FOOD SECURITY:

STRENGTHENING AFRICA’S FOOD SYSTEMS
ESSAY

Food security in Africa: Current efforts and challenges  42

Securing Africa’s food sovereignty  46

VIEWPOINT

Getting rice right in Liberia  50

Financing food systems resilience in Africa: A starting point for transformation  52

Recurrent food crises underscore the need for food system transformation  54
Africa’s food systems are at a crossroad. Several challenges and exogenous shocks—including extreme weather events and climate change, recurrent outbreaks of pests and diseases, limited availability and adoption of yield-increasing technologies—have exposed fragilities of Africa’s food systems, undermining the ability to meet the food demand of a burgeoning population.

More recently, the COVID-19 pandemic and the war in Ukraine have disrupted the supply chain for agricultural inputs, fuel, and food. The state of food security in the continent is worsening, with over 20 percent of the continent's population (roughly 257 million people) undernourished.1 Africa bears the heaviest burden of malnutrition.2 While the African Union’s Comprehensive African Agriculture Development Programme (CAADP) Biennial Review report (2019-2021) further reveals that Africa is not on track to meet its goal of ending hunger by 2025.3 In 2022, over 20 million people and at least 10 million children faced severe food shortage in Africa due to crop failure and four consecutive dry seasons.4 East Africa alone lost close to 2 million livestock in a year due to recurrent drought and low response capacity.5 Moreover, projections by the United Nations Economic Commission for Africa point to Africa’s annual food imports increasing significantly; by a factor of seven from $15 billion in 2018 to $110 billion by 2025, and by a factor of three from the current $43 billion.6

Current efforts by AGRA and other African-led institutions

Given these worrying food security trends, Africa’s food systems must become more resilient and guarantee access to healthy and affordable diets for all. Tested systemic models have demonstrated that agriculture transformation is possible in input and output market systems, and that it can be scaled across the continent. Besides engaging in immediate recovery efforts, such as our $11 million investments to tackle the impacts of the COVID-19 pandemic, the Alliance for Green Revolution in Africa (AGRA) has supported African countries to build capacities for the design of agricultural sector strategies and evidence-based policy reforms. At a country level, AGRA has made significant strides in helping resource national agriculture programs,

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1 Armstrong, Martin. 2022. “A fifth of people in Africa are suffering from chronic hunger. This map shows where the situation is most severe.” World Economic Forum. August 2022.
Africa’s food systems must become more resilient and guarantee access to healthy and affordable diets for all. Tested systemic models have demonstrated that agriculture transformation is possible in input and output market systems, and that it can be scaled across the continent.

Working closely with ministries of agriculture to design 11 flagship programs. Some of the early dividends of this work include:

- Enhanced capacity of African governments to design and implement policies, and hence respond to emergent agricultural and food systems challenges. AGRA recognizes that “business as usual” is no longer sustainable and has therefore developed a program called “sustainable farming” to ensure that farmers concomitantly achieve three major livelihood objectives, namely: Food security, protecting ecosystem services, and resilience to climate and other shocks. It employs context-specific farming system solutions with emphasis on improving water and nutrient efficiency of crops, replenishing over extracted nutrients through application of judicious amounts of fertilizer, and diversifying the farming systems with climate resilient crops and management practices.

- To improve climate resilience, AGRA invested in the development of African scientists and African research institutions. AGRA has thus far trained more than 500 national research system breeders at PhD and MSc level, to create local capacity of genetic development.

- Responding to the climate risks, Africa has capacity to breed and release varieties of crop that are climate adaptive; early maturing, and drought tolerant like cassava, maize, rice, groundnuts, cowpeas, high iron beans, and b-carotene rich sweet potato that can be scaled.

- Recognizing the malfunctional extension system in Africa, the introduction of private-sector led village-based agricultural advisors’ engagement has helped to reduce post-harvest losses by about 30 percent in countries such as Mali, Mozambique, and Nigeria.

- Together with the Common Market for Eastern and Southern Africa (COMESA), AGRA is building the Regional Food Balance Sheet (RFBS) to address the dearth of reliable, timely, and accurate data and guide food and nutrition related decision making in Africa.

