

## **ECONOMIC SECURITY IN SUB-SAHARAN AFRICA: POSSIBLE WAYS TO ADDRESS NEW CHALLENGES**

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MOROZENSKAYA Evgenia Victorovna, PhD (Economics), Leading Research Fellow, Head of Centre for Transition Economy Studies, Institute for African Studies, Russian Academy of Sciences, Moscow, Russian Federation. ORCID: 0000-0003-0531-9873. E-mail: evmorozen@mail.ru

GAVRILOVA Nina Germanovna, Junior Research Fellow, Centre for Transition Economy Studies, Institute for African Studies, Russian Academy of Sciences, Moscow, Russian Federation. ORCID: 0000-0003-0176-7804. E-mail: ninagavrilova1976@gmail.com

KALINICHENKO Lyudmila Nikolaevna, Senior Research Fellow, Centre for Transition Economy Studies, Institute for African Studies, Russian Academy of Sciences. Moscow, Russian Federation. ORCID: 0000-0003-0531-9873. E-mail: kalinichenkolyudmila@mail.ru

**Abstract.** The observed decline in the level of Sub-Saharan Africa's (SSA) countries economic security is due to the increasing influence of both external factors (the rising volatility of global financial and commodity markets, changes in the policies of international economic organizations and a number of countries, etc.) and internal factors, largely related to their own socio-economic and, in some cases, political instability. This is manifested primarily in the insufficient food supply in the SSA countries as a consequence of the ongoing agricultural crisis. Possible ways to overcome this challenge are connected with the transformation of the agriculture sectors into productive, profitable, and reliable systems that will allow the SSA countries to reach and maintain food security. The agricultural policy aimed at this must take into account the specifics of the local crops and livestock production, the local climate, and the state of rural infrastructure, while making extensive use of new technologies and digital innovations.

One of the most important factors for stable economic development is energy security in the context of the ongoing energy transition. The problematic state of energy supply in the SSA countries is manifested in the insufficient supply of electricity for both industrial sectors and the population, rolling blackouts, and rising tariffs. African countries see a solution to this challenge in implementing the strategy aimed at expanding national and regional networks based on the rational use of all available energy resources, creating off-grid systems and small-scale generation in remote areas using renewable energy sources, which will facilitate access to sustainable and technologically advanced energy. Further expansion of cooperation in almost all areas of the energy spectrum between African states and Russian public and private companies, as well as leading universities, will contribute to solving many problems of economic security in Sub-Saharan Africa.

**Keywords:** Sub-Saharan Africa, economic, energy, food security, intensification of production, Russian-African cooperation

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## INTRODUCTION

Achieving true socio-political and economic self-sufficiency of Sub-Saharan Africa (SSA) has been the focus of attention of the world community for many decades and implies meeting the needs of the population and increasing the efficiency of national production. The necessary basis for overcoming the external and internal challenges to their economic security arising from the complex socio-political situation is the implementation of a consistent public policy based on the introduction of advanced technologies, taking advantage of the digital transformation of the economy. The most important condition for this is the widespread sustainable development of energy in accordance with the energy transition that has begun, and food self-sufficiency remains the main economic goal for SSA, which has the largest concentration of hungry people in the world. Against this background, the aim of this article is to answer the question: Can African countries achieve sovereignty in the most important economic sectors – agriculture and energy – in the near future?

The objective of the study is to assess the current situation in the sphere of self-sufficiency of SSA in food and electricity on the basis of the analysis of the state of the agricultural sector and the conditions of functioning of the energy sector of the economy. The methodological basis of the study is a systematic approach applied by the authors based on the use of such scientific methods as analysis, synthesis and analogy.

The information and analytical base of the study includes statistical data and reports of such leading international organizations as the World Bank (WB), the UN Conference on Trade and Development (UNCTAD), the Food and Agriculture Organization (FAO), the International Fund for Agricultural Development (IFAD), the UN World Food Programme (WFP), the African Development Bank (AfDB), as well as the publications of leading Africanists from Russia and other countries, devoted to the problems of Africa's self-reliance, including Abramova I.O., Akinyemi O.P., Apata T.G., Volkov S.N., Gavrilova N.G., Degterev D.A., Kalinichenko L.N., Kononov Yu.D., Kukushkin V.Yu., Mastepanov A.M., Matsenko I.B., Morozenskaya E.V., Morozov V.P., Selivanov A.I., Senchagov V.K., Tkachenko A.A., Wily L.A., Fituni L.L. and others.

## FACTORS OF ECONOMIC SECURITY OF SSA

The economic security of a country, i.e. the protection of the economic system from internal and external threats, is the basis of national security [Economic Security of Russia 2012: 52–54] and is characterized by a certain combination of socio-political, legal and economic conditions that ensure the sustainable production of the maximum possible amount of resources per capita in the most efficient way, and in a sufficiently

long term period of time. The increased vulnerability of most SSA countries to these threats is due, in turn, to both external and internal factors.

**The foreign economic security** of a country implies both the creation of the most favorable external conditions for the development of production based on the participation in global economic relations and the maximum protection of the national economy from the adverse effects of the turbulence of the world monetary, financial and commodity markets and from the unequal policies of international economic organizations and individual states. In the context of financial globalization, the latter is particularly relevant for African economies, as it maintains their low debt sustainability. While easier access to foreign financial resources contributed to the GDP growth of SSA in the 2000s, it also increased pressure on their monetary and financial markets from speculative capital and dependence on transnational banks (TNBs), which provided loans to the local banking sector in 60% of African countries [Degterev 2004].

Currently, 215 bank branches are controlled by 35 US TNBs and 180 EU TNBs. These countries also remain extremely dependent on loans from international organizations, especially the International Monetary Fund. All these circumstances do not allow the SSA countries to solve the problems of repaying their external debt (90% public), which has increased from \$199 bln in 2009 to \$702 bln in 2020, almost equal to their total GDP. More than 30% of export revenues are spent annually on debt service, which covers only a half of the required amount. In the 21<sup>st</sup> century, the share of public debt in SSA countries' GDP increased – from an average of 31.5% to 42.5% against the backdrop of the continent's declining global share as a recipient of official development assistance (ODA)<sup>1</sup> [Morozenskaya 2023: 505–509]. Despite the write-off of part of the external debt of a number of African states, their total debt increased more than 10-fold between 2003 and 2023: from \$296.8 billion (70% of which were official loans)<sup>2</sup> to \$3 trillion. Russia wrote off \$23 bln of debt to African states in 2023 and will provide them with more than \$90 mln<sup>3</sup>.

The growing turbulence in global commodity markets is manifested in the disruption of global supply chains (due to natural disasters, the *COVID-19* pandemic, political instability). On the one hand, this leads to higher prices for SSA's food and industrial imports and, consequently, to higher consumer prices and lower living standards. On the other hand, this leads to lower world prices for their main exports, which form a significant part of state budget revenues, especially in countries exporting hydrocarbons (Nigeria, Equatorial Guinea, Gabon, Chad), valuable minerals (Burkina Faso, Mali, Botswana), and agricultural monocultures such as coffee and tea from East Africa and cocoa beans from West Africa. Sometimes, however, unfavorable external factors contribute to the increase of income in agricultural exports: for example, the decline in the cocoa crop in Ghana and Côte d'Ivoire due to poor weather conditions caused the

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<sup>1</sup> One of the main instruments for providing assistance to developing countries. ODA is provided in the form of grants, credits (loans), and other transfers in cash or in kind (goods or services) to partner countries listed as ODA recipients by the Development Assistance Committee of the Organization for Economic Cooperation and Development (DAC OECD).

