INOSR Scientific Research 12(1)63-68, 2025. **ISSN: 2705-1706**
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International Network Organization for Scientific Research
https://doi.org/10.59298/INOSRSR/2025/12.1.636800

The Role of Agricultural Policies in Shaping Diet and Diabetes Risk in Nigeria

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ABSTRACT

Agricultural policies in Nigeria play a crucial role in shaping the country's dietary patterns and influencing the risk of diet-related diseases, such as diabetes. As diabetes prevalence continues to rise, understanding the intersection between agricultural policies and nutrition is essential for public health. This review explores how agricultural policies affect food production, pricing, accessibility, and consumption, ultimately contributing to the growing burden of diabetes. It examines the impact of government programs such as the Agricultural Transformation Agenda and the Anchor Borrowers' Programme on food availability, highlighting their focus on staple crops and their limited attention to nutrient-dense foods. The review also evaluates how trade policies and agricultural subsidies affect the affordability and consumption of unhealthy, processed foods. By integrating nutrition-sensitive strategies into agricultural planning, this study offers recommendations for policy reforms aimed at promoting healthier diets, enhancing food security, and reducing diabetes risk in Nigeria.

Keywords: Agricultural policies, diabetes, nutrition, food security, Nigeria, dietary patterns.

INTRODUCTION

The prevalence of diabetes in Nigeria has been increasing at an alarming rate, primarily due to shifts in dietary habits, rapid urbanization, and significant lifestyle changes [1]. Over the past few decades, the country has experienced a nutritional transition characterized by increased consumption of processed foods, refined carbohydrates, and high-calorie diets, coupled with reduced physical activity [2]. These changes have contributed to the rising burden of non-communicable diseases (NCDs), particularly diabetes mellitus. Given that agriculture is the primary source of food production and supply, agricultural policies play a crucial role in shaping the nutritional landscape of the nation [3]. These policies influence what is grown, how food is distributed, and ultimately, what people consume. Understanding the intersection between agricultural policies and diabetes risk is essential for formulating effective strategies that promote healthy eating and prevent diet-related diseases [4].

Agriculture is a fundamental sector in Nigeria, employing a significant portion of the population and contributing substantially to the country's Gross Domestic Product (GDP). Over the years, successive governments have introduced various agricultural policies aimed at boosting food production, ensuring food security, and promoting economic growth [5]. Policies such as the Agricultural Transformation Agenda (ATA), the National Food Security Program (NFSP), and the recent Agricultural Promotion Policy (APP) have sought to enhance agricultural productivity and self-sufficiency. However, the focus of these policies has often been on increasing the quantity of food production rather than improving dietary quality and nutritional outcomes. Consequently, staple crops such as rice, maize, and cassava are heavily subsidized and promoted, while the cultivation and consumption of fruits, vegetables, and other nutrient-dense foods remain relatively low [6]. Additionally, industrial food processing and the proliferation of imported, ultra-processed foods have altered traditional diets, leading to increased intake of unhealthy fats, sugars, and refined carbohydrates [7]. These dietary shifts have had a profound impact on

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public health, with diabetes emerging as a major concern. This study explores how Nigeria's agricultural policies influence dietary choices and contribute to diabetes risk, highlighting the need for policy reforms that integrate nutritional considerations into agricultural planning [8]. The rising prevalence of diabetes in Nigeria poses a significant public health challenge, with serious economic and social implications. Despite the growing burden of the disease, current agricultural policies do not adequately address the nutritional aspects of food production and consumption [9]. The emphasis on staple crops and cash crops has led to an imbalance in the availability of diverse and nutrient-rich foods. Furthermore, the affordability and accessibility of unhealthy, processed foods have made them more attractive to consumers, particularly in urban areas where lifestyle changes are more pronounced. This misalignment between agricultural policy and public health has contributed to poor dietary habits, increasing the risk of diabetes and other non-communicable diseases. There is a critical need to examine the role of agricultural policies in shaping food choices and to identify policy interventions that can promote healthier eating patterns [10]. By addressing this gap, this study aims to provide insights that can inform policy reforms aimed at improving national health outcomes. The study aims to investigate the relationship between Nigeria's agricultural policies and dietary patterns, analyze the impact of agricultural subsidies and incentives on food availability and consumption choices, assess the influence of food pricing and market structures on the affordability and accessibility of healthy foods, explore the role of urbanization and modernization in dietary shifts and diabetes prevalence, and recommend policy interventions that align agricultural strategies with public health goals to mitigate diabetes risk [11]. The research questions will address how Nigeria's agricultural policies influence dietary habits, the impact of agricultural subsidies and incentives on food availability and affordability, the role of urbanization in dietary shifts and diabetes prevalence, and policy recommendations to integrate nutritional considerations into Nigeria's agricultural framework. This study holds significant importance for multiple stakeholders, including policymakers, public health officials, agricultural planners, and the general population. First, it provides a critical analysis of how agricultural policies shape dietary habits and contribute to the increasing burden of diabetes in Nigeria [12]. By highlighting the link between food policy and health outcomes, the study offers valuable insights for developing policies that promote balanced diets and reduce the risk of diet-related diseases. For policymakers, this research provides evidence-based recommendations on how to integrate nutrition into agricultural strategies, ensuring that food production aligns with public health objectives. For public health professionals, the findings will offer a deeper understanding of the dietary factors driving diabetes prevalence, enabling them to design more effective health interventions and awareness programs [13]. Additionally, agricultural stakeholders, including farmers and food producers, can benefit from the study by gaining insights into market demands and the importance of diversifying food production to meet nutritional needs.

