Policy Imperatives for Strengthening Value Addition in Nigeria's Agricultural Sector

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Abstract

This paper examines the potential for building on the existing policy framework to strengthen value addition in Nigeria's agricultural sector. In doing so, we highlight its positive impact on food security, export revenue, import substitution-driven job creation, and economic growth. Drawing on Agricultural Structural Transformation theory, we identify value addition as a key mechanism for transitioning from primary to secondary and tertiary production. The paper concludes with four actionable policy recommendations for unlocking Nigeria's agricultural potential and achieving a more stable and resilient economy. Our evidence-based recommendations, which include policy imperatives such as Public-Private Partnerships, as well as government support for technology adoption, tax and investment incentives to promote value-addition in economic clusters with crops where Nigeria has a comparative advantage and proactively deepening market linkages, are informed by a review of case study evidence from Thailand's rice production, the Netherlands dairy and egg sectors, China's Special Economic Zones (SEZs), Uganda's Cultivate Africa Future Fund's Agriculture PPP Project (CultiAf-Ag-PPP), and Kenyan tea industry.

Introduction

Despite its apparent potential, unlike the experiences of comparator countries in Asia, Africa's agro-industrial sector has not significantly contributed to economic transformation and sustainable development (FAO, 2017; AGRA, 2019). This indicates market failure (Rodrik, 2004) and thus presents the need for a policy response from governments to address the market-limiting constraints and facilitate the reallocation of resources to factors that attract the much-needed capital, technology, and agro-processing capabilities required to transform the sector and replicate the success of comparator countries (Newman et al., 2016; AGRA, 2022).

As of 2023, Nigeria's agriculture imports stood at an estimated N2.281 trillion (NBS Foreign Trade Report, 2023). The continued reliance on agricultural imports exposes Nigeria to fluctuations in global food prices, fueling inflation and destabilising the economy. This dependence on food imports creates vulnerabilities and exacerbates the balance of payments crisis, unemployment, and food insecurity. Moreover, limited domestic processing capacity and storage facilities discourage investment in local production and undermine the sector's potential, resulting in significant post-harvest losses, hindering economic growth and job creation,

Countries that add value to their natural resources and promote labour movement to productive sectors are associated with increased per capita income and technology accumulation (UNIDO & UNCTAD, 2011). Evidence from East Asia underscores the importance of commodity-based industrialisation as a viable channel for addressing poverty and unemployment (Mbate, 2016). While this is yet to be replicated in the region, rising wages and input costs in Asia could offer countries like Nigeria a renewed opportunity to industrialise, particularly in the labour-intensive, light-manufacturing sectors such as agro-processing (Newman et al., 2016).

This paper addresses the need for increased value addition in Nigeria's agricultural sector and achieves two key objectives. First, it examines how value addition can contribute to economic stabilisation, increased production, job creation, reduced import reliance, and post-harvest losses. Secondly, the paper identifies value addition as a key mechanism for economic stabilisation. Our evidence-based approach to policy formulation draws on case study evidence to propose four actionable policy imperatives that support the successful structural transformation of Nigeria's agricultural sector from primary production to secondary and tertiary activities.

The rest of the paper is organised as follows. Section 2 briefly explains the theoretical framework for understanding value addition as a mechanism for structural transformation in agriculture. Drawing on case studies and critical lessons learned from comparator countries, Section 3 explores the fundamental mechanisms for transitioning from primary to secondary and tertiary agricultural production. In section 4, we provide policy imperatives for economic stabilisation. Finally, section 5 concludes with a summary of this paper's key findings and policy recommendations.