- Together with the Economic Community of West African States (ECOWAS) Commission and other partners, AGRA has established the ECOWAS Rice Observatory (ERO) with respective national chapters, where rice-related matters of trade policy, market development, and farmer support will be discussed, and solutions identified.

- Within the Southern African Development Community (SADC) region, AGRA has established Chinyanja Triangle Soybean Trade initiative and linked a total of 22,179 smallholder farmers to regional trade markets, supplying over 7,070 million metric tons (MT) of soybeans valued at more than $4 million unlocking trade financing valued at $2.5 million which will support aggregators to source soybeans from smallholder farmers at competitive prices.
Critical next steps

Beyond this progress, strategic and urgent measures are still needed to enhance the resilience of Africa’s food systems and bolster the ability to deliver on food security and nutrition objectives. Some of these actions include:

- Accelerating the adoption and implementation of the African Continental Free Trade Area (AfCFTA) in order to avert food supply disruptions, as experienced during the pandemic.

- Providing an enabling policy environment for the financial sector to supply more business and financial tools to Agri-SMEs.

- Supporting the establishment of Strategic Grain Reserves (SGRs) as a buffer against unexpected exogenous shocks. Social Protection Programs are also priorities and should be implemented with clear graduation targets for the beneficiaries.

- Moving towards sustainable farming: Although Africa owns about 60 percent of the world’s potential land for agricultural expansion,7 by 2050, about 45 percent of the additional food should come from sustainable intensification (i.e., producing more food and fiber per unit of land and water).

- African food systems should be diversified, moving from the major global commodities: Rice, wheat, and maize; and more investment must be made towards African indigenous and resilient crops including sorghum, millets, teff, and cassava.

- Increasing investments in market infrastructure and other incentive mechanisms to support African farmers to adopt climate smart policies, technologies, and practices, including afforestation and rehabilitation of degraded lands, wetlands, and protected areas to enhance carbon sequestration and reduce carbon losses.

- Investment in irrigation infrastructure is critical. Rainfed food production sits at the center of 70 percent of Africa’s livelihoods. This heavy reliance on rainfed systems exposes farmers to recurrent drought and other extreme events, hence water-centered adaptation must be a priority for Africa.

- Increased availability of clean and renewable energy for rural Africa, the absence of which is currently contributing hugely to deforestation and climate change exposure.

- Institutional capacity: Africa’s level of exposure and vulnerability is connected to its low institutional capacity and governance systems. We need to ensure that national systems have the capacity to convert climate policies and commitments into action.

Early warning systems and associated climate advisories that are demand-driven and context specific, combined with climate change literacy and awareness, can help make the difference between coping and informed adaptation responses.

**FIG. 13**

**MANY AFRICAN CHILDREN STILL SUFFER DEPRIVATIONS OF BASIC NUTRITION (2021 OR LATEST YEAR)**

Africa's dependence on imports for seed, fertilizer, and some cereals has meant that global trade disruptions have exacerbated the threat of food insecurity and malnutrition. In the average African country, 28 percent of children under five have their height stunted by poor nutrition, while 14 percent are severely underweight. Anemia and lack of vitamin A supplementation, an important protection against all-cause mortality, is also widespread in the continent.

**FIG. 14**

**THE POTENTIAL FOR COMMODITY PRICE SHOCKS AND ECONOMIC DISRUPTIONS REMAINS HIGH**

Although food prices have fallen from their peak earlier in 2022, market volatility remains significantly elevated, underscoring the risk of further spikes in commodity market prices and the potential for future economic disruptions.

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Source: FAO. 2022. Food Price Index dataset.

