

## ESTIMATION OF FORMATION AND USE OF A MANPOWER

**Abstract.** In the last years a disturbing tendency of reduction in the birth rate and increase in the death rate is observed, and the situation in the countryside is especially dangerous. The most qualified experts and youth leave countryside. Youth in its turn is a potential labour force. The state uses measures to improve the situation. However the further development of manufacture and the effective utilization of labour potential are impossible without labour efficiency growth.

**Key words:** labour force, population growth

The overall objective and sense of economic development consists not in the accelerated development of market economy, but in giving each person a chance to realize his potential and live a healthy, creative life. Formation of manpower depends on a set of factors and, first of all, we shall consider the demographic situation, as manpower resources depend on its improvement. The demographic situation both in Belarus and abroad remains difficult enough (table 1).

Table 1. Natural movement of the population (per 1000 person) \*

Year	Birth rate		Death rate		Natural growth rate	
	Belarus	Poland	Belarus	Poland	Belarus	Poland
1990	14,0	14,3	10,8	10,2	3,2	4,1
1995	9,9	11,2	13,1	10,0	-3,2	1,2
2000	9,4	9,9	13,5	9,6	-4,1	0,3
2002	8,9	9,3	14,8	9,4	-5,9	-0,1
2004	9,1	–	14,3	–	-5,2	–

Source: [Statistical... 2006, p. 14-22].

As the research shows the birth rate is reducing, and the death rate is increasing. It led in Belarus in 1995 to a natural decline in population (-3,2 per mille), and in Poland much later, in 2001 (-0,1 per mille). It is interesting that the birth rate in these countries since 1990 has been nearly the same. The death rate during the analyzed period in Belarus increased by 36 %, in Poland decreased by 7,8 %. The probable reasons for this the author sees in the decline of infant death rate (since 1990 it has decreased by 35,3 % in Belarus; in Poland it has decreased by 63,7 %) and in the increase of life expectancy. In 2003 in Belarus male life expectancy was 63,2 years, female 75 years, in the neighbouring country 70,5 and 78,9 respectively. One of the factors of the increase in death rate in Belarus and its reduction in Poland is a disbalance in eating habits. As compared to the average norm of meat consumption (80 kg), in 2003 it accounted for 58 kg in Belarus and 72 kg in Poland. In 2003 alcohol consumption in Belarus was 9,2 l, in Poland 6,5 l. The statistics testifies that

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depopulation takes place both in the Republic of Belarus as a whole and in separate regions, in particular in the Grodno region, and especially in the rural areas (see table 2).

Table 2. Natural population increase per 1000 people, persons

Population	Republic					Grodno region				
	1960	1980	1990	2002	2005	1960	1980	1990	2002	2005
general	17,8	6,1	3,2	-5,9	-5,4	18,0	8,1	3,2	-6,8	-6,6
urban	19,4	12,3	7,5	-1,6	-1,5	20,2	15,3	10,5	-0,1	-0,3
rural	17,1	-2,0	-5,6	-15,9	-15,2	19,7	-1,2	-7,2	-18,8	-20,2

*Source: According to the Ministry Statistics and Analysis; Grodno Regional Management of Statistics*

Natural increase of the population per 1000 people, both in the Republic and in the region, essentially differs between the city and the rural areas. The first symptoms of depopulation in the countryside were 20-22 years earlier than for the urban population. The negative natural increase began in 1979 and 1980. In the region it has been progressing since 1979. In 1979 it accounted for -1,2 person per 1000 people, in 2005 for -20,2 person. The excess in death rate over birth rate in the cities began in 2002 and was equal to -0,1 person, and in 2005 to -0,3 person per mille. The comparison of the natural increase of the urban and rural population shows that the death rate in the village has increased 96 times. Thus even the migratory process did not compensate the general decrease in rural population. Since 1990 the quantity of people arrived to the area has been reduced by 89,3 %, and the departed by - 95,4 %. It shows that the rates of departures are higher than the rates of arrival. As the result of the intraregional migration the urban population annually increases by 2-3 thousand, and the rural is reduced accordingly. The greatest part of the departed are youth from the countryside. So, in 2005 in comparison with 1995, of the youth having average special and secondary education, 6010 more left and 4884 people more arrived to the rural settlements.

Departure of youth for the city and abroad is a negative tendency which will affect the future demographic situation and the increase of the population. Leaving rural youth are future potential family founders and "suppliers" of labour. To improve the situation with the outflow of labour a state program « Revival and development of village for 2005-2010 » provides a number of actions. In our opinion one of the major ways of solving this problem is the essential increase of nominal wages up to 320-360 \$. The growth of wages is shown in figure 1. This parameter renders significant influence on the reproduction of labour in agriculture, however it is the lowest in comparison with all the branches of the national economy. In 1990 it was similar to the industry, in 2005 the wages in agriculture reduced twice in relation to this branch. In 1990 the wages in agriculture were 99,2 % of the average monthly wages in the national economy, and this relation was equal to 65,3 % in 2005.