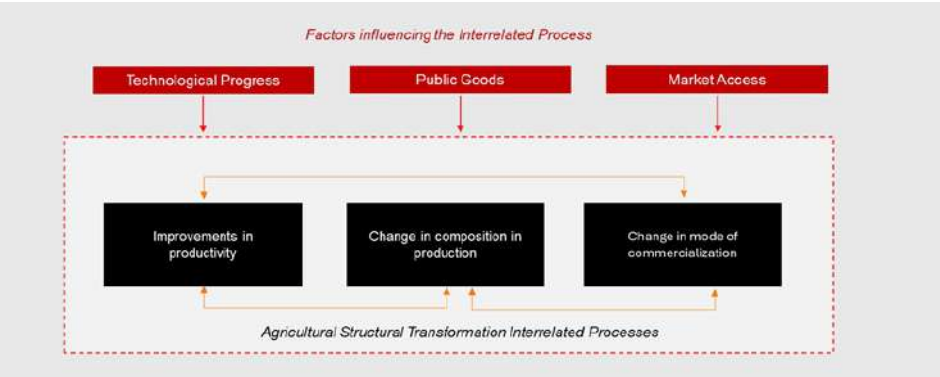
Theoretical Framework

The role of agriculture in economic growth and development remains a central topic with evolving perspectives. Early development theories, exemplified by Lewis' "dual economy" model (1954), viewed growth as a shift from a low-productivity agricultural sector to a more modern industrial sector. However, the success of the Green Revolution in Asia during the late 1960s demonstrated the potential for agriculture as a powerful engine for economic growth, actively contributing to broader development, and challenged this passive approach (Adelman, 2001).

This paper utilises the concept of structural transformation of the agriculture sector (Divanbeigi et al., 2016), which emphasises the shift from primary production towards secondary (processing) and tertiary (services) activities, to explore policy imperatives for strengthening value addition in agriculture to enhance the sector's contributions to economic stabilisation in Nigeria.

Today, a debate persists about the applicability of these models in sub-Saharan Africa. Proponents argue that agriculture's potential for large-scale inclusive economic growth and strong linkages to other sectors offers a significant pathway for economic advancement and poverty reduction (Birdsall, Ross, & Sabot, 1995). Sceptics, however, highlight the continent's history of poor agricultural performance, weak institutions, and environmental challenges (Collier & Hoffler, 2002; Ellis, 2005; Maxwell & Slater, 2003). They also point to the potential weakening of agricultural growth linkages in today's globalised market with falling food prices. Despite these concerns, research by Diao et al. (2010) suggests that Africa still requires a broad-based agricultural revolution to achieve economic transformation, even if the path may differ from Asia's Green Revolution. This revolution, however, must integrate value addition into agricultural production. Focusing on high-value commodities, food security, and export markets—while navigating international competition and complex supply chains—offers promising opportunities for African farmers (Reardon et al., 2003).

Figure 1: A Framework for Understanding Agricultural Structural Transformation



Source: World Bank Group; Authors' Concept

According to Divanbeigi et al. (2016), the agricultural sector undergoes a transformation process characterised by several fundamental changes. One defining feature is the relative decline of basic agriculture. This is accompanied by the rise of agribusiness, encompassing value addition in agro-related industries, trade, and distribution services. Furthermore, international trade increasingly features high-value agricultural products compared to traditional exports. This structural transformation has been shaped by three interrelated processes (see Figure 1), namely:

- **Improvements in Productivity:** Increased agricultural output per unit of land (hectare) is a vital indicator of this process. Since the 1960s, global agricultural output per hectare has grown by over 250 percent (Alston et al., 2010). This rise in productivity can be attributed to factors like utilising existing and new farming lands more efficiently and adopting new technologies.

- **Change in Production Composition:** The cultivated agricultural product types shift over time. This shift can involve moving from subsistence farming to producing cash crops, from staple foods to intermediate inputs for further processing. This evolution reflects changing global market demands and naturally varies across regions with different geographic and climatic conditions (Divanbeigi et al., 2016).

- **Modification in Commercialisation Mode:** Agricultural market transactions become more integrated with the broader economy, relying more heavily on financial services and international trade. This trend is fueled by agribusiness growth, including food processing industries and related services, even as agriculture's share of GDP declines (Divanbeigi et al., 2016).

