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**The Russian village, urban infrastructure issues, and the vertically integrated
agriculture model**

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Abstract

Russia's population total has been in decline since 1992 and this is most evident in the villages of Russia. With the collapse of the Soviet Union and the large farm collectives, many villages' raison d'être ceased to exist. Today people continue to leave the villages for what they consider to be the better economic promise of the larger cities. There are serious societal and infrastructure issues related to the village exodus to the larger municipalities. In this paper, a vertically integrated agriculture model is examined as one step towards a more vibrant village economy. A vertically integrated model based upon potatoes is proffered, but this same model could work in many areas of agricultural production.

Keywords: Russian agriculture, rural development, urbanization, vertical integration

December 25, 1991, was a historic day for Russian economics and lifestyles as it marked the date when General Secretary Gorbachev announced his resignation and USSR ceased to exist. Few could guess the extent of the economic and social turmoil that would occur after his resignation and during the decade of the 1990's. According to data on the World Bank internet site, in 1991 the per capita GDP in Russia was \$3,427 and by 1999 that number had declined to \$1,339 (1). During the same period the total Russian population declined from 148,624,000 to 146,309,000 (2). The most recent census data for 2010 shows a continued downward trend as the population stands at 142,905,000 (3) and this number is forecasted to further decrease to 138,240,000 (4) by 2030 if the current trend persists.

There is also a tendency to move from the village to the city and in the census of 2002 it was found that there were 13,032 abandoned Russian villages since the previous census or 8.4% of all the villages in Russia and another 34,308 villages that had fewer than 10 people (5)¹. This means that about one third of all Russian villages were dead or near death, according to these data, and many of these villages continued to receive infrastructure services of electricity, gas and other services (5)². This tendency of moving from the rural areas to the city deepened from 2002 until 2010 as the census shows a decrease from 26.7% in 2002 to 26.3% in 2010 of total Russian Rural population (3). This trend is not new as the World Bank records that the percentage of the Russian population living in Rural areas was 46 percent in 1960 and as chart 1-1 shows the percentage of rural population in the Russian Federation decreased at an accelerated rate in most years until 1990 where it plateaued at 27 percent until 2008 (6).

¹ [5, p.54]

² [5, p.54]

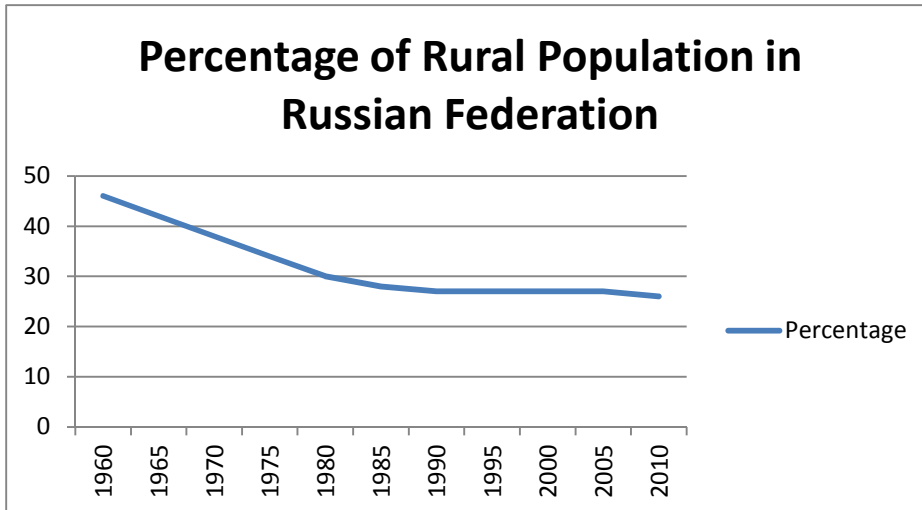


Chart 1-1 (6) Russian rural population as a percentage of the entire population for 1960 to 2010 in five year increments.

The continued flight from the rural areas has brought stress upon the infrastructure in the urban areas, like Moscow, which grew by 10.9 percent, Saint Petersburg by 4 percent, and other cities that also experienced similar growth during the period from 2002 to 2010 (3). During Soviet times these cities were planned with public transit as being the primary mode of travel, but from 2002 until 2009 the number of motor vehicles per 1000 people increased from 202 to 271 or a 34 percent over 2002 levels (7). Traffic congestion is one of many infrastructure issues in the growing cities of Russia. There are also quality of life and productivity issues to be considered as well. In a 2011 article it was reported that an average traffic jam lasts 2.5 hours for Muscovites and Moscow was rated eighth on the list of the cities with worst traffic jams (8).

