

---

# IMPACT OF NEW GOVERNMENT POLICIES & SYSTEMIC SHOCKS ON HORTINIGERIA IMPLEMENTATION & BENEFICIARIES

2024



KIT Royal  
Tropic  
Institu

# Table of Contents

S  
T  
R  
U  
C  
T  
U  
R  
E

01.

Introduction

02.

Foreword- Message from  
the Programme Director

03.

HortiNigeria KPIs

04.

Methodology for  
measuring impact

05.

Results and impact analysis

06.

Component alerts of systemic  
and policy shocks

07.

Actionable recommendations

08.

Highlights & Conclusions

# N O T I C E D U N D E R T A K E N

This report evaluates the repercussions of recent governmental policy shifts and systemic disruptions on the HortiNigeria program, its direct beneficiaries, and the broader horticultural landscape in Nigeria.

The advent of a new administration has ushered in pivotal policy reforms that have reverberated across Nigeria's business milieu. Notable amendments include the cessation of petroleum subsidies, currency devaluation, and the revitalization of border and trade routes. These measures have profoundly influenced production dynamics and the nation's investment appeal, particularly within the horticultural domain.

The discontinuation of fuel subsidies has disproportionately impacted smallholder farmers, who depend on cost-effective transportation to convey their harvest to markets. Consequently, farm inputs like fertilizers, seedlings, and agrochemicals have escalated in cost and diminished in accessibility, compounding logistical hurdles. The operation of petrol-driven irrigation pumps, vital for dry season agriculture, has been significantly hindered by these policy changes.

In parallel, female smallholder farmers confront the soaring costs of fertilizers and other agricultural essentials, exacerbated by the geopolitical tensions between Russia and Ukraine. These price surges have strained their operational capacities and financial resilience.

This analysis endeavours to meticulously assess the tangible impacts of the Federal Republic of Nigeria's recent policy enactments on HortiNigeria's execution and the overall investment and operational climate of the nation's horticultural sector.

# MESSAGE FROM PROGRAMME DIRECTOR

---

In the dynamic landscape of agricultural development, the HortiNigeria programme stands as a beacon of innovation and stimulating economic growth. As we navigate the intricate interplay between policy formulations by the new government of the federal Republic of Nigeria and its tangible effects on the implementation of the programme on ground, it becomes imperative to conduct a comprehensive impact study. Such an analysis not only illuminates the successes and challenges of the programme but also guides future strategies to better align with direction of the new regime and better serve the socio-economic fabric of our nation.

The HortiNigeria programme, with its focus on enhancing the productivity and profitability of vegetable farming, has the potential to create real economic growth. However, without a meticulous assessment of its implementation, we risk overlooking the nuanced realities faced by our farmers. An impact study serves as a critical tool, providing insights that are essential for refining strategies and ensuring that the programme's benefits are equitably distributed.

Moreover, this study is a testament to the HortiNigeria's commitment to transparency and accountability to the sector and the esteemed donors the Embassy of the Kingdom of Netherlands. It allows stakeholders, including farmers, policymakers, and investors, to engage with the programme's outcomes, fostering a collaborative environment where feedback is valued and integrated into the implementation refinement process.

As we forge ahead, let us embrace the importance of this impact study, recognizing that it is not merely an academic exercise but a cornerstone of delivering impactful implementation and sustainable development of the horticultural sector of Nigeria.



The HortiNigeria programme, with its focus on enhancing the productivity and profitability of vegetable farming, has the potential to create real economic growth.

# HORTINIGERIA KPI

There are 76 outcomes and output in the HortiNigeria project proposal with 8 key cross regional outcomes. There are other immediate outcomes and outputs specific to implementation in North (Kano & Kaduna) and South (Ogun, Oyo). While they are all important and interrelated, this study focuses on those 8 macro outcomes while the intermediate outcomes and output are still considered in overall impact analysis

01

## Increased Productivity of Smallholder Farmers

60,000 smallholder farmers, of whom 50% are youth and 40% women, will have increased productivity and/or income, resulting in an annual incremental production value of €9.7 million.