The critical implication for Nigeria is that enhancing value addition through processing and improving productivity can achieve a more stable and integrated agricultural sector, reducing reliance on imports and boosting international trade.

Value Addition as a Key Mechanism for Transitioning from Primary Production to Secondary and Tertiary Agricultural Production

Value addition refers to processing raw agricultural products into higher-value food and chemical products, ultimately increasing food security (Dare et al., 2013) and the gross value of agricultural products. A robust agricultural economy prioritising food security and value-added commodities promotes societal progress by boosting production, employment, and income. The case for value addition in agriculture is particularly compelling for Nigeria, as achieving economic stability is intricately linked to strengthening yields and productivity within the sector, accounting for 38 percent of employment and 21 percent of GDP (NBS, 2023).

Value-added agricultural products have a higher market value and longer shelf life, making them more attractive for export, strengthening Nigeria's foreign exchange reserves, and fostering economic resilience (Li, Zhang & Li, 2019; Nuraini & Hariyani, 2019). Value addition thus empowers farmers by allowing them to process crops into higher-value products, increasing their income and access to nutritious food (Ngugi et al., 2020). Additionally, it opens new markets for farmers, particularly smallholder farmers (Pawlak & Kołodziejczak, 2020), strengthening their ability to exchange their produce for other necessities.

Learning from Global Success Stories

We draw critical insights from five country case studies: Thailand's rice sector, the Netherlands' dairy and egg production, China's integration of Special Economic Zones, Uganda's Public-Private Partnership, and Kenya's tea industry. These case studies were selected for their strategic alignment with Agricultural Structural Transformation Processes.

The Case of Rice Production in Thailand

By embracing value addition, Thailand transformed its rice sector from a high-volume, low-margin commodity-based industry to a significant player in the global market for high-value rice products. This shift helped boost food security and export revenue.

Traditionally a significant rice producer since the 1850s, Thailand faced major post-harvest losses due to inadequate storage facilities and processing capabilities, hindering national food security and economic potential (FAO, 2019). In response, the Government embarked on a transformative journey that involved strategic investments in technologies like drying, milling, and cold storage (Nipon & Kamphol, 2019). Thailand's rice industry advancements significantly boosted productivity and national economic contributions. Extended shelf life, steadier domestic supply, and minimised post-harvest losses all enhanced food security.

Rice production now contributes 15 percent to Thailand's agricultural GDP, creating a stable foundation for economic growth. These advancements enabled Thailand to diversify rice exports beyond bulk commodities (Pongsrihadulchai, 2018). Thailand has become a major global exporter, offering a more extensive range of higher-value products like aromatic rice mixes, ready-to-eat meals, and rice noodles (Suebpongsang et al., 2020). This diversification has resulted in a significant increase in export revenue. For instance, Thailand's rice exports from January to October 2023 totalled 6.92 million tons, valued at $3.96 billion, reflecting a substantial year-on-year increase (Nation, 2023).

By embracing value addition, Thailand transformed its rice sector from a high-volume, low-margin industry to a significant player in the global market for high-value rice products. This shift strengthened food security and generated significant foreign exchange revenue, contributing to a more stable national balance of payments.

The Netherlands: Dairy and Eggs

Faced with competition in the global dairy market, the Netherlands actively restructured its milk and egg production by focusing on high-value processed food. This has made the Netherlands a significant player in the global market, accounting for 5 percent of total dairy trade volume (ZuivelNL, 2020). This strategic shift has transformed the Netherlands into the world's largest exporter of dairy goods, including renowned cheeses like Gouda and Edam. For instance, in 2022, Dutch dairy exports surged by 32 percent to over €10.8 billion. This growth was driven significantly by increased volumes across several dairy product categories (ZuivelNL, 2022). Their approach was not just about variety. They also prioritised quality, exporting powdered milk for further processing and high-quality eggs, contributing to global food security by providing a stable source of protein (Rabobank, 2023).