<sup>2</sup> African Development Indicators. *World Bank*, 2004. <https://openknowledge.worldbank.org/entities/publication/85eeae3e-0b50-5f6f-b8c6-8638138dcb97> (accessed: 22.02.2024)

<sup>3</sup> Putin: Russia has written off \$23 billion in debt to African countries, we will allocate another \$90 million. *Business-Online*. 28.07.2023. (In Russ.). [www.business-gazeta.ru/news/601883](http://www.business-gazeta.ru/news/601883) (accessed: 10.02.2024)

largest ever increase in exchange prices for this commodity in the first quarter of 2024 (more than 43%).<sup>4</sup>

The main foreign trade partners of SSA countries are currently the European Union (27% of trade turnover), China (16%), the United States (5%), India, and South Africa (4%). Russia's foreign trade turnover with SSA is small, but has significant growth potential, especially with such countries as South Africa, Angola, Mozambique, Namibia, Zimbabwe, and with Ethiopia in 2021 it amounted to \$225.2 million, or 5.4 times more than in 2015.<sup>5</sup>

Despite significant differences in the commodity structure between countries, Africa's foreign trade remained moderately growing until 2018 (11–15% per year in current prices), although the share of SSA in world exports has been declining in recent years, and the contribution of inter-African exports to the continent's total exports is only 11.5%. All this indicates both the weak involvement of SSA in the world economy and certain inertia of its economic growth [Morozenskaya 2023: 505–509]. At the same time, the a SSA countries have negative internal factors that hinder the growth of foreign trade: underdeveloped infrastructure, including international transport, customs, ports; lack of investment; shortcomings in management, logistics and ways to reduce trade costs.

Negative external economic factors include the imposition of trade embargoes, which increase political pressure on SSA countries that depend on exports and/or imports of certain products, especially food products. High tariffs also hinder demand for their agricultural and industrial products. In addition to official foreign trade transactions, there is in some cases illegal transportation and sale of products from the shadow sector, both "regular" (smuggling of consumer goods) and criminal (e.g., drug trafficking) [Morozenskaya, Fituni 2006: 172–186].

Overall, the process of trade liberalization in Sub-Saharan Africa, while having a smaller impact on both exports and imports than in other developing countries, has led to a deterioration in their foreign trade balance. This reflects, on the one hand, the increasing specialization of some of them in raw material exports and, on the other hand, the outpacing growth of imports (including manufactured goods), which did not stimulate the development of their own manufacturing industries. The latter is also associated with the impact of such factors as the reduction of foreign aid (and in the case of its provision on a reimbursable basis – the growing probability of a new debt crisis), and, most importantly, the insufficient inflow of private capital, especially foreign capital, into production.

Attracting foreign direct investment (FDI) remains the most important external factor for the economic security of SSA countries, a source of direct financing for both existing and planned production, especially in the extractive industries, as well as loans for imports of investment goods. The share of FDI in the GDP in SSA countries averaged 3.4% between 2000 and 2017 [Farole, Winkler 2014], and accumulated FDI reached \$658,344 mln by 2021 (almost 2/3 of the sum of all accumulated FDI in

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<sup>4</sup> Cocoa prices rose to their highest ever. *RBC Investments*. 09.02.2024. (In Russ.). <https://finance.mail.ru/2024-02-09/ceny-na-kakao-vyrosli-do-maksimuma-za-vsyu-istoriyu-59744572/> (accessed: 12.02.2024)

<sup>5</sup> Trade between Russia and Ethiopia. 2021. *Foreign trade of Russia*. 12.02.2022. (In Russ.). <https://russian-trade.com/reports-and-reviews/2022-02/torgovlya-mezhdu-rossiy-i-efiopiy-v-2021-g/> (accessed: 10.07.2023)

Africa), but the share of sub-regions – West, East, Central and Southern Africa – varies markedly with 33.0%; 14.1%; 16.6% and 36.3%, respectively [UNCTAD 2021: 252–253]. The main investors in SSA economies (stock accumulated by 2020) were: China (\$100 bln), the United States (\$47.5 bln), the United Kingdom, France, the United Arab Emirates, India, and South Africa (over \$10 bln in 2014–2018). Along with the known economic benefits, the high dependence of SSA economies on FDI inflows often increases their instability and constrains growth, either through excessive government consumption or speculative financial transactions that make it difficult to maintain balance of payments equilibrium.

Internal challenges to national economic security include, first of all, significant changes in the socio-economic system, imbalances in the sectoral structure of production, as well as increasing pressure on economic development from information, technological, environmental and demographic aspects of development. Accordingly, the main indicators of economic security are changes in the volume of production, scale of capital investment and productive employment of the population. They are reflected in the dynamics of key socio-economic indicators, characterized by significant inter-country differences among SSA countries. Thus, in 2020, the value of gross domestic product calculated at purchasing power parity ranged from \$4.8 bln in the Central African Republic to \$1063.1 bln in Nigeria, while per capita income ranged from \$988 in CAR to \$15106 in Gabon.<sup>6</sup> There is also a wide gap in the Competitiveness Index (1–100) for SSA economies, ranging from 63.7 for Mauritius (49th) to 35.5 for Chad (140th)<sup>7</sup>.

In Sub-Saharan Africa, investment rates remain too low to achieve the required degree of diversification into higher value-added products demanded by international markets. The fragility and heterogeneity of SSA economies is linked, *inter alia*, to their low level of scientific and technological capabilities. The main way to overcome their widening gap with the leading countries in the technological transition is to develop domestic market-oriented industrialization using digital technologies and the formation of competitive scientific and technological, innovation, investment and educational potential [Morozenskaya 2022].

The unsatisfactory state of internal security factors affecting the standard and quality of living of the majority of the population, the persistence of poverty and social insecurity characteristic of most SSA countries pose the threat of conflicts fraught with the reduction or degradation of national human capital. In addition, due to the extremely low level of expenditure on maintaining and reproducing reproduction of Africa's natural and environmental potential threatens to irreversibly degrade elements of the natural environment, thereby depriving the continent of vital resources for economic growth. The expansion of the informal economy and the persistence of high levels of corruption are also major challenges for most SSA countries.

In addition to the above-mentioned factors, more detailed classifications of external and internal threats to the national economy of any country are used in the scientific literature. However, as the authors of the Russian comprehensive study rightly note, in

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<sup>6</sup> World Bank Open Data. *World Bank*. <https://data.worldbank.org> (accessed: 22.02.2024)

<sup>7</sup> WEF Global Competitiveness Report 2018. Economy profiles. *WEF*, 2018. <https://www3.weforum.org/docs/GCR2018/05FullReport/TheGlobalCompetitivenessReport2018.pdf> (accessed: 13.06.2024)

Africa there are significant features of the impact of such threats on the development of national economies as the spread of the shadow economy and the growing role of the informal sector, primarily in the service sector [Selivanov *et al* 2019: 112–125]. Against this background, the task of ensuring food and energy security of the countries of the continent, which plays a strategic role in improving the living conditions of the citizens of these countries and the overall progressive development of their economies, is becoming increasingly decisive.

### ACHIEVING AGRARIAN SOVEREIGNTY

Agriculture plays a crucial role in the economies of all African countries, providing food and productive employment opportunities for the majority of the population (agriculture contributes 60–80% to GDP). The agricultural practices used in different countries and regions, as well as the choice of crops and livestock breeds vary greatly due to natural features (climate, landscape, availability of water sources, etc.). Plantation agriculture, inherited from the colonial system of economic organization, also remains a major role in the economies of many SSA countries. At the same time, the share of SSA countries in world exports of cereals, cane sugar, meat, dairy and fish products remains insignificant, and food production often does not even meet their own needs. All these factors, largely exacerbated by high population growth rates that have triggered an accelerated rural-urban migration, as well as environmental degradation and poor governance, have led to an agricultural crisis in most SSA countries [Morozov 2015].

