

## COMPARISON OF RURAL POPULATION BURDEN BETWEEN CHINA AND UKRAINE\*

Viktoriia Yu. Medvid<sup>1</sup>, Cui Lijuan<sup>2</sup>

*In order to deeply understand the burden of rural population in China and Ukraine, adjust the structure of rural human resources and better promote the effective implementation of rural human resources management in both countries. This study reviewed the China Statistical Yearbook and the Ukraine Demographic Yearbook to measure the rural population burden in China and Ukraine in terms of three indicators: rural population size, natural population growth rate, and population migration rate, using 2011–2020 as the time period. The results show that both China and Ukraine are facing serious population burden, but the manifestations of population burden are completely different. China's rural population burden is characterized by overpopulation, which is manifested as a large number of rural population, a high birth rate and a large surplus rural labor force. The rural population burden of Ukraine is characterized by insufficient population, which is manifested by low natural growth rate of population and natural growth rate of immigration, more and more rural population moving out of the countryside, and continuous negative growth of rural population. On the basis of this, two suggestions are put forward. On the one hand, China should pay attention to improving the carrying capacity of rural population, strengthen the primary industry, develop the tertiary industry, improve the ability of rural residents to start their own businesses, and reduce the surplus rural labor force as far as possible. On the other hand, Ukraine should adjust its population policy, take various measures to encourage birth and strive to increase the birth rate. At the same time, the income level and employment rate of the rural population should be increased, social welfare security should be strengthened, and the attractiveness of rural areas should be enhanced to balance the social pressure brought by the shortage of rural labor force. This study is of great significance for relieving the pressure of rural population, optimizing the structure of rural human resources and improving the management level of rural human resources in both countries.*

**Keywords:** China, Ukraine, rural, population burden, natural population growth rate.

**JEL Classification:** J11, N30

Population burden (also known as population pressure) refers to the inappropriate state of population, that is, the population system does not adapt to or coordinate with the economy, society, resources, environment and other systems. Population burden includes both overpopulation and underpopulation; It includes not only the pressure of population quantity on other systems, but also the pressure of population quality and population structure on other systems. It can occur both in areas with high population growth and in areas with low population growth [1]. It is a relative indicator that reflects the degree of burden of social labor force in both economic and social aspects. China and Ukraine are two countries with completely different economic systems and population structures. Understanding the burden of rural population in both countries is conducive to better adjusting the structure of rural human resources and effectively promoting the sustainable development of rural human resources management.

**Literature review.** Scholars mainly study population burden from two aspects: the relationship between population burden and economy [2; 3], the measurement of population burden [4; 5]. In terms of the relationship between population burden and economy, scholars generally consider the impact of population burden on economy from the perspective of population dependency ratio. Based on the panel data of 30 regions in China, Li Kui and Zhong Shuiying (2010) studied the relationship between the burden of labor and the residents' consumption rate. They concluded that the reduction of the burden of children's support can significantly reduce the residents' consumption rate in China. However, the impact of the old age support burden on the residents' consumption rate is not obvious. In addition, through the quantitative analysis of the panel data of East Asian countries, they found that the reduction of labor burden significantly promoted the economic take-off of East Asia, but the impact of

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the change of child support burden and elderly support burden was different [6]. Zhang Qiong and Bai Chongen (2011) believe that the increasing burden of supporting the elderly and children has a significant negative impact on economic growth, and the former has a greater impact [7]. The measurement of population pressure has also been the focus of scholars in recent years. Zhao Jun et al (2009) based on a review of the traditional population pressure evaluation index system, incorporated intangible resources into the population pressure evaluation index system, and showed that the quantitative value of population pressure in Gansu Province was normally distributed, and the population pressure was lower in areas rich in both tangible and intangible resources, and the population pressure was closely related to the level of socio-economic development[8]. Wang Ting & He Pengfei, (2017) proposed the concept of urban population pressure coefficient based on the comparison of moderate population and actual population, and constructed a short board model to measure urban moderate population from the technical level. The study shows that urban population pressure in China can be classified into three types: moderately low, relatively moderate and beyond moderate [9].

To sum up, at present, scholars' consideration of the population burden mainly focuses on the statistical indicators of the old-age dependency ratio and the child dependency ratio. There are very few literatures to measure the rural population burden from the perspectives of the number of rural population, natural population growth rate and population migration rate, which provides an opportunity for the development of this study.

**The aim of the study.** The purpose of this study is to deeply understand the burden of rural population in China and Ukraine, adjust the structure of rural human resources and better promote the effective implementation of rural human resources management in both countries.

