

# FOOD FOR AFRICA

FROM FOOD SECURITY TO FOOD SOVEREIGNTY



Chapter from Africa 2025: Prospects and Challenges  
Handbook by the HSE University Center for African Studies  
Edited by Andrey Maslov

**Authors:**

Vsevolod Sviridov, Deputy Director, HSE University Center for African Studies.

Anna Davidchuk, Researcher, HSE University Center for African Studies.

*With the assistance from Anastasia Svetlova.*

**Reviewed by** Dr. Innocent Okuku, Executive Secretary, West African Fertilizer Association.

**Edited by** Andrey Maslov, Director, HSE University Center for African Studies

**Editorial board:**

Adeyemi Adewoye, Senior Special Assistant to the Minister of Agriculture and Food Security, Nigeria.

Makau Masila, Executive Director, Eastern Africa Grain Council, Kenya.

Hassan Khannenje, Director, HORN International Institute for Strategic Studies, Kenya.

Kehali Jembere Tiruneh, Dean of the College of Agriculture and Environmental Sciences, University of Gondar, Ethiopia.

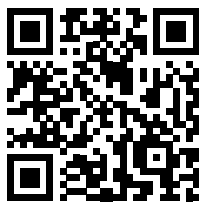
Eze Nwakanma, Head of Agribusiness and Sustainability, Union Bank of Nigeria.

Chapter **Food for Africa: From Food Security to Food Sovereignty** deals with the most pressing food-related issues in Africa, including the correlation between population growth and undernourishment, Africa's role in global food markets, changes in dietary patterns, the role of fertilizers, etc. The chapter proposes the concept of food sovereignty and analyses cases of African governments supporting food and beverages and agricultural sectors. It serves as an integral part of the handbook *Africa 2025: Prospects and Challenges* prepared by the HSE University Center for African Studies.

**Africa 2025: Prospects and Challenges** is to serve as a handbook on Africa's development, challenges and prospects. Its target audience is government officials, businessmen, scholars and experts. The handbook aims to provide an alternative positive vision on some issues that Africa faces, among them being the fight for food and energy sovereignty, debt crisis, digital transformation, rapid urbanisation and population growth.

*The book was prepared by the team of experts and scholars coordinated by HSE University Center for African Studies (Moscow, Russia).*

Digital version  
of the Handbook  
is available here:



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# Food for Africa: from food security to food sovereignty

## Is there a food crisis in Africa now?

Food issues, deficits, hunger and famines seem to come hand in hand with Africa along the way. However, many international organisations tend to showcase that the food situation in Africa is now getting even worse. At first glance, such claims seem correct – according to FAO classification in 2023<sup>1</sup>, the number of undernourished people in Africa has increased by more than 100 million (to 298 million) compared to 2005. The number of undernourished over the

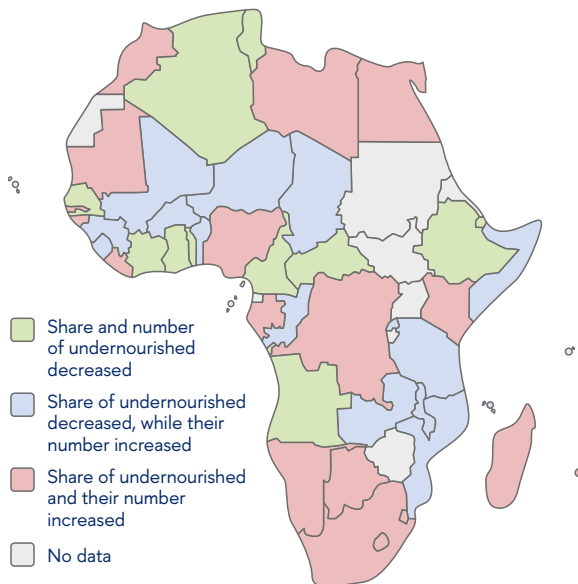
world has decreased, except for in Africa where this number has increased. However, in relative terms, the number of undernourished in Africa has been hovering between 15-20% of the population for the past 20 years, and the number of ‘non-undernourished’ people in Africa is also increasing every year.

**The number of undernourished in Africa has been hovering between 15-20% of the population for the past 20 years**

Those advocating a pessimistic view on the food situation in Africa turn to big data and look at the food situation on a continental scale. However, behind the big numbers and the isolated – albeit disturbing – cases of Nigeria and DR Congo (which together accounted for almost half of the increase in the number of undernourished people in Africa), success stories do exist. For example, the number of undernourished decreased in Senegal, Cameroon, Côte d’Ivoire and Ethiopia (in both absolute and relative terms), as did the share of undernourished people in Mali, Rwanda and Tanzania. At the same time, the productivity of African agriculture is growing – in 2003, it amounted to USD 138 billion, while in 2022 reached USD 327 billion (in current USD).

Indeed, while population growth, coupled with ineffective agricultural policies and Africa’s dependence on imports of certain basic food commodities, has meant that the number of undernourished may be rising in quantity (including as a result of population growth), it is staying the same in relative terms. Moreover, the increase in the number of undernourished in Africa did not start in 2022 after the crisis in Ukraine or even in 2020 with the COVID-19 pandemic. Indeed, the last time the number of undernourished fell year-on-year in Africa was in 2009, and it has been rising ever since.

## Undernourishment dynamics in Africa, 2004–2024 (% of population)



Source: prepared by the HSE University Center for African Studies based on UN DESA, GHI and FAO data.

1 FAO. The State of Food Security and Nutrition in the World 2024. URL: <https://openknowledge.fao.org/server/api/core/bitstreams/06e0ef30-24e0-4c37-887a-8caf5a641616/content>

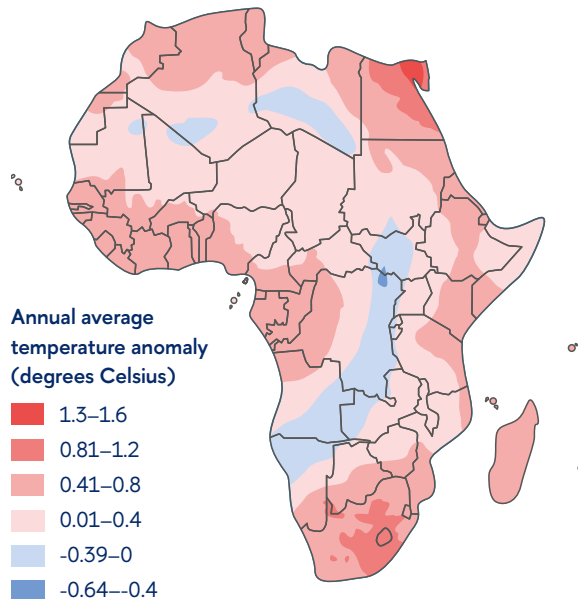
Not only is the number of undernourished people in Africa increasing, but so is the number of articles on food security – in both academia and the media. The topic has become 'trendy', thus impacting interpretations and increasing securitisation.

The problem of hunger is often reduced to climate change. For instance, in the SIPRI (Stockholm International Peace Research Institute) report dedicated to the issue of food insecurity in Africa, 'climate' is mentioned 93 times, while 'fertilisers' or 'reserves' are totally absent<sup>2</sup>. That said, the impact of climate change has not yet been fully studied and assessed, which means that its regional impacts may differ – i.e. improvements in one region and crises in another. One study, published in 2015, found that rainfall in Sahel had increased by 10% in the preceding decades and that it could be due to climate change<sup>3</sup>. This caused Lake Chad to fill up with rainfall – in October 2020 the first peak of 700 cm (October 2) and a second peak of 711 cm (October 15), above the recorded peaks in the last decade, were reached on the lake. The rainfall helped farming in several areas; however, there ensued an overflow of major rivers, which in turn led to flooding and significant losses and internally displaced persons in the region<sup>4</sup>.

### Food situation in Africa is not deteriorating, but rather is not improving fast enough

So far, neither 'external shocks', which occur regularly in the world, nor climate change, nor even internal conflicts have been able to radically worsen the food situation in Africa. All this suggests that the food situation in Africa is not deteriorating, but rather is not improving fast enough. The extensive model of growth – through increased imports on the one hand and the area of land involved in agriculture on the other (since 2000, Africa's agricultural area has increased by 100 million hectares, almost as much as from 1964 to 2000) – will continue to maintain the 'food status quo' in Africa, unable to keep pace with population growth.

### Temperature anomaly (2000–2020 compared with 1951–1990)



Source: prepared by the HSE University Center for African Studies based on data from Cowtan, Kevin & National Center for Atmospheric Research Staff (Eds). "The Climate Data Guide: Global surface temperatures: BEST: Berkeley Earth Surface Temperatures." Retrieved from <https://climatedataguide.ucar.edu/climate-data/global-surface-temperatures-best-berkeley-earth-surface-temperatures>. Calculated by the Data for Children Collaborative with UNICEF.

New approaches are needed to the discussion of food issues in Africa.

Agricultural potential of Africa remains mainly underexploited, while agriculture in Africa is characterised by low technical capacity and mechanisation (lack of agricultural machinery) and productivity level with irrigation systems (average level of irrigation is 1.5-3% of agricultural lands per country; Morocco has 5.9%) and fertilisers are being a rare sight (average fertiliser consumption in Sub-Saharan Africa is estimated at 17 kg of nutrients per hectare of cropland compared to a world average of 135 kg/ha).

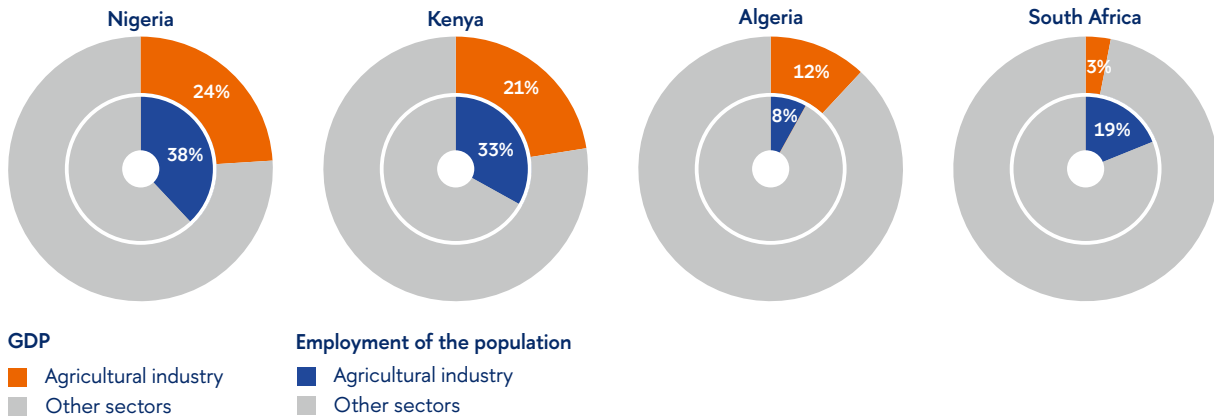
Developing nations becoming self-reliant and establishing sustainable food systems is a rare

2 SIPRI. Food insecurity in Africa: drivers and solutions. URL: [https://www.sipri.org/sites/default/files/2023-01/2301\\_sipri\\_rpp\\_food\\_insecurity\\_in\\_africa\\_1.pdf](https://www.sipri.org/sites/default/files/2023-01/2301_sipri_rpp_food_insecurity_in_africa_1.pdf)

3 Carbon Brief. Factcheck: Is climate change 'helping Africa'? URL: <https://www.carbonbrief.org/factcheck-is-climate-change-helping-africa/>

4 HumAngle. 2022 Rainy Season Has Increased The Volume Of Lake Chad – Report. URL: <https://humanglemedia.com/the-2022-rainy-season-has-increased-the-volume-of-lake-chad-report/>

## Percentage of GDP generated by agriculture and share of working population employed in this sector, 2022



Source: prepared by the HSE University Center for African Studies based on the World Bank data.

case that requires a combination of factors, measures and tools. India and Russia are recent examples one could cite of countries becoming not only self-reliant, but also food exporting nations. Most African countries have a potential for similar success stories, but are yet to harness it. Indeed, food access is one of the key issues that will determine the long-term development of African nations, which influences the dynamics of outbound migration, urbanisation and FDI inflow.