At the societal level, the study emphasizes the need for a holistic approach to food security that goes beyond food quantity to consider food quality and nutritional value. Addressing the nutritional dimensions of agricultural policy can lead to healthier food environments, improved public health, and reduced healthcare costs associated with diabetes management. Overall, this study contributes to the broader discourse on the role of agriculture in public health, advocating for policy reforms that support sustainable and health-conscious food systems in Nigeria. By fostering collaboration between the agricultural and health sectors, the study paves the way for a more integrated approach to tackling the rising diabetes epidemic in the country.

Agricultural Policies and Food Production

Agricultural policies significantly influence food production systems by influencing crop cultivation, resource allocation, and farming practices [14]. In Nigeria, staple crops like cassava, rice, and maize are prioritized due to their adaptability and role in food security. Government programs like the Agricultural Transformation Agenda and Anchor Borrowers' Programme reinforce this dominance through subsidies, incentives, trade regulations, and research and development initiatives. However, these policies also contribute to a dietary imbalance, as they prioritize high-carbohydrate crops over nutrient-dense options like fruits, vegetables, and legumes. This can exacerbate health challenges such as malnutrition, micronutrient deficiencies, and the rise of non-communicable diseases like diabetes [15].

The lack of strong policy support for horticultural crops and protein-rich legumes has limited their production and accessibility. Without targeted subsidies or incentives, smallholder farmers may be less inclined to cultivate these crops, leading to higher market prices and reduced affordability for lower-income populations [16]. Insufficient investment in

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agricultural extension services also means farmers lack adequate training on diversified cropping systems, which could enhance nutritional outcomes. Trade policies also influence food production and consumption patterns. Tariffs and import restrictions on certain food items encourage local production but still restrict access to perishable yet nutritionally essential foods. To address these challenges, Nigerian agricultural policies must shift towards nutrition-sensitive agriculture by expanding subsidies and incentives for fruit, vegetable, and legume production, encouraging crop diversification through research, education, and extension services, investing in post-harvest infrastructure, and integrating nutrition considerations into national food security strategies [17]. A more diversified agricultural policy framework can ensure that food production systems support economic growth and public health by providing a wider range of nutrient-dense foods.

Food Pricing and Accessibility

Government policies, such as subsidies, import tariffs, taxation, and price controls, significantly influence food pricing and accessibility. In Nigeria, these policies have created a price imbalance favoring refined grains and processed foods over whole grains, fresh produce, and protein-rich foods [18]. This has led to increased consumption of energy-dense, nutrient-poor foods, exacerbating the prevalence of diet-related diseases like diabetes. Agricultural and food subsidies play a crucial role in determining food costs, with the Anchor Borrowers' Programme (ABP) and other interventions prioritizing staple crops like rice, wheat, and cassava. Refined foods dominate Nigerian diets because they are affordable, widely available, and convenient. Whole grains, such as brown rice, sorghum, millet, and unprocessed maize, are often more expensive due to limited production support, lower consumer demand, and inefficient value chains. Trade policies also contribute to food price disparities, with import tariffs on certain food items designed to protect local industries and encourage domestic production often falling short of demand, leading to high market prices. The processed food industry benefits from trade policies that allow the import of cheap refined wheat and sugar, further exacerbating dietary imbalances. Food deserts and accessibility challenges also shape dietary habits, particularly in urban and semi-urban areas [19]. Many low-income communities face "food deserts" where fresh fruits, vegetables, and high-quality protein sources are unavailable or unaffordable, while processed and packaged foods are readily available in supermarkets, street stalls, and informal markets. To address price disparities for better nutrition, Nigerian policymakers should consider expanding subsidies to include whole grains, legumes, and fresh produce, reducing import tariffs on essential nutrient-dense foods, providing incentives for local production and distribution of fresh, minimally processed foods, strengthening rural food supply chains, and regulating the processed food industry. By adjusting policies to balance affordability and accessibility across different food groups, Nigeria can promote healthier dietary patterns and mitigate the rising burden of diet-related illnesses like diabetes [20].