02

## Increase in Sustainable Land Use

Acreage under sustainable land use will have increased by 15,000 hectares

03

## Piloting Innovation & Technologies for Horticulture SMES

At least 2,000 entrepreneurial farmers (50% youth and 40% women) will have adopted new knowledge and/or technologies

# HORTINIGERIA KPI

04

## **Horticultural SME Business Support & Acceleration**

50 horticulture-related SMEs will have a business and investment plan to invest, trade, or provide services: 50% will be youth-owned and 40% will be female-owned SMEs.

05

## **Mobilize Private Finance & Investments**

€6 million in private finance will be mobilized (€4 million for agrobusiness SMEs and €2 million for agro-input SMEs). 1,000 of direct jobs (50% for youth and 40% for women) will have been created

06

## **Create Jobs For Youth**

1,000 of direct jobs (50% for youth and 40% for women) will have been created.

07

## **Policy Improvements for Horticultural Sector**

Two major improvements in major federal or state horticultural policies or regulations will have been realized.

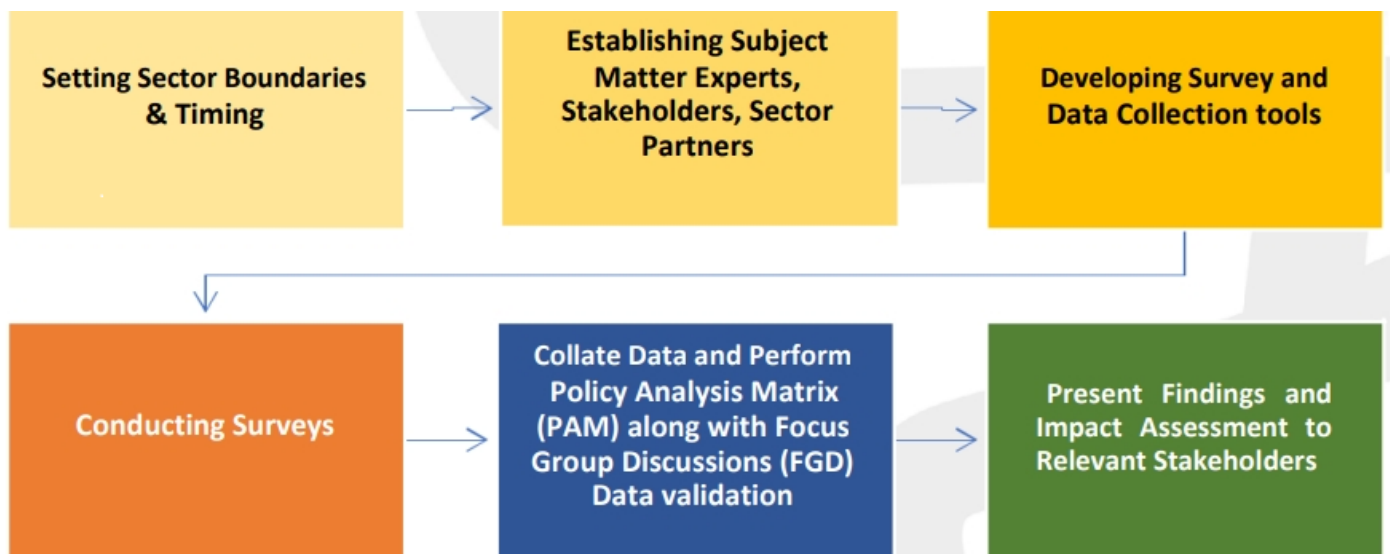
08

## **B2B Linkages and Brokering Partnerships**

200 business-to-business opportunities will have been identified and 100 business partnerships and 100 business partnerships brokered, 50% with youth-owned or managed business with women

# METHODOLOGY OF MEASURING POLICY IMPACT

The study was conducted using a blend of two methodologies –the rapid assessment methodology of sectors. This is typically used to assess the impact of crises and shocks to socioeconomic systems. A method developed by AidEnvironment and Wageningen University & Research has proved useful and effective in developing concise sector alerts and actionable points of interventions. This method has been successfully used for seed sector development across various countries (Ethiopia, Nigeria and Myanmar). The second method is the policy analysis matrix (PAM) The Policy Analysis Matrix (PAM) is a widely used policy research tool that enables researchers to identify the distortions and inefficiencies of a policy and suggest required policy changes for the profitability of an industry, sector, or country. The PAM methodology provides information to help policymakers address three central issues of agricultural policy analysis: competitiveness and farm profits, efficiency and public investment, and efficiency and agricultural research.