The notion of **food security** is the primary one used through the world today to discuss food related issues. In 1996, the Rome Declaration of the Food and Agriculture Organisation of the United Nations (FAO) defined food security as “when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life”<sup>5</sup>. Since then, this perception has become mainstream. However, this interpretation reduces food security primarily to issues of access and provision, thereby stressing the importance of uninterrupted food supply. That said, purchasing from established producers

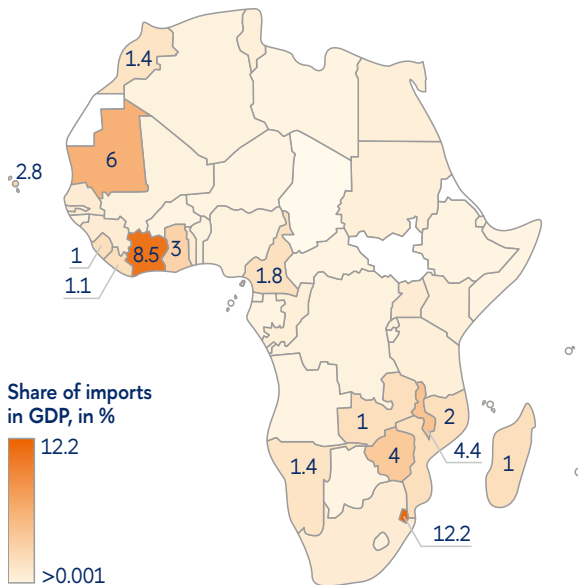
is always cheaper in the short-term than investing in local production and infrastructure, “giving the fish without teaching how to catch it”. Under this umbrella, global suppliers are actively involving themselves in the securitisation of food value chains, establishing surplus food stocks on their territory and purchasing agricultural land in developing countries<sup>6</sup>.

**Food sovereignty** as an alternative approach may be suggested. Food sovereignty is not the alternative but is the next level of food security. The very wording highlights the role of the local, national and regional actors, focusing on local agricultural production, developing and sharpening the tools for state support and interventions (subsidies, protection measures, logistical and infrastructure projects, etc.), establishing its own strategy for developing the food system. The desired model can be network-centric, which will allow a more dynamic response to food crises – e.g. through the formation of food reserve systems on the side of importers rather than exporters. At the same time, **network-centricity** should be maintained not only at global level, but also at intra-country

5 The Food and Agriculture Organization of the United Nations (FAO). Rome Declaration on World Food Security. URL: <https://www.fao.org/4/w3613e/w3613e00.htm>

6 Sviridov V., Andreeva T. Russian Fertilizers as an Element of Strengthening Africa’s Food Sovereignty. URL: <https://africajournal.ru/wp-content/uploads/2024/07/Sviridov-Russian-Fertilizers.pdf>

## Food imports dependence (share of imports in GDP), 2021



Source: prepared by the HSE University Center for African Studies based on World Bank data.

level - it is necessary to create conditions and infrastructure (primarily transportation) for the equal distribution of food products throughout the country to prevent the overconcentration of the food stocks within the metropolitan areas surrounded by wastelands.

However, transition to food sovereignty, which in extreme form proposes food autarky is still unachievable due not only to the globalisation of food markets, but also climate and other natural conditions that make the production of some food staples in Africa impossible. Instead, collective food sovereignty solutions may become an option corresponding with the notion of **self-reliance** developed by prominent African philosophers and leaders Kwame Nkrumah<sup>7</sup> and Leopold Senghor<sup>8</sup>. That said, no system can develop in a vacuum, and external contacts are required to enable technology and knowledge

transfer, logistics solutions and critical supplies like fertilisers.

Almost all African countries today are dependent on food imports to varying degrees. In most regions, the share of food imports in the GDP structure does not exceed 1%. However, there are exceptions, such as Eswatini (with food imports amounting to 12% of GDP), Côte d'Ivoire (food imports amount to 8.5% of GDP) and Mauritania (6%), as well as a number of countries whose share of food imports in GDP is 2–4% (Cabo Verde, Malawi, Ghana, Mozambique and Zimbabwe).

Import elimination or reduction cannot be an end in itself. It should be about import restructuring – assessing the feasibility of maintaining imports of certain food categories at the previous level (e.g. wheat), replacing their part in the diet with food crops grown inside Africa; more active involvement of states in the formation of consumer habits and preferences, diet; partial localisation of the production of certain food categories. The answer to solving Africa's excessive food import dependency, while seemingly paradoxical, is to increase imports, but of higher value-added goods – not finished goods, but first semi-finished products, then fertilisers, seeds, vaccines, raw materials and industrial processing equipment.

Network-centricity implies much more active cooperation between the countries of the region than is currently the case. So far, the main contribution to food cooperation has been made by smugglers or middlemen who supply food across borders, often illegally, and by nomadic herders. There is a need for more active cooperation on food issues at the level of regional economic communities or at least a sustained dialogue between countries on major commodity categories. A shift towards regional or country-wide specialisation could be one aspect of the transition.

7 Nkrumah K. Africa must unite. Melbourne: Hassell Street Press, 2021.

8 Senghor L.S. Négritude et civilisation de l'Universel (Liberte tome 3). Paris: Seuil, 1977.

## Population growth and hunger: demography matters. But not as one would think?

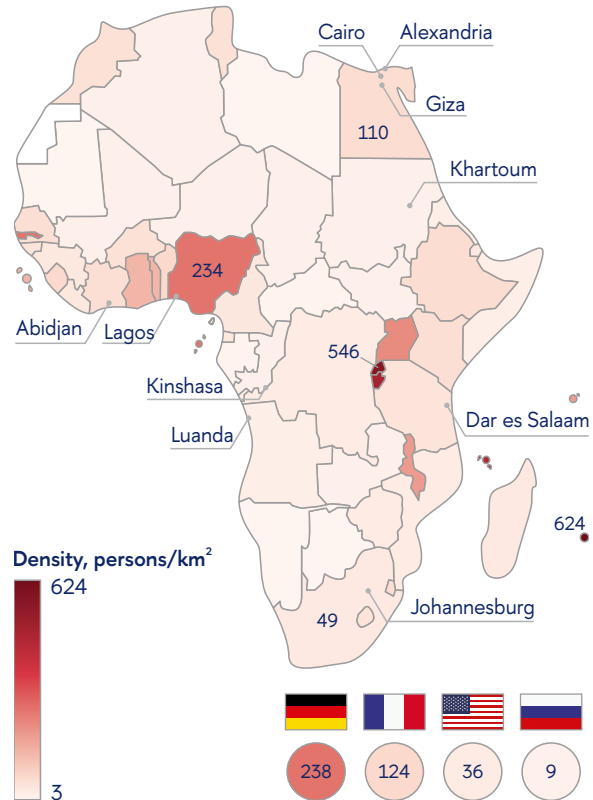
Africa's population is currently approaching 1.5 billion. By 2050, this number is expected to reach 2.5 billion, and by 2100 – 4 billion<sup>9</sup>.

It is worth noting that Africa is still a relatively sparsely populated continent. With an area of 30 million square kilometres, the population density is about 44 people per square kilometre. By this indicator Africa is behind not only Asia (104 people per sq. km), but also Europe (73 people per sq. km.)<sup>10</sup>. Excluding the Sahara and Kalahari deserts, as well as a number of uninhabitable areas (about 11 million square kilometres in total), Africa will still remain in third place among the parts of the world with a population density of 66 people per square kilometre. If the population grows to 2.5-3 billion, its density in the habitable part of the continent will still be three times lower than, for example, that of India today.

Many expert papers and reports on Africa start with theses that population growth would challenge regional stability and contribute to food crises, outbound migration and political turmoil. Africa's demographic transition has been later in coming than in other regions; it is in the early stages of transition, causing the population to grow rapidly. That is perceived as a threat and has led to attempts to control the process.

In 1992, a report *Beyond the Limits*<sup>11</sup> published by the Club of Rome – one of the most influential behind-the-scenes non-profit organisations, notorious for its struggle with overpopulation – was released. It warned about the threat of overpopulation and has strongly influenced how conflicts in Africa are viewed by the world. One example given to demonstrate the danger of overpopulation in the views of the Club of Rome and numerous Western publications was the genocide that devastated

### Population density of African countries, 2023



Alexandria — Africa's largest cities

Source: prepared by the HSE University Center for African Studies based on World Bank data.

Rwanda in 1994. The case of Rwanda was presented as a precursor of similar catastrophes in bigger "overpopulated" countries<sup>12</sup>.

Publications of leading international organisations systematically built in the public consciousness the connection of population growth with crises and hunger. Among the signature papers are *Demographic Change in Sub-Saharan Africa* (1993), *Briefing Note Population and Development in Africa* (prepared by the Organisation of African Unity (OAU) and the UN Economic Commission for Africa (UNECA) in 1994), *Harnessing the Demographic*

9 UNICEF. Generation 2030. Africa 2.0. URL: <https://data.unicef.org/resources/generation-2030-africa-2-0/>

10 World Bank. Population density (people per sq. km of land area). URL: <https://data.worldbank.org/indicator/EN.POP.DNST>

11 Meadows D., and Randers J. *Beyond the limits: confronting global collapse, envisioning a sustainable future*. Vermont: Chelsea Green Publishing, 1992.