**Results.** Population size, natural population growth rate and migration rate are three important indicators to measure the population burden. In terms of the number of rural population, China's rural population has been decreasing year by year in recent years, as shown in Figure 1. In 2011, the rural population was 649.89 million, accounting for 48.17% of the total population in China. By 2020, the rural population will be reduced to 509.79 million, accounting for 36.11%, which is lower than the world average level. The world's rural population accounts for 43.8 percent of the total population. The main reason for the change of data is that China has implemented the rural surplus labor transfer project in recent years. The purpose of implementing the rural surplus labor transfer is to reduce the large number of rural surplus labor and improve their ability to work in non-agricultural industries. The decrease of the rural population and the increase of the proportion of urban population indicate that China has made remarkable achievements in rural human resources development. A large number of rural surplus labor force smoothly transferred out of the countryside, rural population pressure can be effectively eased.

Figure 2 directly presents the changes of the rural population of Ukraine during 2011–2020. It can be seen from the figure that the overall rural population of Ukraine has decreased from 14,336,885 in 2011 to 12,763,070 in 2020, a decrease of 1,573,815. But the proportion of rural population in the country's total population has not changed significantly, falling from 31.32 percent in 2011 to 30.46 percent in 2020, a decrease of less than 1 percentage point.

From the analysis of natural population growth rate, in modern society, the level and change of birth rate affects the size of population, and the change of death rate also affects the number of human resources. From 2011 to 2020, the birth rate and natural growth rate of China's population showed a downward trend, while the change of death rate was not obvious, as shown in Figure 3. In order to cope

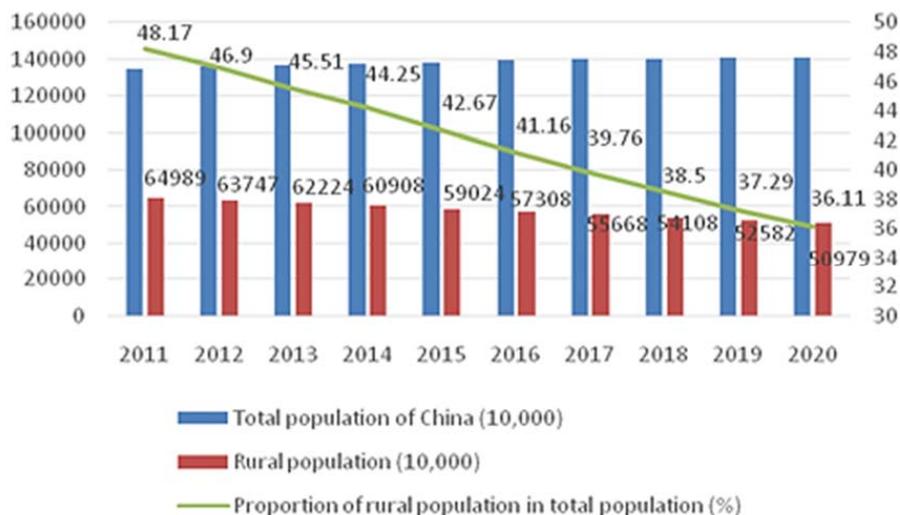


Figure 1 – The number of rural human resources in China from 2011 to 2020

Source: China Statistical Yearbook (2021)

with China’s aging population, population imbalance and other problems, in October 2015, China decided to fully implement the two-child policy. Therefore, the number of births in China grew rapidly in 2016, increasing by nearly 2 percentage points. However, since 2017, China’s birth rate has been declining year by year, and by 2020, the birth rate has fallen below 10‰. Only 8.52‰. The natural population growth rate also changed significantly, decreasing from 6.13‰ in 2011 to 1.45‰ in 2020. There is no specific statistical data on the birth rate and death rate of the rural population in China over the past years. However, according to China Population and

Employment Statistical Yearbook 2021, the death rate of the rural population in China in 2020 is 8.35‰, higher than the national average of 7.07‰.

