

Innovative policies to achieve food security and zero hunger

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ABSTRACT

Food security remains a major concern of the developed and developing countries. National governments employ various policies to address food security concerns of the citizens. Food systems' transformation is to ensure that everyone has access to consistent, sufficient and nutritious food is a primary global agenda. Food security is being measured when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. Innovation plays an increasingly important role in ensuring global food security, poverty reduction and agricultural sustainability. These policies involves direct interventions involving structural changes in relative prices and target food subsidies, and indirect measures such as improving agricultural infrastructure, the general economic environment, and providing farmers with new farm technologies to increase food production. This article describes and analyzes the innovative concept of food security and policy and presents theoretical microeconomic model of food security. This paper examines some of the innovative principles, challenges and solutions.

Keywords: Sustainable development, innovative policies, food security, and zero hunger.

INTRODUCTION

Food supposed to be the fundamental right of a person but many in the world struggle to get one meal a day especially people at the rural areas. Global hunger levels remain alarmingly high. According to the GRFC (Global Report Food Crises) 2022 findings, close to 193 million people are acutely food insecure and in need of urgent assistance across 53 countries/territories¹. The number of people suffering from acute food insecurity and in need of immediate assistance is expected to rise to 222 million across 53 countries and territories. According to World Bank responses to the most recent brief on rising food insecurity, "Afghanistan, Ethiopia, Nigeria, South Sudan, Somalia and Yemen remain at the highest alert level, as they all have

populations facing or projected to face starvation or at risk of deterioration towards catastrophic conditions as they have already critical food insecurity and are facing severe aggravating factors. For example, record-high acute food insecurity in Nigeria, projected at 19.5 million people in crisis or worse up to August, is likely to persist during the outlook period, despite the end of the lean season. Importantly, the vast majority of critically food-insecure people are in conflict-affected states, where access to life-saving assistance remains challenging. Almost half of these people (43 percent) are in communities currently inaccessible to humanitarian groups, in Borno, Adamawa and Yobe states². In 2022, 1 million people nationally are estimated

¹ <https://reliefweb.int/report/world/global-report-food-crises-2022>

² International Crisis Group. 2022. Nigeria: Crisis Watch Update July 2022. In: International Crisis

Group. Cited 2 August 2022. www.crisisgroup.org/crisiswatch#nigeria

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to be in areas inaccessible to international humanitarian groups.”³These countries require the most urgent attention. As the world population continues to grow, much more effort and innovation will be urgently needed in order to sustainably increase agricultural production, improve the global supply chain, decrease food losses and waste, and ensure that all who are suffering from hunger and malnutrition have access to nutritious food. World leaders at the 2012 conference on sustainable development (Rio+20)⁴ reaffirmed the right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger. The UN Secretary-General’s Zero Hunger Challenge launched at Rio+20 called on governments, civil

Sustainable development

The Sustainable Development Goals are a transition plan for achieving a better future for all by addressing the world’s current challenges. It meets current needs without jeopardizing future generations’ ability to meet their own. A farmer practicing crop rotation is an example of sustainable development; rotating different types of crops on the same land to improve soil fertility. Human, environmental, social, and economic factors all contribute to sustainable development. The importance of freedom, peace, and security, respect for all human rights, including the right to development and the right to an adequate standard of living, including the right to food, the rule of law, gender equality, women’s empowerment, and the overall commitment to just and democratic societies for development are among the principles of sustainable development. In order to accomplish long-term sustainability based on economic and social progress, it is necessary to promote sustained, inclusive, and equitable economic growth, create more opportunities for all, reduce inequalities, raise basic living standards, foster

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society, private sector, and research institutions to untie to end hunger and eliminate the worst forms of malnutrition⁵. The zero hunger principle has since garnered widespread support from many member states and other entities. It calls for:

- Zero stunted children under the age of two
- Access to adequate food all year round
- All food systems are sustainable
- Increase in smallholder productivity and income
- Zero loss and waste of food

This research examines some of the innovative principles, challenges, and solutions.