12 Prunier G. *The Rwanda Crisis: History of a Genocide* (2nd ed.). Kampala: Fountain Publishers Limited, 1999.

Thirty years have passed since the Rwanda genocide. Following a significant population decrease – from seven million people in the late 1980s to five million by the end of 1994 – by now, the population of Rwanda has surged to 14 million. Rwanda remains the most densely populated in continental Africa and is also one of the leaders in terms of economic growth. In terms of population density in Africa, Rwanda is surpassed only by Mauritius – which could well be the most prosperous country on the African continent. In Rwanda itself, economic growth is evident. In the past 30 years, crop production has increased more than sixfold, both due to increased agricultural productivity and fertilisers intake growth, as well as because of new land included in agricultural turnover. Development of agriculture was combined with other infrastructure investments: the length of paved roads has doubled to 1,200 km and the capacity of power plants has increased sevenfold to 230 MW. The growth of the Rwandan economy is not just a result of the balanced development of infrastructure but is also due to the consistent development of the tertiary sector of the economy.

Dividend for Africa's Socio-Economic Development (prepared by AU in 2012), Synthesis Report on the Demographic Dividend in Africa (by African Institute for Development Policy and UNFPA, 2015), UNECA's Demographic Profile of African countries (2016) and more. The ideas developed in these works create a negative image of population growth, while suffering from ambiguities and lacunas, ignoring possible positive population growth impacts on the food situation.

However, the bread riots and general destabilisation of Africa engendered by population growth has never happened and the prospects of such are quite low. In contrast to the pessimistic view of the correlation between population growth and access to food, an alternative positive vision can be considered.

Population growth makes agriculture more profitable: the number of consumers increases, as does the number of workers. In this way, both consumption and production growth can and should be combined with investments in fertilisers, irrigation systems and resource allocation, leading to multiplicative effects. Rising urbanisation together with the population

leads to a gradual change in consumer habits, the emergence of supermarkets, the development of the bulk purchasing segment and, consequently, the consolidation of farms (it is easier for large chains to work with a limited number of suppliers with similar standards) and, finally, an increase in their technical equipment and productivity.

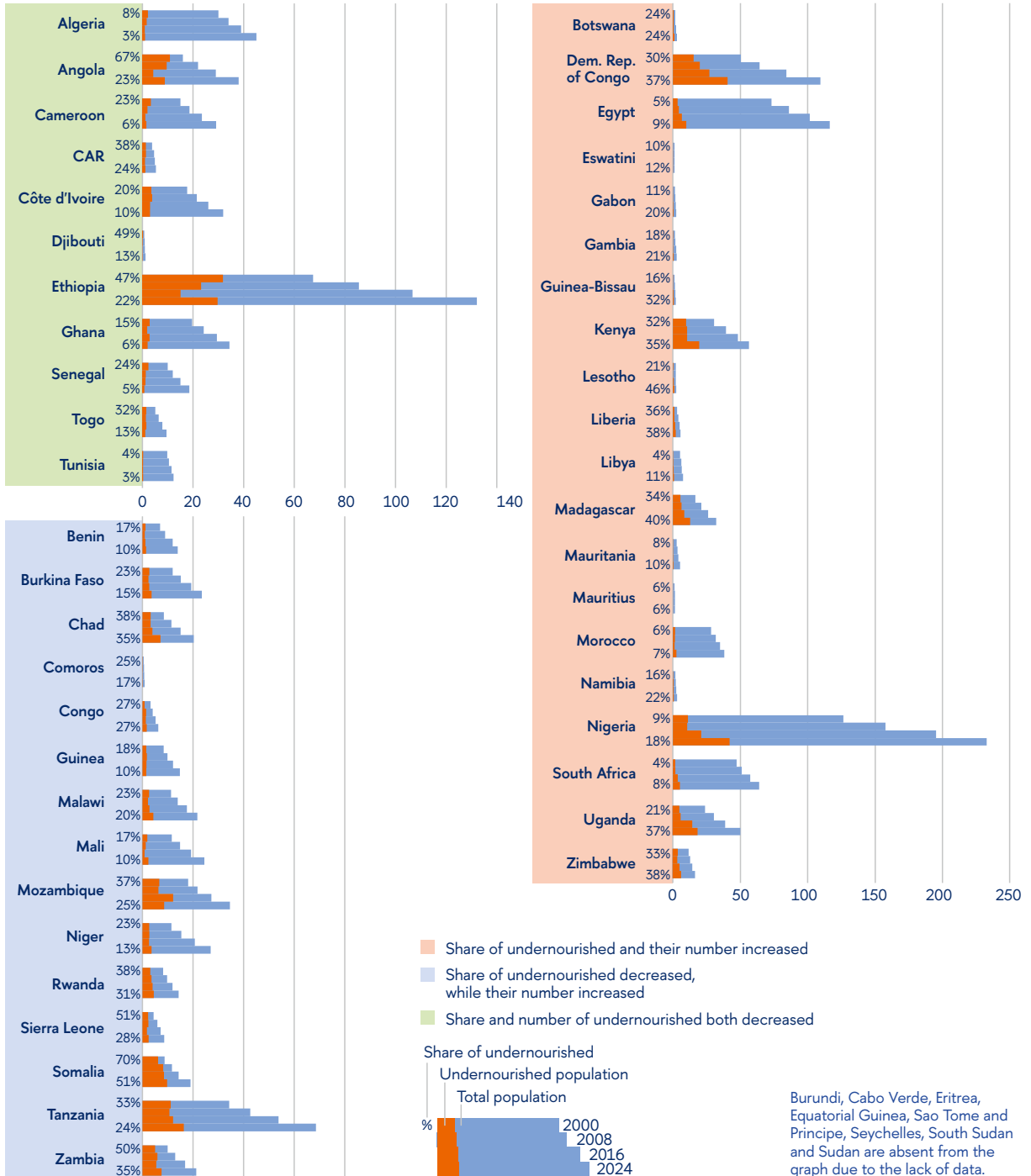
### The larger a population is, the easier it is to feed

Therefore, it is worth considering a positive option: the larger a population is, the easier it is to feed. A growing population would lead to a more evenly distributed population, bridging the gaps (i.e. unpopulated areas) between 'food hubs', increasing not only the size of the workforce and arable land, but also development of infrastructure<sup>13</sup>. Low population density results in low-quality infrastructure (including roads), and food is not brought into remote areas due to insufficient demand and high transportation costs.

To initiate the discussion about the positive impact of population growth on food availability, the correlation between undernourishment rates and population growth was studied.

13 World Bank Blogs. Can rapid population growth be good for economic development? URL: <https://blogs.worldbank.org/en/africacan/can-rapid-population-growth-be-good-for-economic-development?page=1>

### Population growth and undernourishment in Africa, 2004–2024



Source: prepared by the HSE University Center for African Studies based on UN DESA and Global Hunger Index data.

For the study, the sample was taken both from countries suffering from acute food crises and countries with a stable economic and political situation. This sample made it possible to assess the magnitude of the trend and the hidden factors affecting the correlation. Overall, the statistics show that **demographic growth may work in favour of food systems**, but food access still remains extremely sensitive to changes in the political and economic environment.

In the long term from 2004 to 2024, with population growth in many African countries, **undernourishment among the population is decreasing**. Even in those countries where the share of undernourished is rising, the rate of increase, with a few exceptions, does not appear to be catastrophic.

However, the correlation of population growth with hunger reduction is still very sensitive to changes in the political and economic environment. In some countries this has occurred as a result of civil wars or unrest that have led to disruptions in the food system, primarily in terms of food delivery, while in others the situation has worsened as a result of overdependence on external supplies of basic food commodities. However, such spikes are often short-term and levelled off in the long run.

### Strategy of eliminating hunger through the birth rate control is not an option

Thus, the expected growth of Africa's population to 3 billion people in the coming decades is likely to contribute to food deficit reduction through market growth, infrastructure development and agricultural production<sup>14</sup>. However, population growth is both the challenge and the opportunity. What does seem obvious is that a strategy of eliminating hunger through the birth rate control is not an option. Instead, it is worth producing working strategies of development based on the realistic and positive assumptions of population

growth. It is also necessary that the per capita food availability not fall with population growth. The basic conditions for these demands increase in domestic production and redistribute food, hence intensifying agriculture by supplying fertilisers and improving infrastructure for supplies to remote areas. There seems to be no other actors but the governments to produce these workable strategies and implement them.

If destructive factors prevail (such as lack of infrastructure investments and fertilisers, dependence on import, etc.), a demographic surge may have the opposite effect (rising unemployment, excessive urbanisation, environmental problems).

### If destructive factors prevail, a demographic surge may have the opposite effect

That is why the food crises in Africa need to be addressed in a comprehensive manner, given that the demographic factor is ambivalent. Technically it is almost impossible to eliminate the other factors and calculate correlation between demographic growth and undernourishment. Nevertheless, it is worth further research, based on the particular case studies as it is clearly seen that population growth generally does not lead to food situation deterioration.

What does matter is the population and supply balance between cities and food producing agricultural areas. Cities are growing faster than the population itself. Malnutrition drives people to the cities, there food distribution works better to prove the concept 'the more people the more food available', but the fertility rate is higher in the rural areas leading to food crises there.

14 RT. Maslov A. The myth of overpopulation: More people in Africa are the solution, not the problem. URL: <https://www.rt.com/africa/591953-africa-population-growth-west-worried/>

## Main trends in agriculture

### 1. New diet trends

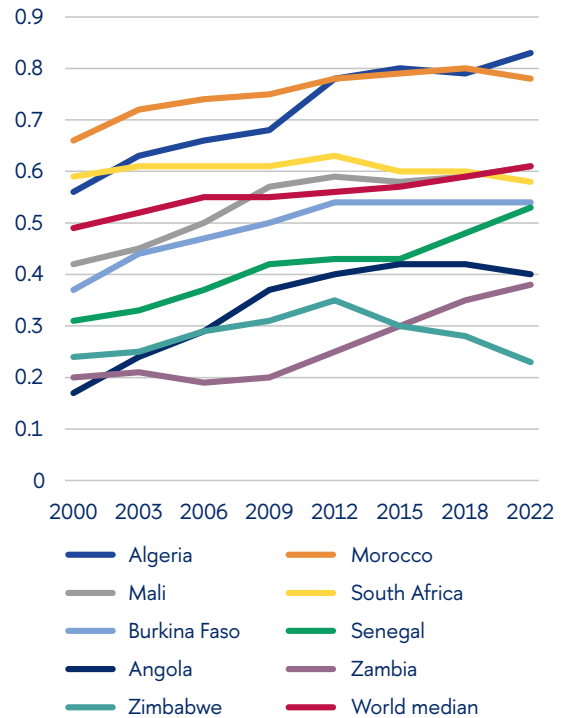
Per capita kilocalorie consumption<sup>15</sup> per day varies across Africa: with a global median consumption of 0.61 (in an index where the highest indicator is assigned a value of 1) in 2022, some countries performed strongly, such as Algeria (0.83) and Morocco (0.78). In Sahel and Western Africa, perceived by many as food crises prone, the indicator is average at 0.61 in Mali, 0.54 in Burkina Faso and 0.53 in Senegal<sup>16</sup>; South Africa's kilocalorie consumption is around the same level at 0.58. The deficit in kilocalorie intake is registered in Central and Southern Africa: 0.4 in Angola, 0.38 in Zambia, and 0.23 in Zimbabwe. By comparison, the US figure in the index above is 1, China's is 0.77, and Europe's average is 0.8 to 0.9.