# METHODOLOGY OF MEASURING POLICY IMPACT

## Survey tools employed by location.

	<b>Field Questionnaire Enumeration</b>	<b>Online Survey Link</b>	<b>Key Informant Interviews Physical</b>	<b>Key Informant Interviews Virtual</b>
Kano	Yes	No	Yes	
Kaduna	Yes	No	Yes	
Ogun	No	Yes	Yes	Yes
Oyo	No	Yes	Yes	Yes
Lagos	No	Yes	Yes	Yes
Abuja	No	Yes	Yes	Yes

	<b>C1- Productivity, profitability &amp; Eco-sustainable</b>	<b>C2 Piloting Innovation</b>	<b>C3 Financial Inclusion</b>	<b>C4 Sector Coordination</b>
Kano	x		x	x
Kaduna	x		x	x
Ogun		x	x	x
Oyo		x	x	x
Lagos		x		x
Abuja				x



# METHODOLOGY OF MEASURING POLICY IMPACT

The classification of programme stakeholders was derived from the data set provided by the HortiNigeria M&E team and sampling done to 95% confidence level and 5% error margin.

A total of 59,144 individuals, leading to focusing our survey on a sample size of 382 across the stakeholder categories listed below

<b>Stakeholder Category</b>	<b>Component</b>
HortiNigeria Farmer Beneficiaries <i>(Smallholder &amp; Entrepreneurial)</i>	C1, C2 & C4
Agro-input dealerships	C1, C2, C3 & C4
MSMEs – <i>(Agro-logistics, Transporters, Aggregators, processors etc )</i>	C1, C2, C3 & C4
Farmer Support & Extension Organizations	C1, C2, & C4
HortiNigeria Innovation Business Champions	C2
Financial Institutions	C3
FMARD & Policy Makers	C4
HortiNigeria Implementing Team	C1, C2, C3 & C4
HortiNigeria Business Support	C1, C2, C3 & C4
Knowledge Institutes and Research Organizations	C1, C2 & C4

# Results & Impact Analysis

A combination of desk studies, reviews, and key informant interviews with HortiNigeria programme stakeholders highlighted four key policies and systemic shocks that has had the most impact on the implementation and beneficiaries of this programme.

- (I) Fuel Subsidy Removal
- (II) Fiscal Policies - (*Naira devaluation, cashless economy policies & Naira Swap*)
- (III) Border & Import Restrictions
- (IV) Global Supply Chain Disruptions

## Fuel Subsidy Removal.

On May 29th, 2023, the newly inaugurated administration of Nigeria declared the termination of state-funded subsidies for fossil fuels, concluding a policy that had been in place for over fifty years since the 1970s. This significant policy shift ceased the longstanding provision of subsidized fossil fuels to the populace at prices below the market rate.

The scale of global fossil fuel subsidies is considerable, with an estimated \$1 trillion allocated in 2022, a substantial increase from \$325 billion in 2018, according to the International Energy Agency.

This sum not only surpasses the total global aid, which was \$204 billion in 2022, but also the collective government revenues of numerous developing countries. The stark contrast has incited calls for the abolition of such subsidies, with proponents advocating for the redirection of these funds to bolster humanitarian aid for the impoverished and vulnerable in developing nations (*Couharde and Mouhoud, 2020; Ozili and Ozen, 2021*).

In Nigeria, the economic weight of fuel subsidies was pronounced, with the government spending 4 trillion naira within a single year, representing 27% of the national budget. Forecasts for 2023-2024 suggested a potential quadrupling of this figure, as per the Central Bank of Nigeria. The considerable financial burden has led to a consensus among policy analysts that the savings from the subsidy removal should be reinvested into national development projects, particularly those facilitating post-pandemic recovery. Additionally, the endemic corruption associated with the subsidy regime has been criticized, with suggestions that it served as a channel for the misappropriation of national funds.

Moreover, the circulation of subsidized Nigerian petrol in the black markets of adjacent countries, owing to its relatively lower cost, has reinforced the government's justification for the subsidy's elimination. This measure is intended to curb cross-border fuel trafficking and to reallocate resources towards more impactful economic sectors.

