



FACTORS AGGRAVATING FOOD INSECURITY AND ITS IMPACT ON HUMAN HEALTH IN AFRICA

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According to the Food and Agriculture Organization (FAO), the prevalence of food insecurity in Africa remains double the global scale to now reach 58% of its population. Relentless drought and high food prices have weakened the ability of Africans to grow crops, raise livestock, and buy food for their families. Food insecurity is multifactorial. Conflicts, climate change, lack of access to drinking water, poverty linked to economic shocks and inequalities as well as poor agricultural and food policies. The solutions to fight against food insecurity are diverse namely, sustainable livelihoods in rural areas and equitable access to resources, access of vulnerable and disadvantaged groups to sufficient, safe and nutritious food, and effective and sustainable intervention plans and actions to deal with food or agricultural crises. In addition to the factors aggravating food insecurity in Africa, this scourge remains a complex problem affecting human health. Efforts to improve food security must provide sufficient calories and adequate nutrients to strengthen sustainable and accessible food systems.

Keywords: FOOD INSECURITY, DROUGHT, CONFLICT, CLIMATE CHANGE, AGRICULTURAL POLICY, NUTRITIOUS FOOD

Introduction

A UN study published in this latest report during the month of July 2023 states that the number of people suffering from food insecurity worldwide was between 690 and 783 million in 2022, i.e. 122 million more than before the Covid-19 pandemic (1).

Food insecurity refers to the situation where individuals, households, or even communities do not have sufficient access to adequate, safe, and nutritious food to meet their nutritional needs and lead healthy and active lives (1).

Sub-Saharan Africa is experiencing one of the most alarming food crises in decades, both in terms of its severity and

geographic extent. Around 146 million people are acutely food insecure and need urgent humanitarian assistance.

The threat of famines is never far away: 1973 and 1983 (Sahel), 1984 (Ethiopia), and recurrent and ignored famines in Rwanda and Uganda, 1989 (Sudan), and 1992 (Somalia). The statistical estimates of the damage of hunger in the world have not been determined with precision and include a margin of error (Figure 1) (2).

The main causes of food insecurity can include dependence on food imports, vulnerability to climate change, and unequal distribution of resources. Food insecurity can have serious consequences for the health, physical and cognitive development, education and social stability of affected individuals and communities (3, 4).

To reduce the impact of food insecurity on populations weakened by climate change and conflict, it has become essential to opt for inclusive diplomacy to tackle the root causes of food insecurity and support measures and policies that

protect the ability of poor and vulnerable people to access food and livelihoods.

Situation in Africa

Food insecurity in Africa is a complex and varied problem that can vary from one country to another and even within the same country. Many African countries experience varying levels of food insecurity, affecting millions of people. The causes include poverty, conflict, climate change, natural disasters, and insufficient infrastructure. Rural areas are often more affected due to dependence on rain-fed agriculture and difficulties in accessing markets. However, food insecurity can also affect urban areas due to increased poverty and unemployment. Climate variations, such as more frequent droughts and floods, can have a significant impact on food security by reducing agricultural productivity and disrupting livelihoods. Armed conflict and political instability can seriously disrupt food production, trade, and access to food, thereby exacerbating food insecurity (4).

