

# Eradicating Poverty and Hunger: Policies, Innovations and Interventions

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## ABSTRACT

Poverty and hunger remain critical global challenges, undermining sustainable development and human capital. This study synthesizes existing literature to examine the extent and impact of these issues, assess the effectiveness of current policies and innovations, and evaluate the role of technology in promoting food security and poverty reduction. Employing a qualitative and secondary data analysis approach, drawing from institutional reports and academic research, the study highlights the multidimensional nature of poverty and hunger, their profound impact on productivity and economic growth, and the central role of agriculture and social protection systems. Key findings underscore the transformative potential of technological and social innovations, while also identifying critical policy and implementation gaps. The Capability Approach provides a theoretical lens, emphasizing the expansion of individual freedoms beyond mere income. Recommendations include comprehensive policy reforms, increased investment in agricultural innovation, strengthened social protection, and fostering international partnerships. This article advocates for integrated, evidence-based interventions to achieve the Sustainable Development Goals of no poverty and zero hunger by 2030. To strengthen the study, incorporating case-based evidence from diverse regions would provide practical grounding and enhance applicability. A mixed-methods approach, combining qualitative synthesis with quantitative indicators, could enrich the analysis and appeal to a wider academic audience.

**Keywords:** Poverty Eradication, Hunger, Food Security, Policy Interventions, Agricultural Innovation, Social Protection, Capability Approach.

## INTRODUCTION

Poverty and hunger remain persistent global development challenges despite sustained international commitments under the Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty) and SDG 2 (Zero Hunger). Globally, hundreds of millions of people continue to experience extreme poverty and food insecurity, undermining efforts toward inclusive growth and sustainable development. Recent global assessments indicate that over 700 million people worldwide are affected by hunger, while close to 700 million people live on less than the international poverty line, reflecting setbacks caused by economic shocks, climate change, pandemics, and armed conflicts (World Bank, 2023; United Nations, 2024). These conditions weaken human capital development by reducing labor productivity, increasing health-related expenditures, and limiting access to education, thereby constraining long-term economic growth and development (Bains, 2012; von Braun et al., 2021).

Sub-Saharan Africa accounts for more than one-third of the world's extremely poor population, with over 300 million people experiencing chronic hunger, making it the most food-insecure region globally (World Bank, 2023; United Nations, 2024). Structural challenges such as low agricultural productivity, inadequate infrastructure, limited access to technology, water scarcity, climate variability, and weak policy implementation continue to aggravate the problem. Poverty and hunger significantly reduce agricultural and industrial productivity in Africa by limiting access to productive inputs, lowering labor efficiency, and discouraging private investment, thereby slowing economic growth (Hanjra et al., 2009; Ajaj et al., 2024). Consequently, poverty and hunger persist as both causes and consequences of underdevelopment on the continent.

Despite Nigeria's vast natural and human resource endowments, the country has one of the highest numbers of poor people globally. Recent estimates indicate that over 120 million Nigerians live below the national poverty line, while more than 30 million people face acute food insecurity, especially in rural and conflict-affected regions (World Bank, 2023; Ukwe, 2025). Rising inflation, climate-induced agricultural disruptions, insecurity, and weak social protection systems have worsened household welfare, reduced food availability, and increased malnutrition. These challenges have direct implications for productivity, as hunger diminishes physical and cognitive capacity, lowers workforce efficiency, and weakens agricultural output, an essential driver of Nigeria's economic growth (Abdulrahman et al., 2025).

The persistence of poverty and hunger poses a serious threat to economic growth and sustainable development at all levels. Poor households are unable to invest in education, health, and productivity-enhancing technologies, leading to intergenerational poverty traps and low economic resilience. Hunger and malnutrition reduce national productivity through lost labor hours, higher dependency ratios, and increased public health costs, thereby constraining gross domestic product (GDP) growth (Babu & Pinstrip-Andersen, 2007; Millard & Fucci, 2023). In response, scholars and development institutions increasingly advocate for integrated policy approaches that combine social innovation, agricultural transformation, technological advancement, and inclusive governance to address the multidimensional nature of poverty and hunger (Kundu & Gupta, 2024; Shafik, 2025).