Yahoo Finance. 2022. CBOE Volatility Index (^VIX).
The war in Ukraine laid bare a vexing and persistent structural vulnerability in most African countries.¹ The continent, with 60 percent of the world’s unused arable land, cannot feed itself because of low yields, poor farm management practices, and distortions in agricultural markets.² Consequently, the continent is overly dependent on food and fertilizer imports to feed its people. Africa’s farmers find it increasingly difficult to enhance productivity, create jobs, and boost wealth in the agricultural sector.³ The Ukraine crisis should be a wake-up call. African countries must embrace a food systems approach to scale-up food production, overhaul farm management practices, and improve food marketing to move beyond food security and attain food sovereignty.⁴ This will not only ensure the availability of affordable food, but it will also help countries attain a number of the Sustainable Development Goals (SDGs), including: SDG #2 zero hunger, SDG #3 good health and wellbeing, SDG #5 gender equality, SDG #8 decent work and economic growth, and SDG #10 reduced inequalities.

The 27th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27) highlighted the challenges Africa continues to face with regards to tackling the effects of climate change. While we are buoyed by the groundbreaking decision to establish a loss and damage fund, the failure to reach global consensus on tangible action that will reduce emissions reminds us of the difficult road ahead.⁵ Without this thorny issue being resolved, our efforts to attain food sovereignty will remain stymied.

Food sovereignty speaks to the ability of a country to feed itself. In Africa, this must involve increasing production and ensuring that farming systems are more resilient to price and environmental shocks. The 2006 Abuja Declaration of African agriculture ministers called for an increase in Africa’s average fertilizer application rates from 20 kg/ha to 50 kg/ha to boost production. Africa’s average application rates are still at 2006 levels, while the global average is slightly over 130 kg/ha.⁶ While it is evident that fertilizers are not the proverbial silver bullet, it is clear that better farming practices could be a crucial first step in Africa’s journey towards food sovereignty. Recent UNDP research suggests that meeting the 2006 Abuja target could more than double Africa’s food production in a couple of years.

In order to accomplish this, Africa does not need to be overly dependent on fertilizer imports from Ukraine and Russia. The continent produces sufficient potash and ammonia to sustain a thriving fertilizer industry. In addition, existing fertilizer blending facilities (in 19 African countries) and manufacturing plants (in 10 African countries) operate well below capacity. Concerted investments in infrastructure, technology, and skills, including through public-private partnerships, could boost fertilizer production. Leveraging the African Continental Free Trade Area (AfCFTA) could also widen and deepen Africa’s market and facilitate the availability of affordable fertilizer across Africa. In Nigeria, for example, if fertilizer-producing plants were working at full capacity (Dangote’s full capacity is 3 million tons and Indorama’s 1.4 million tons), the country could meet its own 1.5 million tons of fertilizer consumption, while also meeting the rest of the region’s needs.

A case for food sovereignty

Food sovereignty in Africa is not just about production and trade. It is also about resilience and ensuring that the continent’s food production is not held hostage by natural and market shocks. The use of technology, fertilizer, and improved farm management practices could revolutionize Africa’s food sector. In addition, African countries must take steps to reverse their dependence on food aid and food imports. Free or cheap food imports have made local food production in Africa less competitive and, in turn, shifted consumer preferences away from local brands to foreign ones. As a result, Africa is now the most food-import-dependent region in the world, dedicating more than 13 percent of its import expenditure to buying food and agricultural commodities. This contributes to overall fiscal stress.

Revolutionizing food production in Africa will improve the continent’s development prospects and build resilience. Using fertilizers produced in Africa and fully integrating research from Africa’s agricultural research institutes could help the continent attain food sovereignty by minimizing imports. This would make Africa’s food markets more resilient during global shocks and prevent the pass-through of global price shocks into domestic inflation. It would also have the added benefit of relieving stress on scarce foreign exchange earnings.

Assuming Africa had adhered to the 2006 Abuja Declaration and gradually increased fertilizer application rates from 20 kg to 50 kg per hectare between 2010 and 2020, food production could have grown cumulatively by 209 percent instead of just 24 percent. Such an increase would have had a salutary impact on reducing hunger and addressing malnourishment.

The increased agricultural productivity would also significantly impact women and girls, helping Africa make more progress on SDG 5 regarding gender equality. Research by the Food and Agriculture Organization estimates that women comprise 43 percent of the agricultural labor-force in developing countries and are mainly concentrated in harvesting and weeding. Boosting food production could therefore also contribute to decent work and economic growth (SDG 8), especially for women and girls.