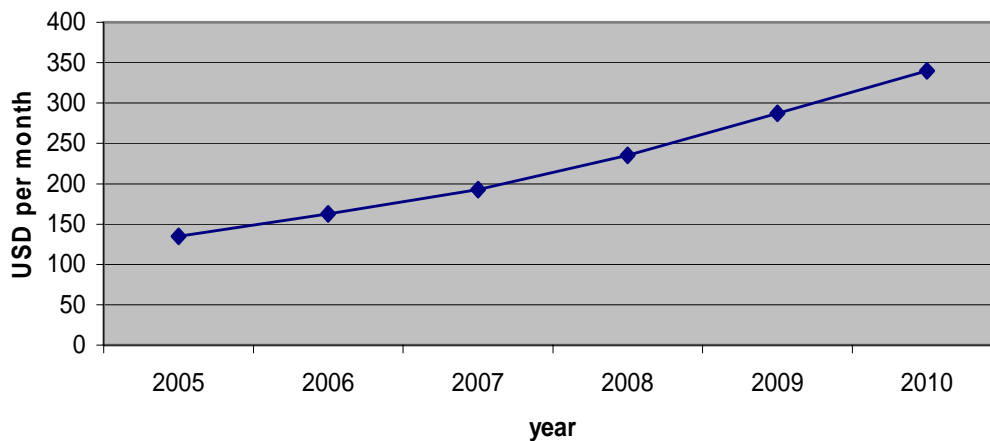


Figure 1. The predicted level of wages submitted by the program « Revival and development of village for 2005-2010 »

The decrease of the rural population and that employed in the agricultural production is an objective natural process connected with the use of new more progressive methods of crop cultivation as well as livestock and poultry breeding. However in Belarus and its regions the reason of the reduction of rural population are not only the above named factors, but also social and economic conditions of life of the rural population. For many decades the importance of the agrarian sector has been underestimated. There still exists a disproportion of prices for industrial and agricultural products, the standard of living of rural population is much lower than that of urban population. There are essential social distinctions between the conditions of life of city dwellers and villagers and a backwardness of rural social infrastructure. With a view of successful and progressive development of rural territories, motivation of residing in the countryside and the effective utilization of public funds for rural development and formation of qualitatively new types of rural settlements - agrarian town - is provided. Agrarian town is a comfortable settlement in which creation of an industrial and social infrastructure for maintenance of social standards for the population living in it and the inhabitants of adjoining territories is provided.

In Grodno region the Committee for Construction, Power, Transport and Communications carried out a complex inspection of rural settlements on the basis of which a list of agrarian towns of Grodno region for 2005-2010 is authorized. Totally for the period it is planned to equip 239 settlements of the city type (yearly distribution: 19 in 2005, 40 in 2006, 43 in 2007, 43 in 2008, 44 in 2009, 50 in 2010). Agrarian towns will be provided with 108 apartments with a total surface of 7,6 thousand  $m^2$ , the average size of an apartment is 70,37  $m^2$ .

The developed and introduced actions will improve manpower situation, but will not change it radically. Constantly increasing natural decline in population and migration of rural youth into cities do not allow to speak about a fast growth of labour potential in the

countryside. Therefore the further development of production and economy as a whole is connected with an increase of labour productivity and a decrease in labour input (table 3).

Table 3. Labour input for producing 1 quintal of the basic agricultural products, man hours

Agricultural product	Year				
	1990	1995	2000	2002	2005
Grain	1,05	1,22	1,19	0,90	0,70
Potato	1,95	3,54	3,60	3,54	2,72
Milk	5,44	8,17	7,85	6,45	4,46
Gain in weight:					
- cattle,	27,11	45,40	56,97	33,57	23,48
- pork.	14,23	26,03	20,00	18,30	13,78

Source: on the basis of summary annual reports of Grodno region

As the data show, labour input for manufacturing a unit of the basic kinds of agricultural products has been reduced which is connected with a growth of the level of production intensity (table 4).

Table 4. Influence of the level of security of the basic production assets on the efficiency of agricultural production in Grodno region \*

Groups of enterprises by cost of the basic production assets per 100 ha of agricultural land, million roubles	Number of enterprises in group	Basic agricultural production assets, million roubles		Gross output, million roubles		Profit per 100 ha of agricultural land, million roubles	Level of profitability, %
		per 1 mid-annual worker	per 100 ha of agricultural land	per 1 mid-annual worker	per 100 ha of agricultural land		
up to 300,0	86	48,8	182,9	3,2	52,3	-1,5	-6,4
300,1 – 550,0	79	62,3	396,9	5,8	66,4	-0,8	-3,2
550,1 – 800,0	25	72,0	638,9	8,1	70,2	4,6	0,9
800,1 – 1050,0	12	80,8	958,5	11,0	71,2	8,3	6,3
more than 1050,0	7	84,3	1423,9	21,2	71,2	32,0	11,8

Source: own calculations

The research shows that the growth of the basic production assets increases labour efficiency, gross output and profit per 100 ha of agricultural land. As a result the unprofitable enterprises become profitable. So in the third group of enterprises of Grodno region where the basic production assets are worth more than 1050,0 million roubles per 100 hectares of agricultural land, the fixed capital amounted to 84,3 million roubles and gross output accounted for 21,2 million roubles per worker, and 71,2 million roubles per 100 hectares of agricultural land. The level of profitability on the whole has increased up to 11,8 %.

In the last years a disturbing tendency of reduction in the birth rate and increase in the death rate is observed, and the situation in the countryside is especially dangerous. The most qualified experts and youth leave countryside. Youth in turn is a potential labour force. The state uses measures to improve the situation. However the further development of production and the effective utilization of labour potential are impossible without labour efficiency growth.

## References

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