Despite policy efforts and technological innovations, progress toward eradicating poverty and hunger remains insufficient, indicating a critical policy and implementation gap. Without strengthened institutions, targeted investments in agriculture and rural development, and innovative interventions that address inequality and vulnerability, the goal of ending poverty and hunger by 2030 may remain unattainable. This underscores the need for sustained research and evidence-based policy interventions aimed at understanding and addressing the complex linkages between poverty, hunger, productivity, and economic growth, particularly in developing economies such as Nigeria (Purwanto, 2024; von Braun et al., 2021).

## Objectives of the Study

- i. To examine the extent of poverty and hunger and their effects on productivity and economic growth.
- ii. To assess the effectiveness of policies and interventions in reducing poverty and hunger.
- iii. To evaluate the role of innovation and technology in promoting food security and poverty reduction.

## LITERATURE REVIEW

### Conceptual Clarification

#### Poverty

Poverty is widely understood as a condition in which individuals or households lack the resources and opportunities required to meet basic living standards. Traditional definitions emphasized income deprivation, where people earning below a set threshold were classified as poor. The World Bank (2023) estimates that close to 700 million people globally live on less than \$2.15 per day, highlighting the income-based aspect of poverty. However, contemporary literature recognizes that poverty extends far beyond low income, encompassing a range of deprivations including inadequate access to health services, education, housing, sanitation, and social participation (Babu & Pinstrip-Andersen, 2007; Purwanto, 2024). Townsend (1979) describes poverty as the inability to participate fully in society due to economic and social constraints, while Chambers (1983) frames it as a multidimensional and situational phenomenon influenced by local social, economic, and environmental conditions.

Sen (1999) emphasizes that poverty should be understood as the deprivation of capabilities—the real freedoms people have to lead the kind of life they value. Poverty is therefore not only about insufficient income but also about the lack of opportunities to develop one's potential, access resources, and participate meaningfully in social and economic life. This multidimensional view recognizes that poverty constrains decision-making, reduces agency, and perpetuates intergenerational disadvantage. In line with this, modern poverty research

increasingly considers non-monetary indicators, reflecting structural inequalities and vulnerabilities that exacerbate deprivation and limit human development outcomes (Purwanto, 2024; Millard & Fucci, 2023).

## Poverty Eradication

Poverty eradication refers to deliberate and sustained efforts aimed at permanently eliminating poverty, rather than temporarily alleviating its effects. It involves structural transformation and inclusive development strategies that improve access to productive resources, healthcare, education, technology, and economic opportunities (Ajaj et al., 2024). According to Abdulrahman et al. (2025), agriculture is a critical pathway for poverty eradication in developing countries, as it provides employment, income, and sustenance for millions of rural households. Poverty eradication therefore requires coordinated policy interventions, strong institutions, and inclusive economic growth strategies that empower individuals to escape poverty sustainably.

In addition to policy and economic measures, poverty eradication also encompasses social and human development dimensions. Sen (1999) argues that expanding people's capabilities—enabling them to make choices and exercise agency—is essential to eliminate poverty meaningfully. Babu and Pinstup-Andersen (2007) highlight that eliminating poverty requires both macro-level economic policies and micro-level interventions that strengthen human capacity. Kundu and Gupta (2024) further emphasize the importance of collaboration among governments, private sectors, and international institutions, arguing that sustained poverty eradication can only be achieved through inclusive and coordinated actions that target structural inequalities.

## Hunger

Hunger is closely related to poverty but specifically refers to the deprivation of sufficient food and proper nutrition. It manifests as undernourishment, food insecurity, malnutrition, and micronutrient deficiencies, often resulting from low income, weak food systems, conflict, and climate shocks (Bains, 2012; von Braun et al., 2021). The Food and Agriculture Organization (FAO, 2023) defines hunger as the distress caused by inadequate food availability or accessibility, while Sen (1981) emphasizes that hunger often results from entitlement failures, where people may lack access to food even when it is physically available. Chronic hunger impairs physical and cognitive development, reduces labor productivity, and limits economic participation, making it both a humanitarian crisis and a development challenge.