Agricultural and food security problems, including the financing of technology development projects and agricultural policy development, are enshrined in UNCTAD, UNIDO<sup>8</sup> and FAO documents, including the World Food Summit Plan of Action (1996) and the Rome Declaration on World Food Security (at the individual, family, national, regional and global levels): “all people, at all times, have physical and economic access to sufficient, safe and nutritious food ... for an active and healthy life”<sup>9</sup>. Food insecurity is an inadequate amount of food and/or an unbalanced or monotonous diet due to lack of finance, food or processing facilities. The Food Security Cluster (FSC) published in 2011 by FAO and the World Food Program in 2011 identifies its four criteria: 1) economic, physical and social access to food; 2) availability of food; 3) quantitative sufficiency of food; 4) stability of conditions 1-3<sup>10</sup>.

The UN General Assembly has declared the eradication of extreme poverty and hunger as the most important goal of the world community. This is the first of the eight Millennium Development Goals (MDGs)<sup>11</sup> and the second of the 17 Sustainable Development Goals

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<sup>8</sup> United Nations Industrial Development Organization (UNIDO), the international agency for the promotion of industrial development.

<sup>9</sup> Rome Declaration on World Food Security. *FAO*, 1996. <https://www.fao.org/3/w3613e/w3613e00.html> (accessed: 16.02.2024)

<sup>10</sup> FSC Indicator Handbook. *FSC*, 2020. P. 6. [https://fsccluster.org/handbook/assets/images/project/FSL%20Indicator\\_handbook\\_17.03.2020.pdf](https://fsccluster.org/handbook/assets/images/project/FSL%20Indicator_handbook_17.03.2020.pdf) (accessed: 01.01.2024)

<sup>11</sup> World Food Summit on Food Security 2009. *FAO*, 2009. <https://www.fao.org/right-to-food/news/news-detail/en/c/157364> (accessed: 16.05.2022)

(SDGs)<sup>12</sup> for 2016–2030. However, by 2022, world hunger (9.2% of the population, or 783 million people) had not returned to pre-pandemic levels (7.9%) [FAO 2023].

In Africa, despite a reduction in the number of people living below the poverty line between 2000 and 2015, the proportion of the food-insecure population has increased again, to 60.9% in 2022 (67.2% in SSA), and the number of hungry people has increased by 11 million since 2021 and by more than 57 million since the start of the *COVID-19* pandemic. 20% of Africans are affected by hunger (22.5% on average in SSA countries), significantly higher than in Asia and Latin America (8.5% and 6.5%, respectively) [FAO 2023]. At the same time, 868.3 million people are regularly undernourished, including 341 million who are temporarily hungry and 281 million who are persistently hungry.

Table 1. Food Security Criteria, 2015–2022

Indicators	SSA		World		Low income countries		High income countries	
	2015	2022	2015	2022	2015	2022	2015	2022
<i>Provision of the population with food, %</i>								
Severe food shortage (1)	18,2	22,5	6,9	9,2	12,1	13,8	1,5	1,6
Moderate food insecurity (2)	19,1	26,6	7,4	11,3	14,8	16,8	≤2,5	≤2,5
Prevalence of malnutrition (3)	49,8	67,2	21,7	29,6	27,4	39,3	8,1	7,6
<i>Dietary structure of the population</i>								
Proportion of cereals, root and tuber crops in the diet, %	64	65	51	51	67	67	31	31
Average protein intake, g/capita/day	58,3	58,3	80,5	82,9	55,5	56,4	100,9	104,6
Average animal protein intake, g/capita/day	11,9	11	31,4	32,8	9,8	9,8	59,4	62,7
<i>Availability of water supply and sanitation services</i>								
Safe drinking water supply	26,7	30	70,2	74,3	25,3	28,8	97	97,6
Safe sanitation services	19,4	21,1	47,1	54	16,8	18,1	84,6	86,6
<i>Consequences of food insecurity</i>								
Prevalence of anemia in women of reproductive age (2019)	40,7	40	28,8	29,9	48,3	42,1	13,5	14,4

(1) – Cutting back on food; skipping meals; going without food for a day or more because of lack of money or other resources;

(2) – Poor quality or reduced food intake by household members (periodically throughout the year due to lack of money or other resources);

(3) – The indicator is based on country-specific data on food availability, food consumption and energy requirements,<sup>13</sup> as well as on indicators (1) and (2).<sup>14</sup>

Source: Compiled by the authors on the basis of: Suite of Food Security Indicators. *FAO Statistics*. 2024. <https://www.fao.org/faostat/en/#data/FS> (accessed: 20.01.2024); Hunger and Food Insecurity 2024. *FAO*. <https://www.fao.org/hunger/en/> (accessed: 20.01.2024)

<sup>12</sup> UN SDGs. *UNDP*, 2015. [https://undp.org/sustainable-development-goals#:~:text=The%20Sustainable%20Development%20Goals%20\(SDGs\)%2C%20also%20known%20as%20the,people%20enjoy%20peace%20and%20prosperity](https://undp.org/sustainable-development-goals#:~:text=The%20Sustainable%20Development%20Goals%20(SDGs)%2C%20also%20known%20as%20the,people%20enjoy%20peace%20and%20prosperity) (accessed: 16.05.2022)

<sup>13</sup> Hunger and Food Insecurity 2024. *FAO*. <https://www.fao.org/hunger/en/> (accessed: 01.02.2024)

<sup>14</sup> Suite of Food Security Indicators. *FAOSTAT*, 2024. <https://fao.org/faostat/en/#data/FS> (accessed: 01.02.2024)

The majority of the SSA population does not consume enough calories to lead a full, active and healthy life, as evidenced by their dietary intake. It is mainly characterized by a protein deficit: the recommended daily intake of 63–65<sup>15</sup> g is achieved mainly through vegetable proteins (e.g. legumes), with a lack of animal proteins (three times less than the lower limit of 30 g, observed only in South Africa) (*Table 1*).

The lack of food is linked to the lack of safe drinking water. In 2020, only one-third of the population in SSA countries had access to safe drinking water (64.7% had access to at least basic water services). Only one-third of the population has access to basic sanitation (20% have access to safe sanitation). Despite marked improvements in these indicators between 2005 and 2020, particularly in West and Southern Africa, a large proportion of the SSA population lacks regular access to water and basic sanitation. Combined with food insecurity, this leads to negative health outcomes. Thus, every third child in SSA, and even more in Central Africa, suffers from stunting, and the stunting rate among children under five is nearly 4.5 times the world average (6.7%); anemia affects 40% of women of reproductive age.

In terms of food security, SSA countries are the most vulnerable, even compared to low-GDP countries especially after the *COVID-19* pandemic (see *Table 1*). At their current level of agrarian development, they are unable to ensure the necessary food production. One of the influencing factors is the degree of adaptability of the arable land to the arid climate – less than 1% of it is equipped with irrigation systems. Despite the important advantages of irrigation (growing several crops per year, producing more profitable crops, protection from drought, etc.), its implementation requires significant capital investments that are unaffordable for the majority of agricultural farms.

The SSA countries' own agricultural production, including crops, does not cover their needs, forcing them to import significant amounts of food or receive it as humanitarian aid<sup>16</sup>. In 2021, they spent \$122.3 bln (40% of the total value of imports) on consumer goods<sup>17</sup>, and this figure is projected to increase by 2030<sup>18</sup>. An indicator of food security is the degree of dependence of SSA countries on cereal imports: in 2020, it covered 20% of their needs on average, 14% in South Africa and 29% in Central Africa<sup>19</sup>.