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**Policy options**

Some African countries are already improving food production and attaining food sovereignty. Malawi’s 2006-2010 agricultural development program, which has been described as “pro-poor,” increased yields, raised incomes, and made the crops more resilient to drought.\(^8\) Ethiopia’s 2005 productive safety net policy program (PSNP) targeted households and communities that are chronically food insecure and offered insurance, as well as investment in public goods such as soil and water conservation.

Despite progress in a few countries, Africa needs coordinated policy changes and sustained action to increase food production, improve distribution, ensure affordability, and reduce dependency.\(^9\) African leaders should prioritize incentives to increase domestic and regional food supply. This will include using appropriate inputs to boost and scale up production to cater to national and regional markets. An important goal in this context is the full operationalization of the AfCFTA to facilitate the free movement of labor, inputs, and food across the one-Africa market. From a policy perspective, Africa must **shift the narrative from food supply to developing resilient food systems**.\(^10\) Africa’s default must no longer be only trying to address food availability. Policies must focus on ensuring that the entire continental food value chain is robust, profitable, and leaves no one (and no community) behind.

Africa’s development partners also have a critical role to play.\(^11\) While temporary aid is needed, the primary need is to **fully support programs that de-risk and boost critical investments in Africa’s food sector**. This will facilitate financial and technical resources to modernize food production, storage, and marketing in Africa. Africa’s development partners can also promote efforts to maximize regional food trade, by reducing disincentives and inefficiencies in global markets—such as dumping, subsidies, and tariff structures that would disadvantage or discourage domestic production in African countries.

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\(^10\) Ibid.

\(^11\) Ibid.
Conclusion

Africa has a long history of food dependency, a legacy of food-aid policies and low domestic productive capacity.\(^{12}\) As a result, much of its food is imported, implying that any major global shock can lead to severe trade disruptions, increased hunger, and pass-through inflation, eroding both household and public budgets. Africa’s food sovereignty pathway involves enhancing agricultural productivity by improving farm management techniques.

UNDP analysis shows that Africa could easily produce the fertilizer inputs it needs, and that meeting the 2006 Abuja Declaration targets would boost food supply, while positively impacting the SDGs.\(^{13}\)

Ensuring Africa’s food sovereignty—implying increased availability and affordability—is key to the continent’s own economic sovereignty, sustainable development, and achieving the SDGs.\(^{14}\)

FIG.15 SOME COMMODITY PRICES ARE MORE VOLATILE THAN OTHERS

Since the start of the pandemic, the price of staple food products have been anything but stable. The price of wheat has been particularly volatile, ranging from 75 percent of its 2021 value, to more than 175 percent following Russia’s invasion of Ukraine—two nations that are among the largest exporters of the staple crop.


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12 Ibid.
13 Ibid.
14 Ibid.
In Liberia, we hold one truth to be self-evident: If one has not eaten rice on any given day, then one has not eaten. Well, at least that is the conventional theory that has driven food policy and planning for the last 60 years.

Rice is Liberia’s staple food, and our contemporary history has been completely shaped by rice: Its availability on the local market, price, and, to a lesser extent, quality. Since 1979, when government plans to raise tariffs on imported rice caused deadly riots, and eventually a coup d’état, public policy has favored imports over locally produced rice.

Fast forward to 2022, and it’s 4Cs: COVID-19, Climate, Conflict, and Commodity price escalations. Four simultaneous and intensifying shocks, at a time when we have not fully recovered from the previous shock of Ebola.

And here is another incontrovertible truth: Liberians’ dogged reliance on imported food is not sustainable. The looming food security crisis is an opportunity to finally tackle rice availability on three main fronts: Boosting smallholder production; taking agribusiness micro, small, and medium-sized enterprises (MSMEs) to scale; and attracting commercial agri-food enterprises.