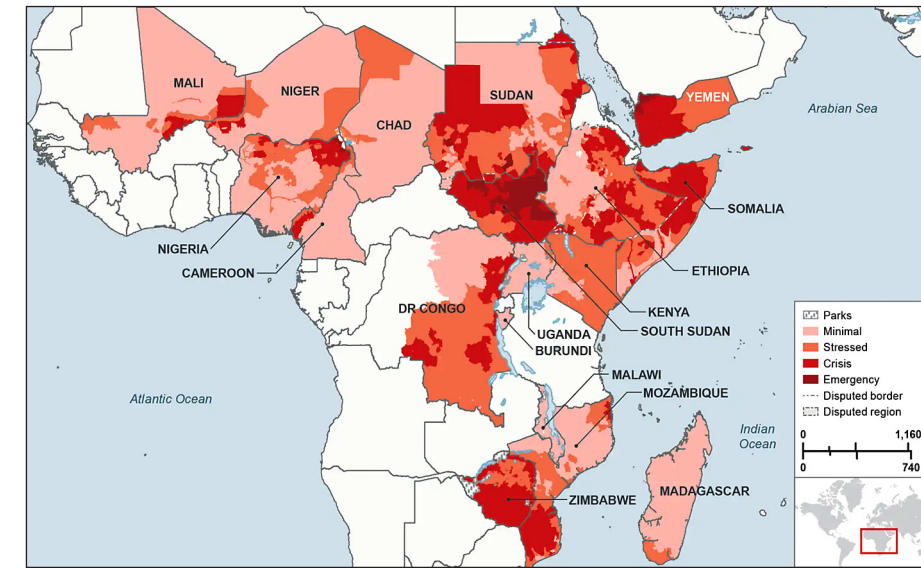


Figure 1. Acute food insecurity in Africa (June - September 2020) (2).

According to the World Bank, one billion people live in food insecurity and 730 million are undernourished. According to the World Food Council, more than half of the malnourished live in Asia and more than a quarter in Africa (2). Currently, food insecurity has been

greatly aggravated by factors namely drought, climate change, rainfall, floods, water scarcity, post-Covid, rising food prices, and invasive urbanization. These factors have changed the role and turned the numbers and statistics around the world upside down, ie these factors have

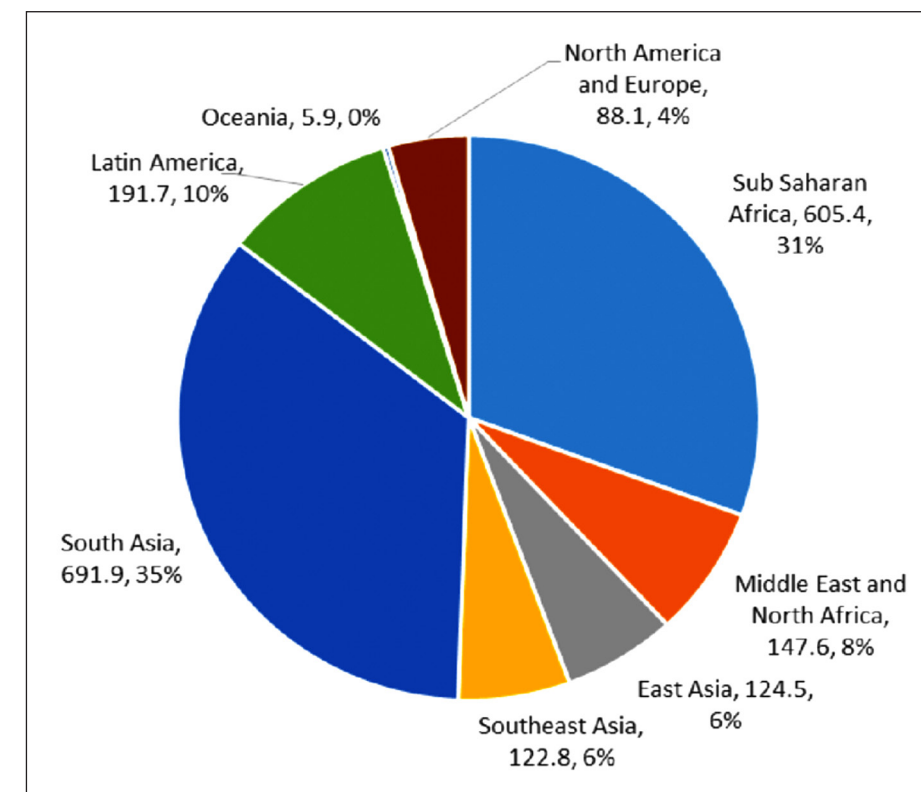


Figure 2. Food insecurity across worldwide (millions, %). People with moderate or severe food insecurity (6).

radically changed the existing situation or conditions, and completely disrupted the figures and statistics on a global scale. In other words, the factors in question have had a major impact and caused a complete reversal of the usual trends or numerical data in various fields. Food insecurity is predominant in South Asia (35%) and Sub-Saharan Africa (31%) (Figure 2) (5, 6).