These indicators, first of all, allow us to draw conclusions about the diet. In some countries, a low-calorie diet is common due to the prevalence of vegetables, fruits, sometimes poultry or fish, and the lack of dairy and meat products.

### Overall, it is not only about food availability, but what is available as well

In recent years, there has been a shift from a low-calorie diet to a new high-fat, high-sugar diet, which brings certain risks<sup>17</sup>. With rapid urbanisation, higher incomes and female employment opportunities, the demand for convenience foods is growing rapidly and supply chains are undergoing a transformation, with production shifting to low-cost processed foods. Consumption of processed and ultra-processed foods is increasing not only in urban but also in rural Africa due to, among other things, the mechanisation of agricultural production, increased income from non-farm

Kilocalories per person per day (highest score = 1), 2000–2022



Source: prepared by the HSE University Center for African Studies based on World Bank data.

employment and the associated increase in the opportunity cost of time. Many processed foods are high in sugar, salt, saturated fats and/or preservatives and, thus, contribute to overweight and non-communicable diseases such as diabetes, cardiovascular disease and cancer. At the moment, Africa has not seen a surge in fat consumption, and it would be premature to claim a shift to an unhealthy dietary pattern, but the risk in the form of a slow but steady increase in sugar consumption remains: thus, total African consumption of sugar (raw equivalent) in 2010 was 13.9 million tonnes, in 17.9 million tonnes in 2016 and 19.8 million tonnes in 2022<sup>18</sup>.

15 World Bank. Kilocalories per person per day (highest score=1). URL: [https://prosperitydata360.worldbank.org/en/indicator/IDEA+GSOD+v\\_23\\_03](https://prosperitydata360.worldbank.org/en/indicator/IDEA+GSOD+v_23_03)

16 One of the reasons why calorie intake in the Sahel zone is higher than in Sub-Saharan Africa may be the abundance of dates in the diet. The caloric value of dates is about 25 calories per fruit (about 274 kcal per 100 grams of product), which with the production volumes (e.g. Niger - 16.6 thousand tons in 2020, Chad - 21.2 thousand tons in 2020) makes dates an important source of calories for local population.

17 Global Food Research Program. Ultra-processed products make up nearly half of low-income South African adults' diets. URL: <https://www.globalfoodresearchprogram.org/ultra-processed-products-make-up-nearly-half-of-low-income-south-african-adults-diets/>

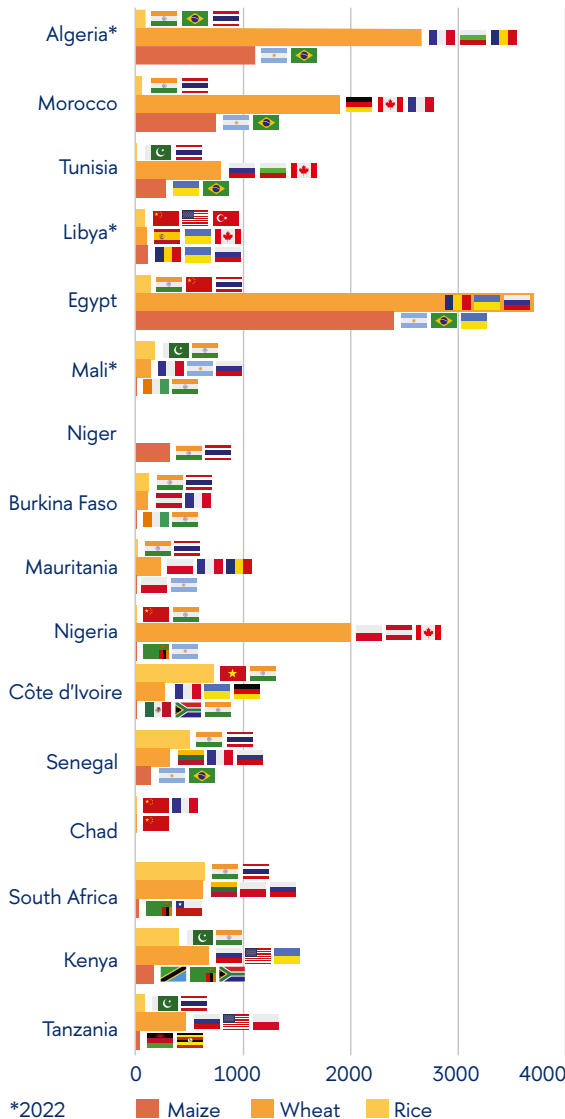
18 FAOSTAT. Food Balances (2010-). URL: <https://www.fao.org/faostat/en/#data/FBS>

## Grains

Africa has the potential to become a major producer of cereal crops: for 2022, the area planted with maize is 41.8 million hectares with a production of 92.9 million tonnes. For 2022, 16.5 million hectares have been allocated to rice

(production of 39.9 million tonnes) and 29 million hectares to sorghum with a yield of 29.6 million tonnes<sup>19</sup>. However, **due to a lack of fertilisers, field yields are not sufficient to meet the growing needs of the population.** Africa spends up to USD 80 billion annually on food imports, and up to USD 16 billion of this is wheat.

Import of rice, maize and wheat in Africa, 2023, USD million



Source: prepared by the HSE University Center for African Studies based on Trade Map and OEC data.

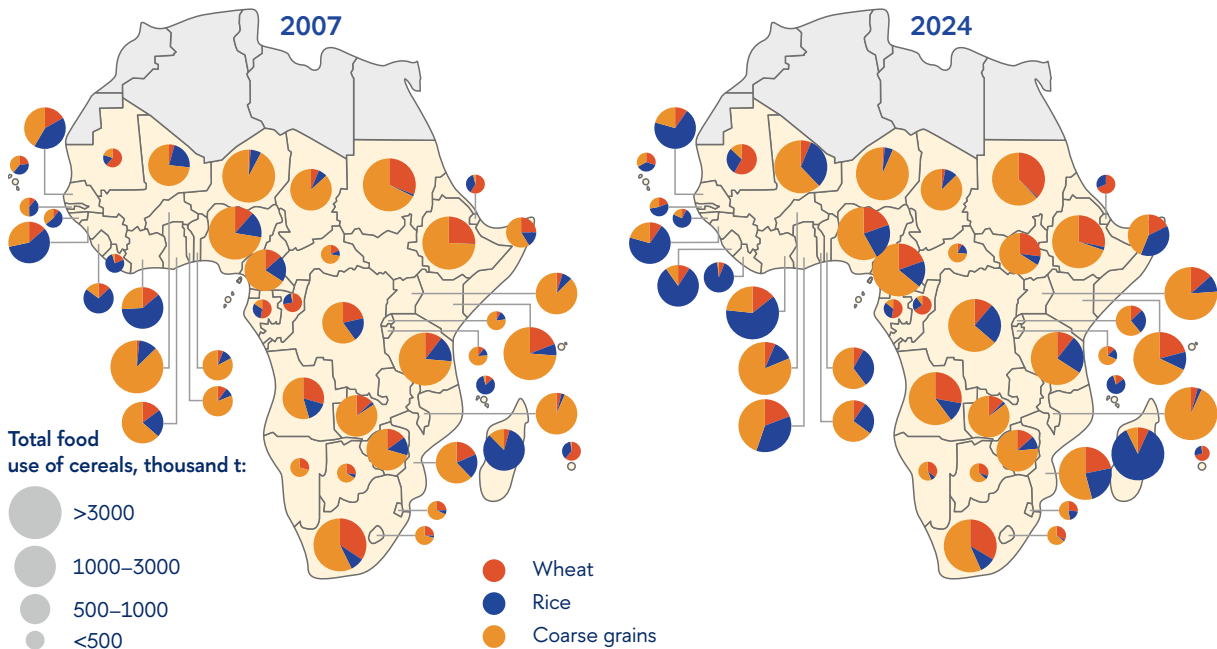
Nigeria is a textbook example of the “wheat trap” (after the title of a 1985 book by Swedish researchers Gunilla Andrae and Björn Beckman, *The Wheat Trap: Bread and Underdevelopment in Nigeria*)<sup>20</sup>. Since colonial times wheat (poorly suited to the country’s climatic conditions) has been replacing traditional crops in the African diet. The process intensified with gaining independence and the influx of petrodollars, which created a westernised class of urban dwellers, consumers of wheat products. They in turn created a demand for wheat imports, which is extremely difficult to replace with local production. The most consumed cereal crop in Nigeria is maize, accounting for almost 40% of consumption in quantity terms, rice and sorghum have roughly equal shares of 22% and wheat only 15%. Wheat is the only cereal in Nigeria for which imports are the main source of supply. 2.5 times between 2000-2020, rice consumption increased 2.5 times, maize consumption increased 2 times, and sorghum consumption is stagnant<sup>21</sup>. Urbanisation and the gradual globalisation of food behaviour standards together with population growth is leading to a gradual increase in the consumption and importation of wheat.

<sup>19</sup> USDA. International Production Assessment Division. URL: <https://ipad.fas.usda.gov/Default.aspx>

<sup>20</sup> Andrae G., Björn B. *The Wheat Trap: Bread and Underdevelopment in Nigeria*. London: Zed Books, 1986. 192 p.

<sup>21</sup> FAOSTAT. Crops and livestock products. URL: <https://www.fao.org/faostat/en/#data/QCL>

## Food use of main crops in Sub-Saharan Africa, 2007–2024, thousand t



Source: prepared by the HSE University Center for African Studies based on FAO data.

Wheat is not a traditional crop for most African countries, and compared to other regions, Africa ranks last among consumers of bakery and confectionery products. Nevertheless, imports of this particular crop account for a significant portion of African government and consumer expenditures. The reason lies in the artificial increase in demand as part of the “wheat trap”.

The way out for African countries may be to consistently support more domestically adapted crops like sorghum, cassava, etc. Such measures could include imposing obligations on flour producers to replace a share of wheat flour with sorghum, introducing more pest and climate-resistant varieties and seeds.

**The way to African food sovereignty seems to be in reducing dependence on wheat in general, not only on wheat imports**

## Protein intake: dairy, fish, meat and poultry

**Although overall protein intake is not significantly below the recommended and required amounts, the problem lies in its composition**

The average protein intake in Africa has decreased over the last 10 years and stands at 65-66 g per person per day, which is 20 g less than the world average.