Today, the Dutch dairy sector contributes to their national economy. In 2021, Agro & Food contributed € 57.7 billion (6.9 percent) to the Dutch economy, including € 7.2 billion (0.8 percent) from dairy (Zuivelnl, 2022). It is expected to generate US$8,655.00 million in revenue by the end of 2024. The industry employs a significant direct workforce and supports multiples more in indirect employment by fostering a strong network of supporting businesses like barn builders, animal feed companies, and wholesalers (ZuivelNL, 2020). The Dairy Products and eggs market is expected to generate US$8,655.00 million in revenue by the end of 2024.

China’s Special Economic Zones

Drawing upon successful case studies, particularly from China, many economists believe Special Economic Zones (SEZs) can achieve industrial development efficiently and effectively (Zhou, 2022). In particular, investing in SEZs can provide a bundling of public services in a geographically concentrated area;

increase the effectiveness of government-limited budget allocations for infrastructure, facilitate cluster development or accumulation of certain industries; and facilitate urban growth by offering facilities that deliver improved living circumstances for both basic wage and highly skilled technical workers, leveraging economies of scale in the provision of critical services, such as electricity, water and solid waste treatment plants (Olusina Daniel, 2024).

SEZs typically target four goals: attracting foreign investment and exports, reducing unemployment, supporting economic reforms, and testing new policies. SEZs accounted for 22 percent of China's GDP in 2021, 45 percent of total foreign direct investment, and 60 percent of exports. SEZs have generated over 30 million jobs, boosted farmers' income by 30 percent, and spurred industrialisation, agricultural modernisation, and urbanisation (Zhou, 2022). This proves that SEZs are particularly effective in creating jobs, income, and environmental improvements when nationwide reforms are di cult due to limited resources or political opposition (Zeng, 2015). In essence, SEZs act as pilot areas with better regulations, infrastructure, and public services to attract investment and create a more favourable business environment (Aggarwal, 2019).

Uganda's Public-Private Partnership

In Uganda, the CultiAf-Ag-PPP project is a testament to the transformative power of partnerships in bolstering smallholder farmers. This initiative represents a collaborative effort between the Government and corporate agribusinesses to provide extensive support to bean producers. Through a coordinated effort between the Ugandan authorities, private agribusinesses, and international development agencies provided certified and quality-declared foundation bean seed to promote seed production and distribution, guaranteed market by the processor eliminating demand uncertainty for bean growers while also securing supply for the processor and provided new varieties coupled with information on excellent agricultural practices, and building an enabling environment with seed credit, market incentives, and risk management to increase utilisation (Aseete et al., 2022).

This effort distributed 1,000 tons of bean seeds to 13,503 farmers during CultiAf's initial phase, demonstrating that CultiAf dramatically enhanced productivity, sales volume, and market share. Farmers who participated in the program had 29 percent higher yields than those who did not. This economic empowerment was not an isolated gain. Increased output improved Uganda's food security by assuring a steadier domestic food supply, while a higher market share boosted the country's overall market competitiveness in the bean industry (Aseete et al., 2022).

Kenyan Tea Industry

Kenya's tea sector is the largest in sub-Saharan Africa, accounting for 5 percent of the country's GDP. However, the industry has not reached its full potential due to several challenges, including low levels of value addition, fluctuating global tea prices, and high production costs. To address these issues, the Government initiated the Strategy for Revitalizing Agriculture (SRA), the search for new emerging markets with strong potential, and a few others. These policies aimed to enhance value addition within the sector by promoting the establishment of more processing facilities, encouraging the production of speciality teas, and improving quality standards. Additionally, the policy focused on better marketing strategies. As a result, there has been increased investment in the sector, leading to improved product quality, greater market diversification, and enhanced growth and profitability for Kenya's tea industry.