As can be seen from Figure 4, Figure 5 and Figure 6, from 2011 to 2020, the birth rate and death rate of rural population in Ukraine are both higher than the national average level, and the death rate of population is higher than the birth rate in both rural and national areas, and the natural growth rate of population is negative. The continuous negative population growth in Ukraine has two direct consequences, one is the reduction of the working population. Second, the proportion of the elderly

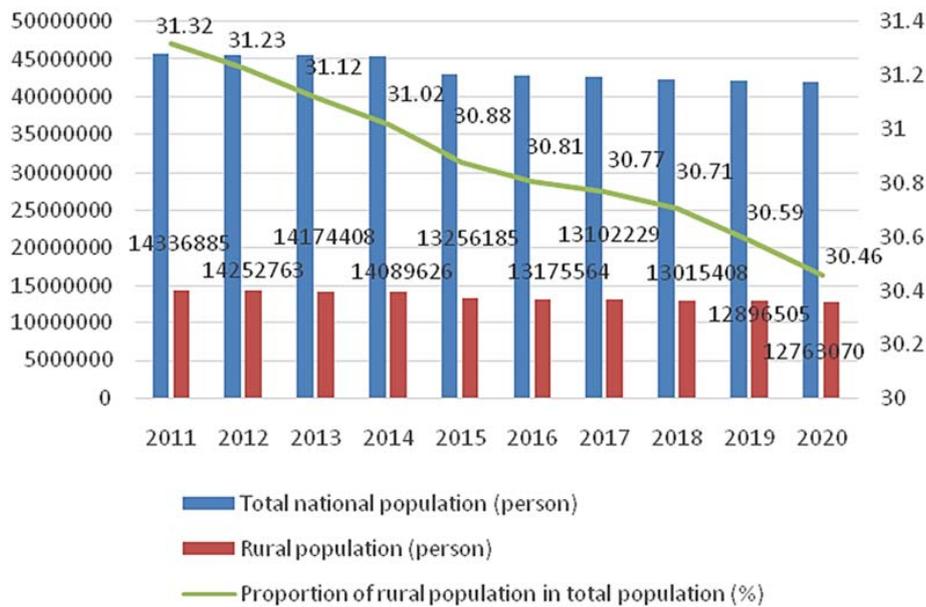


Figure 2 – The number of rural human resources in Ukraine from 2011 to 2020  
Source: Demographic Yearbook of Ukraine (2020)

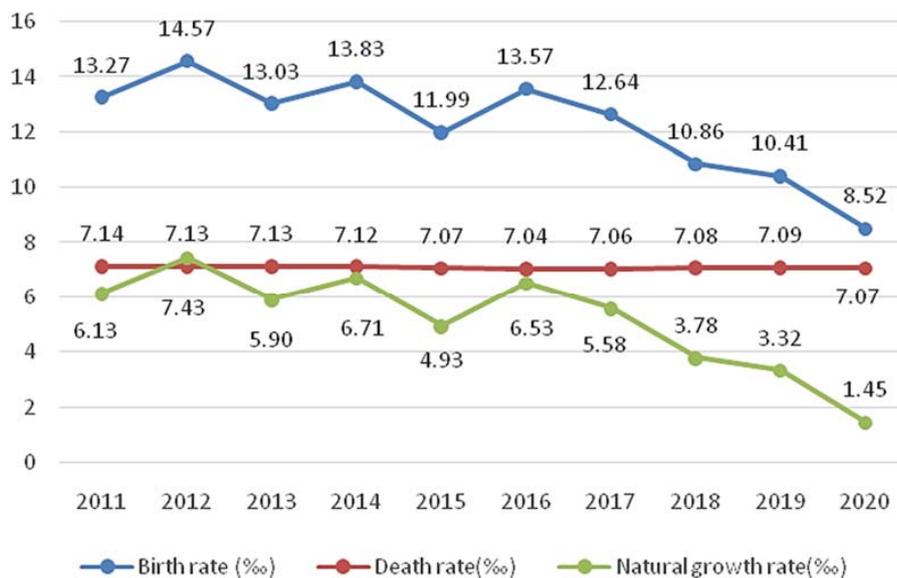
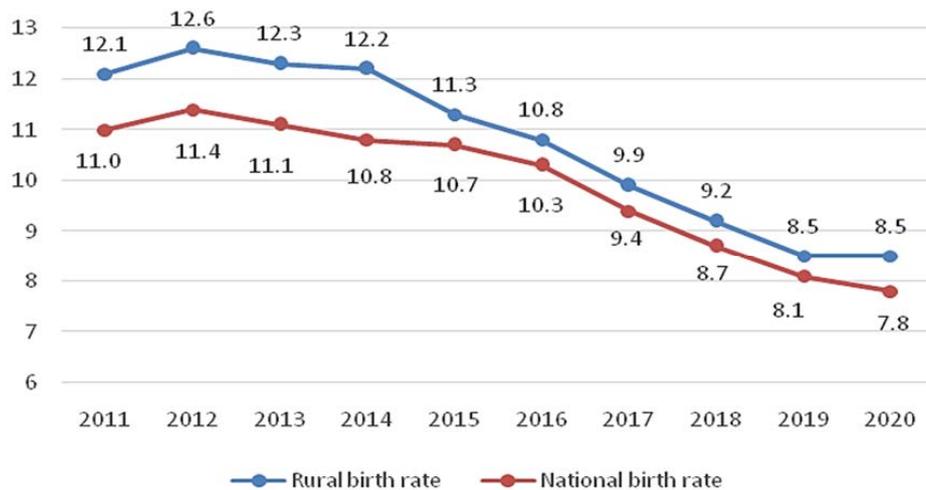
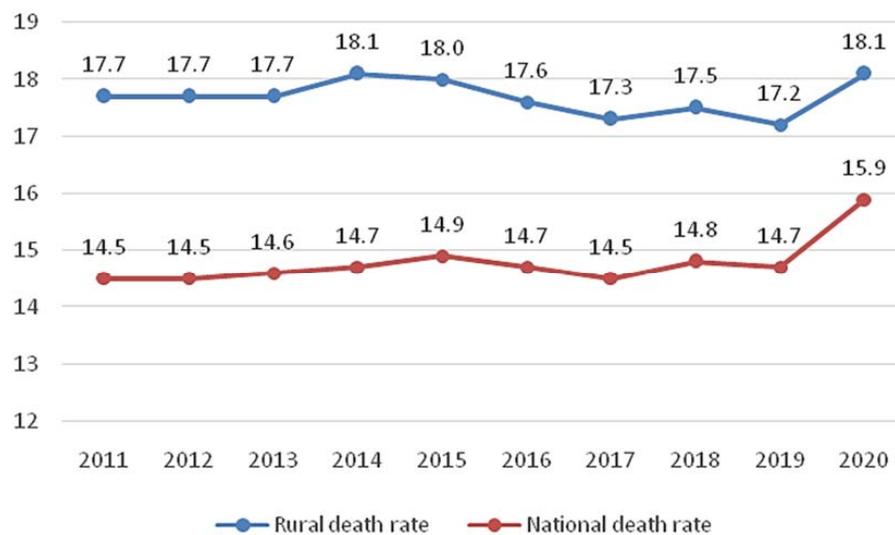