The majority of protein consumed in Africa is low-quality plant proteins, with them constituting 77% of the intake (37% in the EU). African countries consume plant proteins almost as much as the world average (50 g), but with animal proteins like fish, meat, eggs, dairy products their consumption is 2-3 times less. With the spread of fast food – noodles and other snacks – the share of low-quality proteins will probably increase even more.

The Kenyan dairy industry is among the top in Africa and is the leading in Eastern Africa. This case demonstrates the potential of the government interventions and investments in food sovereignty. The dairy is contributing 4.5%, 14% and 44% to the national, agriculture and livestock sub-sectors GDP, respectively. In 2023 total milk production in the sector is estimated to be 4.6 billion litres (for comparison, about 2.9 million litres in 2000), and the consumption of dairy products remains high (about 98 kg /capita/year in milk equivalent). Such an increase was possible due to high demand for processed milk and milk products due to a growing urban middle class and ongoing investments in value added products including long-life milk and milk powder. A chain of production has been established - milk collection from small farms is centralised in so-called 'milk bars', from where milk is either delivered for processing or sold to consumers in raw form. A big role in establishing value-added production is played by the government, that supports the industry through set of regulatory measures and incentives. There are also support measures from the regional governments - for example, in Murang'a the county government established a subsidy programme in early 2023 - milk producers are receiving 7 shillings (USD 0.054) per delivered litre of milk via e-card<sup>22</sup>.

Consumption specifics limit the continent-whole approach. Here, even a country-by-country approach is not sufficient, given the significant differences in traditional diets in different regions of the same country – for example, in the countries of Western Africa coastal populations depend primarily on fish, while those in the northern regions depend primarily on dairy products and beef. Moreover, the share of animal protein intake is still so small and fluid that a single reform in one country may have an impact on continent-wide statistics.

**Dairy products** remain the main source of animal protein in Africa, but this is primarily at the expense of Northern Africa, where milk powder has a significant market share, and Eastern Africa, namely Kenya, where the government has consistently supported local producers and the dairy industry occupies an important position in the economy (4.5% of GDP).

The low consumption of milk and dairy products is due to low production levels, lack of canning technology (for products on the domestic market) and the high prevalence of lactose intolerance

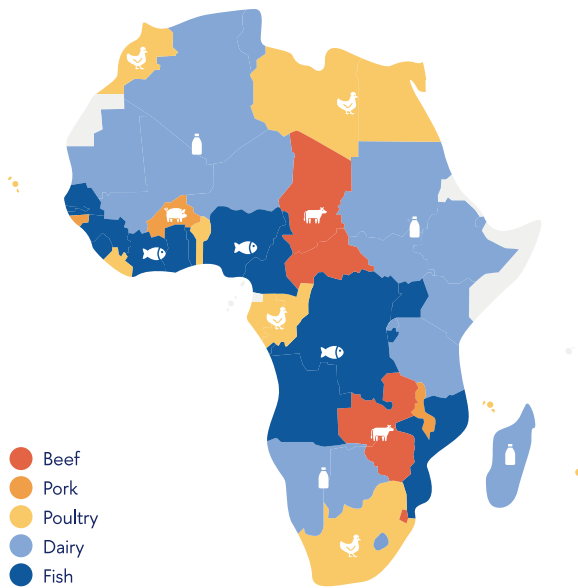
among the African population. Overall, dairy farming remains primarily subsistence, especially for countries with a significant share of nomadic population: Mali, Niger, South Sudan, Ethiopia. Improving the efficiency of the dairy industry in such countries is not only an issue of food sovereignty and balanced diet, but also of security in its broader sense. Government support to the dairy industry, creation of additional jobs and infrastructure will help to improve life conditions of herdsmen, consequently, contributing to the resolution of the centuries-old farmer-herder conflict.

**Meat** is generally less consumed in Africa compared to other regions (about 20 kg of all meat species per person per year in 2021 against 43 kg per person globally and 67 kg per person in Europe<sup>23</sup>) due to its high price and additional production costs in the pastoral sector, as well as the lack of infrastructure (industrial slaughterhouses). The variation in meat and poultry consumption in Africa is very wide, ranging from an average of 5.4 kg per person per year in Ethiopia to 60 kg per person per year in South Africa, with an average of 20 kg per person per year in Africa. **Chicken** is the main meat for the vast majority of Africans, accounting

22 Kenya News Agency. Dairy, Mango Farmers To Access Subsidies Via E-Card. URL: <https://www.kenyanews.go.ke/dairy-mango-farmers-to-access-subsidies-via-e-card/>

23 FAOSTAT. Food Balances (2010-). URL: <https://www.fao.org/faostat/en/#data/FBS>

## Main source of animal protein in Africa, 2024



Source: prepared by the HSE University Center for African Studies based on FAO data.

for around 30% of annual meat consumption. In general, it is chicken that has accounted for most of the growth in meat and protein consumption in Africa. However, this consumer boom is largely driven by imports - African countries spend more than USD 2 billion a year on poultry imports.

### Urbanisation and low efficiency of domestic production in Africa, including feed shortages, will remain the key drivers of chicken consumption and import growth

Consumption is expected to increase as the demand for chicken in Africa rises, with a projected market volume of 11 million tonnes by the end of 2030<sup>24</sup>.

Because of **pork's** limited potential as a source of protein, engendered by climate and religious taboos, what meat African cities will eat - chicken (local or imported), beef, lamb, fish or goat meat and in what proportions - depends on decisions with little time to make. Global consumption standards make the key role of chicken almost inevitable, but whether it comes from Africa or abroad depends on whether African governments can take measures to support the industry, introduce more efficient and crossbred types of poultry, support higher input requirements (housing/shelter, commercial diet, and strict disease/vaccination programmes) associated with the more genetically efficient breeds. Otherways, chicken may become the new "wheat trap" for Africa.

Despite the fact that Africa provides approximately 10% of global fish catch<sup>25</sup> and 10% of global fishermen are Africans<sup>26</sup>, fish consumption is almost 2 times less than world average (9 kg per capita vs 20 kg<sup>27</sup>). According to IDH, the African continent has been experiencing a seafood deficit since 2001 and this deficit has been growing by 13% every year<sup>28</sup>. This is primarily due to the low level of knowledge of African aquatic resources, lack of skilled labor and infrastructure (storage, processing, delivery to consumers). The most pressing issue is aquaculture: fishing is haphazard, extensive and often left to foreign companies. At the same time, due to the low efficiency of the fishing industry in Africa, imports of fish and seafood are increasing. Fish imports have increased fivefold in 20 years and almost reached USD 5 billion by 2023. It is the development of **aquaculture** and improvement of technological equipment of the industry that will guarantee the growth of fish consumption in Africa.

24 African Union Development Agency, Digitalising The Poultry Industry In Africa. URL: <https://www.nepad.org/blog/digitalising-poultry-industry-africa>

25 FAOSTAT. Food Balances (2010-). URL: <https://www.fao.org/faostat/en/#data/FBS>

26 FAO. The State of World Fisheries and Aquaculture 2018. URL: <https://openknowledge.fao.org/server/api/core/bitstreams/6fb91ab9-6cb2-4d43-8a34-a680f65e82bd/content>

27 FAOSTAT. Food Balances (2010-). URL: <https://www.fao.org/faostat/en/#data/FBS>

28 IDH. Fish farming for African food security and job creation. URL: <https://www.idhsustainabletrade.com/news/increasing-food-security-through-local-fish-production-and-market-growth-in-africa/>

## 2. Shift away from subsistence farming

With urbanisation, there has been a shift away from subsistence farming and, more widely, from eating locally grown food. Land is increasingly given to technical (cotton, rubber) and export crops, while food is increasingly imported: wheat, rice, and corn. There is a decline in the food base in the wild, as well as in fauna, amidst population growth, hunting and insurgency.

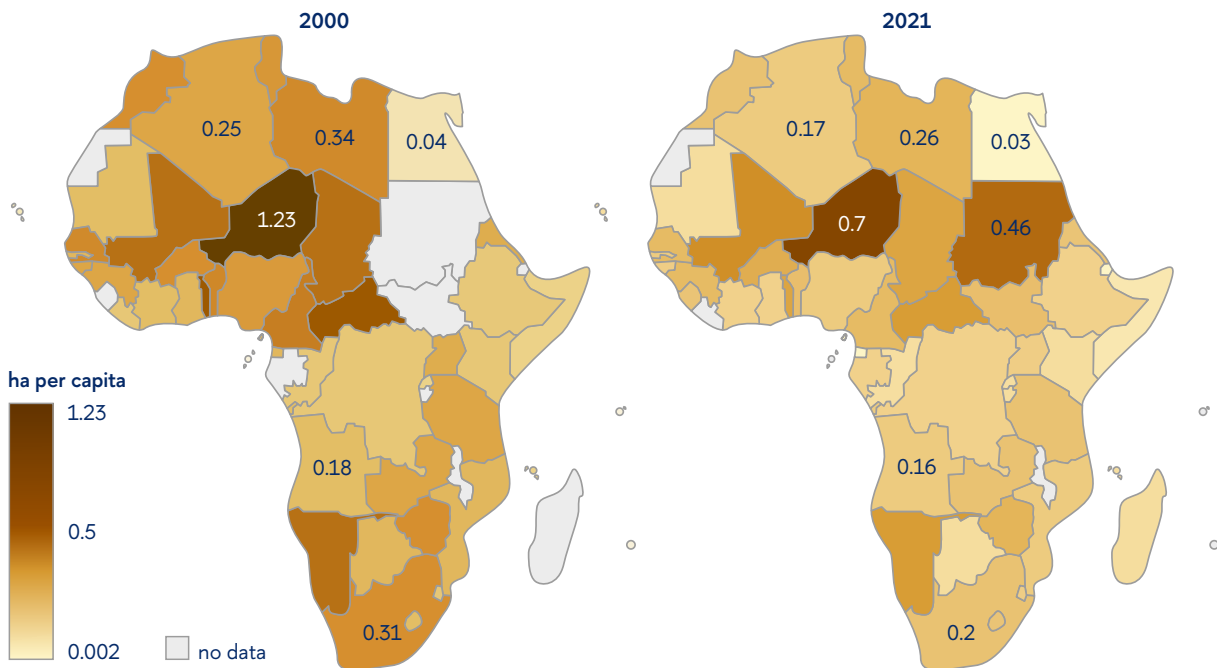
As a consequence, there is a decrease in opportunities for **extensive growth** (arable land, pastures), an increase in demand for intensive farming methods introduction. One of the main methods of increasing the quality and quantity of yield is the application of fertilisers.

### Fertilisers market in Africa: towards agricultural intensification

**Fertilisers will be the main trendsetter for African agriculture development in the forthcoming decades**

Land dilemma exists as well, as alternative to agriculture options arise for land use. For instance, in Tanzania in the period from 2022–2023, the territory of national parks amounted to 99.3 thousand hectares, the revenue from these territories for this period amounted to USD 123.9 million<sup>29</sup>, the average revenue amounted to USD 12.5 thousand/ha. While the approximate income from agriculture does not exceed USD 1 thousand per ha.

