

**I.H.Krylova**

Candidate of Economic Science, assistant professor of Business Economics Department  
Mykolaiv National Agrarian University

**H.V.Kovalenko**

Candidate of Economic Science, assistant lecturer of Business Economics Department  
Mykolaiv National Agrarian University

## **DEMOGRAPHIC PROCESS IN REPRODUCTION AND FORMATION OF HUMAN CAPITAL OF RURAL POPULATION OF UKRAINE**

**Annotation.** The basic causes of aggravation of demographic situation in rural areas of Ukraine are defined and their impact on the development of human capital is estimated.

*Keywords:* human capital, rural population, natural movement, migration, population structure.

**Problem setting.** The development of human capital takes place under the influence of different factors, and it is just the study of demographic factor that needs special attention, because the number and qualities of the carriers of human capital will define the conditions of formation of its components and use effectiveness. The social-demographic condition of village today can be characterized as crisis. The study of demographic factors was conducted for the period 1939 – 2015. When generalizing theoretical propositions of defining the category «human capital» were used the method of system analysis and abstract-logical method, for studying demographic factors in the formation of human capital of the rural population were used comparative analysis and statistical-economic method.

**The analysis of last researches and publications.** The study of the problems of demographic situation and the aspects of human capital are considered by the well-known men of sciences: V. Blyzniuk (description of human potential of population), V. Antoniuk (evaluation of human capital formation), O. Hryshnova (theoretical propositions of defining the category «human capital»), K. Yakuba (study of the life and employment potential of rural population) and many others. Their scientific heritage is

valuable for the exploration of this problem in modern economic conditions of the development of social-oriented economics of the country. However, the issues of constant investigation and evaluation of the demographic factors of the formation of human capital of rural population of Ukraine are still topical.

**Identifying unsolved aspects of the problem.**

After analyzing the main demographics characteristics of human capital formation, the basic causes of aggravation of demographic situation in rural areas of Ukraine were defined and their impact on the development of human capital was estimated. The factors affecting negatively the formation and development of the human capital of the rural population and changing its demographic characteristics were defined.

**The aim of the article.** Having analyzed the main demographics characteristics of human capital formation, to define the basic causes of aggravation of demographic situation in rural areas of Ukraine.

**The discourse is of main material.** Natural abilities, knowledge and skills of a man without doubt have significant effect on the level of the revenues, and this relation is studied by the theory of human capital (HC). O. Hryshnova gives the following definition of the category «human capital»: « human capital is formed or developed due to investments and cumulated by people (by a man) a certain stock of health, knowledge, skills, abilities, and motivations which is purposefully used in this or that sphere of social manufacturing, facilitates growth of efficiency of labor and due to these aspects affects the growth of its owner's revenues (of earnings) » [1]. V. Blyzniuk believes that human capital is a form of the realization of human potential which is in its turn cannot be infinitely accumulated, so, the scholar gives the following definition: «human capital is the system of characteristics , which define the man's capability to creative work with a view of the creation of added-value , that is quality of manpower of a person, of an aggregate worker of an enterprise, a firm , a corporation, a country, that find manifestation in the process of enlarged reproduction» [4].

Thereby, making decision by a man concerning improving of proper qualitative characteristics through investing of supplementary funds can facilitate the improvement of her of living standard. The important issue in understanding HC is the fact that it represents by itself the formed, developed and cumulated due to investing a certain stock of health, knowledge, information, motivations, abilities, and not only a set of the qualitative characteristics of a man. Special features of HC are in the fact that it embodied in a man, therefore it cannot be sold, inherited or accumulates during a long period, and motivation is important for its reproduction, as the process of accumulation and use of HC is supervised personally by a man.

Most scholars mark out such basic factors of formation and development of human capital: demographic, industrial, economic, organizational-economic, social, socio-demographic, socio-economic, social-mental, institutional and ecological [1, 2]. With any interpretation of the term «human capital» the study of demographic factor is crucial for the evaluation of its formation and development. Demographic component of human capital may be measured by the following indicators: number of population, fertility, mortality, sex and age structure, migration, natural movement of population, the average life expectancy.

