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The Population of Africa under the Conditions of Transformation of the World Order

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Abstract—This article explores Africa's role in the changing demographic picture of the world in the context of the global transformation of the world order, taking into account modern economic, social, and military challenges. Based on the analysis of current demographic trends, the author suggests that the center of global demographic growth has already largely shifted towards sub-Saharan Africa, where the population growth rates average 2.5% per year. Despite certain discrepancies in subregional and national trends, it is the African continent that, starting from 2035, will shape the dominating demographic trends on the planet and, to a large extent, determine the quantitative and qualitative structure of the future of the global labor market. This, in turn, will fundamentally change the structure of the world economy, since the mass consumer of a significant share of goods and services will be located not in the countries of the Global North, where the population will steadily decline, but in the Global South. This article reviews Africa's main demographic indicators: birth rate, mortality, population growth rates, fertility, life expectancy, etc. The main economic and social factors affecting the dynamics of these indicators against the background of similar changes in other countries and regions of our planet are analyzed. As a result of this analysis, it is posited that Russia should developed a new system of foreign economic relations, focusing, among other things, on the rapidly growing market of goods, services, and labor of the African continent. The humanitarian sphere should become the most important area of cooperation. Russia is able to make a significant contribution to improving the quality of Africa's human capital through the promotion of its educational and scientific schools and broad cooperation in the technological sphere.

Keywords: Africa, new world order, population, demographic growth, human capital, cooperation with Russia

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INTRODUCTION

On November 15, 2022, the population of the Earth, according to the UN, exceeded eight billion people. At the same time, in the last 100–150 years, the growth rate of the world's population has accelerated almost constantly, with the exception of periods of world wars and global pandemics. In the early 1900s, only 1.6 billion people lived on the planet; at the dawn of the 2000s, there were already six billion, and in 2011, seven billion.[1] Such rapid growth is explained by a number of factors: the development of medicine, advances in sanitation, increased access to clean drinking water, widespread vaccination coverage, etc. All of the above factors ultimately have led to a reduction in mortality rates, primarily infant mortality, and to an increase in life expectancy in most countries of the world, which, while maintaining high birth rates in a number of states, contributed to the acceleration of population growth.

According to UN experts, despite the constant increase in the population, its growth rate has recently been slowing down. More than 60 countries are projected to experience a decline of 1% or more between 2022 and 2050 due to a persistently low birth rate and, in some cases, the outflow of the population to other countries.

More than half of the projected world population growth by 2050 will be concentrated in eight countries—the Democratic Republic of the Congo, Egypt, Ethiopia, India, Nigeria, Pakistan, the Philippines, and the United Republic of Tanzania. It is quite remarkable that five countries from this list are located on the African continent.

At the same time, the proportion of the world's population aged 65 years and over is projected to rise from 10% in 2022 to 16% in 2050.

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[1] "The world population has reached eight billion people," *RosBiznesConsulting,* https://www.rbc.ru/politics/15/11/2022/63732a4f9a7947bb4475efa5. Cited November 16, 2022.

UN experts note that life expectancy in the world reached 73 years in 2020, which is almost nine years more than in 1990. It is predicted that further decline in mortality will lead to the fact that the average life expectancy in the world will exceed 77 years by 2050.

UN Secretary-General Antonio Guterres believes that reaching the eight billion milestone is a joyful event in the life of mankind, but at the same time it imposes a great responsibility on all countries and peoples to solve common humanitarian problems.[2]

The global transformation of the world order accelerated dramatically during the COVID-19 pandemic and especially after the start of the Special Military Operation. It affected all states, regions, and continents and all spheres of human activity—economics, politics, culture, science, social relations, and the information space. Growing epidemiological threats and a sharp increase in military tension have brought to the fore the question of the survival of mankind. Under these conditions, even if a biological and nuclear catastrophe is avoided, structural changes in the world economy and social sphere will be so profound that they will also affect the demographic behavior of the inhabitants of our planet. Another thing is that the latter, in comparison with the model of economic development, is much more inertial, since it is largely due to traditions and stereotypes that have been formed over the centuries. At the same time, in Western countries, where the traditional idea of the family is being destroyed rather quickly, one can predict an accelerated formation of a new type of demographic behavior with a minimum number of children or their complete absence, and in the future, no matter how fantastic this picture may seem, with a possible transition to genetic-engineering technologies for controlled reproduction of offspring with desired qualities.

Most of humanity is not yet ready for such a transition either technologically or morally. The institution of the traditional family still retains its significance not only in Russia, but also in most countries of Asia, Africa, and Latin America, and it is these regions of the global South that determine the demographic picture of the world today and in the coming decades.

DEMOGRAPHIC "UPS" AND "DOWNS"

Europe remains the most "vulnerable" region from a demographic point of view. So, for example, if the population of the Earth over the past 20 years has increased per year, on average, by 1.15%, then in European countries the growth rate in the number of inhabitants over the same period did not exceed 0.14%. Over the past two decades, the global population has grown by 742 million people, and the number of inhabitants of the Old World, by only 20 million, and then mainly due to migrants who received European passports.