Arable lands (ha per person), 2000–2021



Source: prepared by the HSE University Center for African Studies based on FAO data.

<sup>29</sup> The Citizen. Tanapa revenue soars by 94 percent as tourism rebounds. URL: <https://www.thecitizen.co.tz/tanzania/news/national/tanapa-revenue-soars-by-94-percent-as-tourism-rebounds-4564600>

As of 2022, agricultural fertiliser use in Sub-Saharan Africa is **17 kg/ha**<sup>30</sup> of active ingredients (compared to APAC at 300 kg/ha), with some countries like Uganda, Guinea, Republic of Congo, Niger and CAR using less than 5 kg/ha. Following the meeting of African Ministers of Agriculture in 2006 in Abuja (Nigeria), a modest goal was set to increase the average volume of fertiliser use from 8 kg/ha to 50 kg/ha, which is still yet to be achieved in most countries. According to the calculations of the United Nations Development Programme (UNDP), achieving the goal of increasing the use of fertilisers could triple food production in Africa in the near future, as well as reduce malnutrition by almost 5%<sup>31</sup>. Fertiliser consumption in Africa is 7.5 million tonnes of active ingredients, and most of it is imported nitrogen, potash and phosphate fertilisers.

Fertilisers have already contributed to food sovereignty of several African countries. Among them is Ethiopia, which has arranged an increase in production due to the introduction of new wheat varieties and an increase in the use of fertilisers.

African market share of imported fertilisers (6% of global value) and exported (12%) is relatively

high, whereas indicators of several countries (Morocco, Algeria, Egypt) are in position to increase significantly this decade.

According to the Africa Fertilizer Map, the major fertiliser producers on the African continent – Morocco, Algeria, Nigeria, South Africa and Libya – manufacture fertiliser not only for their own consumption but also for export, including intra-regional exports<sup>32</sup>. Africa is endowed with the resources for fertiliser production. According to the USGS, up to 80% of the world's phosphate reserves are concentrated in Africa. Africa annually produces around 250 bcm of natural gas (about 1 thousand cubic metres of gas is needed to produce 1 tonne of ammonia fertiliser). That proves the potential for wider regional cooperation in fertilisers production<sup>33</sup>.

South Africa, Ethiopia, Zambia, Djibouti, Tanzania and Zambia are the region's leading fertiliser buyers (the combined share of these five countries is 20% of total African imports)<sup>34</sup>. At the same time, Morocco, South Africa, Egypt, Nigeria are among the five leaders exporting to other countries of the region: they account for 16.1% of external African exports and 76.8% of intra-regional exports.

Ethiopia imports up to 1.5 million tonnes of wheat annually (For the unfinished period from July 2024 to June 2025 imports amounted to 1.3 million tons, according to the USDA; for the same period in 2023-2024 - 1.5 million tons) with an average annual consumption of 6 million tonnes for 2019-2020<sup>35</sup>.

Increase in yields – the **“wheat revolution”** as some media refer to the phenomenon – has been made possible by the nation-wide introduction of heat-tolerant wheat varieties combined with increased mechanisation, irrigation and fertiliser application. For instance, nitrogen fertiliser input increased from 240,000 tonnes in 2014 to 426,000 tonnes in 2022 (from 14 kg/ha to 23 kg/ha), contributing to wheat yield increasing from 2.5 tonnes/ha to 3 tonnes/ha. All measures combined led to an increase in wheat production from 4 million MT to 5.8 million MT in 2023/24<sup>36</sup>.

30 Malpass D. A transformed fertilizer market is needed in response to the food crisis in Africa. URL: <https://blogs.worldbank.org/en/voices/transformed-fertilizer-market-needed-response-food-crisis-africa>

31 UNDP. Towards Food Security and Sovereignty in Africa. URL: <https://www.undp.org/facs/publications/towards-food-security-and-sovereignty-africa>

32 Africa Fertilizer Map. URL: <https://www.africafertilizemap.com/>

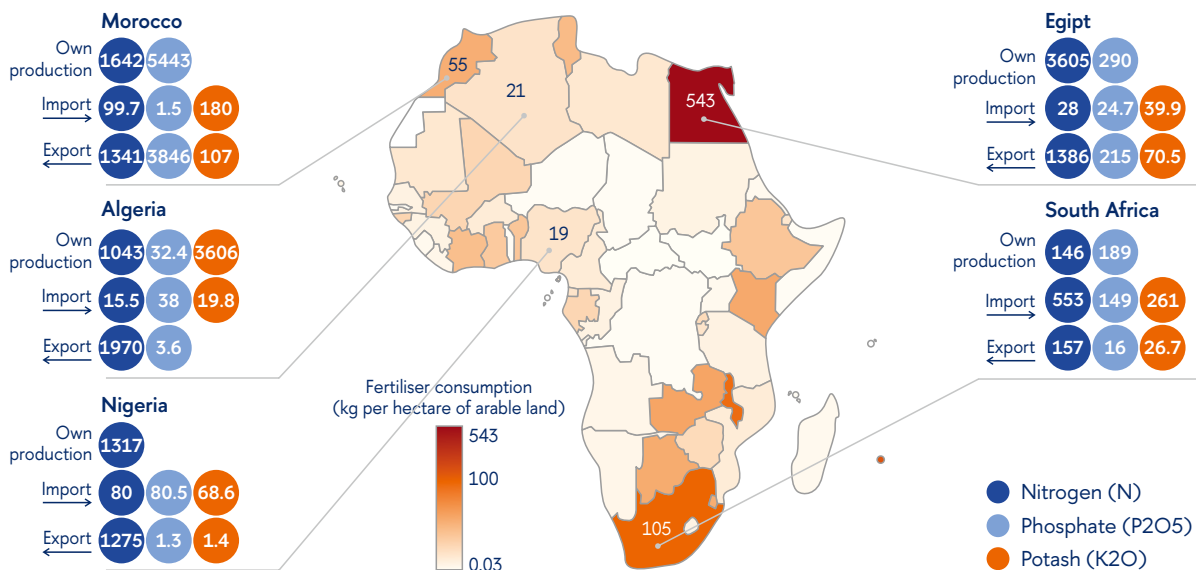
33 Sviridov V., Andreeva T. Russian Fertilizers as an Element of Strengthening Africa's Food Sovereignty. URL: <https://africajournal.ru/wp-content/uploads/2024/07/Sviridov-Russian-Fertilizers.pdf>

34 IFASTAT. URL: <https://www.ifastat.org/>

35 FAOSTAT. Food Balances (2010-). URL: <https://www.fao.org/faostat/en/#data/FBS>

36 FAOSTAT. Crops and livestock products. URL: <https://www.fao.org/faostat/en/#data/QCL>

### Production and trade of fertilisers in Africa (by nutrient), 2022, thousand t



Source: prepared by the HSE University Center for African Studies based on Africa Fertilizer Map and FAO data.

However, intra-regional fertiliser consumption and distribution remain low. The main reasons include low qualification of farmers and specialists involved in the agricultural sector, dependence on subsidies, shortage of foreign currency and the general lack of government support for the sector.

Another critical reason for low consumption and intraregional exports is the poor state of logistics. For example, the main railroads and transport trade corridors on the continent pass through coastal countries, international ports and major railway stations, almost completely ignoring the inland countries (most affected by the food crisis).

### It is the government that should be the main player in the emerging fertiliser markets

Given the small size of farms and their lack of working capital and knowledge of soil conditions, it is the government that should be the main player in the emerging fertiliser markets. Examples of separate states show that the set of these measures is limited, but allows to achieve significant results even in the short term.

However, the main reason remains the benefit for large African producers of targeting external markets. Countries with unstable economic and political environment, as well as countries amidst acute food crisis, cannot pay for sufficient volumes of fertilisers at market price, which directs export flows to other regions rather than inland.

The de facto 'exclusivity' of some routes increases the price of fertiliser shipments. According to Africa Fertilizer Map's 2021 calculations, the transportation cost per tonne of fertiliser from Dakar to Bamako averaged USD 54 (1,115 km), from Beira to Lusaka USD 85 (1,055 km), from Durban to Harare USD 115 (1,680 km) and from Dar es Salaam to Lusaka USD 100 (1,940 km)<sup>37</sup>. Meanwhile, the major railroads and transport corridors affect intracontinental countries tangentially. This increases the cost of transportation at the expense of conveyance within the country itself (from the transport hub to the periphery) and adds the risk of a transport blockade if relations between states deteriorate.

37 Africa Fertilizer Map. URL: <https://www.africafertilizemap.com/#Interactive>

Nigeria provides an example of the use of a range of government support measures for the development of the sector. Fertiliser consumption trends are positive, but reflect the general picture for Africa (less than 20 kg/ha). Nigeria's former president Muhammadu Buhari (2015-2023) made the fertiliser programme a priority and several steps have been taken at state level in this regard:

1. Establishing a **legal framework** for the development of the national fertiliser market segment.
  - **Presidential Fertiliser Initiative** (2016), the objectives of which were, among others, to rehabilitate local idle infrastructure and encourage domestic production (blending) of fertilisers<sup>38</sup>.
  - **The National Quality Fertiliser Control Act** (2019) to prevent substandard or counterfeit products from entering the market<sup>39</sup>. One of the requirements of the act is for companies operating in Nigeria to register and obtain certificates of registration and marketing authorisation from the relevant agency. To this end, an electronic platform, The National Fertiliser Management Platform, has been operationalised. The first certificates were issued in 2022.
2. **Support for local producers** of fertilisers and agricultural products.
  - **Non-tariff measures.** Import bans on urea and NPK were introduced in 2016 and 2018, respectively.
  - **Subsidies.** Subsidies to increase the amount of fertiliser per hectare of cultivated land under various schemes and programmes (including the Federal Market Stabilisation Programme, the 2010 Fertiliser Voucher Programme, and the Growth Enhancement Support Scheme) have been used in Nigeria since 1977. However, after 2015, due to declining government revenue as a result of falling oil prices and the government's high debt obligations to agro-dealers, subsidies were not used. In 2022, the subsidy system was partially brought back; in 2023, several state governments in Nigeria announced the introduction of a 50% subsidy on fertiliser purchases.
3. **Direct purchase by the government**

Nigeria is using contracting for the supply of raw materials for local blending in Nigeria is done through government procurement: in 2019, a contract was signed with Uralkali (a Russian company, part of Uralchem Group), for the direct supply of potash component for NPK fertilisers.
4. Introduction of a **Soil Doctor programme** to test soils and determine the level of fertiliser requirement, with parallel training of specialists and opening of laboratories.