The discontinuation of fuel subsidies has notably affected Nigeria's horticulture industry. Escalating fuel prices have resulted in increased transportation costs for both the delivery of horticultural products to markets and the procurement of inputs, thereby elevating the overall production costs. This development has compromised the affordability and profitability of vegetable farming, potentially shifting dietary preferences towards more calorie-dense foods and diminishing vegetable consumption. Furthermore, the heightened expenses for fuel-dependent machinery and irrigation systems have imposed additional financial pressures on farmers. This study delves into these challenges, merging farmer perspectives with essential quantitative data to explore alternative, sustainable agricultural practices within the sector.

# Results & Impact Analysis

## Fiscal Policies - Naira devaluation, Cashless policy & Naira swap .

Since 2023, Nigeria has pursued a series of fiscal policy reforms to bolster economic stability and growth. The Fiscal Policy Measures 2023 (FPM 2023), effective from May 1, 2023, have replaced the previous year's policies. These measures include the adoption of Supplementary Protection Measures (SPM) for the ECOWAS Common External Tariff (CET), amendments to the Import Prohibition List (IPL) affecting non-ECOWAS goods, adjustments in excise duties, the introduction of Green Taxes, and reduced import duties for verified manufacturers.

Under President Bola Tinubu's administration, significant economic reforms were undertaken, including the devaluation of the Naira. The Central Bank of Nigeria (CBN) removed key currency restrictions, leading to a substantial devaluation and the unification of exchange rates. According to a PricewaterhouseCoopers (PwC) report, these policies resulted in a 98% depreciation of the Naira between May and December 2023.

The data from our study shows that the devaluation has notably impacted Nigeria's horticultural sector, increasing the cost of imported goods such as seeds, biological pest control, irrigation equipment, fertilizers, and pesticides. This has led to a substitution effect, with consumers and businesses opting for locally produced horticultural input due to the higher cost of imports with marked reduction in yields and productivity. The sector's access to credit has also been affected, as rising inflation led to increased interest rates for a sector that was already low in financial inclusivity indexes, making loans more costly for farmers and businesses. The overall economic pressure from devaluation, including potential inflation and reduced purchasing power, in the long term could decrease domestic demand for horticultural products.

The Central Bank of Nigeria (CBN) has been advocating for a cashless economy since December 2011, with significant momentum gained in 2023, coinciding with the naira swap policy implemented just before the February 2023 elections. This strategic push aims to diminish the volume of physical cash in circulation, fostering the use of electronic transactions. Additionally, it serves to combat electoral malpractices such as vote buying by minimizing cash-based transactions. These fiscal policies have indirectly influenced the horticulture sector as revealed from the data from our sample population for this study. The transition to digital payments has affected market transactions and the financial operations of horticultural MSMEs. The implementing lead for the Sector Coordination and B2B linkages for the HortiNigeria programme highlighted the challenges in brokering transactions for farmers and off-takers, resulting to product dumping due to lack of cash to settle operational costs like harvesting labour and transportation fares to aggregators. This impact of the transitions particularly during the naira swap on vegetable farmers was dramatic as majority of that demographic already had little access to formal financial services. The fiscal policy effects on the overall investment landscape and socio-economic profile of vegetable farming business is explored further in this analysis.

# Results & Impact Analysis

## Border and Import Restriction Policies

The Nigerian government's border and import restrictions on agricultural inputs and food are designed to decrease reliance on imports and bolster domestic agricultural production. These policies underscore the nation's goal of achieving self-sufficiency in food production and potentially becoming a food export leader. Restrictions include limited access to foreign exchange and special tariffs on select crops and value chains targeted for local development, aligning with the National Agricultural Technology and Innovation Policy (2021-2025). This policy seeks to enhance food production through land reform, accessible financing, subsidized inputs, research, mechanization, and extension services, with a focus on dairy, grains, and tomatoes.

As part of Nigeria's import substitution strategy, these measures aim to strengthen the agricultural sector's ability to satisfy domestic demand and mitigate the economic burden of food imports. However, in October 2023, the Central Bank of Nigeria (CBN) relaxed foreign exchange restrictions for 43 items, including various food and agricultural products, in response to escalating local food prices and hyperinflation. This policy reversal notably impacted the tomato value chain, which had been protected by a 2017 policy banning tomato paste imports to encourage local production and limiting the importation of foreign blended fertilizers used in horticulture.