The extent of food insecurity is much higher, as indicated in Figure 2. More than 2 billion people across the world were unable to afford a nutritious diet in 2019. This was more widely spread, with evidence of such food insecurity in Europe and North America (88 million), Latin America (192 million), and Southeast Asia (123 million), and the MENA region (148 million). South Asia (692 million) and Sub-Saharan Africa (605 million) continue to dominate the food-insecure population (6).

Acute food insecurity is expected to reach its highest level in 10 years in West and Central Africa by June of the year 2022 (7). Food insecurity is spreading to coastal countries, which is worrying. In Burkina Faso and Mali, hunger is reaching catastrophic levels in conflict-affected areas, where the delivery of humanitarian aid is severely hampered by insecurity (8).

The combined effects of conflict, climate extremes, Covid-19, and high food prices continue to worsen the situation in terms of hunger and malnutrition in the region. The number of people without regular access to safe and nutritious food is expected to rise to 48 million during June-August 2023, according to the March 2023 Food Security Situation Analysis (9). The results of the analysis also confirm the existence of a longer-term trend, namely the geographic expansion of food insecurity in the region (9).

The regional nutritional situation, already gloomy, is also deteriorating: 16.5 million children under the age of 5 are expected to suffer from acute malnutrition in 2023, including 4.8 million from the most serious and debilitating form (severe acute malnutrition) (10). Conflicts and population displacements,

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among the main factors in the worsening of the situation, lead to reduced access to essential social services (health, nutrition, water, sanitation, hygiene and social protection), and weigh on care practices (11). From 2019 to 2023, security concerns increased by 79 percent in the region, causing massive population displacements and disrupting access to agricultural land and fodder (11).

Despite rainfall in 2022, access to food and its availability remain major challenges. Countries in the region are still net importers. Unfavorable exchange rates and high inflation are driving up the costs of the food imports on which they depend. In addition, the limitation of transhumance and the high concentrations of livestock in certain areas could further degrade livestock breeding and security conditions (12). Despite the increase in cereal production, most people still struggle to feed themselves as markets are disrupted by insecurity and high food prices (13).

Food insecurity always appears in ecologically fragile areas where the slightest disturbance jeopardizes the food balance, whether it be climatic changes (drought, flooding), animal invasion (locusts), or human conflicts (ethnic problems, wars) (14).

In 2040, according to some estimates, the planet will be home to 7.8 billion hungry people and one billion over-nourished. The malnourished will have bellies swollen by the disease kwashiorkor and will face the overfed and suffe-

ring from cardiovascular diseases and different types of diabetes. Large-scale studies have shown that the middle and eastern regions of the African continent are the most affected by the food insecurity syndrome with respectively 29.8 and 27.2 % of the world's undernourished population (Figure 3).

Real causes of food insecurity

In general, food insecurity would arise in populations when certain factors appear, in particular (15):

- **Poverty:** People living in poverty may struggle to get enough nutritious food due to financial constraints;
- **Natural disasters and conflicts:** Natural disasters such as droughts, floods, hurricanes, and earthquakes, as well as armed conflicts, can destroy livelihoods and disrupt local food systems, leading to food shortages;
- **Economic problems and insufficient infrastructure:** Regions that lack adequate infrastructure, such as roads or storage and transport facilities, can struggle to get food to where it is needed;
- **Climate change:** Climate change can disrupt agricultural conditions, leading to reduced yields and crop losses, which can worsen food insecurity;