According to the UN, if current trends continue, by 2050 the European population will be reduced to about 700 million people, and by 2100 there will be fewer than 600 million inhabitants on the continent. In addition, Europe will lose approximately 30 million people of working age by 2050.[3] This is already a serious blow to the labor market, which can only be compensated by migrants, which is also associated with a whole bunch of social, cultural, and religious problems, as well as a decrease in the educational and qualification level of workers. In 2022, the share of Europe and North America in the world population was 14.1%. According to UN forecasts, by 2030 the number of inhabitants of these regions will increase by only nine million people, and its share in the world population will decrease to 13.2%. An even more interesting picture is predicted by 2050: the population of the United States, Canada, and Europe will decrease by four million and will amount to only 1.125 billion people, or just over 11% of the inhabitants of our planet.[4]

Quite a different situation is observed in the countries of Asia, Africa, and Latin America. The average annual rate of population growth in this group of countries from 1990 to 2020 was 1.7%, i.e., 5.5 times higher than in developed countries. It is developing countries that currently provide 98% of world population growth, and in the next 15 years, their contribution will reach 100%.[5]

As seen from Table 1, in 2021, 2.8 billion people, or 36% of the global population, lived in India and China. In recent decades, the main increase in the world's population has been provided mainly by these demographic giants. However, recently the situation has changed. China, which has been pursuing a policy of "One family, one child" for a long time, managed to reduce the population growth rate to 0.1% by 2021, although back in 2010 they were at the level of 0.5% per year. In India, this indicator continues to be quite high, at the level of 1.4% (in 2010, it was 1.6%).

It is noteworthy that already by 2035, the population of China, while maintaining current demographic trends, will decrease by 29 million people, and by 2050 by another 117 million, and its share in the world population will fall from 18% in 2021 to 15.6% in 2035 and down to 13% by 2050. Note that the population of India will continue to increase in the next 2–3 decades, and its share in the population of our planet will be

[2] United Nations. "World population to reach 8 billion on 15 November 15, 2022." https://www.un.org/en/desa/world-population-reach-8-billion-15-november-2022. Cited November 16, 2022.

[3] "World population review." https://worldpopulationreview.com/continents/europe-population. Accessed November 1, 2022.

[4] United Nations Department of Economic and Social Affairs, "World population prospects 2022: Summary of results. https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/wpp2022_summary_of_results.pdf. Cited November 3, 2022.

[5] Ibid.

Table 1. The main demographic indicators of the world and individual regions in the 21st century

	Population in 2021, million	Birthrate per 1000 lives	Mortality per 1000 lives	Pace growth population, %	Population in 2035, million	Population in 2050, million	Level of infantile mortality	Level of fertility, 2020	Share of population younger than 15 years, %	Share of population older than 65 years, %
Whole world	7837	18	8	1	8848	9688	31	2.3	26	10
Developed countries	1271	9	11	–0.2	1298	1296	4	1.5	16	19
Developing countries	6566	20	7	1.3	7550	8393	33	2.4	27	8
Africa	**1373**	**33**	**8**	**2.5**	**1890**	**2529**	**47**	**4.3**	**40**	**4**
Sub-Saharan Africa	1125	36	8	2.7	1589	2181	50	4.7	42	3
Northern Africa	248	23	6	1.7	301	348	22	2.9	33	6
West Africa	413	37	10	2.7	587	814	55	5.1	43	3
East Africa	458	34	6	2.7	640	861	42	4.3	41	3
Central Africa	185	42	9	3.4	281	413	62	5.8	46	3
Southern Africa	68	20	11	0.9	81	94	26	2.4	29	6
Asia	4651	16	7	0.9	5043	5192	26	1.9	24	9
China	1412	8	7	0.1	1383	1266	8	1.3	18	14
India	1393	20	6	1.4	1553	1688	32	2.2	26	7
Latin America	656	16	7	0.9	725	762	15	2.0	24	9

Calculated by the author from Population Reference Bureau, "2021 world population data sheet." https://www.prb.org/wp-content/uploads/2021/08/print-at-home-2021-world-population-data-sheet.pdf. Cited November 3, 2022.

17.5% in 2035 (against 17.8% in 2021) and will remain at approximately the same level until 2050.

Meanwhile, the largest increase in global population growth in the next 30 years will come from the African continent. Its contribution to this increase will be 51% from 2021 to 2035, and already 63% from 2021 to 2050. From 2035 to 2050, Africa's share in the increase in the population of our planet will already be 76%. In other words, *the center of world demographic growth has already shifted to a large extent towards Africa,* where the population growth rate currently remains the highest in the world at over 2.5% per year. If current trends continue, the proportion of Africa in the world's population will be 21% in 2035 and 26% in 2050, compared to 7% in 1820 and 6% in 1900.