Despite the importance of agriculture in the socio-economic life of Sub-Saharan Africa, its share in GDP and employment has declined significantly over the past 30 years (*Fig. 1*). The inefficiency of agricultural production is supported by its high labor intensity and low productivity. In West Africa, for example, it employs 43% of the total population, but produces only 25% of the sub-region's GDP; in East Africa, 55% and 20%, respectively; in Central Africa, 55% and 17%; and in South Africa, 22% and 6%.<sup>20</sup>

<sup>15</sup> WHO Protein and amino acid requirements in human nutrition: report of a joint FAO/WHO/UNU expert consultation. *WHO*, 2002. [https://apps.who.int/iris/bitstream/handle/10665/43411/WHO\\_TRS\\_935\\_eng.pdf](https://apps.who.int/iris/bitstream/handle/10665/43411/WHO_TRS_935_eng.pdf) (accessed: 16.02.2024)

<sup>16</sup> The World Food Programme. <https://www.wfp.org/> (accessed: 16.02.2024)

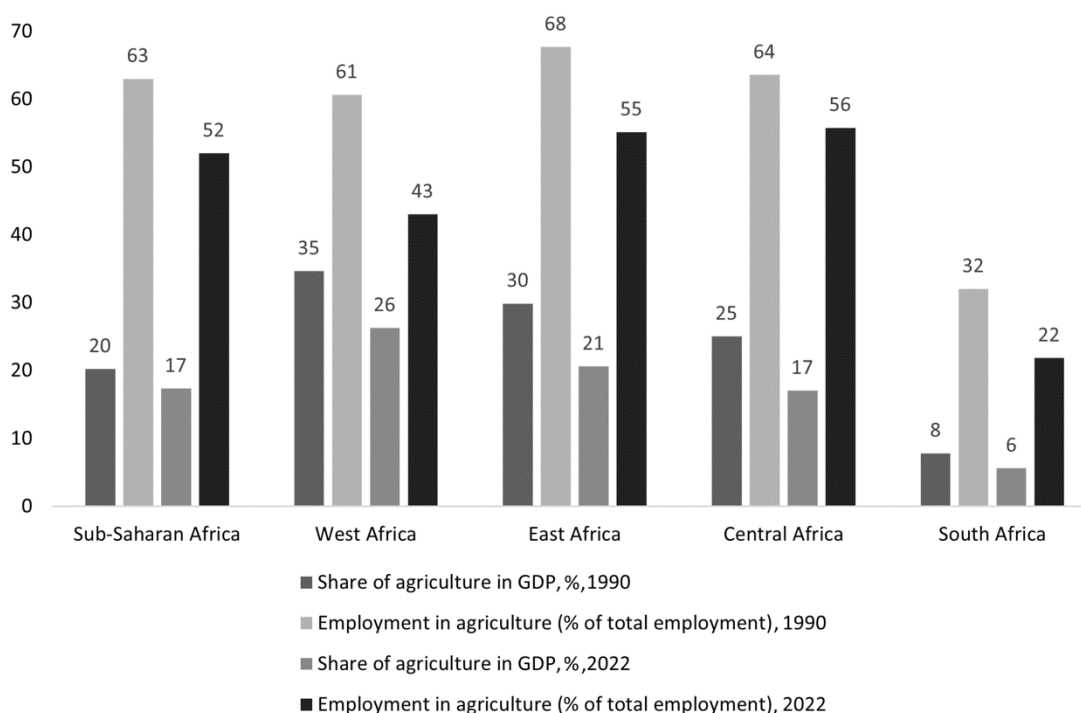
<sup>17</sup> Sub-Saharan Africa Exports and Imports of Product Groups. *World Integrated Trade Solution (WITS)*, 2021. <https://wits.worldbank.org/countrysnapshot/en/SSF/textview> (accessed: 16.02.2024)

<sup>18</sup> African Common Position on Food Systems. *AUDA-NEPAD*, 2021. P. 3. <https://www.nepad.org/publication/african-common-position-food-systems> (accessed: 16.02.2024)

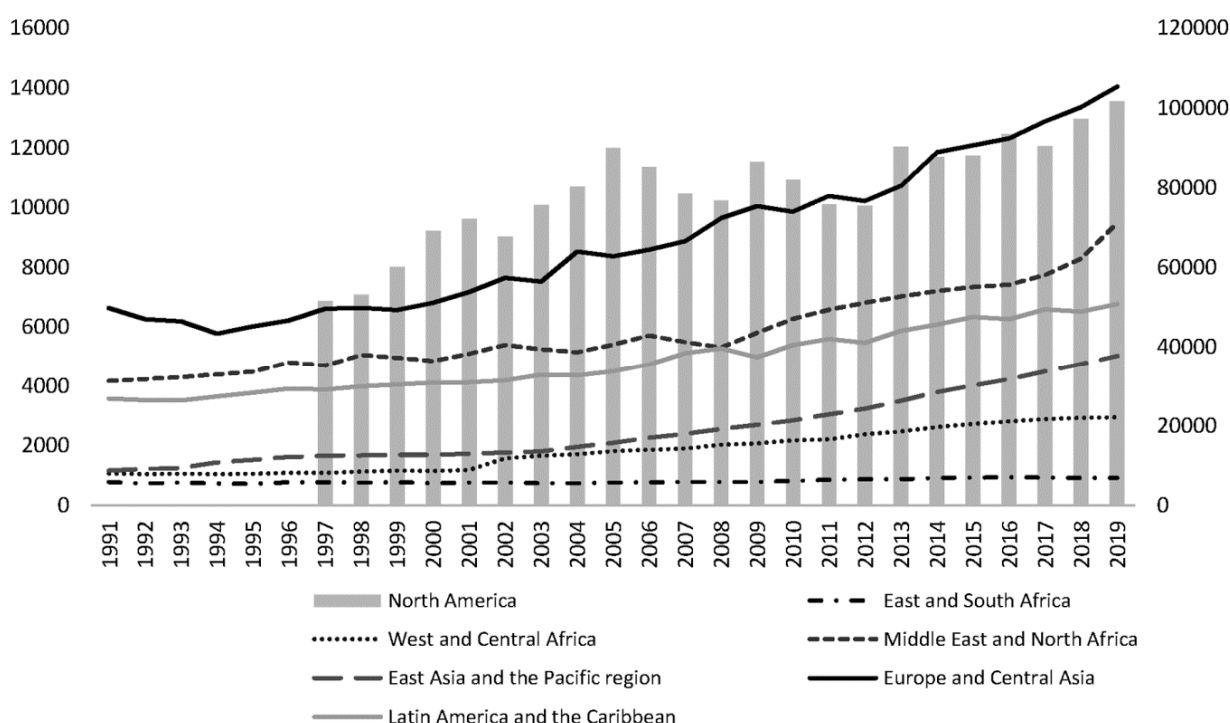
<sup>19</sup> Suite of Food Security Indicators. *FAOSTAT*, 2024. <https://www.fao.org/faostat/en/#data/FS> (accessed: 01.02.2024)

<sup>20</sup> Agriculture, forestry, and fishing, value added (% of GDP). *The World Bank*. <https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS> (accessed: 10.02.2024)





**Fig. 1. Share of Agriculture in SSA Economies, Regional Average, 1990–2022, %.**  
 Sources: Compiled by the authors based on data from: Employment in agriculture. *WorldBank*. <https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?locations=ZG> (accessed: 20.05.2024); Agriculture, forestry, and fishing, value added (% of GDP). *WorldBank*. <https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS> (accessed: 20.05.2024)



**Fig. 2. Agricultural labor productivity by region, 1991–2019, USD per employee**  
 Sources: Compiled by the authors based on data from: *World Bank*. *DataBank*. World Development Indicators. Agriculture, forestry, and fishing, value added per worker (constant 2015 USD). <https://databank.worldbank.org/source/world-development-indicators> (accessed: 20.05.2024)

The decline in the share of agriculture in the GDP of the SSA countries and employment in it indicate that the African model of agricultural development does not provide for a significant increase in labor productivity. This indicator is the lowest among the regions (*Fig. 2*).