This analysis not only assesses the immediate effects of this policy shift but also examines its long-term implications for the investment climate within the horticultural sector.

## Global Supply Chain Disruptions

The HortiNigeria program has faced a series of systemic shocks that for the purpose of this study we have termed the global supply chain disruption, affecting various aspects of horticultural production. These disruptions, stemming from the post-Covid-19 pandemic recovery, the Ukraine-Russia conflict, and political instability in the Sahel region, particularly Niger, have had a measurable impact on the program. The reliance on international partners for critical horticultural inputs such as seeds, irrigation, and crop protection has been challenged by these events.

In Northern Nigeria, the adoption of innovation has been low, resulting in a minimal impact on vegetable farming activities, except for increased fertilizer costs. Conversely, the Southern regions experienced a more pronounced negative effect due to their focus on innovations dependent on efficient global supply chains.

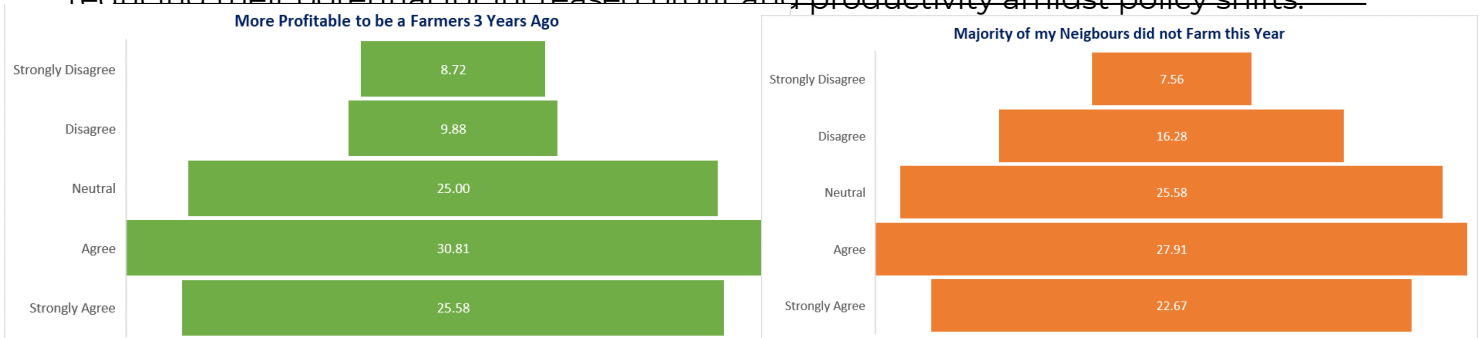
Nigeria's primary source of Muriate of Potash (MOP) fertilizer is Russia. The sanctions imposed during the Russia-Ukraine conflict have led to significant supply chain disruptions. A notable example includes 34,000 metric tons of Russian fertilizer intended for Nigeria being detained at European Union (EU) ports (Premium Times 23Sept 2023). These interruptions have critically affected the availability and cost of fertilizers in Nigeria, with consequential impacts on the agricultural sector, including horticulture. This analysis seeks to understand the broader implications of these disruptions on the investment landscape and the resilience of the horticultural sector.

# Results & Impact Analysis

## Economic repercussion on horticultural development.

Nigeria's horticultural sector has seen significant growth over the last ten years (C. Plaisier et al WUR *The Vegetable and Potato Sector Overview*), driven by the global trend towards plant-based diets, supportive initiatives such as the 2017 national tomato policy, concerted efforts from organizations like EKN, and the emergence of new agribusiness professionals who view vegetable farming as a viable entry point into the local food market due to its low investment and minimal land needs. The assessment revealed a significant downturn in Nigeria's horticultural sector growth in 2023, attributed to policy changes and systemic shocks. Notably, over half the surveyed farmers reported higher profitability in 2021. The removal of fuel subsidies and global supply chain disruptions were pinpointed as the primary obstacles, leading to escalated input costs, severe inflation, and diminished purchasing power for farmers, further compounded by the aftermath of the pandemic and the Ukraine-Russia conflict. The value chain experienced uneven shortages and surpluses, impacting consumer behaviour. The Chairman of Mile 12 market in Lagos noted decreased footfall due to inflation, which strained restaurants, hotels, and local markets. Rising diesel and petrol costs curtailed the distribution of horticultural goods, with transport costs from Kano to Lagos soaring by 300%. Consequently, farmers sought local markets and altered their crops, with Northern farmers turning to grains for sustenance and Southern farmers increasing vegetable production to offset the deficits.