AFRICA IN THE DEMOGRAPHIC PICTURE OF THE WORLD: HISTORY AND MODERNITY

It is noteworthy that the share of the inhabitants of the African continent in the population of the Earth in the pre-colonial era was higher. Thus, the population of Africa at the turn of the modern era was estimated at 30–40 million people (16–18% of the total population of the Earth). Since the 16th century, with the beginning of the export of slaves, the number of inhabitants of the African continent has grown more slowly than in other regions of the world. In 1500, the share of Africans in the world population did not exceed 10.8%, and in 1750, 9%. In the 16th and 17th centuries, the losses from the slave trade amounted to tens of millions of Africans. Colonialism, which caused the extermination of local residents, forced labor on European plantations and in mines, disease, and hunger all reduced the growth rate of the African population in the 18th and 19th centuries. In the period 1750–1900, the number of inhabitants of Africa increased by only 1.7 times (during the same period, the world population increased by 2.3 times).[6]

Rapid population growth became characteristic of the African continent only in the 20th century. In the first half of the twentieth century, the African popula-

[6] "Africa," Encyclopedia, Moscow, 1986, vol. 1, p. 56.

tion growth rates were already somewhat higher than the world average (during the period 1900–1950, the population of Africa increased by 1.7 times, and that of the world, by 1.5 times), but in general they still remained low. In the subsequent period until 2000, the number of Africans increased by 3.7 times, and the rest of the world, by 2.5 times. In the 20th and 21st centuries, the proportion of Africans in the entire population of the world has steadily increased. It amounted to 9% in 1950, 11% in 1980, 12% in 1990, 13% in 2000, and 17.5% in 2021.[7]

Of course, the demographic revolution of the mid-twentieth century can be compared with the demographic revolution of the era of the industrial revolution. But at the same time, it is impossible not to see that, despite a certain similarity, there are very great differences between them. The demographic rise in Europe in the 18th–19th centuries occurred primarily due to changes in the socio-economic sphere, while in the twentieth century, in developing countries, including Africa, on the contrary, it ran far ahead of socio-economic development.

In African countries in the nineteenth and twentieth centuries, a high birth rate was balanced by a high death rate, so overall population growth remained very moderate, and sometimes ceased completely. The African population suffered from hunger and unsanitary living conditions, which contributed to the wide spread of all kinds of severe epidemic diseases. Under the colonial regime, there was no serious fight against these diseases. There was practically no medical care for the population, and the overall mortality rate was kept at 30% or more. Infant mortality was especially high: often during the first year of life, from a third to a half of all newborns died.[8]

THE "POPULATION EXPLOSION" AND ITS CONSEQUENCES

The accelerated growth of the population of the African continent, as well as other "peripheral regions," which received the name "population explosion" in the literature, was associated with two main reasons: a sharp decrease in the mortality rate over a relatively short period (30–40 years) and the maintenance of a fairly high level of fertility.

Beginning in the late 1950s in African countries, the national health service began to improve, and for the first time an opportunity arose for carrying out broad measures to combat epidemics and improve the general sanitary and hygienic conditions of life for the population. In the 1960s–1970s in African countries, including with the help of the Soviet Union, anti-epidemic measures such as the fight against insects as carriers of diseases, mass vaccinations, sanitary control of water, epidemiological control of food, educational measures in the field of personal hygiene, and construction of hospitals and medical centers were carried out with great success. The first successes of their countries on the path of economic and cultural development also had a beneficial effect on the health of Africans. At the same time, in the budgets of most African states, spending on health care increased 3–4 times, the number of doctors increased significantly, and their professional training improved.

All these changes led to the fact that in a short historical period the mortality rate on the African continent has decreased from 30% in the 1940s to 20% in the 1970s and to 10–15% in the 1990s. In 2009, this figure was 12% for Africa as a whole. History has not known such a rapid reduction in mortality on such a large scale. It took more than 100 years for European and North American countries to reduce the mortality rate of their populations to the level of 10–15%, while developing countries, including African states, reached this level in just 20–30, and sometimes even 15, years and in conditions of a backward economy and with a practically unchanged, very low level of per capita income.[9]

With the continued high birth rate, such a sharp decline in mortality caused a corresponding increase in natural population growth. If in the period of 1900–1950s its average annual rate was 1% in Africa (for comparison, in Asia they did not exceed 0.8%, and in Latin America they reached 1.6%), then in 1965 they were already 2.1%, and in 1980, exceeded 3%. As a result, over 30 years (1950–1980), the population of Africa more than doubled.[10]

Subsequently, the rate of decline in mortality in Africa gradually slowed down, and in some cases stopped or even reversed, since only at the initial stage of the struggle to improve the health of the population could significant results be achieved mainly through anti-epidemic and sanitary and hygienic measures. After the threat of epidemics was largely eliminated, further decrease in mortality increasingly became dependent on economic factors. First of all, this depended on a general increase in the living standards of the population: an increase in family incomes, improved nutrition, housing conditions, etc., which required a faster expansion of agricultural and industrial production, housing and communal construction, etc., than population growth. For many African states, this proved to be a difficult task.

[7] Calculated by the author from US Census Bureau, "Global population profile," 2002, pp. 1–4; "The 2009 world population data sheet," 2009, pp. 7–10; and Table 1.

[8] Abramova, I.O., The developing countries in the world economy: New demographic factors of determinism, *Asia and Africa Today,* 2011, no. 6, pp. 23–29.

[9] Abramova, I.O., The demographic dividend and the future of Africa, *Asia and Africa Today,* 2014, no. 11, pp. 23–29.

[10] Guzevatyi, Ya.N., *Trudovye resursy Vostoka: Demografo-ekonomicheskie problemy,* (Labor resources of the East: Demographic and Economic Problems), Moscow: Nauka, 1987, p. 18.

As for the birth rate, in the course of economic and cultural construction in the countries of Africa, the material and psychological prerequisites for its decrease matured. First of all, such prerequisites were formed in the process of decomposition of the patriarchal way of life, especially in family relations, and under the influence of the modernization of social structures, as well as the emancipation of women, the spread of education, and the information revolution.