Shafik (2025) underscores the role of technological and agricultural innovations, such as climate-smart farming practices, improved seed varieties, and digital extension services, in enhancing food production, distribution, and access. Social protection measures, including school feeding programs, nutrition-focused interventions, and targeted support for vulnerable households, are also critical to ensure immediate food security and human development. Hunger is therefore both a symptom and a cause of structural inequalities and economic underperformance, requiring integrated policies, innovations, and interventions to achieve sustainable reduction (Millard & Fucci, 2023; Padulosi et al., 2013).

## Theoretical Review

### Capability Approach Theory

The Capability Approach, developed by Amartya Sen, provides a robust theoretical foundation for analyzing poverty and hunger. The theory argues that poverty should not be measured solely by income levels, but by the extent to which individuals lack essential capabilities—the real freedoms to achieve valuable ways of living. Within this framework, hunger is interpreted as a deprivation of basic functioning, reflecting failures in access, entitlement, and social arrangements rather than mere food scarcity.

The theory assumes that individuals differ in their ability to convert available resources into well-being outcomes due to variations in health, education, social norms, and institutional structures. It further argues that economic growth alone is insufficient to eradicate poverty and hunger unless it expands people's capabilities. This perspective aligns with arguments by Babu and Pinstup-Andersen (2007) and Millard and Fucci (2023), who emphasize social innovation and institutional capacity as critical elements in poverty and hunger reduction.

The Capability Approach is represented as:

$$W_i = \frac{C_i}{Z_i}$$

where

$W_i$  = individual well-being or capability level,

$C_i$  = achieved capabilities (nutrition, education, health, income),

$Z_i$  = structural constraints (poverty, hunger, inequality, institutional barriers).

Marginally, the effect of reducing hunger or poverty on well-being can be expressed as:

$$\frac{\partial W_i}{\partial C_i} = \frac{1}{Z_i}, \quad \frac{\partial W_i}{\partial Z_i} = -\frac{C_i}{Z_i^2} \dots\dots\dots 2$$

This implies that improvements in capabilities (such as food security and income) increase well-being, while increases in constraints (such as hunger and poverty) reduce well-being at an increasing rate. The formulation highlights why poverty and hunger have disproportionately large negative effects on productivity and human development.

The major strength of the Capability Approach lies in its holistic view of poverty and hunger, making it highly relevant for policy design and evaluation. However, the theory has been criticized for its lack of precise measurement tools and its broad, normative nature, which may complicate empirical testing and policy prioritization. Despite these criticisms, the theory remains influential in development economics and underpins contemporary policy frameworks aimed at achieving SDG 1 and SDG 2.

**Empirical Review**

S/N	Author(s) & Year	Sample Space / Timeframe	Methodology	Variables Used	Findings
1	Hanjra, Ferde & Gutta (2009)	Sub-Saharan Africa	Econometric analysis	Poverty level, water investment, agricultural productivity	Investment in water and agriculture significantly reduces poverty and improves food security.
2	Abdulrahman et al. (2025)	Less developed countries	Descriptive and policy analysis	Agricultural output, poverty rate, economic growth	Strengthening agriculture contributes significantly to poverty reduction and economic growth.
3	Millard & Fucci (2023)	Global case studies	Qualitative analysis	Social innovation, vulnerability, poverty	Social innovation enhances resilience and reduces vulnerability among poor populations.
4	Ajaj, Buheji & Hassoun (2024)	African countries	Systematic review	Industry 4.0 readiness, poverty indicators	Technological readiness is critical for achieving poverty eradication in Africa.
5	von Braun et al. (2021)	Global (2030 projections)	Policy simulation	Hunger prevalence, food system	Ending hunger by 2030 requires large-scale policy investment coordination.

## **Policies, Innovations and Interventions**

Across developing economies, agriculture continues to play a central role in this process, particularly because a large proportion of the poor depend on farming and related activities for survival. Abdulrahman et al. (2025) observe that policies that prioritize agricultural development such as increased government investment, improved access to farm inputs, rural infrastructure development, and stable market systems help raise productivity, increase household incomes, and improve food availability. When such policies are consistently implemented, they contribute directly to poverty reduction and broader economic growth.