Sustained and new infrastructure development in the cities is more expensive than in the rural areas; whether it is the expansion of roads, schools, or utilities, the expense will be larger than in the rural areas. With the purchase of the real estate as the primary cost driver. In a rural area road

expansion can be accomplished by appropriating land through a purchase, if owned privately, and possibly some houses or other buildings would be purchased, as well. There are many reports in the media placing the average value of luxury real estate in Moscow above the \$2,000 per square foot level, making it some of the most expensive real estate in the world (9). With these real estate prices in Moscow and other large Russian cities, road or any other infrastructure expansion would come at a huge expense, and because of the historic significance of certain buildings, may be impossible.

There are possible partial solutions to the linkage in the decline of the Russian village to the infrastructure issues of the growing cities and one possible solution is a vertically integrated agricultural businesses. In a vertically integrated agricultural business the product would be produced, stored, processed, and distributed from the same rural area. This would allow value to be added as the product passes up the production chain as more labor and other expenses would be required in each link. By placing these types of businesses in rural areas, there are at least six positive outcomes. It would provide an incentive for people to stay in the village instead of moving to the city. Secondly, people in the village would possibly work for a lower wage than what would be required by an urban worker, and thus, the product could be made for a more competitive cost. Thirdly, by placing the entire product chain in the same area shipping expenses could be kept to a minimum and environmental damage also. Fourthly, overall productivity would increase as people would not need to drive great distances or be in traffic jams. Fifthly, the family unit would not need to be separated, as is the case when it is deemed that there is more opportunity in the city, but not enough money to move the entire family. Finally, it would help diversify Russia's energy driven economy and allow Russia to become agriculturally independent.

Agricultural production is important to any country, but more important to Russia than most as in 2010 its imports for the top 20 Agricultural products was \$16.7 Billion, but its exports only numbered \$4.8 Billion or an \$11.9 Billion trade deficit for these items (10). At a minimum, Russia can and should feed itself, adding by these 2010 numbers of \$11.9 Billion of diversity to an energy-driven economy and strengthening the villages where this production would occur. Russia is also close neighbors with India and China both possible export prospects for certain excess agricultural products.

An example of one product that could be easily vertically integrated is potatoes: from the farm, to storage, to potato chips and other processed items, to distribution; and, it could all take place in a rural setting. Retailers, like Auchan, after shipping products to their retail centers send these same trucks empty to their warehouses. Why not send potato chips and other agricultural, value-added products back on these same trucks?

Russia's average potato yield per hectare for the years 2006 through 2010 was 12.8 tons (calculated from data from FAOSTAT) (11). During this same period American potato growers averaged 44.9 tons per hectare (calculated from data from FAOSTAT) (12). American growers follow best practices of irrigation, optimum fertilization, best cultivar, and seed potato selection. Perhaps, the American yields are not attainable in Russia, but doubling the yield to 25.6 tons would free up half of the last five year average of 2,444,000 hectares (calculated from data from FAOSTAT) (11) used for potato production in Russia for another crop.

In conclusion, from the data in this paper it is apparent that Russia

has a declining village population and the need for increased, costly infrastructure (understanding that there may also be a need for less costly infrastructure in and around the villages) in the cities coupled with a large trade deficit in the agricultural products area. The idea of vertically integrating agricultural production in the rural areas of Russia was proffered as one way to supply much needed higher paying, secure jobs to stabilize the village economy and slow or stop the flight from the village to the cities. This would alleviate some of the infrastructure issues that the larger cities are facing and diversify an economy that is heavily dependent upon oil. This could also make agricultural production more efficient, by centralizing the entire vertically integrated entity coupled with the best practices as applied in North America and parts of Europe. Secondly, as Russian agriculture becomes more efficient beyond feeding itself it could export excess agricultural products, creating a much stronger economy not dependent upon other countries for most agricultural products. Finally, with Russia's entry to the WTO agriculture efficiency is a requirement and not a suggestion. As the average bound tariff rate decreases by twenty two percent from a 2010 rate of 13.8 percent to a WTO required rate of 10.8 percent (13)³ Russia will have no choice, but to become more efficient in agricultural production or increase importation of cheaper products from other countries.

³ [13, p32]

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