Thus, the period of the "population explosion" in Africa has practically ended, which, however, does not mean that the demographic problem will be mitigated in the foreseeable future. The expected decline in population growth rates in Africa, at least until the middle of the 21st century, will remain insufficient to lead to a decrease in the absolute value of this increase due to the almost trebling in the period 1980–2021 of the total population of the continent. Thus, if in 1980 the population of Africa was 469 million people, then in 2021 it will already be 1.373 billion people.[11]

By 2021, Africa's mortality rate will match the global average of 8% (see Table 1) and this is a huge achievement for the continent.

However, a comparison of African states and developed countries in terms of child mortality rates is more demonstrative for identifying potential opportunities for reducing mortality in African countries. This figure for all countries in Africa has also declined significantly. In 2009, it was 74; including the countries of sub-Saharan Africa, it was 80; and in developed countries, it was only 6. The average world infant mortality rate in 2009 was 46 infants per thousand.[12] In 2021, the infant mortality rate in Africa fell to 47; including North African countries, to 22; and in sub-Saharan Africa, to 50. At the same time, the highest infant mortality was observed in the states of Central Africa at 62. The world average infant mortality rate in the same year was 31 infants per thousand; i.e., it was significantly higher than in North Africa, but lower than in Africa as a whole. As for developed countries, the corresponding indicator in 2021 was 4; i.e., it had also decreased by about 1.5 times compared to 2009 (see Table 1).

Thus, as a result of improving the living standards of African families, improving medical care, and further combating infectious diseases, it is possible to reduce further the infant mortality rate, and, ultimately, the overall mortality rate of the African population, which will certainly affect the rate of demographic growth.

The second main reason for the significant increase in the population of Africa expected in the coming decades, despite the beginning of the decline in fertility, is the young age structure of the African population. The higher birth rate of past years and the markedly reduced infant mortality in the last 30–40 years will be manifested for a long time to come in the multiplication of the number of young people who reach adulthood and marry. As a result, even if the fertility of married couples decreases on average, the continued increase in the total number of these couples will keep the total number of births growing. It will continue this way until, in the course of long-term demographic changes, such a significant aging of the population occurs that the effect of the factor mentioned will gradually come to naught. In the meantime, over the past 40 years, the age structure of the African population has not changed much. In 1980, the share of residents under the age of 15 reached 44.6%; in 2000, 42.6%, in 2009, 41%, and in 2021, 40%. The proportion of people over 65 has changed even less; it was 3.1% in 1980, 3.1% in 2000, 3% in 2009, and 4% in 2021.[13]

THE EPIDEMIOLOGICAL SITUATION IN AFRICA: IS THERE A WAY OUT?

In the next 20–30 years, with the improvement of medical care for the population and the improvement of water supply and sewerage systems, it is theoretically possible to reduce further the overall mortality rate of the African population to 6–7%. At the same time, even today in many African countries, the opposite factor is actively operating, increasing the mortality rate. These are numerous diseases, such as malaria, tuberculosis, hemorrhagic fevers (Ebola, Dengue), and since the 1980s, also AIDS.

At the end of 2021, there were an estimated 38.4 million people living with HIV worldwide, two-thirds of whom, 25.6 million, lived in the African region (in 2009, it was 27 million people).[14] The death rate from AIDS has also fallen. In 2009, 1.5 million people died from this disease in Africa, and in 2021, only 500000 people died.

Eastern and Southern Africa remain the regions most heavily affected by HIV. In 2021, there were 20.6 million infected with this infection, or 54% of all people living with HIV in the world. Eswatini (26%), Lesotho (23.5%), and Botswana (20.7%) have the highest percentage of HIV-affected people aged 15–

[11] Calculated by the author from Table 1 and according to "African Development Indicators, 2002," Washington, D.C.: The World Bank, 2002, p. 6.

[12] Abramova, I.O., The developing countries in the world economy: New demographic factors of determinism, *Asia and Africa Today,* 2011, no. 6, pp. 23–29.

[13] Calculated by the author from "African Development Indicators, 2002," Washington, D.C.: The World Bank, 2002, p. 6; "The 2009 World Population Data Sheet," 2009, pp. 6, 10; and Table 1.

[14] UNAIDS, "Report on the Global AIDS Epidemic," 2022; "World Population Prospects 2019," United Nations Department of Economic and Social Affairs, 2019. https://population.un.org/wpp/. Accessed March 27, 2022; Abramova, I.O., The developing countries in the world economy: New demographic factors of determinism, *Asia and Africa Today,* 2011, no. 6, pp. 23–29.

49 years. In the Republic of South Africa, the situation with the spread of HIV has not yet been brought under control. As a result, over the past 30 years, the population of South Africa has grown by only 23 million people (although it could be much larger). The number of people infected today is 19% of the country's working population, about six million people.

In the region as a whole, significant progress has been made in the fight against this dangerous disease: the number of new HIV infections among all ages decreased by 44% from 2010 to 2021 (38% among women and 52% among men). The region has also made notable progress in reducing new HIV infections among children, by 61% since 2010. Despite this progress, new HIV infections have continued to rise since 2010 in countries such as Madagascar and South Sudan.[15]

For West and Central Africa, there were five million people living with HIV in this subregion at the end of 2021. At the same time, the number of new HIV infections among all ages in West and Central Africa decreased from 2010 to 2021 by 43%, while among men it has decreased faster (by 49%) than among women (by 38%).

