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Breaking the Cycle: Poverty and Food Insecurity in the Democratic Republic of the Congo

In many developed regions, food appears abundant and easily accessible, yet this is not the reality globally. The persistence of hunger in regions with strong agricultural potential raises important questions about the true causes of food insecurity. The Democratic Republic of the Congo (DRC) provides a compelling example of this contradiction, as it possesses vast natural resources while experiencing widespread poverty and hunger. Global food insecurity is not simply a problem of food shortages; it is essentially a problem of inequality and poverty. According to UNICEF, more than 673 million people worldwide experienced food insecurity in 2024, despite the world producing enough food to feed its population (Tkarino, 2025). This highlights a crucial consequence: food insecurity is often propelled not by lack of food, but by lack of access.

The DRC represents one of the fiercest examples of this global challenge. Despite the tremendous agricultural potential, over 60% of the population lives in extreme poverty, and roughly 26.6 million people face acute food insecurity (World Food Programme, 2019a). This paper argues that poverty is the primary driver of food insecurity in the DRC because it limits access to food, reduces agricultural productivity, and weakens resilience to economic and environmental shocks. Therefore, long-term solutions must focus on reducing poverty through agricultural development and economic empowerment.

The DRC has a population of about 84.1 million people, with nearly 55% living in rural areas (International, 2025). Agriculture is the main source of livelihood, though it remains largely subsistence-based and underdeveloped. Although the country has 80 million hectares of agricultural land, less than 10% is currently cultivated (World Bank Group, 2021). Most farms are small, typically under two hectares, and rely on manual labor. Crops such as cassava, maize, and beans dominate production, but yields are low due to the lack of technology and materials. Diets are very calorie-heavy but nutrient-poor, contributing to malnutrition (Hubert et al., 2025). In many households, families eat simple meals consisting primarily of staple crops such as cassava or maize, often prepared once or twice a day due to limited resources. Food is typically sourced from small local farms or nearby markets, and access can vary depending on income and season. Family structure plays an important role in daily life. Households often include five to seven members, and responsibilities are divided among family members. Women contribute significantly to agricultural labor and are responsible for food preparation and childcare. However, access to land ownership, financial resources, and decision-making power is often limited for women. This imbalance reduces overall productivity and affects household nutrition outcomes. Infrastructure challenges further worsen poverty, as fewer than 20% of rural households have access to electricity, and access to clean water, healthcare, and education remains limited (La Banque Mondiale, 2014). These conditions reinforce a cycle of poverty that is difficult to escape.

In addition to economic limitations, cultural norms influence food security in the DRC. Traditional gender roles often assign women the responsibility of farming, cooking, and childcare, while men are more involved in financial decisions. These norms must be considered when designing development programs, as successful interventions need to align with existing social structures while also promoting greater equity and access to resources.

Poverty in the DRC weakens all aspects of food security by undermining availability, access, utilization, and stability concurrently. Although food may be physically present in some regions, low household income prevents families from purchasing enough food, making access the most immediate challenge. At the same time, poverty limits farmers' ability to invest in seeds, fertilizers, and equipment, reducing agricultural productivity and weakening food availability. Poor households are also forced to rely on low-cost, nutrient-poor diets, which leads to widespread malnutrition. According to Lawrence Freeman, a political-economic analyst for Africa, "There is no infrastructure connecting Kinshasa with the eastern regions" (Lawrence, 2021). Furthermore, this prevents farmers from transporting crops to markets, resulting in food waste in rural areas while urban populations experience shortages. Additionally, throughout the country, 1.3 million children under the age of 5 required treatment for severe wasting (UNICEF, 2023). In addition, poverty reduces stability by making families highly vulnerable to shocks such as conflict, displacement, and rising food prices. Without savings or safety nets, even small problems can push households into severe food insecurity. These interrelated effects demonstrate that poverty is not just one factor among many but the main force driving and sustaining food insecurity across the DRC.

Several solutions can address poverty-driven food insecurity in the DRC. One is microfinance and village banking, which can provide low-income households with access to capital that traditional banks may not offer (Omarchaikhounifinca, 2023). Farmers could use small loans to purchase seeds, fertilizer, equipment, or other productive resources. This approach is especially relevant because a lack of capital prevents many smallholder farmers from investing in their farms.

Another solution is improving agricultural infrastructure and value chains. Farmers need more than land and seeds to produce food successfully. Storage facilities, roads, transportation, processing equipment, and connections to buyers can determine whether a harvest becomes household food and income or is lost before reaching consumers (World Bank Group, 2026).

The last solution that could be viable is increasing agricultural productivity through scientific and agricultural technologies. The U.S. The Department of Agriculture identifies sustainable agricultural productivity growth as an important strategy for producing more food while using natural resources more efficiently (USDA, 2025). For the DRC, this could include improved crop varieties, better soil management, climate-smart farming practices, and agricultural monitoring technologies.