We shall annotate that there are specific factors, which affected social-demographic processes in rural locality. They can be divided into following groups: historical-demographic (formed by the previous development of rural territories); social-economic; historical- cultural (the traditions of rural everyday life) [8]. We shall underline that among the first group facts there are those which particularly affected demographic degradation of Ukrainian villages. They are intensive migration of young people and high death rate among men. Since 1979 in the rural locality of Ukraine there has been depopulation which with time became the main part of reduction of population (Table 1). During the period 1979-2014 the reduction of rural population made 5.2 million individuals, when the number of municipal population increased by 0.8 million individuals. Rural population network is being destructed. During the period 1970-2014

2.9 thousand of rural populated articles disappeared, that means that on the average every year in this period about 66 rural settlements disappeared.

Table 1

The number of rural and municipal available population of Ukraine  
(million individuals)

Years	Rural	Municipal	Total	General accession (abatement) in comparison with previous period		
				Rural	Municipal	Total
1939	26,9	13,6	40,5	-	-	-
1959	22,7	19,2	41,9	-4,2	+5,6	+1,4
1979	19,3	30,5	49,8	-3,4	+11,3	+7,9
1989	17,1	34,6	51,7	-2,2	+4,1	+1,9
2000	16,1	33,3	49,4	-1,0	-1,3	-2,3
2014	14,1	31,3	45,4	-2,0	-2,0	-4,0

Reducing the number of rural population could be considered as natural process, conditioned by increase of the efficiency of agricultural manufacturing, if it was not accompanied by negative phenomena, aroused by scaled distinctions between the conditions of life and work in villages and cities [8]. The period 1979-1990 can be named the «years of intensive escape out of villages», which is attested by the negative balance of migration, that 8 times exceeded the natural abatement of population (Table 2).

Table 2

Natural abatement and migrational accession (abatement) of the rural population of Ukraine, thousand individuals

Years	Natural abatement	Migration balance
1979-1990	-243	-1962
1991-2000	-1400	+344
2002-2013	-1477	-187

In the migration movement young age groups dominated, so the phenomenon significantly influenced the decline in fertility and deepen the aging of rural population.

In 1992 migratory outflow began to change into migration growth, which lasted until 2001, which can be explained by the return of ethnic Ukrainian in connection with

the collapse of the USSR. In 2001 migration gain was 44,600 people, whereas in 2002 the migration reduction in the amount of 24 667 people was recorded. The period from 2002 to 2013 is characterized by migration loss of rural population (187 thousand people). Only in 2014, as a result of migration, rural population increased by 2999 people, but it went 75,866 people down because of the excess of deaths over births.

Table 3

Formation of reduction of existing rural population  
of Ukraine in 2014, individuals\*

Total reduction	Natural reduction	Migration growth
-75866	-78865	2999

*\*Without temporarily occupied territory of the Crimea and the zone of the antiterrorist operation*

The main manifestation of demographic crisis is the depopulation which started in rural locality since 1979, and beginning with 1991 natural abatement of population is being observed both in municipal and in rural locality. K. Yakuba in the study of vital potential (the period of life a man lives from birth to death) of rural population forecasts the loss of population of Ukrainian villages in 3, 5 generations under the modern rates of reduction of vital potential of peasants [7]. In nearly 2.5 thousand rural settlements the proportion of the population aged 60 and older was 50%. During 2011-2013 in 4097 (15.2%) rural settlements there were no newborns, and in 21154 settlements (78.3%), the number of deaths exceeded births [11].

