it

Even if rural families would have the money to buy fresh foods, they would face the problem that the food in local stores wouldn't always be checked for bacteria or proper preservation since Roszdravnadzor doesn't have control over rural areas. Lacking Roszdravnadzor control and sanitary environment for food preservation, rural families face dangers of getting intestinal infections and short storage of foods. Rural areas of Russia become less and less populated year by year this reduces capital for rural areas and ability to develop socially and economically since there's no new strength available from the younger generation.

would develop the trade between farmer markets and rural areas (ruralrussia.com)

The situation of malnutrition and food preservation is slowly getting better in rural areas, but since more cities are prospering and paying less attention to the rural areas, the improving process is very sluggish. There is a significant migration of population from rural areas to big cities where more jobs are available. This trend leaves villages to slow extinction.

Rural families in Russia highly depend on their crop yields. The weather and climate changes play an important factor in the outcome of the yields. Different parts of the country have better conditions for different vegetables. There are larger land areas in Russia that have poor agricultural areas where there's too much rain, long frosts, and short periods of warm temperatures essential for the growth. Northern part of Russia has better conditions for growth of potatoes, rye, peas, and cabbage. Southern part of Russia has a successful growth of soy beans and corn. However, the internal exchange of locally grown foods is very little which leads to import of products from other countries.

According to Csaba Csaki, the author of *Food and Agriculture Policy in Russia*, "Russian households, on average, spend about half of their disposable cash income on food" (Csaba Csaki). The financial situation for families gets worse in rural areas where there are no jobs available and government doesn't invest into the prosperity of the rural areas. Urbanization leads to the extinction of rural areas. They become unpopulated, which in turn leads to loss of production of crops and social development and demand in jobs. Since a lot of people migrate to bigger cities in time of urbanization, cities start having problems with work demand, public transportation, social and food securities. This leaves rural areas undeveloped and without any income.

The population growth happens only when there are jobs available. It would be helpful for rural areas to have population growth because that means that the area would develop socially, and have a better chance for economic development which would lead to government investments and essential growth of food markets with better Roszdravnadzor control and food quality.

Russia is a northern country with cooler and shorter season summer season. The quality and nutrition of food, specifically vegetables, can be highly improved by the development of green houses. This goal may be hard to achieve since greenhouses require a lot of energy and physical labor. Another way to improve the nutritional diet of people would be to importing of fruits and vegetables from countries with warm climate. In order to improve food quality and food preservation, Roszdravnadzor control must be stricter and more frequent in smaller businesses and farmer markets. One of the other factors that can help to improve the prosperity of bigger, Roszdravnadzor controlled, food markets can be creation of jobs and investments in rural areas which would increase a demand for food markets. Education factor also plays a big role in social development. The Russian society should be educated more on food spoilage, spread of bacteria and unsanitary conditions of food storage.

Rural families can play a key factor in production of crops and as suppliers to farmer markets and smaller food businesses. Russia is known to work with WHO (World Health Organization) in cases of food poisonings, health epidemics, intestinal infections, and other health problems. The WHO can help to educate Russian population about dangers of poor food preservations, food spoilage, and spread of bacteria, bad storage conditions, and even malnutrition. Also, the FAO (Food and Agricultural Organization affiliated with UN (United Nations) can collaborate with Russian non-profit organization to update rural farms on new available technologies and higher yielding crops. Rural families should pay attention to new technologies that can help crop production and longer food storage. The interference of worldwide known organization can gradually improve the food spoilage, malnutrition, and food storage in rural areas, which in turn can lead to social and economic development of rural areas.

Currently in Russia, The Ministry of Education and Science of the Russian Federation is trying to promote education about foods, balanced proper nutrition and better structured education in rural areas. They are doing so by involving government to promote laws and new educational technologies and structures. Many projects involve building health centers and fitness clubs to promote healthy way of leaving and give opportunities to younger generation to be involved in sports, learn about proper nutrition, and get medical help they need. These projects are being successful, but it takes a lot of money to organize and build new buildings (Nutrition Landscape Information System...).

In order the help Russian rural families to overcome problems with food spoilage, health problems related to spoilage, economic situation, and proper nutrition, government needs to pay attention and help. Rural areas need to be given seminars about uses of new technologies and new machinery. The new machinery need to be provided in order to help with better crop yields and creation of jobs. Rural areas need to be educated about risks of bacteria from spoiled foods and possible diseases. Government or Russian organization need to invest into rural organization to get them onto big food market to help with profit from production of foods. Rural families need to be provided with proper refrigerators and educated about signs of spoiled foods. Russia is getting better at getting familiar with these issues, but the process is so slow that the progress is very sluggish.

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