Labor productivity per agricultural employee has increased by only 1.6 times in Africa over the past 30 years (2.5 times in Asia, for example),<sup>21</sup> which does not allow raising the low yields of most agricultural crops. Extensive methods (increasing crop and animal production) are still used to expand production, rather than intensive methods (increasing yields, reducing costs, increasing labor productivity through mechanization, fertilizers, and breeding).

The majority of agro-producers (about 90%) are smallholder farmers, (plantations up to 5 ha), producing about 80% of the continent's total agricultural output [Apata 2019: 775]. The low efficiency of their work is explained by insufficient funding; the use of the most basic agricultural techniques, outdated technologies and inefficient materials; limited access to information (on the state of markets, resource prices, new agricultural techniques); lack of labor; poor state of rural infrastructure, etc.

In order to increase the productivity of agricultural production in the second half of the 20<sup>th</sup> century, reforms were undertaken in a number of SSA countries to replace communal land ownership with individual ownership. This has exacerbated old problems and created new ones, including ethnic and social conflicts. The unresolved problem of securing ownership of almost 2/3 of all cultivated land (2.2 billion ha) [Wily 2011: 733–757] remains one of the most important constraints to agricultural development, as farmers are not interested in expanding production due to uncertainty about the future, reduced opportunities for bank lending, etc. [Wily 2011: 733–757].

The development of the agricultural sector in SSA economies is in line with the Comprehensive Africa Agriculture Development Program (CAADP) based on the Maputo Declaration (2003) and the Malabo Declaration (2014)<sup>22</sup>. CAADP recommends that participating countries invest at least 10% of the national budgets in the agricultural sector and achieve agricultural productivity growth of at least 6% per year<sup>23</sup>. These commitments were reaffirmed in 2021 by the AU-NEPAD<sup>24</sup> document "Africa's Common Position on Food Systems".<sup>25</sup> In practice, however, only four SSA countries (Lesotho, Malawi, Ethiopia, Benin) met or exceeded the 10% target by 2020 (African average of about 2.1%), and eight countries (Angola, Ghana, Guinea, Kenya, Lesotho, Senegal, South Africa, Zambia) achieved 6% productivity growth (African average of 2.6%)<sup>26</sup>.

<sup>21</sup> Agriculture in Africa: Transformation and Outlook. *NEPAD*, 2014. <https://www.nepad.org/caadp/publication/agriculture-africa-transformation-and-outlook> (accessed: 18.02.2024)

<sup>22</sup> Malabo Declaration on Accelerated Agricultural Growth, 2014. *AUDA-NEPAD*. <https://www.nepad.org/caadp/publication/malabo-declaration-accelerated-agricultural-growth> (accessed: 16.02.2024)

<sup>23</sup> Comprehensive Africa Agriculture Development Programme. *AUDA-NEPAD*, 2019. <https://nepad.org/caadp> (accessed: 16.03.2023)

<sup>24</sup> The New Partnership for Africa's Development (NEPAD) is an economic development program of the African Union adopted at the 37th session of the Assembly of Heads of State and Government in July 2001.

<sup>25</sup> African Common Position on Food Systems. *AUDA-NEPAD*, 2021. <https://www.nepad.org/publication/african-common-position-food-systems> (accessed: 16.02.2024)

<sup>26</sup> Akiwumi P. Revitalizing African agriculture: Time for bold action. *UNCTAD*. 30.09.2022. <https://unctad.org/news/blog-revitalizing-african-agriculture-time-bold-action> (accessed: 13.02.2024)

The main way to increase agricultural productivity is to intensify it through the use of the most efficient means of production, as well as digital technologies (Digital for Agriculture, D4Ag), the spread of which is hindered by the low level of education of farmers, insufficient development of energy systems, mobile communications, the Internet, providing farmers with information on the production conditions (methods of mechanization of agricultural labor, climatic changes, etc.) and marketing of products (availability of storage facilities, access to credit and commodity markets), the state of rural infrastructure.

Thus, in modern Sub-Saharan Africa, the signs of food insecurity persist and in some cases are worsening: hunger, malnutrition, unbalanced nutrition and their negative consequences for the health and active life of a large part of the population. Despite the inclusion of the SDGs<sup>27</sup> and the corresponding goals of the African Union's Agenda 2063<sup>28</sup> in the national strategies and development plans of most African countries, the number of poor people continues to increase [UNDP 2022]. Food security is hampered by a lack of public funding for agriculture, high population growth rates, and the influence of external and internal political and economic factors. So far, we have to admit that it is impossible to achieve food self-sufficiency in SSA countries by 2030 (according to the SDG program), and, thus, agrarian sovereignty is unattainable the near future.

To increase the resilience of food systems to external and internal adversities – natural, political and socio-economic – and to eradicate hunger by 2030, SSA countries need to strengthen both extra-continental partnerships (in the last five years, the UN World Food Program has provided nearly \$300 million in food aid to 30 countries, mostly in Africa)<sup>29</sup>, and intra-African productive and infrastructural linkages to advance both food and energy security, which is also an integral part of national economic security.

## ENERGY SECURITY AS A BASIS FOR SUSTAINABLE DEVELOPMENT

The Doctrine of Energy Security of the Russian Federation (2019) defines this concept as “the state of protection of the country's economy and population of the country from threats to national security in the energy sector, which ensures the fulfillment of the requirements for fuel and energy supply to consumers stipulated by the legislation of the Russian Federation, as well as the fulfillment of export contracts and international obligations of the Russian Federation”.<sup>30</sup> The interpretations of international organizations emphasize that energy security is the uninterrupted “availability of energy sources at an affordable price” (International Energy Agency), as well as the availability of energy “in the quantity and quality required under the given economic conditions” (World Energy Council, WEC) [Fazelyanov 2020]. The essence of the concept is related to the structure of the fuel and energy complex (FEC), including the extraction of fossil

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<sup>27</sup> Eighth Session of the Africa Regional Forum on Sustainable Development. Kigali, Republic of Rwanda, 3–5 March 2022. *ARFSD*, 2022. <https://www.uneca.org/node/4129> (accessed: 03.02.2024)

<sup>28</sup> Agenda 2063: The Africa We Want. *African Union*. <https://au.int/en/agenda2063/overview> (accessed: 03.01.2024)

<sup>29</sup> FAO: The Russian Federation contributed to the fight against hunger in some African countries with grain supplies. *TASS*. 04.03.2024. (In Russ.). <https://tass.ru/ekonomika/20144023> (accessed: 14.06.2024)

<sup>30</sup> New Doctrine of Energy Security. *TASS*. 14.05.2019. (In Russ.). <https://tass.ru/ekonomika/6427822> (accessed: 01.02.2024)

fuels, electric power complex, including the production of renewable energy sources (RES), as well as the transportation, distribution, trade of fuel and energy.