In the subregion of North Africa, the number of infected people remains at a fairly low level and does not exceed 100000 people.[16]

Regarding the COVID-19 pandemic, in this study it makes no sense to dwell on this problem in detail, since a number of publications have been published on this topic, including by the author of this article.[17] I will only note that the gloomy forecasts regarding the impact of the coronavirus pandemic on the demographic situation in Africa did not come true.

Despite the fact that Africa was the birthplace of the new strain "omicron," it has been quite successful in coping with this dangerous disease. As of November 28, 2022, 258073 people had died from coronavirus in Africa, which is only 3.9% of all deaths from this disease in the world, although the share of Africans in the world population is 17.5%.[18] On the continent, 12.7 million people, or 0.9% of the total population, were infected on that date, while the number of COVID-19 cases in the world exceeded 643 million people, or 8% of the world population.[19] Of course, data on the incidence of coronavirus in Africa may not be sufficiently reliable due to the low coverage of the population with testing, but today it is clear that the COVID-19 pandemic is gradually fading away and will not have a serious impact on the demographic situation on the African continent.

In summary, it should be noted that in the medium and long term, taking into account all the above factors, a gradual slight decrease in mortality rates on the African continent is possible, which, other things being equal, will contribute to maintaining relatively high population growth rates in Africa.

HOW MANY CHILDREN ARE BEING BORN IN AFRICA TODAY?

Let us now dwell on such an important demographic indicator as the birth rate. A high birth rate continues on the African continent today, although over the past 40 years this indicator has tended to decrease in most African states. Thus, in 1982, the birth rate in Africa was 45.3%; in 1992, 40.3%; in 2009, 37%; and in 2021, already 33%.[20] However, compared with global indicators (18% in 2021), the birth rate on the African continent is still very high. This gap remains especially significant in comparison with developed countries, where the birth rate in 2021 did not exceed 9%.

The persistence of a high birth rate on the African continent is due to a number of socio-economic, historical, and cultural factors. At the beginning of the twentieth century, practically all African states were characterized by a backward social structure, little affected by progress, in which the rural population prevailed. Low labor productivity and a chronic shortage of food consolidated the patriarchal organization of large peasant families, who for the most part led a semi-subsistence economy and for whom children remained an economic and social necessity, consecrated to the same religious beliefs and customs. Children in such families were often used as free labor. Thus, the economic and cultural conditions for the dominance of the traditions of having many children and, consequently, a high birth rate were consolidated.

Today, the share of people employed in agriculture in Africa is steadily declining, and the agricultural sector itself is gradually being modernized.[21] Thus, in

[15]Abramova, I.O., Coronavirus in Africa: Social, economic, and political consequences, *Outlines of Global Transformations: Politics, Economics, Law,* Moscow, 2020, no. 13(5), pp. 38–56. https://doi.org/10.23932/2542-0240-2020-13-5-3.

[16]Abramova, I.O., Coronavirus in Africa: Social, economic, and political consequences, *Outlines of Global Transformations: Politics, Economics, Law,* Moscow, 2020, no. 13(5), pp. 38–56. https://doi.org/10.23932/2542-0240-2020-13-5-3.

[17]See Abramova, I.O., Coronavirus in Africa: Social, economic, and political consequences, *Outlines of Global Transformations: Politics, Economics, Law,* Moscow, 2020, no. 13(5), pp. 38–56. https://doi.org/10.23932/2542-0240-2020-13-5-3.

[18]The COVID-19 coronavirus pandemic, *Worldometer*. https://www.worldometers.info/coronavirus. Cited November 22, 2022.

[19]2022 World Population Data Sheet, Population Reference Bureau. https://www.prb.org/wp-content/uploads/2022/09/2022-World-Population-Data-Sheet-Booklet.pdf. Cited November 3, 2022.

[20]2022 World Population Data Sheet, Population Reference Bureau. https://www.prb.org/wp-content/uploads/2022/09/2022-World-Population-Data-Sheet-Booklet.pdf. Cited November 3, 2022.

[21]World Food and Agricultural Statistical Yearbook 2021. https://www.fao.org/3/cb4477en/cb4477en.pdf. Cited November 15, 2022.

2000, agricultural employment was 58.2%, and in 2020 it was already 49.5%.[22] However, in some African countries, a high proportion of people employed in agriculture persists. Most rural residents today live in the countries of East and Central Africa (66 and 61%, respectively), while in the Central African Republic, Chad, Niger, Uganda, and Mozambique, their number exceeds 70% of the total employed population, and in Somalia and Burundi, more than 80 and 90%, respectively.[23] All this leads to multidirectional trends in the demographic sphere, when in a number of countries a new type of demographic behavior is being formed, focused on a smaller number of children, while in others large patriarchal families with a high birth rate persist.

The decisive reason for the decline in the birth rate is the modernization of social structures, which is manifested in the expansion of the modern sector of the economy, which is characterized by new ideas about the family. It should be noted, however, that the process of modernization in African countries is of a focal nature, affecting not all states of the continent and not all sectors of the economy. A result of the uneven process of modernization is the preservation of a high level of fertility in a number of states in Tropical Africa.