equitable social development and inclusion, and promote integrated and sustainable management of natural resources and ecosystems that supports, among other things, econometric growth. To achieve sustainable development in all of its dimensions, sustainable development must be mainstreamed at all levels, integrating economic, social, and environmental aspects while acknowledging their interdependence. It is a rallying cry to end poverty and hunger, protect the environment, and ensure that everyone has access to health, justice, and

³ https://docs.wfp.org/api/documents/WFP-0000142656/download/?_ga=2.120236365.490174409.1667998710-101679895.1667650338

⁴ <https://sustainabledevelopment.un.org/rio20.html>

⁵ <https://news.un.org/en/story/2012/06/413912>

prosperity⁶. Sustainable development necessitates an integrated approach that considers both environmental and economic concerns⁷. The 17 Sustainable

Development Goals Zero hunger, decent work, and economic growth are all components of sustainable development.

Zero hunger

Goal 2 of the Sustainable Development Goals is to eliminate hunger by 2030⁸. The Zero Hunger Policies seek to increase economic growth, decrease poverty, and protect the environment; to make all food systems sustainable; to increase smallholder productivity and income, particularly among women; to achieve zero food waste; and to eliminate malnutrition in pregnancy and early childhood. Political

commitment, farmers, business people, scientists, civil society, and consumers are all invited to join hands in the fight to end hunger. However, COVID-19 crisis has increased those rising rates while also exacerbating all forms of malnutrition, particularly among children. The war in Ukraine is further disrupting global food supply chains, resulting in the worst global food crisis since World War II.

Food Security

Food security exists when all people have physical, social, and economic access to adequate, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy lifestyle at all times. The application of this concept to the family level is known as household food security, and it focuses on individuals within households. Food security as an operational concept in public policy has reflected a broader recognition of the technical and policy issues involved. Following the concept of food security; famine, hunger, and food crisis were thoroughly investigated. The initial emphasis, reflecting 1974's global concerns, was on the quantity and stability of food supplies. Food security was defined as follows at the 1974 World Food Summit: "Availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices"⁹. FAO expanded its concept in 1983 to include ensuring vulnerable people's access to available supplies, implying that

attention should be balanced between the demand and supply sides of the food security equation: "Ensuring that all people at all times have both physical and economic access to the basic food that they need"¹⁰. The 1994 UNDP Human Development Report promoted the concept of human security, which included a number of component aspects, one of which was food security. This concept is closely related to the human rights perspective on development, which has influenced food security discussions¹¹. The 1996 World Food Summit adopted an even more complicated definition: "Food security, at the individual, household, national, regional and global levels [is achieved] 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"¹².

The 1996 World Food Summit exemplified this policy direction by making the primary goal of international food security action halving the number of hungry or

⁶<https://www.who.int/europe/about-us/our-work/sustainable-development-goals>

⁷ <https://www.un.org/en/academic-impact/sustainability>

⁸ <https://www.un.org/sustainabledevelopment/hunger/>

⁹ United Nations. 1975. *Report of the World Food Conference, Rome 5-16 November 1974*. New York.

¹⁰ FAO. 1983. *World Food Security: a Reappraisal of the Concepts and Approaches*. Director General's Report. Rome.

¹¹ The list of threats to human security is long, but most can be considered under seven main headings: economic security, food security, health security, environmental security, personal security, community security, and political security. (UNDP. 1994. *Human Development Report 1994*. Oxford and New York: Oxford University Press).

¹² FAO. 1996. *Rome Declaration on World Food Security and World Food Summit Plan of Action*. World Food Summit 13-17 November 1996. Rome.

undernourished people by 2015. Globally, domestic food price inflation remains high. Data from June to September 2022 show that almost all low-income and middle-income countries experienced high inflation; 84.2% of low-income countries, 88.9% of lower-middle-income countries, and 93% of upper-middle-income countries experienced inflation levels above 5%, with many experiencing double-digit inflation. The proportion of high-income countries experiencing high food price inflation has risen to 87.5%¹³.