Since we have ostensibly been doing just these things for years, now is the time to innovate the “how” of agri-food production. The “innovation” is simple: Enhance what is working, what is familiar and help farmers and businesses to produce more, faster, cheaper—and get surpluses to market. The technologies exist to do this.

Take rice. President Weah has set up a National Rice Stabilization Task Force to ensure constant availability of rice in our markets. We have set a national goal to grow 75 percent of what we consume in four cropping seasons: A 150 percent increase in production over what we are doing now.

In setting these targets, we considered the production realities of our smallholders. Realizing the adoption of yield improving technologies has been poor, and rarely sustained past project-end, we are resolving some of the challenges brought on by limited capital and labor for any given piece of land: Improving weed and pest management on farms; post-harvest processing capacities at village level (to optimize use); and access to markets and digital buying platforms. Couple these with solutions that enhance food and nutrition security, water, and energy at community level.

We work with MSMEs along the value chain to grow or build and service and maintain the seeds, tools, and equipment needed to produce, package, transport, and market rice to urban consumers. The Liberia Agricultural Commercialization Fund is providing critical financing to innovations that service food markets and helping rice processors to scale up operations.

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1 98% of rice production is on smallholder farms and is produced for home consumption.
2 Climate-smart Agriculture for Sustainability and Empowerment is a community-based approach that uses solar power to pump water for irrigation of vegetable gardens.
3 United States Department of Agriculture. 2022.
We are building our knowledge base and creating business profiles to attract private investments.

The global food security crisis compels Liberia to draw on its legendary resilience and creativity. We are intentional about getting rice right. And we will.

**FIG. 16**

**LIBERIA MILLED RICE DOMESTIC CONSUMPTION BY YEAR**

Since 2008, consumption of rice in Liberia has increased from 331,000 megatons to 540,000 megatons (an increase of more than 63 percent). Annual production in Liberia, however, has declined by 6 percent over this period—stagnating at 170,000 megatons in the last three years.

Global shocks have revealed the fragility of our food systems and the pressing need for increased investment in food security. This is particularly true in Africa.

Africa is the region worst affected by hunger, with more than one in five people chronically under-nourished in 2021. Recent shocks from the war in Ukraine and increasingly severe impacts from climate change are making this situation worse. IFAD’s regional teams are seeing up to a doubling of food, fuel, and fertilizer prices compared to 2021. This threatens to undermine food security and agricultural productivity in the present, and recovery in the future. Small farms deserve particular attention. The vast majority of Africa’s farms are under two hectares and account for most of the food consumed by the continent’s most vulnerable populations.

Humanitarian response is essential, but it is not a long-term solution. The financing gap between long-term resilience building and short-term emergency food assistance is significant and rising. This undermines the ability of poor rural people to cope with future shocks. We need to tackle the underlying factors of food insecurity to avoid recurring crises, and to tap into Africa’s significant potential to produce food for itself—and for others.

IFAD is calling for more finance and investments in Africa’s food systems, innovations that reorient towards fairer outcomes, and that fuel jobs and harness the potential of Africa’s youth. A simple cost-benefit analysis would show that it costs less to invest in resilience and prevent a crisis, than it does to launch a large-scale emergency response. Furthermore, studies show that investing in agriculture is significantly more effective in reducing poverty than investment in any other sector.

Through our work on the ground, we see that investing in fair and sustainable food systems can transform small-scale farms into sustainable agribusinesses. This builds local production capacity and improves Africa’s food sovereignty. It creates jobs along the value chain, particularly in processing, transport, and marketing. When rural economies are thriving, they offer opportunities for decent work. Migration becomes a choice, not a necessity, and the foundation is laid for better livelihoods, resilience, and peace.

More than half of IFAD’s core resources go to sub-Saharan Africa, and we are working on innovations in food systems financing, including with the World Bank, and significantly scaling up partnerships with the Green Climate Fund.

In the wake of the war in Ukraine, IFAD launched a Crisis Response Initiative (CRI) to protect the livelihoods and productive assets of small-scale farmers.