Figure 3 – The birth rate, death rate and natural growth rate in China from 2011 to 2020  
Source: China Statistical Yearbook (2021)



**Figure 4 – Rural birth rate in Ukraine from 2011 to 2020**

Source: Demographic Yearbook of Ukraine (2020)



**Figure 5 – Rural death rate in Ukraine from 2011 to 2020**

Source: Demographic Yearbook of Ukraine (2020)

population is increasing, which brings enormous social pressure on Ukraine.

From the perspective of population flow, the migration and flow of population in modern society, to a certain extent, promote the increase and decrease of the number of human resources in some countries and regions and the change of human resources distribution structure. The basic direction of China's population flow is from the countryside to the city, the main reason of population flow is to work for business, to solve the employment problem. The income earned by the rural labor force in the migrant areas has become an important source of funds for rural and agricultural development, which has strongly promoted the economic development of rural areas and farmers' poverty alleviation. In the process of working for and doing business, the floating population has acquired a variety of new knowledge

and skills, indirectly cultivating and reserving talents for rural areas. Therefore, the implementation of rural surplus labor transfer project has become an important experience accumulated in the process of human resource management in China in recent years, which effectively alleviates the burden of rural surplus labor surplus. As shown in Table 1, from 2011 to 2020, the number of rural migrant workers in China increases year by year, and the number of rural migrant workers is significantly higher than that of local migrant workers.

Table 2 and Figure 6 show the flow of rural residents in Ukraine. From 2011 to 2020, the change trend of all kinds of rural immigrants in Ukraine is not regular. The natural growth rate of rural immigrants before 2014 and after 2018 is negative, and more and more rural people are moving out of the countryside, showing a big difference with the national average level.