Food insecurity occurs when people lack sufficient physical, social, or economic access to food, as defined above. Food insecurity occurs when a person is unable to obtain a sufficient amount of nutritious food on a daily basis. Food insecurity is both a cause and an effect; it exists as a result of a lack of income and access, and it also contributes to violence and instability in a country. These causes of food insecurity have a negative impact on the population, resulting in malnutrition, vulnerability, and stunted children.

Causes of food insecurity

Risks from natural and environmental hazards

Ecosystem degradation and natural resource depletion, particularly of biodiversity; and unsustainable use of natural resources. The impact of climate change on agriculture, including land degradation, increased uncertainty about crop yields, and the intensification of floods and droughts, as well as its effects on the most vulnerable. Climate change and hunger are strongly intertwined. Many families, particularly those in agriculture, are unable to put food on the table as extreme temperatures, flood events, and

dry spells become more frequent and longer-lasting. Tropical storms, flooding, and drought are still major factors in some areas. The drought in the Horn of Africa, which has been ongoing for two years, is expected to worsen due to an impending unprecedented fifth poor rainy season¹⁴. Also in northern Nigeria, above-average rainfall is expected to continue through the end of the season, causing displacement and reduced yields and worsening the food security situation of vulnerable households.

The impact of Covid-19 and the Russia-Ukraine War on Global Food Security and Zero Hunger

Even before the COVID-19 pandemic, the world was not on track to eliminate all forms of hunger and malnutrition by 2030. The COVID-19 pandemic, as well as the measures put in place to contain it, have amplified and exacerbated these challenges¹⁵. Concurrently, the war occurred at a bad time for global food markets, as food prices were already high due to supply chain disruptions caused by the COVID-19 pandemic, strong global demand, and poor harvests in some

countries. Understanding how conflict-related disruptions in global food and fertilizer markets affect price and availability is critical for determining the overall impact on global food security. The war triggered a panic buying movement at the national and individual levels, jeopardizing the achievement of the Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty), SDG 2 (Zero Hunger), and SDG 12 responsible consumption and production.

Threats of organized violence and conflict

Organized violence and armed conflict are major causes of acute food insecurity in Haiti, the Central African Republic, the eastern Democratic Republic of the Congo,

Ethiopia, northern Nigeria, the Central Sahel, Somalia, South Sudan, the Sudan, the Syrian Arab Republic, and Yemen. Northern Nigeria, for example, is being

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<https://thedocs.worldbank.org/en/doc/40ebbf38f5a6b68bfc11e5273e1405d4-0090012022/related/Food-Security-Update-LXXII-October-27-2022.pdf>

¹⁴ https://docs.wfp.org/api/documents/WFP-0000142656/download/?_ga=2.120236365.490174409.1667998710-101679895.1667650338

¹⁵ <https://sdgs.un.org/events/state-food-security-and-nutrition-world-2021-sofi-33052>

impacted by a gradual but continuous intensification of violence, which has already spread to multiple areas across the

north and has recently spilled over into the country's center and south¹⁶.

Economic threats

The global economy has been facing a new slowdown in the first half of 2022, reflecting the combined effects of global fallout from the Ukraine war, rapid monetary tightening to contain rising inflation rates, and renewed supply chain disruptions due to COVID-19 outbreaks in China. Global growth will remain low in 2022 and 2023, reaching only 2.9 percent. The growing risk of recession for several major economies, including the European Union, as well as the possibility of a prolonged economic slowdown in China, are likely to exacerbate macro-economic risks for low-income countries¹⁷. Low-income economies may also be impacted by the harsh monetary tightening measures implemented by central banks in a number of advanced economies, which can raise the cost of credit¹⁸. Countries with large current account deficits and high levels of debt are particularly vulnerable. If these countries' foreign exchange reserves must be used to service their debts, rising credit costs could deplete them, resulting in a destabilized currency and, eventually, restricted imports of essential items. Around 60% of low-income countries (such as Nigeria) are either at risk of or already in debt distress¹⁹. As a result, a number of countries have sought external assistance from multilateral organizations such as the International Monetary Fund or bilateral donors. However, the necessary

austerity measures implemented to stabilize economies are likely to have a negative impact on household incomes. These macroeconomic dynamics have resulted in a rapid deterioration in food

