



# TOO MANY WORKERS? CHANGES IN AGRICULTURAL EMPLOYMENT IN RUSSIA

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## Changes in the workforce

IN THE SOVIET ERA, TEN MILLION WORKERS were employed by the collective and state farms that dominated rural labor in Russia. Since then, employment on large corporate farms has declined dramatically. By drawing labor from this shrinking sector, individual farming—independent peasant farms and household plots—emerged as a strong alternative employer in rural areas.

This BASIS brief examines the magnitude and consequences of the changes in Russia's rural labor. The brief draws on data from official statistical sources, the 2003 BASIS survey, and rural surveys conducted by the author since the early 1990s. The policy recommendations that follow from this examination highlight the need to diversify employment alternatives in rural areas and raise wages and living standards.

## Factors behind the changes

Many politicians and scholars believe that Russian agriculture suffers from an excess of labor. Official estimates for 2002 put employment in the agricultural sector at 11% of the total labor force, down from 15% in 1995. The decline in agricultural employment is generally consistent with the overall decline of the Russian workforce, yet there are notable differences. Until 1995, agricultural employment displayed a “stickiness,” apparently due to the increased farming

activity by both rural and urban families. From 1990 to 1995, the number of household plots increased by a factor of 1.6 and their land use grew by a factor of 2.5, a process bolstered by immigration from other former Soviet republics, which peaked in 1994-95. While total employment in the national economy responded with an upward trend in the aftermath of the 1998 financial crisis, agriculture declined at an average annual rate of 2.6%.

The decline is entirely attributable to the large corporate farm sector, which shed labor faster than did the manufacturing and construction sectors. Employment on corporate farms decreased by 60%, and this led to a diversification in farming structure. Many people shifted to commercial farming on household plots, while there also emerged an entirely new sector: peasant farms. By 2002, the 7.7 million people employed by commercial producers were divided almost equally between the corporate farms and the individual sector (household plots and peasant farms). Yet many who left the corporate farms did not find work, and rural unemployment reached 1.8 million.

In addition to the 7.7 million people employed in commercially-oriented agriculture, a large contingent of rural residents are engaged in subsistence farming. Official surveys show that 23.7 million people (both rural and urban) work on household plots for family subsistence. Among these informal agricultural producers, 45% report that farming the household plot is their main or sole occupation. The labor input of these

23.7 million “shadow” farmers is 12% of the labor input of the entire Russian population, or 9.1 million full-time equivalents. When the estimate of 7.7 million officially employed is added in, Russian agriculture employs approximately 16.5 million full-time equivalents, or 22% of Russia’s labor force. This estimate is double the traditional figure of 11% agricultural employment in the economy.

Agricultural labor is becoming more mobile. The percentage of layoffs in agriculture reached 35% in 2002, as the extremely low wage rates and accumulating wage arrears encourage workers to leave “on their volition.”

### **Demand for labor**

While the prevailing opinion is that agriculture suffers from an excess of labor, the Russian Ministry of Agriculture publishes normative calculations demonstrating that agriculture suffers from a shortage of qualified labor.

The 2003 BASIS survey reveals neither a shortage nor redundancy of labor in the individual sector. More than 90% of surveyed peasant farmers and commercial household-plot operators report that they have adequate labor for their needs. The majority of corporate-farm managers (55%) are also satisfied with the size of their labor force, but 33% experience shortages. The main shortages are in skilled and professional workers, such as machinery operators, livestock workers, and agricultural specialists. Importantly, only 10% of corporate farms, and none of the individual farms, report *excess* labor.

Comparison of corporate farms in two labor sufficiency categories—farms with an adequate labor force and farms experiencing a shortage of labor—reveals a striking difference in factors related to labor remuneration. Among farms reporting adequate labor, annual wages are 20% higher, wage arrears substantially lower (1.7 instead of 2.7 months), and share of wages paid in kind higher (20% instead of 10%) than on farms experiencing a shortage of labor. All the incentives combine to ensure that farms with adequate labor are more successful in attracting labor.