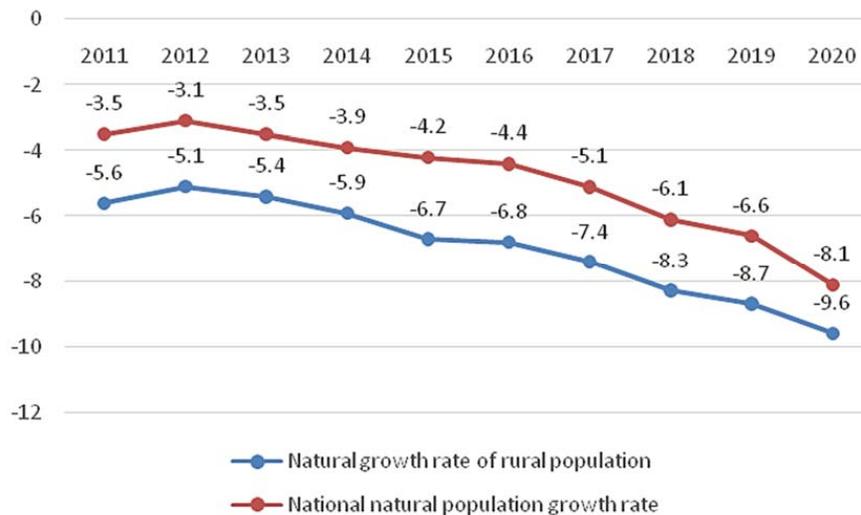


Figure 6 – Rural natural growth rate in Ukraine from 2011 to 2020

Source: Demographic Yearbook of Ukraine (2020)

Table 1 – Transfer quantity of China's rural surplus labor force from 2011 to 2020

Year	Total number of Migrant workers (million)	Local Migrant Workers (million)	Migrant Workers (million)
2011	252,78	94,15	158,63
2012	262,61	99,25	163,36
2013	268,94	102,84	166,10
2014	273,95	105,74	168,21
2015	277,47	108,63	168,84
2016	281,71	112,37	169,34
2017	286,52	114,67	171,85
2018	288,36	115,70	172,66
2019	290,77	116,52	174,25
2020	285,60	116,01	169,59

Migrant workers: refers to the household registration is still in the rural areas, into the urban work or local labor in non-agricultural industries for 6 months and more.

Local migrant workers: refers to the rural labor force who have been engaged in non-agricultural activities for 6 months or more in the township area where their household registration is located during the survey year.

Rural migrant workers: refers to those rural workers who have been working outside the township where their household registration is located for 6 months or more during the survey year.

Source: Statistical Bulletin of National Economic and Social Development of the People's Republic of China (2011–2020)

**Conclusion.** The purpose of this paper is to understand the burden of rural population in China and Ukraine. It is found that both China and Ukraine are faced with relatively serious population burden, but the expression forms are completely opposite. The population burden in China is mainly manifested as large rural population base, high birth rate and large surplus labor force. The population burden of Ukraine is mainly manifested in the low natural growth rate of population and immigration, and the continuous negative growth of rural population. The main reason for this difference is that Ukraine's social welfare is better, and residents do not need to consider old-age care problems. However, China is influenced by traditional ideas and pays more

attention to "raising children for old age". Moreover, China's social welfare is relatively weak, and residents cannot completely rely on the state for old-age support.

At the policy level, this paper intends to express two connotations: First, on the one hand, China can continue to reduce the burden of rural population through the surplus labor transfer project; on the other hand, it should pay attention to improving the population carrying capacity of rural areas, strengthening the primary industry, developing the tertiary industry, and improving the ability of rural residents to start their own businesses. Second, the urgent task for Ukraine to reduce the population pressure is to adjust the population policy, take multiple measures to encourage fertility and strive to increase the birth rate.

Table 2 – Status of Rural Migrants in Ukraine from 2011 to 2020 (Unit: person)

Year	All flows of migration			Including inter-state migration		
	total immigrants	total emigrants	migration increase (decrease)	total immigrants	total emigrants	migration increase (decrease)
2011	200,674	204,894	-4,220	7,799	2,394	5,405
2012	199,531	203,159	-3,628	8,413	2,167	6,246
2013	184,708	192,799	-8,091	7,758	2,314	5,444
2014 <sup>1</sup>	155,157	152,158	2,999	6,493	2,370	4,123
2015 <sup>1</sup>	172,849	160,910	11,939	5,084	2,728	2,356
2016 <sup>1,2</sup>	94,068	75,408	18,660	2,385	1,261	1,124
2017 <sup>1,2</sup>	135,528	127,612	7,916	3,768	2,067	1,701
2018 <sup>1</sup>	198,356	209,098	-10,742	4,903	3,609	1,294
2019 <sup>1</sup>	166,002	187,163	-21,161	5,165	4,299	866
2020 <sup>1</sup>	128,059	139,482	-11,423	3,438	1,493	1,945

<sup>1</sup> Excluding the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and a part of temporarily occupied territories in the Donetsk and Luhansk regions.