¹⁶ International Crisis Group. 2022. Nigeria: Crisis Watch Update July 2022. In: International Crisis Group. Cited 2 August 2022. www.crisisgroup.org/crisiswatch#nigeria

¹⁷ Al Jazeera. 2022. China's economy slows sharply, fanning global recession fears. Al Jazeera, 15 July 2022. Doha. Cited 29 August 2022. www.aljazeera.com/economy/2022/7/15/chinas-economy-grows-at-slowest-pace-since-start-of-pandemic and Jana Randow. 2022. Europe Slips Toward Recession as ECB Mulls Steps Ahead. Bloomberg, 22 August 2022. New York, USA. Cited 29 August 2022. www.bloomberg.com/news/articles/2022-08-20/euro

[pe-slips-toward-recession-as-ecb-mulls-steps-ahead-euro-week?sref=RqRj603m](https://www.bloomberg.com/news/articles/2022-08-20/euro-pe-slips-toward-recession-as-ecb-mulls-steps-ahead-euro-week?sref=RqRj603m)

¹⁸ Tett, G. 2022. We should be worrying about debt as well as inflation. Financial Times, 14 July 2022. London. Cited 29 August 2022. www.ft.com/content/98a1e4c3-1a4c-4fe1-b55e-56a669a54b81?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8

¹⁹ Chabert, G., Cerisola, M. & Hakura, D. 2022. Restructuring debt of poorer nations requires more efficient coordination. In: IMF Blog, 7 April 2022. Cited 29 August 2022. <https://blogs.imf.org/2022/04/07/restructuring-debt-of-poorer-nations-requires-more-efficient-coordination>

security and political instability²⁰. Furthermore, because domestic inflation in many countries remains uncontrolled, additional interest rate hikes in advanced economies could further destabilize economies²¹. Poverty and insufficient food access, which are frequently the result of high unemployment and insufficient

decent work; insufficient social protection systems; unequal distribution of productive resources such as land, water, credit, and knowledge; insufficient purchasing power for low-wage workers and the rural and urban poor; and low resource productivity all contribute to food insecurity.

Restrictions on humanitarian access

Insecurity caused by organized violence or conflict, the presence of administrative or bureaucratic impediments, movement restrictions, and environmental constraints all impede humanitarian

access. In Nigeria, persistent insecurity and movement restrictions limit humanitarian access, particularly in the northeast, while administrative obstacles and fuel scarcity impede aid delivery²².

Demographic issues

Demographic changes such as population growth, urbanization, and rural-urban migration, as well as rural employment and a lack of opportunities for diversification of livelihoods, all

contribute to food insecurity. Nigeria is currently the world's seventh most populous country, with an estimated population of 206,139,589 people²³.

Bad governance

Inadequate high-level political commitment and prioritization of the fight against hunger and malnutrition, including a failure to fully implement previous pledges and commitments and a lack of accountability. Inadequate policy coherence and prioritization of policies, plans, programs, and funding to combat

hunger, malnutrition, and food insecurity, with a focus on the most vulnerable and food insecure populations; Inadequate state services in rural areas, as well as community representatives' participation in decision-making processes that affect their livelihoods.

International trade and food security

The existing trade policies governing agricultural trade and discuss actions at the global, regional, and country levels can help ensure trade plays a critical role in addressing food security and climate change. Food security and trade policies look into the impact of food prices on economic well-being, as well as the impact of price changes on global food security and economic well-being. Food security and trade liberalization are so intertwined that each has an impact on the other, particularly in developing countries. Agriculture has important ecological and

cultural dimension. For these various reasons, there has long been concern about how international trade may improve or impede society's ability to balance various social and economic goals in relation to agriculture and food security. The connections between food security and trade show how norms and ideas about food security and agricultural trade have shifted over time, both independently and in relation to one another. Trade barriers, for example, can limit food availability in regions experiencing food deficits, resulting in higher prices and reduced