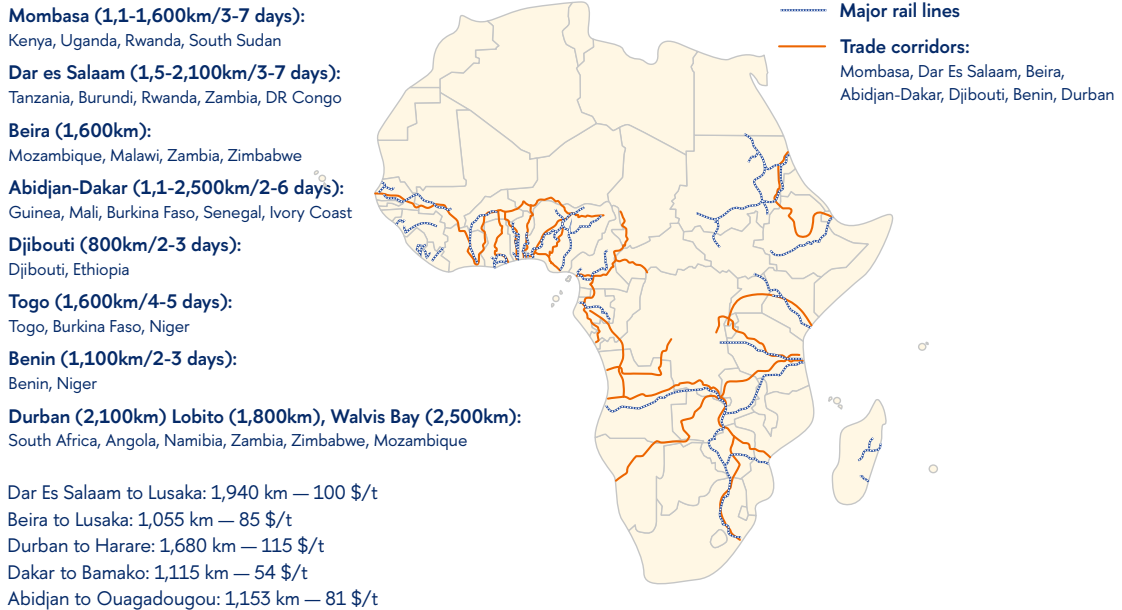
Despite the positive trend in fertiliser use, Nigeria remains dependent on external fertilisers, the supply of which can be drastically reduced in times of crisis, leading to higher prices and a reduction in already established local production. The only way for Nigeria to achieve food sufficiency via increased fertiliser application is to harness its vast natural gas resources for nitrogen fertiliser production.

<sup>38</sup> Nigeria Sovereign Investment Authority, Presidential Fertiliser Initiative (PFI). URL: <https://nsia.com.ng/portfolio/presidential-fertilizer-initiative-pfi/>

<sup>39</sup> Federal Republic of Nigeria Official Gazette, The National Quality Fertiliser Control Act. URL: <https://nesgroup.org/farmgain/documents/Official%20Gazette%20of%20NATIONAL%20FERTILIZER%20QUALITY%20CONTROL%20ACT,%202019.pdf>

An USD 11 million **soil fertility mapping project** (launched in 2012) was completed in Ethiopia in 2019<sup>40</sup>. The maps, which contain soil characteristics and soil nutrient levels, have helped create recommendations for a more balanced use of fertilisers and new mineral mixtures, instead of using one type for all soil types. In this regard, Ethiopia has abandoned some fertilisers that did not suit the soil type in terms of nutrient composition (in particular DAP was completely replaced by NPS and its varieties in 2015)<sup>41</sup>.

### SSA trade corridors



Source: prepared by the HSE University Center for African Studies based on Africa Fertilizer Map data.

The logistics of fertiliser distribution is also important: small farms, those who primarily need fertilisers, find it difficult to buy large batches of fertilisers coming to ports. At the same time, it is unprofitable for suppliers to divide batches of fertilisers into small portions. Thus, investments are needed in a mechanism for redistributing and packaging imported fertilisers on the territory of ports or in the vicinity of them.

### Africa's food sovereignty through fertiliser supply should be complemented by educational and research initiatives

These include additional courses, lecture series, internships for farmers and government officials.

### 3. Subsidies and subventions

Many African countries, such as Algeria, Egypt and others provide government subsidies on food products, especially wheat and bread as a staple (baguettes and loaves of white bread).

Subsidies are an important tool to fight hunger, which is evident when comparing with the Global Hunger Index indicators<sup>42</sup>. Thus, in Algeria and Senegal, where subsidised products fully cover the national average bread consumption, the level of malnutrition among the population has been gradually decreasing since

40 FAO. Using Soil Maps to Promote Efficient Use of Fertilizers Learning from the Ethiopian Experience. URL: <https://www.fao.org/3/cb9452en/cb9452en.pdf>

41 AfricaFertilizer. Ethiopia Fertilizer Dashboard. URL: <https://viz.africafertilizer.org/#/ethiopia/wpContentPage/country-overview-8>

42 Global Hunger Index. URL: <https://www.globalhungerindex.org/>

2000 and fluctuations in world grain prices have not had a strong impact on the indicator. In Morocco and Tunisia, where subsidised bread meets about half of the demand, malnutrition rates remain at the same level with slight fluctuations (Morocco) or slightly decreasing (Tunisia). This underlines the strong influence of international conditions on regional bread markets that are not subsidised by the state.

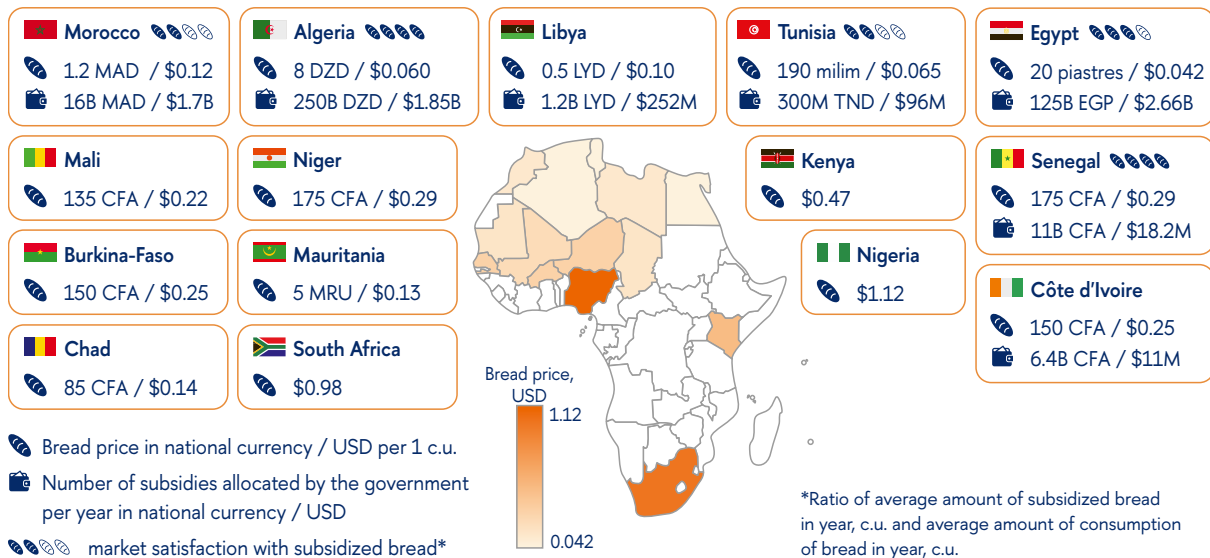
Nevertheless, bread subsidies are also a change-sensitive instrument and **cannot function in isolation from other factors**. For example, in Egypt, where subsidised bread covers more than half of the demand, the malnutrition rate has increased. This process is linked to Egypt's dependence on wheat imports as well as the country's crisis phenomena - food prices inflation rose by 60% between 2013 and 2023, along with foreign debt and the dollar's exchange rate to the national currency<sup>43</sup>.

Farmers and enterprises involved in bread production (flour mills, bakeries) find it unprofitable to work below or at par with the market price. Subsidies are beneficial in the short term (instant access to food for all segments of the population) but can cause irreparable damage to the economy in the long term. For example, the impoverishment and ruin of bakeries operating at a loss leads to less competition in the market, monopolisation of the sphere, and deterioration of product quality. Finally, all this leads to distortions in the distribution of resources in the economy and, thus, social inequality, which the subsidy system is originally aimed to combat.

To increase the efficiency of subsidies for bread and food in general, the most of the subsidy regimes requires more flexibility with policies exclusive for each individual country. Such a flexible system should consider the level of self-sufficiency and grain imports; the percentage of the population below the poverty threshold and the population receiving minimum wages; the level of logistical connection

## High government subsidies on bread and flour stimulate consumption but limit private sector growth

### Subsidies on bread in African countries



Source: prepared by the HSE University Center for African Studies based on FAO data.

43 International Institute for Strategic Studies. Egypt's economic crisis and uneasy position in the Middle East. URL: <https://www.iiss.org/publications/strategic-comments/2023/egypts-economic-crisis-and-uneasy-position-in-the-middle-east/>

between the centre and the periphery and other indirect factors.

For instance, in Algeria, according to Algerian researcher Bouchafaa Bahia, as of 2018, about 52% of the population on average risks poverty and needs subsidised products, but 48% of the population may not need subsidies<sup>44</sup>. Qualitative analysis of existing risks and resources for the introduction of subsidies can improve the situation of all participants in the economic life of the state.

The dependence of many African countries on imports and the resulting fluctuations in world product prices remains a major challenge to a flexible subsidy system. Thus, rising prices for imported wheat will inevitably lead to an increase in prices for baked products, even subsidised ones. To mitigate risks, it is very important to ensure a long-term transition to own raw material resources. An option for countries that cannot achieve self-sufficiency may be the development of reservation systems.

#### 4. Food reservation systems

Food availability remains one of the main reasons behind most African food crises, which is provoked in the first place by the shortage of food not in the country as a whole, but by its uneven distribution between regions. In Africa, there has already been experience in establishing reservation models at national level. For example, **Ethiopia** has a reserve system (run by the Ethiopian Food Security Reserve Authority (EFSRA), established by the Council of Ministers; renamed the Strategic Food Reserve Agency (SFRA), but in fact it currently has no food reserve policy<sup>45</sup> and faces the inability to solve food crises in regions affected by political turmoil – e.g. Tigray. Issues related to the food reserve system are addressed only in related strategies such as the National Policy and Strategy on Disaster Risk

Management, Plan for Accelerated and Sustained Development to End Poverty (PASDEP) and Growth and Transformation Plans (GTP 1 and GTP 2)<sup>46</sup>.

Thus, countries face difficulties in establishing national reserve systems – in fact, there is no surplus to set aside as a reserve. A collective reserve system could help to relieve the pressure on national systems.