Each solution addresses a crucial part of the problem, but using them separately would leave enormous gaps. Microfinance can provide money, but money alone cannot tell a farmer what nutrients are missing from the soil. Additionally, improved seeds can increase yields, but further production has limited economic value if farmers cannot store or sell their crops. Finally, roads and markers can connect farmers to consumers, but infrastructure does not automatically increase the nutritional value of the food being produced. Therefore, the DRC needs an integrated solution that will connect scientific agricultural productivity with opportunities in the economy.

For my recommendation, I believe establishing the Congo Nutri- Grow Network, a community-based agricultural system that combines biofortification, soil science, precision agriculture, cooperative financing, and market access. Instead of creating an entirely new agricultural system, Nutri- Grow would reinforce and connect resources that farmers already need while also introducing scientific tools that allow them to make much more productive decisions.

The main component of Nutri-Grow would be biofortification. Biofortification is the process of increasing the concentration of vital micronutrients in crops through plant breeding. These nutrients include vitamin A, iron, and zinc (Ofori et al., 2022). This approach is extremely promising for the DRC because crops like cassava, maize, and beans are already components of the local diet. Instead of forcing families to abandon foods familiar to them or depend entirely on supplements, biofortified varieties can increase the nutritional value of food that most households already grow and consume. This is important because increasing the quantity of food does not inevitably eliminate malnutrition. A household could consume enough calories while still lacking the essential micronutrients. By using biofortification, it attacks the crops themselves; a farmer who plants a nutritionally improved variety can produce food that provides more nutrients to a household without requiring a completely different agricultural system.

However, having improved seeds alone cannot overcome poor growing conditions. This is why the second component of Nutri-Grow would be soil science. Each agricultural hub would provide farmers with access to basic soil testing. These tests could measure features such as soil pH and the amount of nutrients available (Thapa et al., 2021). Additionally, agricultural extension workers could use these results to recommend which nutrients and inputs are appropriate for each field. This method would replace generalized fertilizer recommendations with field-specific nutrient management. A farmer living in poverty cannot afford to waste money on inputs that may provide little benefit. If soil testing shows that a field lacks a particular nutrient, farmers could direct their limited resources toward correcting that deficiency. This approach will increase the efficiency of fertilizer use, improve crop productivity, and reduce unnecessary environmental losses.

The last component of Nutri-Grow would be to introduce small-scale precision agriculture. Although precision agriculture is often associated with expensive machinery and large farms, this program would adapt similar technology for smallholder farmers. By using tools like smartphone monitoring, GPS mapping, satellite imagery, and low-cost sensors would help farmers can notice where their crops are struggling before they become a major loss. Over time. This information could also help farmers understand 3which crops and farming methods work best in their specific conditions.

These tools would be available through community agricultural hubs. Instead of expecting each farmer to purchase expensive technology, the hubs would provide shared access to soil testing, biofortified seeds, training, financing, storage, and connections to markets. For example, a cassava farmer could test their soil, receive recommendations based on the results, and then plant a more nutritious variety. They could later use cooperative storage before selling their crops. The goal is not just to help farmers grow more food, but to help them actually earn more from what they grow.

Nutri-Grow would begin as a three-year pilot program in several high-poverty rural communities. The first year would focus on building the hubs and understanding each community's needs. The second year would introduce more of the technology, improved crops, and market connections. By the third year, the program

could measure changes in crop yields, household income, nutrition, and food loss before expanding to other communities.

Additionally, Local farmers would play the biggest role in running the program, with support from agricultural researchers, government agencies, nonprofits, and financial institutions. Outside funding would help get the program started, but the goal would be for the cooperatives to eventually support themselves through increased agricultural income. At its core, the idea is simple- give farmers better information, better tools, and a higher chance to turn their hard work into lasting income.

Better knowledge about soil → smarter farming → stronger crops → higher income → best life for families.

In conclusion, food insecurity in the Democratic Republic of the Congo is not only a consequence of insufficient food production. It is deeply connected to poverty, which prevents families from accessing foods with the proper nutrition and prevents farmers from investing in the resources needed to produce. The DRC has enormous agricultural potential, yet millions remain food insecure, unsure about the next time they will receive a meal- because agricultural productivity, financing, and nutrition are not connected. The Congo Nutri Grow Network offers a way to connect these pieces. By combining biofortification, soil science, precision agriculture, cooperative financing, ng and better access to markets within community-managed hubs, the programs would address both sides of the problem: producing better food and creating the economic opportunity necessary to access it. Breaking poverty-driven food insecurity therefore requires more than putting food on a table today. It requires giving families the scientific tools, economic opportunities, and agricultural systems necessary to keep food on the table tomorrow. The DRC does not need to choose between science and tradition, nutrition and economic growth, or food production and sustainability. With the right system, these goals can reinforce one another.

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