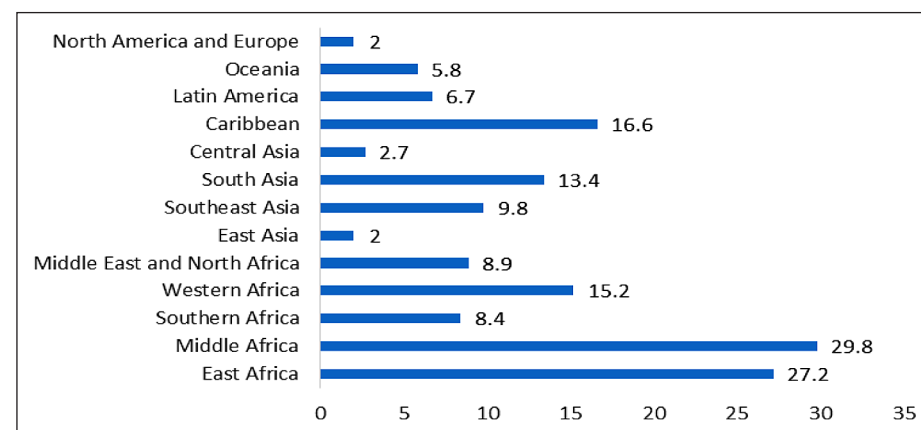


Figure 3. The State of Food Insecurity and Nutrition in the World 2020 (15).

- **Population growth:** The rapidly growing world population is putting increased pressure on available food resources, which may result in demand exceeding supply;
- **Limited access to resources and land:** In some areas, access to water, land, and other resources needed for agriculture can be limited, making it difficult to produce sufficient food.

Factors aggravating food insecurity

In addition to these causes, the countries of sub-Saharan Africa are not immune to these conditions, to which are added other factors that further complicate the burden of food insecurity (16).

Food insecurity in sub-Saharan Africa is a complex and multifaceted problem that results from various socio-economic, environmental, and political factors. Food insecurity in Africa is a much larger and more diverse problem due to the size of the continent and the diversity of its countries (17).

Here is an overview of the situation in these regions. Some of the major causes of food insecurity in Africa include widespread poverty, low agricultural productivity, conflicts, and political instability, climate change and population growth (18).

In the latest report on the state of food insecurity in the world, published in July 2023, by the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD), and the World Organization for Health (WHO), it is clearly indicated that agri-food systems remain extremely vulnerable to crises and disruptions resulting from conflicts, climatic extremes and economic contractions (19-21).

In the same context, this document points out that these aggravating factors, combined with growing inequalities, continue to strain the ability of agri-food systems to provide everyone with nutritious food that is safe for human health.

Certainly, hunger has stopped worsening in the world over the past two years, with less than 3.8 million fewer undernourished people than in 2021, however, the economic recovery has undoubtedly been weakened by the increase in food and energy prices, itself amplified by the war in Ukraine (22). As a result, people are experiencing a food crisis that is worsening in many places. Sub-Saharan Africa is still the most affected region with one in five people suffering from hunger. The threat of food insecurity weighs heavily on urban areas. The phenomenon of increased urbanization has greatly influenced diets and food choices. It is estimated that seven out of ten people will live in cities in 2050 (23).

Impact of food insecurity on human health

Food insecurity, defined as the lack of regular access to enough nutritious food to lead an active and healthy life, has profound impacts on human health. These impacts can be classified into several categories: nutritional, physical, mental, and socio-economic (24).