Managers of corporate farms complaining of labor shortages were asked about possible reasons for their failure to recruit an adequate workforce. The main reasons were uncompetitive wages offered in agriculture and shortage of housing. Managers of the few farms reporting excess labor say the main reasons

they did not lay off the redundant workers was because they did not want to be responsible for reducing the standard of living of the workers’ families, they needed the redundant workers as a buffer for seasonal peaks, and they were concerned that layoffs would increase theft, drunkenness, and general criminal behavior in the village.

Farms reporting adequate labor utilize their workforce more effectively. The effective work-year on these farms is 4.6% longer than the average work year of 2,000 hours, whereas on farms that complain of labor shortages the work year is 1% shorter. It seems that underutilization of labor, overemployment, or hidden unemployment are not significant problems on corporate farms. Yet, these problems are clearly evident in the individual farm sector. According to official data, the work year on peasant farms and commercially-oriented household plots is about 55% of the average work year on corporate farms. On subsistence-oriented household plots the underutilization of labor is even more pronounced, with the work year a mere 40% of the work year on corporate farms.

### **Consequences of low wages**

By 1990, the monthly nominal wage paid by farm enterprises was 95% of the monthly average wage in the economy and nearly 93% of the average industrial wage. Then agricultural wages began to slip. By 2002, they had fallen to 40% of the national average and 35% of the average industrial wage. Today, the agricultural wage is the lowest in the economy. It is notable that wages paid to the core agricultural activities in corporate farms are now 12% below the wages paid to non-agricultural activities. Even on corporate farms themselves, remuneration of agricultural labor lags behind non-agricultural labor.

This problem is highlighted in a survey conducted by the author in 2004. Using data from that survey, it is possible to compare the labor inputs and wage earnings of two average rural families, one of which is agricultural, whose members are employed mainly in the local corporate farm, and one of which is non-agricultural, whose members are employed in rural social services. The families are the same size, have the same number of working adults, and earn the same total income, including earnings from the household plot. Yet, for the agricultural family, the total labor input is 6% greater and the return per hour of wage employ-

ment 30% less when compared to the non-agricultural family. The wage differential seems to reflect the greater lobbying power of the urban social-service sector in the labor market.

Further evidence that agricultural workers are underpaid is provided by production-function estimation using the 2003 BASIS survey. According to these estimates, an additional worker would produce 20,000-26,000 rubles worth of output per year, while being paid approximately 12,000 rubles per year. The traditional interpretation of these findings is that corporate farms would benefit by employing more labor, assuming that the price of labor stays at 12,000 rubles per year. In our context, however, we interpret these results as evidence that agricultural labor is underpaid by a factor of 2—agricultural wages are very low relative to the value of marginal product that agricultural labor produces.

It can be argued that 12,000 rubles is low because the nominal wage does not reflect the full earnings of a corporate-farm worker, who enjoys additional side benefits as part of employment. The author's estimates for corporate farms in the Orel Oblast show that the combined impact of all the subsidies, services, and support that the workers receive—whether with the management's formal authorization or by informal shadow practices—ranges between 20-25% of the nominal wage. If we accordingly assume that agricultural workers earn 15,000 rubles, or even 18,000 rubles (50% higher than the reported 12,000 rubles a year), this is still substantially below the value of marginal product of labor. These results only strengthen the conclusion that agricultural labor is underpaid.

Uncompetitive wages in formal agricultural is one factor that causes rural people to devote a substantial part of their time working the household plot. Income from the household plot significantly improves the family budget and is exempt from taxes. From 1997 to 2001, the author conducted a series of surveys in three oblasts, covering 1,192 employee families in 15 corporate farms. Findings show that employees on unprofitable and low-profitability corporate farms devoted more than one-third of their working time to the household plot, which contributed 54% of total family income, while wage earnings accounted for 36%. For employees on profitable corporate farms, wage earnings accounted for more than half the family income (58%), while income from the household plot accounted for 36% (see also **BASIS Brief 34** on the

relationship between household plots and corporate-farm profitability).