Beyond agriculture, social protection policies are essential in protecting vulnerable populations from falling deeper into poverty and hunger. Programs such as cash transfers, food assistance, school feeding initiatives, and nutrition-focused interventions help households cope with economic shocks while improving food consumption and human capital outcomes. According to Babu and Pinstrup-Andersen (2007), these measures not only address short-term deprivation but also enable poor households to invest in education, health, and productive activities, thereby breaking the cycle of poverty. At the international level, coordinated policy actions among countries including development financing, debt relief, and fair-trade arrangements have also been identified as critical for reducing inequality and accelerating progress toward global poverty and hunger reduction goals (Kundu & Gupta, 2024; von Braun et al., 2021).

Millard and Fucci (2023) highlight that such approaches strengthen local ownership, improve service delivery, and ensure that interventions reach marginalized groups. In the same vein, Padulosi et al. (2013) show that promoting neglected and underutilized crops through community-driven initiatives can improve nutrition, diversify diets, and create new income opportunities for rural households.

Targeted interventions are necessary to translate policies and innovations into tangible outcomes. Investments in water supply, irrigation, and rural infrastructure have been shown to significantly reduce poverty and improve food security, particularly in sub-Saharan Africa (Hanjra et al., 2009). Education-based interventions, including farmer training programs and applied technology projects, further enhance skills, productivity, and long-term resilience (Maclachlan et al., 2017). In countries facing conflict and climate stress, such as Nigeria, interventions that integrate food security with climate adaptation and peace-building strategies are especially important for addressing the root causes of hunger and vulnerability (Ukwe, 2025).

## **SUMMARY**

This study examined the persistent challenge of poverty and hunger through the lens of policy, innovation, and intervention, drawing insights from global, African, and Nigerian contexts. The review revealed that poverty and hunger remain deeply interconnected and continue to undermine productivity, economic growth, and sustainable development. Evidence from the literature shows that agriculture-led development, supported by effective public policies, remains a critical pathway for reducing poverty and improving food security. The study further highlighted the growing importance of technological and social innovations in transforming food systems, enhancing productivity, and expanding economic opportunities for vulnerable populations. In addition, targeted interventions such as social protection programs, investments in water and rural infrastructure, and education-based initiatives were identified as essential mechanisms for translating policies and innovations into tangible welfare outcomes.

## **CONCLUSION**

Eradicating poverty and hunger require a coordinated and integrated approach rather than isolated or short-term measures. While economic growth is important, it is insufficient on its own to address the structural and multidimensional nature of poverty and hunger. The findings demonstrate that well-designed policies, particularly those focused on agricultural development and social protection, create the foundation for sustainable poverty reduction. Innovations—both technological and social—enhance the effectiveness of these policies by improving productivity, resilience, and inclusiveness. Furthermore, targeted interventions play a crucial role in reaching vulnerable groups and addressing context-specific challenges such as climate change, conflict, and institutional weaknesses. Without sustained commitment to these combined strategies, progress toward achieving the goals of poverty eradication and zero hunger will remain slow and uneven.



## RECOMMENDATIONS

1. Government policies should prioritize agriculture-led development by providing access to inputs, improving rural infrastructure, and ensuring stable markets to enhance productivity and reduce poverty and hunger.
2. Social protection programs should be expanded and strengthened to include cash transfers, school feeding, and nutrition-focused interventions to support vulnerable households and enhance human capital.
- iii. Technological innovations should be promoted and made inclusive, particularly climate-smart agriculture, digital extension services, and other productivity-enhancing tools to improve food security and income opportunities for marginalized populations. Expanding the discussion of technological innovations with concrete examples—such as digital agriculture platforms or mobile-based social protection delivery—would add depth.
3. Community-based and social innovations should be supported through cooperatives, social enterprises, and participatory initiatives that deliver tailored solutions for local poverty and hunger challenges.
4. Targeted interventions in rural infrastructure, water management, education, and skills development should be prioritized, especially in conflict-affected and climate-vulnerable areas, to enhance productivity, resilience, and food security.
5. Institutional capacity and policy coordination should be strengthened to ensure coherent implementation of policies, innovations, and interventions, maximizing their impact on poverty and hunger eradication. A sharper focus on policy implementation challenges, including governance and institutional capacity, would make recommendations more actionable and persuasive for policymakers.

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