Currently, an important factor in the development of energy security strategy is the transition of global energy to carbon neutrality [Akinyemi 2017: 127–136], known as the Fourth Energy Transition. Its priorities include the use of renewable energy sources (RES), the development of hydrogen energy, the improvement of energy storage, the application of carbon capture, utilization and storage, and other innovations. The McKinsey Global Institute report<sup>31</sup> analyzes the main ways to achieve global carbon neutrality by 2050 from a financial, managerial, technological, and other perspective. However, in the current environment, factors such as commodity price volatility, uneven economic growth and a complex geopolitical situation caused by both the growing energy interdependence of countries and their concerns about security of supply create uncertainty about the path to achieving the global energy agenda.<sup>32</sup>

Achieving carbon neutrality by 2050 by abandoning fossil fuels is unlikely, as it would require particularly large investments in new technologies. At this stage, many countries need, first of all, to ensure reliable access to a stable supply of energy [Mastepanov 2023: 48–70]. According to Russian analysts, the share of natural gas in the global energy balance will grow (up to 36% in 2050), mainly due to the countries of the Asia-Pacific region, the Middle East and Africa.<sup>33</sup>

The fact that 600 million Africans have no access to electricity is an immediate threat to the continent's economic security<sup>34</sup>. African countries will contribute to supporting global goals of reducing emissions and developing green technologies. However, given that hydrocarbon extraction, if properly managed, “provides economic growth and energy security, African countries have the right to realize these benefits and set the timing of their energy transition”<sup>35</sup>. Over the past two decades, the African continent's share of global greenhouse gas emissions has been the lowest (up to 4%) compared to other regions<sup>36</sup>. The first priority is to eradicate energy poverty on the continent and gradually transition to renewable energy sources.

The multidimensional nature of the concept of “energy security” determines the methods for assessing its state, given the fact that comparing the energy systems of countries with different levels of economic development requires a comprehensive assessment. One of the best known indicators at present is the World Energy Trilemma

<sup>31</sup> The Net Zero Transition. Executive Summary. What it would cost, what it could bring. *McKinsey & Company*, January 2022. <https://www.mckinsey.com/~media/mckinsey/business%20functions/sustainability/our%20insights/the%20net%20zero%20transition%20what%20it%20would%20cost%20what%20it%20could%20bring/the-net-zero-transition-executive-summary.pdf> (accessed: 19.01.2024)

<sup>32</sup> Monitoring of World Energy Problems. *Roscongress*. 31.01.2022. (In Russ.). <https://roscongress.org/materials/monitoring-problem-mirovoy-energetiki-2022-nerazberikha-v-energetike-vypolnenie-obyazatelstv-posreds/> (accessed: 03.02.2024)

<sup>33</sup> Scenarios of World Energy Development. *Roscongress*. 11.10.2023. (In Russ.). <https://roscongress.org/sessions/rew-2023-stsenarii-razvitiya-mirovoy-energetiki/discussion/> (accessed: 05.02.2024)

<sup>34</sup> Panel discussion on technologies for the sustainable development of Africa. *HSE, Centre for African Studies*. 28.07.2023. <https://we.hse.ru/irs/cas/news/861951179.html> (accessed: 15.01.2024)

<sup>35</sup> Ayuk N.J. Executive Chairman African Energy Chamber: Africa has “every right” to set timing for its energy transition. *WorldOil*. 13.12.2023. <https://worldoil.com/news/2023/12/13/african-energy-chamber-africa-has-every-right-to-set-timing-for-its-energy-transition/> (accessed: 17.01.2024)

<sup>36</sup> Ibid.

Index (WETI) developed by the WEC, which allows assessing countries by their ability to provide sustainable energy in three main dimensions: 1) energy security, 2) energy equity (universal energy availability), 3) environmental sustainability (promotion of “green energy”), and 4) an additional dimension showing the ability of governments to develop and implement energy policies. The ranking covers 128 countries, including Sub-Saharan Africa, with 59 data sets and 32 indicators for each country (*Table 2*) [Mastepanov 2020: 70–72; Kononov 2024: 106].

**Table 2. Electricity supply in Sub-Saharan Africa, 2020–2021**

Country	Access to electricity, %				Access to clean energy sources for cooking, %, 2021	<i>Trilemma Index</i> (Energy Security Index), 2022
	Urban population, 2021	Rural population, 2021	Overall			
			2000	2021		
Angola	75.0	7.3	24.2	48.2	50.0	57 ADAd
Benin	67.0	18.0	21.5	42.0	4.6	90 DDDc
Botswana	93.1	25.0	26.5	73.7	65.7	70 DCCb
Burkina Faso	67.6	...	9.1	19.0	11.7	...
Burundi	62.8	1.6	2.5	10.2	0.2	...
Cameroon	94.7	24.8	41.0	65.4	22.8	76 CDDd
Cape Verde	94.9	96.9	58.6	95.5	81.8	...
CAR	34.7	1.6	6.0	15.7	0.9	...
Chad	43.2	1.3	3.1	11.3	8.0	88 DDDd
Côte d’Ivoire	94.9	45.2	48.7	71.1	31.7	74 BDDd
DRC	43.8	1.0	6.7	20.8	4.3	89 DDCd
Djibouti	73.5	36.6	56.0	65.4	9.6	...
Equatorial Guinea	90.3	1.4	64.8	66.8	24.1	...
Eritrea	75.7	35.7	29.3	52.5	11.5	...
Eswatini	94.6	79.1	20.4	82.9	58.1	71 DDCd
Ethiopia	94.3	42.8	12.7	54.2	7.5	77 DDCd
Gabon	98.7	26.8	73.6	91.8	89.7	55 BCCd
Gambia	82.6	31.2	34.3	63.7	1.7	...
Ghana	95.2	74.0	43.7	86.3	30.3	73 CDCc
Guinea	89.8	21.3	15.2	46.8	1.0	...
Guinea-Bissau	60.5	15.8	1.3	35.8	1.0	...
Kenya	97.5	68.2	15.2	76.5	23.9	68 BDBc
Lesotho	80.6	37.7	4.3	50.4	41.1	...
Liberia	49.5	8.1	...	29.8	0.4	...
Mauritius	99.3	99.8	99.0	99.6	98.9	...
Mauritania	89.7	...	19.1	47.7	48.3	76 CDDd
Madagascar	72.6	10.9	12.6	35.1	1.4	81 DDCd
Malawi	54.2	5.6	4.8	14.2	1.6	87 DDCd

Country	Access to electricity, %				Access to clean energy sources for cooking, %, 2021	<i>Trilemma Index</i> (Energy Security Index), 2022
	Urban population, 2021	Rural population, 2021	Overall			
			2000	2021		
Mali	96.9	18.3	9.6	53.4	0.9	...
Mozambique	77.4	3.8	6.1	31.5	5.4	86 DDDd
Namibia	74.7	33.2	36.5	55.2	47.3	65 DDAc
Niger	65.9	9.1	6.5	18.6	3.0	91 DDDd
Nigeria	89.2	26.3	43.2	59.5	16.8	84 DDDd
Republic of Congo	67.0	12.4	29.4	49.7	35.6	...
Rwanda	98.0	38.2	6.2	48.7	5.4	...
Senegal	93.9	43.4	37.7	68.0	29.4	83 DDDc
Sierra Leone	57.0	4.9	7.7	27.5	0.8	...
Somalia	70.6	30.6	2.1	49.5	3.8	...
South Africa	87.4	93.4	72.4	89.3	88.4	58 CCDb
South Sudan	15.6	5.7	...	7.7	0.0	...
Sudan	84.2	49.4	23.0	61.8	62.8	...
Tanzania	77.3	23.3	8.7	42.7	8.9	79 DDCd
Togo	96.3	24.7	17.0	55.7	11.4	...
Uganda	72.3	35.9	7.4	45.2	0.7	...
Zambia	85.7	14.5	16.7	46.7	10.2	80 DDCd
Zimbabwe	85.3	31.6	33.7	49.0	30.3	85 DDDd
SSA	80.7	30.4	25.7	50.6	19.1	...
<b>World</b>	97.7	84.5	78.4	91.4	71.3	...

Note:

\*Position in ranking out of 128 countries

\*\*ABCD – categories by level, A is the highest category, D is the lowest.