Employees on unprofitable farms are motivated primarily by non-market factors, which include payments in kind, inputs illegally siphoned from the farm, and supplementary earnings from the household plot. Profitable farms, on the other hand, seem to motivate their employees primarily by market mechanisms, such as payment of wages in cash and considerations relating to the organizational environment and economic conditions on the farm.

## Productivity

Because of data limitations, productivity of agricultural labor can be estimated confidently only for corporate farms. Until 1998, labor productivity declined in step with the decrease of agricultural output, with the slower decrease of agricultural employment exercising a moderating influence on this downward trend. After 1998, labor productivity began to increase as the recovery in agricultural production combined with a continuing decline in agricultural employment. From 1990 to 2002 agricultural output of corporate farms dropped by 56%, while agricultural employment dropped by 59%. As a result, agricultural labor productivity in corporate farms in 2002 was actually 3% higher than in 1990.

Comparative analysis of labor productivity in farms of various types runs into difficulties due to weaknesses of data collection in the individual sector. The available scattered information allows some rough estimates to be obtained for one year only (and not for a time series, as with corporate farms). Using the available data for 2002, we find that corporate farms achieve higher labor productivity than is found on peasant farms and commercially-oriented household plots. Peasant farms achieve higher labor productivity than household plots.

Labor productivity is a partial measure of productivity, and the fact that individual farms have lower labor productivity than corporate farms does not necessarily signify that they produce less efficiently overall. Corporate farms, with their huge expanses of land, produce less output per hectare than the much smaller individual farms. In other words, the partial productivity of land is lower in corporate farms than in the individual sector. We can try to explain these differences by the different product mix. Corporate farms



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emphasize extensive crop production; household plots emphasize intensive livestock production. However, what determines efficiency is not partial productivity of labor or land, but total factor productivity, which examines output in relation to the entire basket of inputs: labor, land, livestock, machinery, fertilizer, fuel, power, etc. The lower productivity of labor in the individual sector is a manifestation of the “labor-sink effect” of individual farming: people who lose their jobs in corporate farms cannot readily find alternative employment because of inadequate skills, barriers to urban migration, and lack of non-agricultural job opportunities in rural areas. They are forced to shift to individual farming, which saves them from unemployment and provides a kind of a safety net, but at the cost of lower productivity.

### Working to help the workers

The rural population is faced with shortage of alternative employment opportunities, extremely limited mobility of labor, and total lack of political lobbying power.

These factors produced agricultural labor markets in which unemployment is held in check by reducing the effective working time and lowering wages. As a result, there has been a massive shift of agricultural labor from wage employment in corporate farms to subsistence and semi-commercial farming on household plots. Russian agriculture is characterized by large-scale underutilization of labor, primarily in subsistence household farming, which only deepens rural poverty by creating an illusion of employment but without sufficient income. Even these mechanisms, however, have been unable to reduce rural unemployment, which in 2003 reached 10%, compared with 8% for the urban population.

Policy interventions should focus on increasing rural incomes by a combination of measures to improve agricultural productivity and create job opportunities

outside agriculture. European experience shows that this is a costly process that requires significant government budgets to support investment in modernizing agriculture and rural infrastructure in general.

Rural non-agricultural activities should be encouraged and expanded by restoring the normal functioning of social services, as well as by promoting small entrepreneurship through credit facilities, tax breaks, and simplification of administrative requirements for small business creation. Education and training programs should be established to teach the rural population relevant marketable skills. The large cohort of subsistence farmers working on their household plots as the main or sole occupation should be given the legal status of “economically employed” with all the associated rights for pension, medical insurance, unemployment benefits, and other forms of social protection. This would eliminate the sweeping tax exemption that household plot operators continue to enjoy, but correct a major distortion between different categories of individual farms.

Finally, efforts should be made to raise the political conscience of the rural population and encourage it to start lobbying for better wages and living standards. This may sound like a non-market mechanism, but active political awareness is one of the important tools that all constituencies employ in developed market economies to achieve their goals.



### Further reading

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