²⁰ Barrett, P. 2022. Social unrest is rising, adding to risks for global economy. In: IMF Blog, 20 May 2022. Cited 29 August 2022. https://blogs.imf.org/2022/05/20/social-unrest-is-rising-adding-to-risks-for-global-economy/?utm_medium=email&utm_source=govdelivery.s

²¹ https://docs.wfp.org/api/documents/WFP-0000142656/download/?_ga=2.120236365.490174409.1667998710-101679895.1667650338

²² International Crisis Group. 2022. Nigeria: Crisis Watch Update July 2022. In: International Crisis Group. Cited 2 August 2022. www.crisisgroup.org/crisiswatch#nigeria

²³ <https://www.worldometers.info/world-population/population-by-country/>

access to food. Agriculture subsidies at a high level in some countries can put downward pressure on global prices and reduce income for other agricultural exporters. Lower food prices caused by subsidy support may benefit urban consumers in importing countries while harming farmers' incomes in those same countries. However, a country's reliance on imported food can expose it to external shocks such as price spikes, which can quickly overwhelm a country's import bills. Overreliance on agricultural exports as a primary source of foreign exchange carries risks, such as the possibility of prolonged price declines or, conversely, highly volatile prices, both of which have an impact on producers' food security. The way governments address these concerns through trade policy is determined by their unique circumstances. Many Asian, African, and Gulf countries have also announced plans to become more food self-sufficient, reducing their reliance on global markets. Trade advocates have been outspoken in their opposition to these policies, which they believe exacerbate rather than improve food security. Instead, they argue that increased trade must be accompanied by more open trade policies in order to improve food security. The growing number of food trade restrictions imposed by countries in order to increase domestic supply and lower prices has exacerbated the global food crisis. In addition to export restrictions, some countries have eased import restrictions, putting additional pressure on food prices as demand rises²⁴.

Food security has become a particularly prominent issue in the trade policy context in recent years, particularly since the food price spikes of 2007-08, when many countries used trade measures to protect themselves from higher global food prices. The use of trade measures to achieve food security goals was a major flashpoint at the December 2013 WTO ministerial

Food Security Global Strategic Framework

This Global Strategic Framework for Food Security is a single, living document that

meeting in Bali and throughout 2014. India and other developing countries pressed for clarity in the rules of the Agreement on Agriculture (AoA) to ensure developing countries' ability to pursue domestic food security policies, such as public stockholding schemes designed to address hunger and food insecurity, without fear of violating international trade rules. This latest tense moment at the WTO was over trade and food security. Indeed, the Doha Round negotiations have been ongoing since 2001, and are widely regarded as having repeatedly stalled due to differences in agricultural rules and their implications for food security (Daz-Bonilla, 2014).

However apart from the WTO, tensions over trade's appropriate role in food security policy have been prominent in a number of other policy contexts over the last decade. Trade was mentioned as a crucial factor. Trade was mentioned, however in different ways, in two key reports on agriculture and development in 2008: the World Bank's World Development Report 2008 and the International Assessment of Agricultural Knowledge, Science, and Technology for Development (IAASTD) report (World Bank, 2007; IAASTD, 2009). Trade was also a contentious issue during the 2007-08 food crisis, with some believing that widespread export restrictions in a number of countries contributed to price increases (Sharma, 2011; Headey, 2011). Concerns about agricultural market volatility in the aftermath of the food crisis prompted the G20 to address food security through initiatives such as the Agricultural Market Information System (Clapp and Murphy, 2013). Recently, the impact of trade policies on food prices and access has been mentioned in the draft Sustainable Development Goals (SDGs) on hunger and food security (Open Working Group on SDGs, 2014).

the Committee on World Food Security Plenary must approve. Its goal is to

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<https://www.worldbank.org/en/events/2022/10/07/tra>