<sup>2</sup> From April 2016 to September 2017 information on population migration was compiled according to available administrative data received from separate registration bodies (executive bodies of rural, village or city council, rural heads (if the executive body of rural council was not set up in line with the legislation).

Source: Demographic Yearbook of Ukraine (2020)

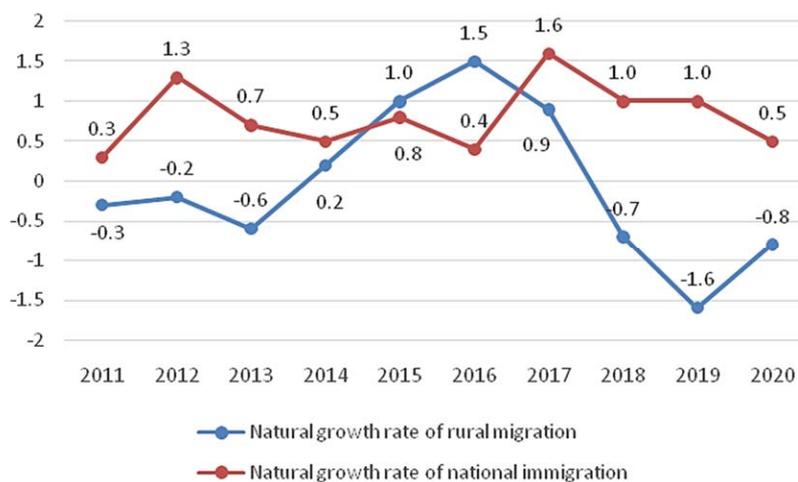


Figure 7 – Natural growth rate of rural migration in Ukraine from 2011 to 2020

Source: Demographic Yearbook of Ukraine (2020)

At the same time, the income level and employment rate of rural areas should be enhanced to balance the of rural areas should be enhanced to balance the social pressure brought by the shortage of rural labor force. The rural population should be increased, social welfare security should be strengthened, and the attractiveness

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## ПОРІВНЯННЯ НАВАНТАЖЕННЯ НА СІЛЬСЬКЕ НАСЕЛЕННЯ МІЖ КИТАЄМ ТА УКРАЇНОЮ

Вікторія Юрїївна Медвідь<sup>1</sup>, Cui Lijuan<sup>2</sup>

З метою поглибленого розуміння тягара сільського населення в Китаї та Україні, коригування структури сільських людських ресурсів та кращого сприяння ефективному впровадженню управління сільськими людськими ресурсами в обох країнах. У цьому дослідженні було проаналізовано Статистичний щорічник Китаю та Демографічний щорічник України для вимірювання тягара сільського населення в Китаї та Україні за трьома показниками: чисельність сільського населення, природний приріст населення та рівень міграції населення, використовуючи період 2011–2020 років як часовий проміжок. Результати дослідження показують, що і Китай, і Україна стикаються з відносно серйозним демографічним навантаженням, але прояви демографічного навантаження дуже різні. Навантаження на сільське населення Китаю характеризується перенаселеністю, про що свідчить велика кількість сільського населення, високий рівень народжуваності та значний надлишок сільської робочої сили; навантаження на сільське населення України характеризується недонаселеністю, про що свідчать низький природний приріст населення та низький рівень природної міграції, збільшення кількості сільських жителів, які виїжджають за межі сільської місцевості, та продовження від'ємного приросту сільського населення. Виходячи з цього були надані дві рекомендації. З одного боку, Китай має зосередити зусилля на підвищенні пропускну спроможності сільської місцевості для населення, зміцненні первинної промисловості, розвитку третинної індустрії, покращенні можливостей сільських жителів щодо започаткування власного бізнесу та мінімізації надлишку робочої сили у сільській місцевості. З іншого боку, Україна має скоригувати свою демографічну політику, вжити численних заходів для заохочення дітонародження та прагнути до підвищення народжуваності. Водночас це має сприяти підвищенню рівня доходів та зайнятості сільського населення, посиленню соціального захисту, підвищенню привабливості сільських територій, збалансуванню соціального тиску, спричиненого дефіцитом сільської робочої сили. Це дослідження має важливе значення для зменшення демографічного навантаження на сільські території обох країн, оптимізації структури сільських трудових ресурсів та вдосконалення управління сільськими людськими ресурсами.

**Ключові слова:** Китай, Україна, сільська місцевість, демографічне навантаження, природний приріст населення.

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