Kenya's proactive approach to value addition in its tea industry has stimulated the economy. The sector directly supports the livelihood of over 600,000 Kenyans, with employment growth of over 1,300 jobs between 2017 and 2018 alone. These initiatives have created over 2,000 new jobs and attracted innovative enterprises, resulting in an additional 24,000 tons of exports (Kamer, 2022). A World Bank study on the

competitiveness of purple tea highlights its potential to attract further investments and significantly boost Kenya's overall economic performance.

Critical Lessons Learned: A Pathway for Nigeria

The case studies underscore the transformative potential of value addition in agriculture. Through a focus on premium products, diversification, and strategic investments, countries as diverse as the Netherlands, Thailand, China, and Kenya have transformed their agriculture sectors into engines for economic growth and global food security. This offers valuable takeaways for Nigeria, notably:

- Value Addition creates a ripple effect, boosting food security, export revenue, and economic growth (Thailand's rice, Netherlands' dairy).

- Strategic Investments in infrastructure and technology are critical, as storage, processing, automation, and irrigation investments maximise value addition (Thailand, Netherlands).

- Public-Private Partnerships (PPPs) combine public support with private sector execution capacity and e ciency to address market access and technology adoption (e.g., Ugandan smallholder farmers).

- Innovation Drives Sustainability: R&D investment fosters growth and sustainability

- SEZs as Potential Accelerators: China's SEZs offer a model for concentrated services, infrastructure, and improved living conditions to pilot reforms that could attract investment and create the conditions precedents for private sector investments.

Nigeria can incentivise increased domestic production by focusing on processing and value-added products, reducing reliance on imports, and fostering self-sufficiency. Investments in processing infrastructure and storage facilities can significantly minimise post-harvest losses, ensuring food security and maximising returns from agricultural production. A robust value-added agriculture sector can also insulate Nigeria from external price shocks, contributing to price stability and economic resilience.

Policy Recommendation to Support the Development of a Roadmap to Economic Stabilization

The lessons from the case study evidence presented in this paper provide a roadmap for Nigeria to leverage value addition and achieve economic stabilisation. Drawing on these insights, Nigeria can potentially increase value addition in its agriculture production, paving the path for long-term economic stability. To achieve this, Federal and sub-national governments can take the following steps.

- **Public-Private Partnerships:** Governments can partner with the private sector to address infrastructure challenges and increase access to finance. By utilising Public-Private Partnerships (PPPs), they can leverage private sector expertise and investment to improve infrastructure and provide better financial access for agro-food value chain actors.

- **Technology Adoption:** Governments can promote the adoption of modern technologies and know-how by smallholder farmers and SMEs in the agro-food value chain. They can offer subsidies or alternative financial assistance to incentivise smallholder farmers and SMEs to adopt modern technologies and best practices. At the same time, establishing extension services that offer training and technical assistance to farmers can play a pivotal role in fostering technology adoption. Facilitating foreign direct investment (FDI) and promoting local content within the agro-processing sector could contribute significantly to technological advancements and overall sectoral development.

- **Value Addition:** Governments can encourage value addition in the agro-food value chain by supporting the establishment of processing and packaging facilities. This can be done by providing incentives, such as tax breaks or investment subsidies, and by creating an enabling environment for establishing and operating these facilities.

- **Market Linkages and Extension Services:** Governments. should take proactive measures to enhance market linkages between farmers, processors, and retailers. This can be achieved through direct intervention, PPPs, or by attracting increased participation from donors, multilateral organisations, and the private sector. Establishing comprehensive market information systems and providing essential support services like logistics and transportation will streamline the agro-food value chain, minimise food waste, and enhance overall efficiency.

Conclusion

This paper has explored the potential of value addition in agriculture to contribute to economic stabilisation in Nigeria. Drawing on case studies from five comparator countries, we illustrate how value addition through commodity-based industrialisation can lead to increased production, reduced import reliance, reduced post-harvest losses, and economic stabilisation. Key takeaways or policy imperatives derived from this study include the need for federal and sub-national governments to focus on high-value products, strategic investments in infrastructure and technology, public-private partnerships where possible to embrace innovation and access to capital, market linkages and effective extension services

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