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improve coordination and guide synchronized action among a diverse group of stakeholders. The main advantage is that it provides an overarching framework and a single reference document with practical guidance on core recommendations for food security and nutrition strategies, policies, and actions that have been validated by the Committee on World Food Security's broad ownership, participation, and consultation. The Global Strategic Framework is not a legally enforceable instrument. It provides guidelines and recommendations for catalyzing coordinated action at the global, regional, and national levels by all stakeholders, while emphasizing governments' primary responsibility and the critical role of country ownership in combating food insecurity and malnutrition. The Global Strategic Framework emphasizes policy coherence and is aimed at decision- and policy-makers in areas with a direct or indirect impact on food security and nutrition, such as trade, agriculture, health, environment, natural resources, and economic or investment policies. These recommendations and guidelines should be interpreted and implemented in accordance with national policies, legal systems, and institutions. The Global Strategic Framework should also be an important tool for informing the actions of policymakers and decision-makers, development partners, cooperation and humanitarian agencies, as well as international and regional organizations, financial institutions, research institutions, civil society organizations, the private sector, non-governmental organizations (NGOs), and all other relevant stakeholders working in the fields of food security and nutrition at the global level. The following are part of the foundation and overall framework:

We recognize that democracy, good governance, and the rule of law at the national and international levels, as well as an enabling environment, are critical for long-term development, which includes inclusive economic growth, social development, environmental protection,

1. The Millennium Development Goals of the United Nations
2. The Voluntary Guideline to Support the Progressive Realization of the right to adequate food in the context of national food security.
3. The Five Rome Principles for Sustainable Global Food Security
4. The 1989 Convention on the Rights of the Child
5. The 1981 International Code of Marketing of Breast-milk Substitutes
6. The 1979 Convention on the Elimination of All Forms of Discrimination Against Women
7. The 1993 Declaration on the Elimination of Violence Against Women
8. The 1995 Beijing Platform for Action ensure women's rights
9. The International Labour Organization Conventions 87, 98 and 169
10. The International Assessment of Agricultural Knowledge, Science and Technology for Development
11. The final Declaration of the International Conference on Agrarian Reform and Rural Development
12. The UN Declaration on Rights of Indigenous People
13. The Scaling Up Nutrition (SUN) Framework and Roadmap.
14. Food and Agriculture Organization of the United Nations
15. Universal Declaration on the eradication of hunger and malnutrition
16. The international trade agreements
17. The Rio Declaration on Environment and Development, Agenda 21
18. Green economy policies and so on.

CONCLUSION

and the abolition of poverty and hunger. We reiterate that effective, transparent, accountable, and democratic institutions at all levels are required to achieve our sustainable development goals. It can only be done with a broad coalition of people, governments, civil society, and the private

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sector all working together to secure the future we want for current and future generations. The removal or reduction of trade barriers is an important component of a free trade agreement because it increases competition in the global market for goods and services. Furthermore, integration into the global economy is critical for nations to promote economic growth, industrialization, urbanization, and prosperity, resulting in zero hunger. Improve agriculture and rural development governance through a multi-sectorial approach with a focus on smallholder agriculture, while ensuring adequate funding. All relevant organizations, particularly those representing smallholder farmers, are invited to participate. This entails developing context-specific solutions for the public and private sectors that are sensitive to smallholder investments. Improve data management (collection, transparency, communication, and information access), including gender-disaggregated data. Increase the number of evidence-based analyses conducted to

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document the current state of smallholder agriculture, including its various typologies, incentives and constraints, evolution, and future prospects. It contributes to a number of outcomes, the most important of which are food security and nutrition. States are strongly urged to refrain from enacting and implementing unilateral economic, financial, or trade measures that are contrary to international law and the United Nations Charter and impede full economic and social development, particularly in developing countries. It is critical to create decent jobs and incomes that reduce disparities in living standards in order to better meet people's needs and promote sustainable livelihoods and practices, as well as the sustainable use of natural resources and ecosystems. All of this will go a long way toward achieving Zero Hunger and preventing poverty. Partnerships for zero hunger and sustainability are used strategically to support progress toward a world free of hunger and poverty, and where natural resources are used in a sustainable manner.