- **Nutritional Effects:**
 - **Malnutrition and Micro nutritional Deficiencies:** Food insecurity often leads to malnutrition, which can manifest as:
 - **Undernutrition:** Insufficient calorie intake can lead to weight loss, stunted growth in children, and general weakness (25).
 - **Micronutrient deficiencies:** Lack of essential vitamins and minerals, such as vitamin A, iron, and iodine, can cause a variety of disorders, including anemia, vision problems, and developmental problems in children (26).
 - **Overweight and Obesity**

Paradoxically, food insecurity can also contribute to obesity. People experiencing food insecurity may turn to foods that are high in calories but low in nutrients due to their lower cost and availability, which can lead to weight gain and obesity (27).

- **Physical Effects:**
 - **Delayed Growth and Development in Children**
 - Children who are food insecure have an increased risk of:
 - **Growth retardation:** Insufficient physical growth about age, often irreversible.
 - **Delayed cognitive development:** Affects learning abilities, academic performance, and can have long-term effects on the ability to find employment as an adult (28).
 - **Weakening of the Immune System**
 - Malnutrition can weaken the immune system, making individuals more vulnerable to infection and disease, and delaying recovery if sick (29).
 - **Increased Risks of Chronic Diseases**
 - Food insecure adults are more likely to develop chronic diseases such as diabetes, hypertension, and heart disease due to poor diets (30).
 - **Mental and Psychological Effects:**
 - **Stress and Anxiety**
 - Uncertainty related to access to food can cause significant stress and chronic anxiety, negatively impacting mental health (31).
 - **Depression**
 - There is a strong correlation between food insecurity and higher rates of depression. Lack of resources to access adequate nutrition can lead to feelings of hopelessness and distress (31).
 - **Impact on the Psychosocial Development of Children**
 - Children living in households experiencing food insecurity may experience behavioral problems, emotional disturbances, and social difficulties (32,33).

- **Socio-Economic Effects**
 - **Impacts on Productivity**
 - Adults in poor health or undernourishment are often less productive, which can affect their ability to maintain stable employment and earn enough income to support themselves (34).
 - **Economic Cost for Society**
 - The impacts of food insecurity result in significant costs to society in terms of health care, social services, and loss of economic productivity (34).
 - **Cycle of Poverty**
 - Food insecurity can perpetuate the cycle of poverty. Families that struggle to access sufficient food are often stuck in a vicious cycle of low income, poor health, and poor access to education (35).
 - Not only have these impacts affected human health in Africa, but other risks potentially contributed to the emergence of this burden. Africa is facing a food crisis of unprecedented proportions. Millions are expected to be at risk of worsening hunger in the near future due to the rippling effects of the war in Ukraine, which are compounding the devastating impacts that conflict, climate variability and extremes, economic slowdowns and downturns, and the aftereffects of the COVID-19 pandemic are having on the most vulnerable (36). Social and economic inequalities are also on the rise, with women and girls being among the most affected by these shocks. The most recent estimates show that nearly 282 million people in Africa (about 20 percent of the population) were undernourished in 2022, an increase of 57 million people since the COVID-19 pandemic began (36). About 868 million people were moderately or severely food-insecure and more than one-third of them - 342 million people - were severely food-insecure (36).
 - Malnutrition is a considerable contributor to child mortality. Child malnutrition in South Africa is persistent, and continuing to be an alarming burden (37). Studies and surveys, published from 2010-2019, talked about the factors

influencing the nutritional status of children under the age of five years (37). The results showed that the nutritional status of children is affected by several factors. These include household food insecurity, low household income, illiterate caregivers, unemployment, inadequate dietary intake, low birth weight, consumption of monotonous diets, poor caregiver's nutritional knowledge, poor access to water and sanitation, poor weaning practices, age of the caregiver, and demographic characteristics of a child (37).

In South Africa, malnutrition is on the rise and predisposing children and their mothers to negative health outcomes (38). However, few studies have been conducted. Some studies suggested 25 % of the children were thin, 4% were overweight and 1% were obese, while mothers were overweight (27.4%) and obesity (42.3%) was observed among the mothers (38).