The first letter in order is dimension 1; the second letter is dimension 2; the third letter is dimension 3; the fourth letter is an additional dimension.

Source: Compiled by the authors based on data from: World Development Indicators 2023. *World Bank*. <http://wdi.worldbank.org/table/3.13> (accessed: 20.01.2024); World Energy Trilemma Index 2022. World Energy. [https://worldenergy.org/assets/downloads/World\\_Energy\\_Trilemma\\_Index\\_2022.pdf?v=1669839605](https://worldenergy.org/assets/downloads/World_Energy_Trilemma_Index_2022.pdf?v=1669839605) (accessed: 20.01.2024)

Based on the World Energy Trilemma Index, Sub-Saharan African countries are at the bottom of the world energy security ranking, rarely achieving the highest categories (A) in all dimensions. Angola, Botswana, Cameroon, Côte d'Ivoire, Eswatini, Ethiopia, Gabon, Kenya, Namibia, South Africa, and Tanzania are relatively advanced. Kenya and Ethiopia achieved the largest increase in WETI ranking between 2000 and 2022.

One of the important security challenges for African countries is energy availability. This indicator in SSA countries doubled to 50.6% between 2000 and 2021, but is still well below the world average (91.4%). The electrification rate remains particularly low in agrarian areas: in the vast majority of SSA countries it is well below 50%, and in some of them (Angola, Burundi, Central African Republic, Chad, DRC, Equatorial Guinea,

Liberia, Malawi, Mozambique, Niger, Sierra Leone, South Sudan) it does not even reach 10%. The extremely low level of access to modern sources of energy for cooking is also alarming – 19% compared to the world average of 71% (see *Table 2*). The use of traditional biomass and charcoal for this purpose causes an increase in lung diseases and early mortality [Kalinichenko 2016: 199].

Regional integration plays an important role in ensuring energy security, as national markets are too small for large investments in energy facilities, and the unification of energy networks contributes to the diversification of energy sources. Such projects are gradually being implemented in the regional economic communities of West, East, Central and South Africa through their Energy Pools (regional electricity markets). Unified energy networks could form the basis of a pan-African energy infrastructure by 2040<sup>37</sup>.

Monitoring the state of the sector has been made possible through the establishment of the African Energy Information System (AEIS) to collect, process and verify energy statistics for all AU member states, enabling the management of Africa's energy sector transformation and investment<sup>38</sup>.

Much of Africa's electricity is generated from fossil fuels: oil, natural gas and coal, which are abundant on the continent and are often exploited by multinational consortiums without due regard for countries' national interests. Oil production has been declining over the past decade (average annual decline rate of 2.8% in 2012–2022), and the largest oil producers in SSA (Nigeria, Angola, Equatorial Guinea) have seen production decline by 5.1%, 3.8%, and 9.7%, respectively, over this period [Energy Institute 2023]. This is due to the volatility of oil market prices and the *COVID-19* pandemic, as well as to the fact that many fields under development have been depleted to a certain extent, and the development of newly discovered deposits, most of which are located on the continental shelf of East and West Africa, often in deep waters, requires significant capital investment and advanced technologies. However, recently Western companies have been reluctant to invest in the development of new oil deposits due to unattractive market conditions, unstable political situation, unfavorable investment climate and the need to compensate for environmental damage [Kukushkin 2022: 15].

Experts estimate that capital expenditure in African oil production has fallen from \$63 bln in 2014 to \$33 bln in 2022, raising concerns among the continent's oil producing countries. As a result, Afreximbank and the African Organization of Petroleum Producers are setting up the African Energy Transition Bank to provide investment in the industry<sup>39</sup>.

Unlike oil, the average annual growth rate of natural gas (NG) production in SSA countries exceeded 5% in 2012–2022, although Nigeria experienced a decline in produc-

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<sup>37</sup> La Camera F., Bekele-Thomas N. Infrastructure Reform is Key to Accelerating Africa's Energy Transition. *IRENA*. 09.10.2023. <https://irena.org/News/expertinsights/2023/Oct/Infrastructure-Reform-is-Key-to-Accelerating-Africas-Energy-Transition> (accessed: 16.01.2024)

<sup>38</sup> Ministers of Energy Meet to Discuss About Sustainable Energy Statistics Data Management in Africa. *African Union*. 24.03.2022. <https://au.int/en/pressreleases/20220324/ministers-energy-meet-discuss-about-sustainable-energy-statistics-data> (accessed: 16.01.2024)

<sup>39</sup> Kazeeva N., Kozyreva M. Focus on Africa: Russian Prospects and Opportunities in the New Realities. *Energy Policy*. 12.10.2022. (In Russ.). <https://energypolicy.ru/fokus-na-afriku-rossijskie-perspektivy-i-vozmozhnosti-v-novyh-realiyah/regiony/2022/10/12/> (accessed: 14.01.2024)

tion in 2022. According to a study by the Gas Exporting Countries Forum (GECF), the continent's energy demand will increase by more than 80% by 2050 and gas will account for 30% of the energy mix. Natural gas and renewable energy will be critical to Africa's energy supply: in 2050, the continent will account for 11% of the global liquefied natural gas market<sup>40</sup>, making Africa the second-fastest growing global supplier of liquefied natural gas<sup>41</sup>. Realizing these projections requires further development of gas infrastructure and minimizing natural gas flaring, as well as mobilizing public and private sector investment. The GECF estimates that Africa will need to invest up to \$1.7 trillion in natural gas exploration and production activities on the continent to reach a production level of 585 bcm by 2050 from the current (2022) 249 bcm, including 71.5 bcm produced in SSA countries [Energy Institute 2023].

However, GECF experts are concerned about the reduction of funding for natural gas development projects by the World Bank and the European Investment Bank, which has led to an imbalance of supply and demand. Thus, Nigeria's Minister of the Environment, M.M. Abubakar, accused the West of deliberately stopping funding for African gas projects, which complicates the electrification in the country and the implementation of energy transition<sup>42</sup>. Another challenge to Africa's energy security is its dependence on foreign renewable energy technologies, since solar and wind power generation equipment is manufactured in Western countries and requires foreign specialists to install and maintain, which poses risks in the event of international sanctions, for example<sup>43</sup>.

Ghana, Nigeria, South Africa, Uganda, and Zambia are interested in developing nuclear energy technologies, which opens up opportunities to diversify the energy balance in the future [Security of the African Continent... 2023: 174–188].

Russian companies are making a significant contribution to the energy security of the continent's countries. The state corporation ROSATOM is promoting the "Green Square" concept, which envisages accelerated energy development based on four low-carbon energy sources: hydropower, wind and solar energy, and nuclear energy. PJSC RusHydro will take part in the modernization of the Melka-Wakana large hydroelectric power plant in Ethiopia,<sup>44</sup> and, together with Patrice Lumumba RUDN University, will participate in the training of specialists and the implementation of promising projects in the field of electric power in African countries<sup>45</sup>. Russian investors have shown interest in financing a major gas pipeline project from Nigeria to Morocco, which will supply natural gas to

<sup>40</sup> GECF 2050 outlook highlights Africa's industry growth trends. *Further Africa*. 03.02.2023. <https://furtherafrica.com/2023/02/03/gecf-2050-outlook-highlights-africas-industry-growth-trends/> (accessed: 01.02.2024)

<sup>41</sup> Ayuk N.J. Executive Chairman African Energy Chamber: Africa has "every right" to set timing for its energy transition. *WorldOil*. 13.12.2023. <https://worldoil.com/news/2023/12/13/african-energy-chamber-africa-has-every-right-to-set-timing-for-its-energy-transition/> (accessed: 17.01.2024)