Influence of Trade and Import Policies

Trade and import policies significantly impact food availability and health, with Nigeria's trade liberalization policies leading to increased access to processed foods and limiting the availability of locally produced, nutrient-dense options [21]. This trend has contributed to the rise in high-calorie, sugar-laden products, exacerbating diet-related diseases such as diabetes. Nigeria's trade liberalization policies, which gained momentum in the 1980s and 1990s under structural adjustment programs, have led to the proliferation of highly processed, calorie-dense foods such as sugary beverages, instant noodles, and refined grain products. These foods are often cheaper and more widely available than healthier alternatives, making them dietary staples in urban areas where fast food culture is growing [22]. Nigeria's reliance on food imports has also affected the local agricultural landscape, with a significant portion of the country's food supply being imported. This dependence reduces incentives for domestic production of diverse and nutritious crops such as legumes, fruits, and vegetables. Nigeria imports over 4 million metric tons of wheat annually, making it one of the largest wheat importers in Africa. High imports of vegetable oils support the growth of the processed food industry, while sugar imports fuel the beverage and confectionery industries, contributing to excessive sugar consumption, a key driver of obesity and diabetes. To reduce import dependency while promoting healthier food consumption patterns and mitigating diabetes risk, Nigeria's trade policies should diversify agricultural investments, reduce import barriers for essential foods, encourage local food processing, implement sugar and fat taxes, and improve food supply chains. Aligning trade policies with nutritional goals can create a more balanced food environment that reduces reliance on imported processed foods and supports local, health-promoting food production.

Agricultural Extension Services and Nutrition Education

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Agricultural extension services in Nigeria play a crucial role in transferring knowledge, technology, and best practices to farmers, enabling them to increase productivity and adopt sustainable farming practices. [23] However, these programs often fail to adequately incorporate nutrition education into their training, which has significant implications for public health, particularly in relation to malnutrition, diet-related diseases like diabetes, and the overall quality of diets. In Nigeria, agricultural extension services have traditionally been centered around staple crops like maize, rice, and cassava, which are key to food security but often lack essential micronutrients such as vitamins, minerals, and fiber. This leads to a diet that is overly reliant on calorie-dense foods with limited micronutrient diversity, contributing to issues such as hidden hunger, obesity, and chronic diseases like diabetes [24]. Integrating nutrition-sensitive agricultural training into extension services could play a transformative role in improving both food production and dietary health. This approach would aim to promote nutrient-diverse crops, introduce crop rotation for nutritional variety, teach the value of nutrient density, increase awareness of post-harvest handling, and foster household nutrition knowledge. Training approaches for integrating nutrition into extension programs include workshops and demonstrations, partnerships with nutritionists and health experts, community outreach programs, and tailored training for different groups of farmers. To fully integrate nutrition-sensitive approaches, Nigerian agricultural policies must align with public health goals, including incorporating nutrition education into agricultural curricula, increasing funding for agricultural programs, and strengthening coordination between agricultural ministries, health ministries, and nutrition experts. Benefits of integrating nutrition education in extension services include improved public health, enhanced food security, sustainable agriculture, and empowered farmers. By making nutrition-sensitive agricultural training a core part of extension services, Nigeria can not only improve its agricultural sector productivity but also create a healthier and more nutritionally secure population.

Policy Recommendations To align agricultural policies with public health goals, the following reforms are recommended:

1. **Diversification of crop production:** Policies should incentivize the cultivation of nutrient-rich crops such as fruits, vegetables, legumes, and nuts.
2. **Subsidies for healthy foods:** Government subsidies should prioritize whole grains, lean proteins, and fresh produce instead of refined carbohydrates.
3. **Nutrition-sensitive trade policies:** Import tariffs on processed foods should be reviewed, and local production of healthy alternatives should be encouraged.
4. **Integration of nutrition education in agricultural programs:** Farmers should receive training on producing and consuming nutritious foods.
5. **Strengthening food security initiatives:** Policies should ensure equitable distribution of healthy foods across urban and rural areas.

CONCLUSION

Nigeria's agricultural policies significantly influence dietary patterns and diabetes risk. The emphasis on staple crops like rice, maize, and cassava, along with limited support for nutrient-dense foods like fruits, vegetables, and legumes, has led to an imbalance in food availability. Food pricing mechanisms, trade policies, and market structures have made processed and refined foods more accessible, exacerbating the burden of diet-related non-communicable diseases, including diabetes. To address these challenges, Nigeria's agricultural policies must shift towards a nutrition-sensitive approach that prioritizes food security and public health. This includes expanding subsidies for diverse, nutrient-rich crops, reducing tariffs on essential healthy foods, investing in food supply chain infrastructure, strengthening regulatory frameworks on processed foods, and public health campaigns promoting nutrition education. A multidisciplinary approach integrating agriculture, health, trade, and education is essential for fostering a sustainable and health-conscious food environment.

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CITE AS: Mubanza Zunguka J. (2025). The Role of Agricultural Policies in Shaping Diet and Diabetes Risk in Nigeria. INOSR Scientific Research 12(1)63-68. https://doi.org/10.59298/INOSRSR/2025/12.1.636800

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