The gradual increase in the standard of living of the African population also contributes to a decrease in the birth rate. According to Table 2, in 2021, GNP per capita in PPP in Africa reached $5212 (in 2009 it did not exceed $2550). At the same time, in the countries of North Africa, the corresponding indicator was $10 594 against $4660, respectively.[24]

As the experience of developed countries shows, the higher the income, the lower the birth rate. This phenomenon is due to the fact that additional income expands opportunities for the growth of education, leisure activities, the use of modern contraceptives, the purchase of modern goods, etc. They improve the quality of life of the individual, which gradually contributes to the formation of a "selfish" psychology of abandoning a large number of children who require attention and neglect of their own needs and interests.

Perhaps the strongest "modernizing influence" on fertility rates comes from modern education, which is reaching out to a growing number of Africans. The proportion of the illiterate population on the African continent over 15 years of age decreased from 51% in 1985 to 44% in 2000 and to 34.5% in 2021.[25]

As is known, birth rates correlate most closely with women's literacy (the higher the literacy of women, the lower the birth rate). In Africa, the share of literate women over the age of 15 increased from 38% in 1985 to 47% in 2000. And in 2020, 59.4% of all African women were literate. At the same time, the French sociologist Philippe Fargue discovered an interesting relationship between the share of spending in family budgets on education and the birth rate. Fargue believes that the growth of education costs, which naturally increase even more with the advent of each new child, has a much greater effect on the dynamics of fertility than economic growth and modernization.[26]

At the same time, there is a close relationship between the birth rate and the socioeconomic status of women. If in the first years after the end of the Second World War, only a small part of African women entered the labor market, then by the end of the 20th century, the percentage of women's involvement in labor activity increased to 25–30%. Studies conducted by sociologists have shown that a working African woman, on average, wants to have no more than 2–3 children.[27] According to the World Bank, the share of women in total employment in sub-Saharan Africa was 45.6% in 2021.[28] This means that almost half of all employed people in Africa are women. At the same time, unemployment among the representatives of the "weaker" sex slightly exceeds the average unemployment rate in the states of sub-Saharan Africa (8 and 7.7%, respectively). Remarkably, women also lead the way in new start-ups in Africa.[29]

An important factor in the decline in fertility is also the process of urbanization. The city radically changes the social attitudes of people, breaks their traditional stereotypes, changes their living conditions, and modifies ideas about the role of the family and children. Everything is changing, from the mode of work, which is very different from rural life, to living conditions, opportunities for spending free time, access to modern information and communication tools, and medical care. In the countries of the African continent, the share of the urban population increased from 37% in 2009 to 44% in 2021. In the countries of North Africa, this figure is now 53%, and it is there that the lowest birth rate in Africa is observed (see Table 1). It is noteworthy that, according to our calculations, for the time period from 1980 to 2021, the correlation coefficient of

[22]Africa's development dynamics 2021: Digital transformation for quality jobs.: Addis Ababa/Paris: AUC/OECD, 2021, appendix, Table 10.

[23]"2009 World Population Data Sheet.," New York: Population Reference Bureau, 2009, pp. 11–14.

[24]The World Bank Data. https://data.worldbank.org/indicator/SE.ADT.LITR.ZS. Cited November 21, 2022.

[25]Fragues, P., State policies and the birth rate in Egypt: From socialism to liberalism, *Population and Development Review,* 1997, vol. 23, no. 1, p. 27.

[26]Fragues, P., State policies and the birth rate in Egypt: From socialism to liberalism, *Population and Development Review,* 1997, vol. 23, no. 1, p. 27.

[27]World Food and Agricultural Statistical Yearbook 2021. https://www.fao.org/3/cb4477en/cb4477en.pdf. Cited November 15, 2022.

[28]The World Bank Data. https://data.worldbank.org/indicator/SL.UEM.TOTL.FE.ZS. Accessed November 22, 2022.

[29]2009 World Population Data Sheet. Population Reference Bureau: New York, 2009, p. 7; African Development Indicators 2002, Washington, D.C.: The World Bank, 2002, p. 313; Table 1.

Table 2. Main indicators of social development in regions of the world

	Life expectancy (LE)	Life expectancy, men	Life expectancy, women	Share of urban population, %	Proportion of women using contraceptives, %	GNP at PPP per capita, $
Whole world	72	70	75	57	63	18625
Developed countries	78	75	82	79	67	50865
Developing countries	71	69	73	53	62	12199
Africa	**63**	**61**	**64**	**44**	**36**	**5212**
Tropical Africa	60	58	62	42	33	3993
North Africa	73	71	75	53	50	10594
North America	77	74	80	83	75	68545
Latin America	73	70	77	81	75	16663
Asia	73	71	76	52	67	14638
Europe	78	75	81	75	66	42820

Source: Gavrilova, N.G., Agro-industrial parks as a promising form of modernization of agricultural production in Africa, *Ekonomika Afriki v epokhu global'noi tekhnologicheskoi revolyutsii* (The African Economy in the Era of Global Technological Revolution), Morozenskaya, E.V., Ed., Moscow: RAS Institute for African Studies, 2019, pp. 40–77.

urbanization and fertility levels in African states was quite high and reached 0.712.