#### 5. Water withdrawal dilemma

The state of water balance in Africa is an important factor for forecasting economic growth, overcoming the problem of hunger, and progress on sustainable development goals. According to the joint study by WHO and UNICEF, only in 8 countries of Africa (Botswana, Gabon, Djibouti, Egypt, Malawi, Namibia, Tunisia, South Africa) the level of access to water sources of acceptable quality exceeds 90%. The worst situation with access to water is in Angola, DR Congo, Mozambique, Equatorial Guinea, Chad and Madagascar (less than 55%).

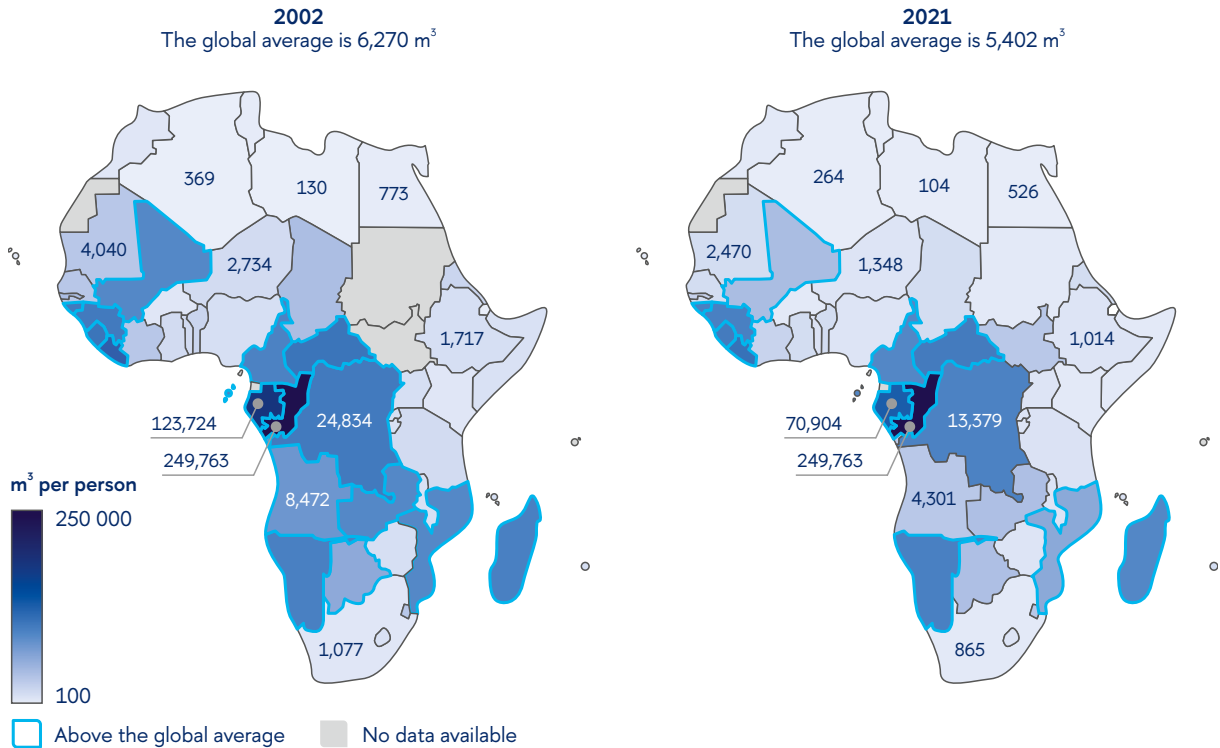
Access to drinking water is becoming a separate problem. According to Aquastat, per capita availability of freshwater is reducing across the continent; in Angola, Botswana and Zambia, where per capita access to freshwater was above the world average in 2002, by 2021 the rates have fallen below the world average. In some countries of the continent – Gabon, Mali, Mozambique – total renewable water resources per capita have almost halved in 20 years. One of the main problems is water loss during water withdrawal. On average on the continent, between 80 and 95% of water withdrawals are from agriculture, with losses through evaporation or return to rivers and groundwater aquifers ranging from 40% (in developed countries) to 80% (in developing and least developed countries) due to inefficient water systems.

44 Bahia B. Subsidizing Bread In Algeria? Yes, But... // Revue d'économie et de statistique appliquée. 2018. Vol. 15, №1. Pp. 83 – 89.

45 Mulugeta, M. Food Reserve System in Ethiopia: Assessment of the Current Implementation Technicalities and Policy Recommendations. URL: <https://jsd-africa.com/Jsda/Vol17No5-Fall15A/PDF/Food%20Reserve%20System%20in%20Ethiopia.Messay%20Mulugeta.pdf>

46 Ethiopia Ministry of Agriculture. Disaster Risk Management. Strategic Programme and Investment Framework. URL: <https://www.preventionweb.net/media/97384/download?startDownload=20240930>; Ethiopia Ministry of Finance and Economic Development. Growth and Transformation Plan I. URL: <https://www.greenpolicyplatform.org/sites/default/files/downloads/policy-database/ETHIOPIA%29%20Growth%20and%20Transformation%20Plan%20I%2C%20Vol%20I.%20%282010%2C11-2014%2C15%29.pdf>

## Total renewable water resources per capita (m<sup>3</sup>/person)



Source: prepared by the HSE University Center for African Studies based on AQUASTAT data.

For Africa, international water basins are the norm: there are 63 in total, covering almost two-thirds (64%) of the African continent. The largest basins are the Congo, Nile, Niger and Zambezi rivers. The most complex basin in terms of combining the scale of water challenges and political disagreements today is the Nile. The population of the basin, which is shared by 11 countries, has quadrupled in half a century (from 143 million in 1971 to 564 million in 2021) and continues to grow.

### The first step to increase adaptability to water challenges is solutions at the basin management level

This is not only information exchange based on geographic information systems, AI and monitoring technologies, but also harmonisation and coordination of water withdrawal, mutual support mechanisms, energy grid integration, joint food

reserves. Without such coordination, the struggle for water quality and sanitation often makes no sense at all or multiplies costs.

One of the ways to solve the problem of access to drinking water in Africa is the construction of desalination plants. Algeria is the regional leader, with 11 desalination plants already in operation, while 10 such plants are operating in South Africa. In 2021, the Egyptian government has announced plans to invest USD 8.5 billion by 2050 to build 47 seawater desalination plants, and Morocco has begun construction of the continent's largest desalination plant powered by renewable energy – the first phase is expected to be completed by the end of 2026 with a capacity of 200 million cbm per year, which will increase to 300 million cbm per year by 2030. However, not all countries in the region can afford to build infrastructure – desalination and the use of

## Main river basins in Africa



Source: prepared by the HSE University Center for African Studies based on AQUASTAT data.

hard-to-reach water resources require significant investments in the construction of plants and facilities, but also in ensuring their uninterrupted power supply, which, given the chronic shortage of electricity, complicates efforts to ensure access to drinking water.

### The structural transformation of African economies will inevitably raise the issue of new water withdrawal dilemmas

Only a few countries can afford to divert water to cities, energy or industry without improving irrigation efficiency. Africa's economic boom cannot happen without investment in water conservation, desalination for coastal megacities, and improved water use efficiency, which starts with better monitoring and reduced losses. These measures may be supported via increasing agricultural productivity and intensifying trade in water-intensive food and goods. A modern solution to the water problem could be the development of a new multi-component system of water use, including not only infrastructure but also rationalisation of water use – policies to improve water efficiency and the use of non-conventional sources.

## New food sovereignty systems

As this chapter and the analysis of most statistical indicators show, the food situation in Africa is not worsening with population growth, and the measures taken are just enough for a "conservation scenario" – there is neither improvement nor deterioration. However, population growth gives Africa an opportunity – growing consumer markets, and thus attractiveness to foreign investors. How African governments and businesses are able to capitalise on this growth will determine the food situation in the long term.

### Local content should become an integral part of international trade in food products

For Africa, the issue of food sovereignty is broken down into two circuits – external and internal. On the external side, it is necessary to gradually reduce dependence on the external environment, such as global price fluctuations, political will of exporters, development agenda imposed from outside. If import substitution is impossible (e.g. with wheat), African governments need to take a more

proactive stance and exert more pressure on suppliers. The logic of other sectors can be applied to food as well – local content should become an integral part

of international trade in food products, meaning technology and knowledge sharing, food stocks creation on the territory of importers, etc. Such an approach is logical, given that the food situation in the world is indivisible. Issues in the importing country today mean problems for the exporting tomorrow – and vice versa.

Another important issue is **nutrition design** and involvement in **shaping eating and consumption habits**. Urbanisation is bringing about significant changes in eating behavior and the problem of access to food is widely recognised, but the responses to these challenges must be conscious and long-term. It is not just about the quantity of calories and protein, but also

The case of Egypt demonstrates that even severe arable land deficit may be leveraged by the investments in infrastructure. One should mention the long-standing policy of desert proclamation: in 1950, Ahmed Hussein, the minister of Social Affairs, suggested a plan labelled the Five Feddan Scheme aiming at distributing desert lands to farmers for reclamation. In 2023, the Minister of Agriculture and Land Reclamation, El Sayed El Qusair, announced the addition of over 1.47 million ha of agricultural land since 2013.

Apart from that, there are several ongoing projects to expand greenhouses and increase efficiency of water withdrawal. According to the report by the Ministry of Planning and Economic Development, in 2023 the Egyptian government increased investments in the agriculture and irrigation sector to USD 3.77 billion, which is 71% higher than in previous year. Abovementioned measures are designed for a long-term perspective, but the results are visible now: Egypt has already managed to achieve self-sufficiency in vegetables and fruits, rice, fish and sugar, while in 2023 exports of fresh agricultural products exceeded 7 million tonnes in physical terms.

the quality of them. Food aid, for example, should not become a way to inculcate certain non-African consumption habits, and urbanisation should not become a driver of increased consumption of low-quality protein.

The dispersal of the state support resource is also obvious. For each country a **strategic food commodities** list may be developed, consisting of a food basket to ensure a healthy diet that can be fully produced within the country. These same commodities should be the focus of government support in terms of creating a full cycle of production: from feed, seeds and vaccines, to industrial equipment and processing and packaging facilities. Full self-sufficiency is impossible, but it is achievable in basic categories.

In terms of the domestic market, it is necessary to take measures to increase agricultural productivity,

through transition to intensive farming, use of quality fertilisers, which increase the quality and yields of agricultural products, improve soil fertility, aquaculture, and industrial livestock breeding. Increasing imports of fertilisers and technical equipment of farms in general is crucial here. Given the small size of farms, **the role of the government is of key importance** – it should be the main customer of soil quality research and mapping programmes, wholesale purchaser of fertilisers for further distribution among farms.

The answer to solving Africa's excessive food import dependency, while seemingly paradoxical, is to increase imports, but of the means of production.

International assistance in this regard may be focused on facilitating this import and maintaining favourable conditions for its expansion.



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