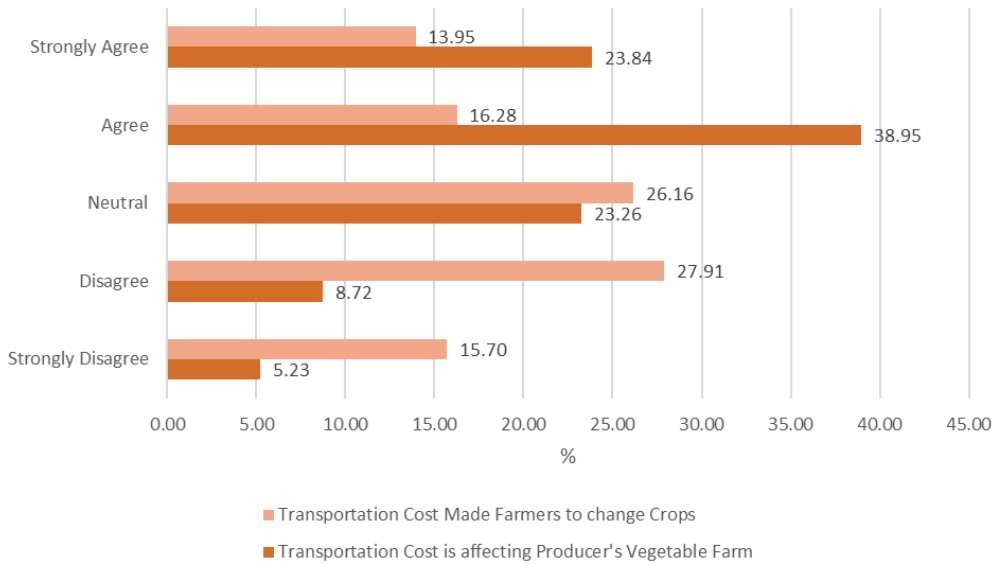
The HortiNigeria programme's implementation faced challenges, due to the removal of fuel subsidies which hindered farmers' participation in training sessions. Despite this, the majority reported that the technical assistance provided significantly enhanced their agricultural skills in vegetable farming and equipped them to tackle climate-related issues. These factors have significantly impacted vegetable farmers and the overall sector, challenging their sustainability and greatly reducing their potential for increased profit and productivity amidst policy shifts.