A well-known role in reducing the birth rate in Africa has been played by family planning programs that have been implemented in many African countries since the second half of the 1960s. Already in the 1970s, with the support of the WHO, the production of various types of contraceptives has been launched in Africa. Family planning and birth control departments were opened at hospitals and other medical institutions. This work was especially successful in the countries of North Africa, where today the proportion of married women using various means of preventing unwanted pregnancy has exceeded 50% (in Africa as a whole it is 36%, and in sub-Saharan Africa, 33%).[30]

THE POPULATION OF AFRICA AND THE WORLD: WHAT'S NEXT?

Thus, in the twenty-first century, in the states of the African continent, there has been a trend towards a decrease in the overall level of fertility, due to a number of socio-economic factors.

The gap in this indicator with the group of the most developed countries of the world remains quite high, but is gradually decreasing. In 2009, it was 27% (11% in developed countries and 38% in Africa), and by 2021 it was already 24% (9 and 33%, respectively). At the same time, a group of countries stands out with the most pronounced trend towards a decrease in the birth rate. This is mainly a subregion of North Africa, where the birth rate is 16% in Tunisia, 17% in Libya and Morocco, 21% in Egypt, and 22% in Algeria. Significantly lower than in Africa as a whole, this figure in Kenya is 28%; in Gabon, 27%; in Botswana, 24%; in South Africa, 20%; and in the Seychelles, 17%; Cape Verde, 15%; and Mauritius, 10% [8], i.e., in those states of Tropical Africa that have achieved the greatest success on the path of socio-economic modernization. Here the birth rate is only 1.5–2 times higher than in the developed countries of the North. But, despite the general trend of declining fertility, African states will retain world leadership in this indicator for the next 20–30 years due to the above objective socio-economic factors.

Similar conclusions can be drawn regarding the dynamics of fertility, the total fertility rate, or the number of children per woman. In almost all African states, its absolute value has decreased, which indicates some convergence of this most important demographic indicator in African and developed countries. Thus, in the latter, the number of children per woman of childbearing age in 1960 was 2.7, and in 2021, 1.5;

[30]The World Bank Data. https://data.worldbank.org/indicator/SE.ADT.LITR.ZS. Cited November 21, 2022.

in Africa, it was 6.4 and 4.3, respectively. At the same time, the fertility rate continues to be relatively high in sub-Saharan Africa (4.7 in 2022) and is declining relatively rapidly in the countries of the North African subregion, where its value dropped to 2.9 in 2021 [13].

Due to a declining crude death rate and a declining but still relatively high birth rate, Africa's average annual demographic growth rate over the past 30 years was the highest in the world, at 2.9% for the decade 1980–1990 and 2.5% for the period 1990–2020. During the second half of the twentieth century, the population of Africa increased by four times; in the period from 1980 to 2010, by more than two times; and by 2022, by another 1.4 times and today exceeds 1.4 billion people.[31]

The most important aggregate indicator of development, which most fully reflects social changes in society, is the indicator of life expectancy. The gap in this indicator between developed and African countries has narrowed both relatively and absolutely over the past 60 years. Thus, the life expectancy of an African has increased from 40 years in 1960 to 63 years in 2021, while in the countries of North Africa, it has increased from 59 to 73 years, which is higher than the global indicators (72 in 2021), and in sub-Saharan Africa, from 38 to 60 years [14].

Of course, in different groups of countries on the African continent, and even more so in individual countries, demographic changes occur in different ways, which manifests itself in different dynamics of fertility and mortality, in the rates and absolute values of population growth, in unequal changes in the age structure, etc. However, it is the African continent as a whole that in the coming decades will make a decisive contribution to world demographic trends and, to a large extent, determine the quantitative and qualitative structure of the future labor market. This, in turn, will fundamentally change the structure of the world economy, since the mass consumer of a significant share of goods and services will be located not in the countries of the Global North, the population of which will be steadily declining, but in the Global South. Do not think that Africans will not demand modern goods and services. Today, 60% of the African population is made up of young people under the age of 25 [15], the most active part of the population, easily accepting any innovations. Of course, the quality of Africa's human capital is still very far from its Western counterparts. Thus, the index of the use of human potential in the vast majority of countries on the continent does not exceed 55%, and the share of highly qualified workers is only 6%.[32]

Among the main Sustainable Development Goals (SDGs) of the UN for 2016–2030, there is overcoming poverty and hunger, achieving a decent level of healthcare and education, permanent provision of the population with housing and communal and social services (primarily drinking water, sanitation, electricity), and new jobs.[33] These goals are also relevant for Africa, which is experiencing enormous difficulties in all of these areas of life. They are also included in the 2063 Agenda of the African Union. The level and quality of life of the population depend on the success of solving these problems.

However, there are some developments in this area as well. Slowly but steadily, the incomes of the African population are increasing. The level of education of Africans is growing, including higher education. African science is actively developing, primarily in areas such as epidemiology, biology, medicine, agriculture, and geology.[34] Africa leads the world with the highest rates of digitalization. As just one example in this area, Africa is leading the world in online payments. Rwanda, for example, has announced a move away from the use of cash. In Nigeria, and this is the largest African country by population with more than 210 million people, settlements are already underway in electronic naira.