Reproduction of population is characterized as a process of its renewal in consequence of the replacement of those who died by the generations of given birth, that leads to changes in population size and composition. The indexes of birth rate and death rate can be thought indicators of medical and social prosperity in a country. These indexes attest about menacing situation: during the period 1979-2014 in rural areas of Ukraine can be observed natural population decline, and the number of dead predominates over given birth by about 40% in recent years. The main causes of death

of rural population remain the following: «the diseases of blood circulation system» (69.7% from general death number in 2013), «neoplasms» (10.8%) and «external causes» (6,2%). The coefficient of depopulation of rural population exceeds the threshold value (1) and increases from 1.27 in 1990 to 1.48 in 2014.

In the sex composition of population women exceed. For the studied period in the age category 0-15 years old there are more men than women (boys comes to being more). Beginning with 2000 in the age group 16-59 years old the number of men is more, however the high death rate of men of advanced age results in the reduction of their part (34.8% in 2014) in the group «60 years and older» (Table 4).

Table 4

The correlation of men and women in the rural population of Ukraine

Age (years old)	Men per 1000 women		
	1979	1989	2014
0-15	1032	1032	1055
16-59	884	975	1024
60 and older	444	451	536
Total	804	827	891

В цілому природна основа демографічного розвитку людського капіталу сільського населення погіршується. В частині населення, яке формує демографічну основу відтворення в сільській місцевості жінок менше, ніж чоловіків: серед підлітків їх питома вага скорочується на 2,3 в.п. (табл.6), а в найактивнішій дітородній частині сільського населення віком 20-29 років жінок лише 47,5% в 2014 р. Відбувається абсолютне і відносне зменшення жінок в сільській місцевості з 9,3 млн осіб в 1990 р. до 7,5 млн осіб в 2014 р.

In general, the natural basis of demographic development of human capital of rural population is deteriorating. In that part of the population which forms the basis of demographic reproduction in rural areas the number of women is less than the number of men: among adolescents their share is reduced by 2,3 p.p. (Table 6), and in the most active childbearing part of rural population there were only 47.5% of women aged 20-29

in 2014. There can be observed an absolute and relative reduction of women in rural areas from 9.3 million people in 1990 to 7, 5 million people in 2014.

Both a net-rate of reproduction of female generation (which shows the average number of girls born by one woman during her life who would live up to maternal age at their birth on the condition of maintaining the existing levels of fertility and mortality in every age) and the total fertility rate (which characterizes the average number of children born per woman during her life on the condition of maintaining the existing levels of the birth rate in each age group) go down. The first one reduced from 1.104 in 1990 to 0.871 in 2013; the latter – from 2.324 in 1990 to 1.825 in 2013.

The characteristic feature of all variations of sex-age composition of the rural population of Ukraine is its aging, that has manifestation in abatement of the part of children and youth and the increasing of the part of elderly people and people of advanced age. According to E. Rosset’s scale the rural population has the very high level of demographic aging. It should be noted that the process of aging of the population in Ukraine originates not in the increase in life expectancy (which is much shorter in comparison with European countries), but in fertility decline and deterioration of public health. In 1979 specific gravity of individuals aged 60 and older in the general number of rural population made 20.3%, in 1989 – 24.2%, in 2014 – 2.9% (Table 5).

Table 5

Demographic load per 1,000 people of working age in rural areas of Ukraine  
in 2015 \*

Age groups	individuals
Under working age	295
Over working age	389

*\*Without temporarily occupied territory of the Crimea and the zone of the antiterrorist operation*

In the structure of the constant rural population during the period from 1990 to 2014 the working age group has the largest share, which increased by 6.4 percentage

points but in absolute terms their numbers reduced from 9.0 million individuals in 1990 to 8.4 million individuals in 2014.

The part of individuals of pre-working age and individuals above working age in general number of rural population is decreased in 2014 comparing to 1990 by 4.7 p.p. and 1.7 p.p. respectively. It should be noted that during the period 1990-2014 the number of elderly age group exceeded the number of individuals of pre-working age group. Such structure of population corresponds to the regressive type, when the part of grandparents is larger than the part of children (Table 6).