<sup>42</sup> Gurzu A. Nigerian minister decries defunding of gas projects as inequitable. *Devex*. 23.06.2021. <https://devex.com/news/nigerian-minister-decries-defunding-of-gas-projects-as-inequitable-100216> (accessed: 03.02.2024)

<sup>43</sup> Yakimenko O. Solving Energy Problems is the Key to Africa's Sustainable Future. *Roscongress*. 16.01.2024. (In Russ.). <https://roscongress.org/materials/reshenie-energeticheskikh-problem-klyuch-k-us-toychivomu-budushchemu-afriki/> (accessed: 03.02.2024)

<sup>44</sup> Ethiopia Accepted Participation of Russian Companies in Modernization of Hydroelectric Power Plants. *RIA Novosti*. 03.03.2024. (In Russ.). <https://ria.ru/20240303/ges-1930806824.html> (accessed: 17.06.2024)

<sup>45</sup> Advancement to Africa. *RusHydro Bulletin*. 2024. № 1. (In Russ.). <https://vestnik-rushydro.ru/articles/1-yanvar-2024/news/prodvizhenie-v-afriku/?ysclid=lxk3ogt6ou849533680> (accessed: 17.06.2024)



West African countries and serve as a basis for further electrification within the framework of the Energy Pool<sup>46</sup>.

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Despite the fact that in the conditions of underdeveloped national entrepreneurship, foreign capital continues to occupy key positions in African economies, the regulatory role of the state in economic and social development is increasing. New opportunities are emerging for the implementation of a variable macroeconomic policy and medium- and long-term planning in accordance with the All-African Development Strategy, which has been in force since 2013. It is designed to accelerate the development and technological progress of the continent until 2063, based on changes in the sectoral structure of the economy, foreign trade and investment policy, with mandatory consideration of social aspects<sup>47</sup>.

One of the most important sectors and components of economic security in African countries is agriculture. The factors identified in this article, such as lack of funding, backwardness in technology and machinery, etc., which have been greatly exacerbated by rapid population growth and the deteriorating global food situation, have led to an agricultural crisis in most SSA countries. As the analysis shows, the agricultural sector cannot meet the minimum food needs of SSA countries, thus preventing them from achieving agrarian sovereignty in the short term.

Another priority for the economic development of the SSA countries is to achieve energy security by strengthening their own energy base. There has been some success in increasing electricity generation in a number of African countries during the 2000s. Regional integration through energy pools has also played a positive role in this regard. However, an analysis of energy trends shows that SSA countries are still far from being able to fully meet the growing energy needs of their economies and populations, especially in the agricultural sector, which is exacerbated by the need to meet the demands of the climate agenda to move away from fossil fuels to carbon-free energy, which requires solving complex financial, technological and human resource issues.

The Russian Federation makes a significant contribution to ensuring the food security of African countries. In 2022, grain exports to African countries amounted to 11.5 million tons. In addition to increasing trade in agro-products by 10% in 2022 (trade volume amounted to \$6.7 billion) and by 60% in the first half of 2023, as well as humanitarian grain supplies (to Mali, Burkina Faso, Zimbabwe, CAR) in 2023, “the Russian Federation is ready to share with African countries its expertise in agricultural production, to assist in the implementation of the most advanced technologies”<sup>48</sup>. The Action Plan of the Russia-Africa Partnership Forum for 2023–2026, adopted at the Second Russia-Africa Summit and the Economic and Humanitarian Forum, outlines a number of areas of cooperation in

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<sup>46</sup> Solving Energy Challenges is Key to Africa's Sustainable Future. *Roscongress*. 16.01.2024. (In Russ.). <https://roscongress.org/materials/reshenie-energeticheskikh-problem-klyuch-k-ustoychivomu-budushchemu-afriki/> (accessed: 03.02.2024)

<sup>47</sup> Agenda 2063: The Africa We Want. *African Union*. <https://au.int/en/agenda2063/overview> (accessed: 03.01.2024)

<sup>48</sup> Russia Exported Almost 10 Million Tons of Grain to Africa in the First Half of the Year. *Interfax*. 27.07.2023. (In Russ.). <https://www.interfax.ru/russia/913556> (accessed: 12.02.2024)

the realization of a “just energy transition and regulation of energy security”<sup>49</sup>, including renewable energy sources, low-carbon technologies, hydrocarbon exploration, expansion of liquefied natural gas production, modernization of coal-fired power plants, development of geothermal energy, and creation of nuclear science and technology centers.

In general, the solution of economic security problems can be facilitated by expanding cooperation between African states and Russian state and private companies that have competitive potential, production capacities, high skills and experience, as well as with leading Russian universities, especially in engineering and agriculture.

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## **ЭКОНОМИЧЕСКАЯ БЕЗОПАСНОСТЬ СТРАН АФРИКИ К ЮГУ ОТ САХАРЫ: НОВЫЕ ВЫЗОВЫ И ПУТИ ИХ ПРЕОДОЛЕНИЯ**

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МОРОЗЕНСКАЯ Евгения Викторовна, кандидат экономических наук, ведущий научный сотрудник, заведующий Центром изучения проблем переходной экономики, Институт Африки РАН, Москва, Российская Федерация. ORCID: 0000-0003-0531-9873. E-mail: [evmorozen@mail.ru](mailto:evmorozen@mail.ru)

ГАВРИЛОВА Нина Германовна, младший научный сотрудник, Центр изучения проблем переходной экономики, Институт Африки РАН, Москва, Российская Федерация. ORCID: 0000-0003-0176-7804. E-mail: [ninagavrilova1976@gmail.com](mailto:ninagavrilova1976@gmail.com)

КАЛИНИЧЕНКО Людмила Николаевна, старший научный сотрудник, Центр изучения проблем переходной экономики, Институт Африки РАН, Москва, Российская Федерация. ORCID: 0000-0003-0531-9873. E-mail: [kalinichenkolyudmila@mail.ru](mailto:kalinichenkolyudmila@mail.ru)

**Аннотация.** Наблюдаемое снижение уровня экономической безопасности стран Субсахарской Африки (ССА) обусловлено усилением влияния на них как внешних факторов, включая рост волатильности мировых финансовых и товарных рынков и перемены в политике международных экономических организаций и ряда государств, так и внутренних факторов, в значительной мере связанных с их собственной социально-экономической и в ряде случаев политической нестабильностью. Это проявляется прежде всего в недостаточной обеспеченности стран ССА продовольствием вследствие перманентного кризиса сельского хозяйства. Возможные пути его преодоления связаны с преобразованием аграрных

отраслей в производительные, прибыльные и надежные системы, которые позволят достичь и поддерживать продовольственную безопасность на основе аграрной политики, учитывающей специфику производства местных культур и скота, климата, состояния сельской инфраструктуры и нацеленной на использование новых технологий и достижений цифровой революции. Важным фактором стабильного экономического развития является энергетическая безопасность в условиях начавшегося энергоперехода. Проблемное состояние энергоснабжения стран ССА проявляется в низкой обеспеченности спроса на электроэнергию как производственных секторов, так и населения, перебоях в ее подаче, веерных отключениях, росте тарифов. Африканские страны видят решение проблемы в реализации стратегии, направленной на расширение национальных и региональных сетей на основе рационального использования всех имеющихся энергоресурсов, создание автономных систем и малой генерации в удаленных районах с применением возобновляемых источников энергии, что будет способствовать доступу к устойчивой и технологичной энергии. Дальнейшее развитие налаженного практически во всех областях энергетического спектра сотрудничества африканских государств с российскими государственными и частными компаниями и ведущими университетами поможет в решении многих проблем экономической безопасности Субсахарской Африки.

**Ключевые слова:** Субсахарская Африка; экономическая, энергетическая, продовольственная безопасность; интенсификация производства; российско-африканское сотрудничество

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