The general technology *DeFi* (decentralized finance) is becoming more and more popular in Africa. At the African Technology Forum in Nairobi, which took place in February 2022, the issue of decentralized finance was one of the three main topics for discussion, along with African startups and mobile networks.[35] However, to meet the requirements of the Fourth Industrial Revolution in the field of human resources, African countries need to expand and modernize significantly the education and training system in order to adapt them to the needs of the digital economy. This is why investing in education, skills development, and health care to align the skills of workers with the demands of the new economy and labor market is becoming one of the most important challenges facing African countries in the 21st century.

CONCLUSIONS

Taking into account the current demographic trends in the world in general and in Africa in particular, Russia today should build a new system of foreign economic relations, focusing, among other things, on

[31] *African Development Indicators 2002,* Washington, D.C.: The World Bank, 2002, p. 313, and Table 2.

[32] The Sustainable Development Goals Report, 2016. http://www.un.org.lb/.../The-SustainableDevelopment-Goals-Report-2016. Cited March 27, 2022.

[33] A high standard of living, quality of life, and well-being for all citizens. http://agenda2063.au.int/en/pr. Cited March 30, 2022.

[34] Fituni, L.L., Science, technology, and innovation in Africa: stereotypes, realities, perspectives, *Asia and Africa Today,* 2021, no. 4, pp. 15–24. DOI: 10.31857/S032150750014642-8.

[35] Ndemo, B., "The role of cryptocurrencies in sub-Saharan Africa." https://www.brookings.edu/blog/africa-in-focus/2022/03/16/the-role-of-cryptocurrencies-in-sub-saharan-africa/. Cited December 4, 2022.

the rapidly growing market of goods, services, and labor on the African continent. The most important area of our cooperation should be the humanitarian sphere. Russia is able to make a significant contribution to improving the quality of Africa's human capital through the promotion of its educational and scientific schools and broad cooperation in the technological field. This will allow both Russia and Africa to take their rightful places in the new model of world economic development that is being formed before our very eyes.

REFERENCES

1. "Africa," Encyclopedia, Moscow, 1986, vol. 1, p. 56.
2. Abramova, I.O., The developing countries in the world economy: New demographic factors of determinism, *Asia and Africa Today,* 2011, no. 6, pp. 23–29.
3. Abramova, I.O., The demographic dividend and the future of Africa, *Asia and Africa Today,* 2014, no. 11, pp. 23–29.
4. Guzevatyi, Ya.N., *Trudovye resursy Vostoka: Demografo-ekonomicheskie problemy* (Labor Resources of the East: Demographic and Economic Problems), Moscow: Nauka, 1987, p. 18.
5. Abramova, I.O., Coronavirus in Africa: Social, economic, and political consequences, *Outlines of Global Transformations: Politics, Economics, Law,* 2020, vol. 13, no. 5, pp. 38–56. https://doi.org/10.23932/2542-0240-2020-13-5-3
6. The COVID-19 coronavirus pandemic, *Worldometer*. https://www.worldometers.info/coronavirus. Cited November 22, 2022.
7. 2022 World Population Data Sheet, Population Reference Bureau. https://www.prb.org/wp-content/uploads/2022/09/2022-World-Population-Data-Sheet-Booklet.pdf. Cited November 3, 2022.
8. Gavrilova, N.G., Agro-industrial parks as a promising form of modernization of agricultural production in Africa, *Ekonomika Afriki v epokhu global'noi tekhnologicheskoi revolyutsii* (The African Economy in the Era of Global Technological Revolution), Morozenskaya, E.V., Ed., Moscow: RAS Institute for African Studies, 2019, pp. 40–77.
9. World Food and Agricultural Statistical Yearbook 2021. https://www.fao.org/3/cb4477en/cb4477en.pdf. Cited November 15, 2022.
10. Africa's development dynamics 2021: Digital transformation for quality jobs.: Addis Ababa/Paris: AUC/OECD, 2021, appendix, Table 10.
11. The World Bank Data. https://data.worldbank.org/indicator/SE.ADT.LITR.ZS. Cited November 21, 2022.
12. Fragues, P., State policies and the birth rate in Egypt: From socialism to liberalism, *Population and Development Review,* 1997, vol. 23, no. 1, p. 27.
13. African Development Indicators 2011, Washington, D.C.: The World Bank, 2011, p. 312.
14. "World Population Prospects 2019," United Nations Department of Economic and Social Affairs, 2019. https://population.un.org/wpp/. Cited March 27, 2022.
15. The future of jobs and skills in Africa. https://www3.weforum.org/docs/WEF_EGW_FOJ_Africa.pdf. Cited November 27, 2022.
16. A high standard of living, quality of life, and well-being for all citizens. http://agenda2063.au.int/en/pr. Cited March 30, 2022.
17. Fituni, L.L., Science, technology, and innovation in Africa: stereotypes, realities, perspectives, *Asia and Africa Today,* 2021, no. 4, pp. 15–24. https://doi.org/10.31857/S032150750014642-8
18. Ndemo, B., "The role of cryptocurrencies in sub-Saharan Africa." https://www.brookings.edu/blog/africa-in-focus/2022/03/16/the-role-of-cryptocurrencies-in-sub-saharan-africa/. Cited December 4, 2022.