Food insecurity has adverse effects on human health, meaning that food security and nutrition are essential to improving the health of populations (REF). Food insecurity and health outcomes constitute the policy and agenda of the 2030 Sustainable Development Goals (SDGs) (39). However, there is a lack of empirical studies (involving mathematical and statistical applications) to examine the impact of food insecurity on life expectancy and infant mortality in these countries although food insecurity and health problems hit the countries of sub-Saharan Africa hard, regions strongly affected by this burden (39).

Perspectives

- The organizations FAO, IFAD, and WHO should make efforts and still have to agree to achieve the goal of eliminating hunger by 2030.
- These organizations call for actions to be amplified and better targeted to meet this challenge. The "zero hunger" target of the sustainable development goals (SDGs) is undoubtedly a gigantic challenge to be met.
- The urgency of taking coordinated action on a planetary scale to build

resilience in the face of crises and shocks that promote food insecurity, from conflict to climate.

- It is imperative that governments and other actors working to combat hunger, food insecurity, and malnutrition strive to understand the changes linked to urbanization and take them into account in the development of their policies.

Conclusion

To combat food insecurity in Africa, it is essential to implement policies aimed at improving long-term food security, in particular by investing in sustainable agriculture, strengthening infrastructure, supporting small farmers, and promoting access to markets and agricultural technologies. Regional and international cooperation is also essential to address the complex challenges of food insecurity in Africa.

Food insecurity is a complex problem that profoundly affects human health in various forms. It requires a holistic approach to address, including interventions in the areas of agriculture, education, social services, and public health. Efforts to improve food security must aim to provide not only sufficient calories but also adequate nutrients while strengthening sustainable and accessible food systems.

The food and nutritional crisis has multiple repercussions on the living conditions of the populations concerned in the region, in areas that are already in a situation of humanitarian crisis, as well as in all African countries.

FAO, the United Nations Office for the Coordination of Humanitarian Affairs, and UNICEF should once again call on their partners in the development and humanitarian sectors, as well as the private sector, to help national governments improve the situation in the region in terms of food security and nutrition. This includes developing food, health, water, sanitation, and hygiene systems, as well as nutrition-sensitive social protection programs targeting vulnerable groups such as women and young children.

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Sažetak

ČIMBENICI KOJI POGORŠAVAJU NESIGURNOST HRANE I NJIHOV UTJECAJ NA ZDRAVLJE LJUDI U AFRICI

Abdelkrim Berroukche

Prema Organizaciji za hranu i poljoprivredu (FAO), prevalencija nesigurnosti hrane u Africi i dalje je dvostruko veća od globalne razine i sada doseže 58% njezine populacije. Nemilosrdna suša i visoke cijene hrane oslabili su sposobnost Afrikanaca da uzgajaju usjeve, stoku i kupuju hranu za svoje obitelji. Nesigurnost hrane je multifaktorska: sukobi, klimatske promjene, nedostatak pristupa pitkoj vodi, siromaštvo povezano s ekonomskim šokovima i nejednakostima, kao i loše poljoprivredne i prehrambene politike. Rješenja za borbu protiv nesigurnosti hrane su različiti: održivi život u ruralnim područjima i pravičan pristup resursima, pristup ranjivih i nepovoljnih skupina dovoljnoj, sigurnoj i hranjivoj hrani, učinkoviti i održivi planovi intervencija i radnje za suočavanje s prehrambenom ili poljoprivrednom krizom. Uz čimbenike koji pogoršavaju nesigurnost hrane u Africi, ova pošast i dalje je složen problem koji utječe na ljudsko zdravlje. Napori za poboljšanje sigurnosti hrane moraju osigurati dovoljno kalorija i odgovarajuće hranjive tvari kako bi se ojačali održivi i dostupni prehrambeni sustavi.

Ključne riječi: NESIGURNOST HRANE, SUŠA, SUKOB, KLIMATSKE PROMJENE, POLJOPRIVREDNA POLITIKA, HRANJIVA HRANA

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