Bringing more and fairer investments into African food systems requires innovation and commitments from Governments, the private sector, and international partners. This is where I see room for leaders to focus their attention. New research indicates that transforming African food systems is estimated to require $77 billion a year until 2030—$614 billion in total. The demand for IFAD’s work and financing is far greater than the level of commitments. In 2023, IFAD will be presenting this investment case to its Member States to scale up through the Fund’s next replenishment.

By taking a medium- to long-term development perspective, leaders can target the root, underlying causes of food insecurity and build resilience to future shocks. Doing this successfully in Africa would be a huge step in ending global hunger and transforming food systems globally. IFAD will continue to champion this cause.

**FIG. 17** AFRICA HAS LOST MORE THAN 15% OF ITS FORESTS SINCE 1990

Africa’s forests are being depleted at a rapidly increasing rate, in part to make room for agricultural land. From 1990 to 2020, the share of forested land in Africa fell from 31.1 percent to 26.3 percent. During this same period, the share of land used for agriculture increased from 6.6 percent to 9.3 percent.


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In 2022, Africa grappled with the impacts of another global food price crisis—the third in the last 15 years. The combined effects of the war in Ukraine, lingering supply chain shortages from the COVID-19 pandemic, and a fourth consecutive season of drought in the Horn of Africa, all contributed to already escalating food and fertilizer prices, causing staple food prices in Africa to increase by, on average, almost 24 percent between 2020 and 2022.\(^1\) Moreover, estimates indicate that over 2022–2023, the rising cost of food and fertilizer will add $9 billion to the import bill of the 48 most affected countries, half of which are in Africa.\(^2\) Food and fertilizer price inflation will likely worsen food insecurity. Already, one in five people in Africa are classified as hungry, and the prevalence of undernourishment in the region has risen by more than 4 percent since 2015—higher than any other region of the world.\(^3\) Those in conflict-affected African countries are, unsurprisingly, the most likely to be living in hunger.\(^4\)

Yet, while external factors largely exacerbated the crisis in Africa, improving food security requires tackling longstanding internal factors and structural challenges hindering the region’s agricultural production and constraining households’ access to affordable food. Rapid population growth, changes in consumer tastes, and the demands of domestic agro-processors for certain quality inputs have led to expanding import dependence, especially for wheat, rice, and palm oil. The region’s annual food import bill could go from $50 to $110 billion by 2030 if the status quo continues.\(^5\) Some of this import dependence further reflects the region’s low investments in agricultural research and development (R&D) that could have resulted in higher agriculture yields. Despite both the 2003 Maputo and 2014 Malabo Declarations of the Comprehensive African Agriculture Development Program (CAADP)—in which African governments agreed to spend 10 percent of their annual budgets on agriculture—most spend less than 5 percent on average.\(^6\)

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Much of this expenditure goes to subsidy programs rather than to agricultural R&D and extension services, even though the latter generates higher economic returns. Unequal access to land and water resources, low levels of mechanization, and insufficient electricity and road infrastructure are other constraints to the sector’s productivity.

In 2023, African governments and their development partners should revisit the importance of these issues, while also adopting a more holistic approach to enhancing food security: Food system transformation. This approach aims to transform food production in a way that fosters inclusive job creation while promoting both environmental sustainability and better nutrition outcomes, thereby building on priorities that African governments themselves identified for the 2021 UN Food Systems Summit.

Doing so will require greater progress on several fronts. First, improved intersectoral coordination will be essential since food system transformation touches not only on the mandates of agriculture ministries; but also, those of health, labor, environment, and trade, among others. Second, there will be a need for enhanced intergovernmental coordination between national and local governments, especially in those countries, such as Ghana, Kenya, Nigeria, and Zambia, where certain responsibilities for agriculture and health have been legally devolved to subnational authorities. Third, there is scope to go beyond the farm, considering options to improve food safety and working conditions in informal retail markets, which is where most of the urban poor (an expanding demographic) access their food in Africa. Finally, all of these interventions require strong empirical and governance foundations, including data that can help anticipate trade-offs among different food system goals and budget-tracking systems that can improve accountability, as well as ensure food system commitments are transparently translated into actions.

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