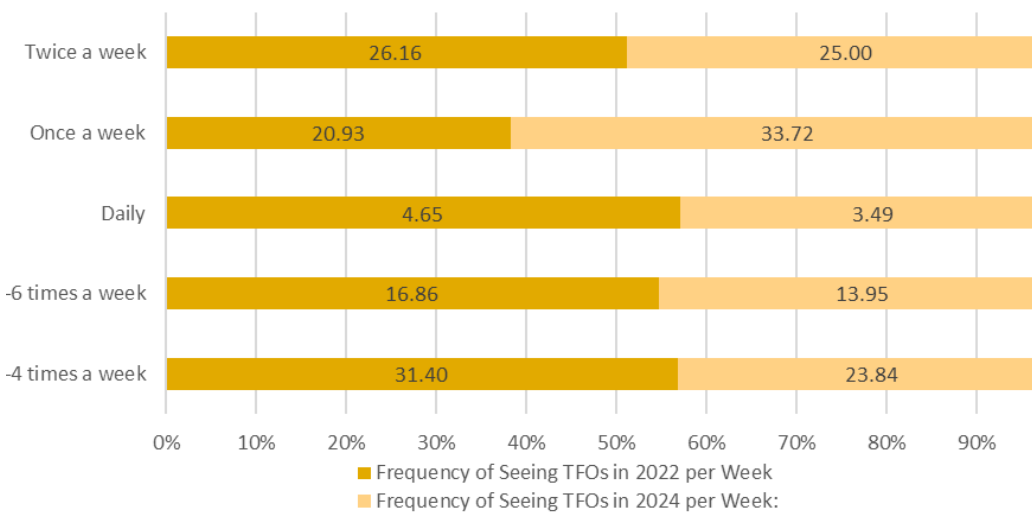
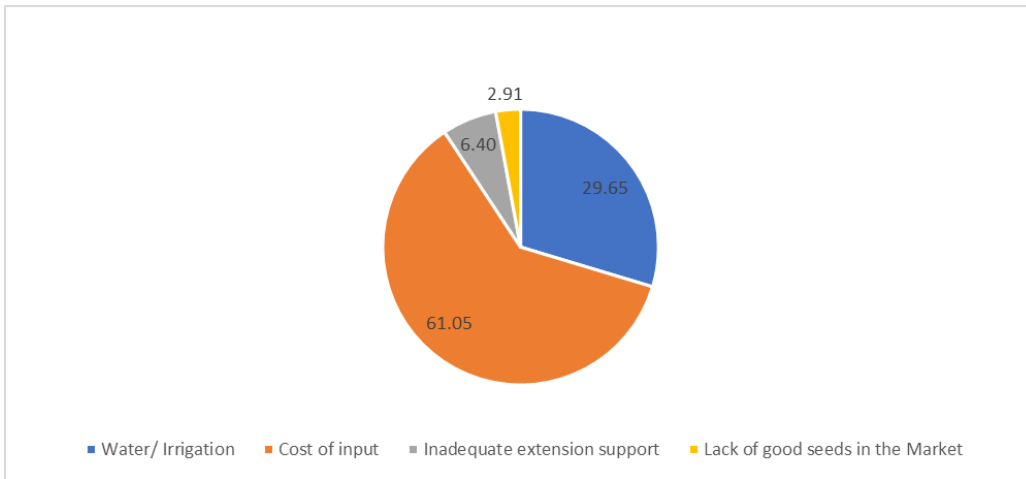
**300%**

*Increase in cost of transportation from Kano to Lagos Mile 12 Market*

### Effects of Transportation Costs on Vegetable Farming



### Vegetable Farmers' Perspectives on the Major Factors Limiting Crop Production



# Results & Impact Analysis

## Socio-economic ramifications on beneficiaries and sector

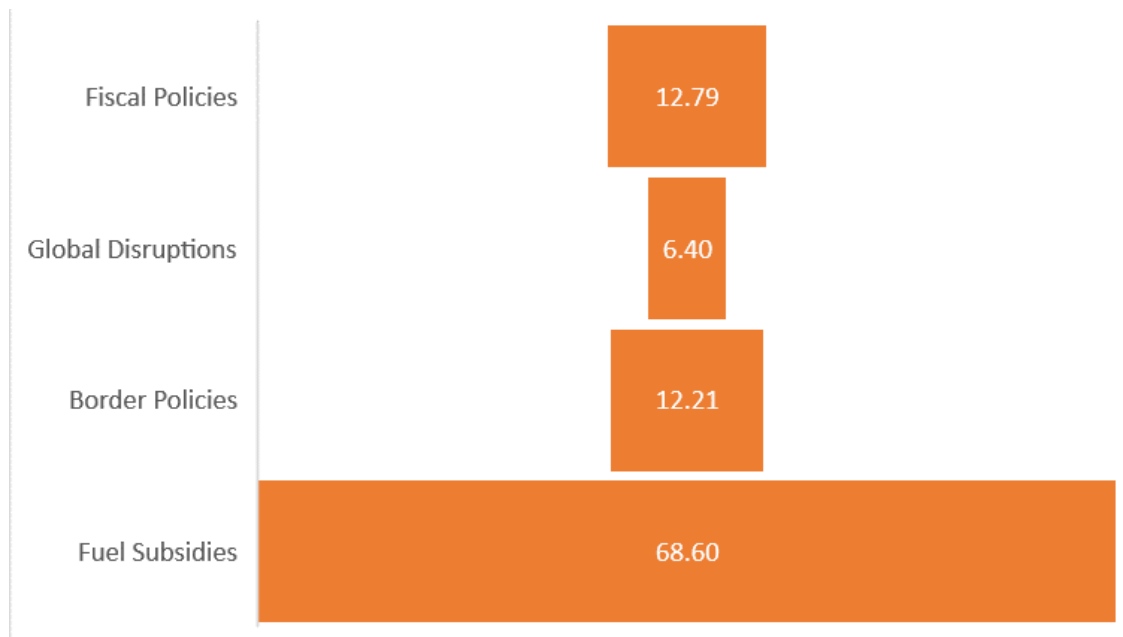
The socio-economic landscape of Nigeria's horticultural sector is diverse, with smallholder farming led by men in the North and a more entrepreneurial spirit with increased female participation in the Southwest. Typically, vegetable farmers are aged 41-60, with extensive families, and operate on small family-owned or rented plots near water sources in the North's horticultural hubs. Most possess secondary education and have 10-15 years of experience. The HortiNigeria programme has successfully fostered gender balance and youth inclusion among its beneficiaries. However, the sector still grapples with challenges such as inadequate pest and disease management, poor storage, post-harvest losses, limited credit access, high input costs, insufficient irrigation knowledge, transportation issues, and lack of extension services. The HortiNigeria consortium's strategy has been to address these issues to enhance the income and livelihoods of those involved in vegetable production through technical support, fostering a conducive environment, and encouraging sector investment.