Table 6

The distribution of the constant rural population of Ukraine according age and sex, %

Age groups	1990	2000	2014	2014 in comparison with 1990
0-15	22,1	20,7	17,4	-4,7
men	11,2	10,6	8,9	-2,3
women	10,9	10,1	8,5	-2,4
16-59	53,2	53,4	59,6	+6,4
men	26,3	26,7	30,2	+3,9
women	26,9	26,7	29,4	+2,5
60 and older	24,6	25,8	22,9	-1,7
men	7,8	8,9	8,0	+0,2
women	16,8	16,9	14,9	-1,9
Total	100,0	100,0	100,0	-

Undoubtedly, the reduction of the number of individuals of pre-working age creates adverse demographic prerequisite for the reproduction of the human capital of rural population for distant perspective. Therefore, the abatement of the number of rural population is taking place in all age groups, especially in the pre-working age group (by 1.3 million individuals during the period 1990-2014).

**Conclusions and suggestions.** Resuming the represented material, we can conclude that the natural foundation of demographic development of human capital of rural population is deteriorating: depopulation, which has extended over the whole countryside of Ukraine since 1979, is the main cause of population decline. The process



of renovation of the rural population is in critical condition for there is no replacement of dead people by the generation of born ones.

Among the other demographic problems which have negative impact upon formation and development of the HC are as following: the high level of the aging of population, reduction of birth-rate, the reductions of average lifetime, demolition of rural settlement, migrational tide of youth and middle-aged individuals out of rural locality. The characteristic feature of modern Ukraine is the situation when the demographic crisis is intensified by the economic crisis.

The main directions of improvement of demographic capital in rural areas should be based on the basic principles of the concept of human development, according to which the economy exists for the development of the people, not the people exist for economic development. Under any economic growth the social progress is impossible without implementation of such important to human capabilities as: to live a long and healthy life; expand and update knowledge; access to livelihoods that can provide a decent standard of living.

Therefore, improvement of health, increase life expectancy, reduction of unemployment, creation of working places, increase of level earnings – all these factors have to form favorable environment for continued and efficient activity of rural population.

#### **Literature:**

1. Hryshnova O. Human capital: Formation in the system of education and professional training /O. Hryshnova – K.: "Knowledge", KOO, 2001. – 254 p.
2. Antoniuk V. The main directions of stabilization of social - economic essentials of the formation of human capital in Ukraine / V. Antoniuk//Ukraine: Aspects of work. – 2006. – P. 39-47.
3. Antoniuk V. Formation and use of human capital in Ukraine: the social-economic assessment and providing of development: monogram. / V. Antoniuk //

Donetsk, Ukraine National Academy of Sciences; Institute of Economics of Industry. – 2007. – 348p.

4. Blyzniuk V. Evaluation of human potential of economic growth of Ukraine: Theory and Practice / Blyzniuk V. // Ukraine: aspects of work. – 2006. – P.30-34.

5. 9. Bazyliuk A. Connection between the quality of life and the investment in human capital / Bazyliuk A., V. Holoshovska // Formation market relations in Ukraine. – 2009. – №1 (92). – P.163-166.

6. Kirian T. Human capital in the history of economic thought / Economics of Ukraine №9, 2008. – p. 64-73.

7. Iacuba K.I. The life and employment potential of rural Ukraine. Theory, methodology, practice. / K.I. Iakuba. –: NSC IAE, 2007. – 362 p.

8. The population of Ukraine. Social-demographic problems of Ukrainian village. – K.: Institute of Demography and Social Studies NAS of Ukraine, 2007. – P.12-25.

9. The population and working recourses of the village / Teach. guidances. / Ed. P.T. Sabluk, M.K. Orlatyi. - K.: Institute of Agrarian Economy UAAS, 2002. – 277 p.

10. The State Statistics Committee of Ukraine // <http://www.ukrstat.gov.ua>

11. The social-economic situation of rural areas of Ukraine / Statistical digest. – K: State Service of Ukraine, 2014. – 178 p.

12. The population of Ukraine // [database.ukrcensus.gov.ua/](http://database.ukrcensus.gov.ua/)