Recent policy shifts, including fuel subsidy removal, fiscal changes, border constraints, and global supply chain disruptions, have adversely affected the sector's socio-economic advancement. Notably, 68.6% of study participants identified the fuel subsidy removal as the most detrimental factor. This has also impacted labor availability at the farm level, hindering employment creation. The naira swap policy precipitated a liquidity crisis, severely affecting smallholder farmers. For example, farmers in Kaduna, part of the Tomato Jos processing plant's outgrower scheme, struggled with logistics due to cash shortages, leading to significant produce losses. Similar situations occurred in Oyo State, where agro-dealers faced reduced patronage, and in Kano State, where produce prices plummeted by up to 70%. Cash transfers failed to mitigate these issues, as exploitative POS terminal charges further reduced farmers' earnings. While larger corporations can manage inventory, smallholders in rural areas bear the brunt, selling at lower prices to sustain themselves. The cumulative adverse effect on the livelihoods of HortiNigeria's beneficiary farmers is estimated at fifty million naira.

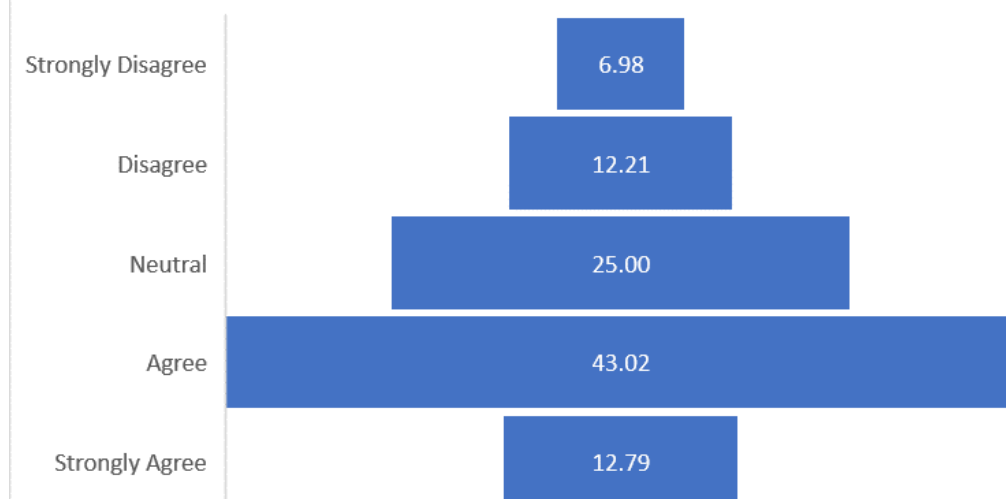
**70%**

*Crash in price of horticultural produce due to the naira cash swap policy in February 2023*

# Data and charts highlighting the impact of policies on socio-economic profile of beneficiaries



## Harder to find Farm Inputs this Year than Before

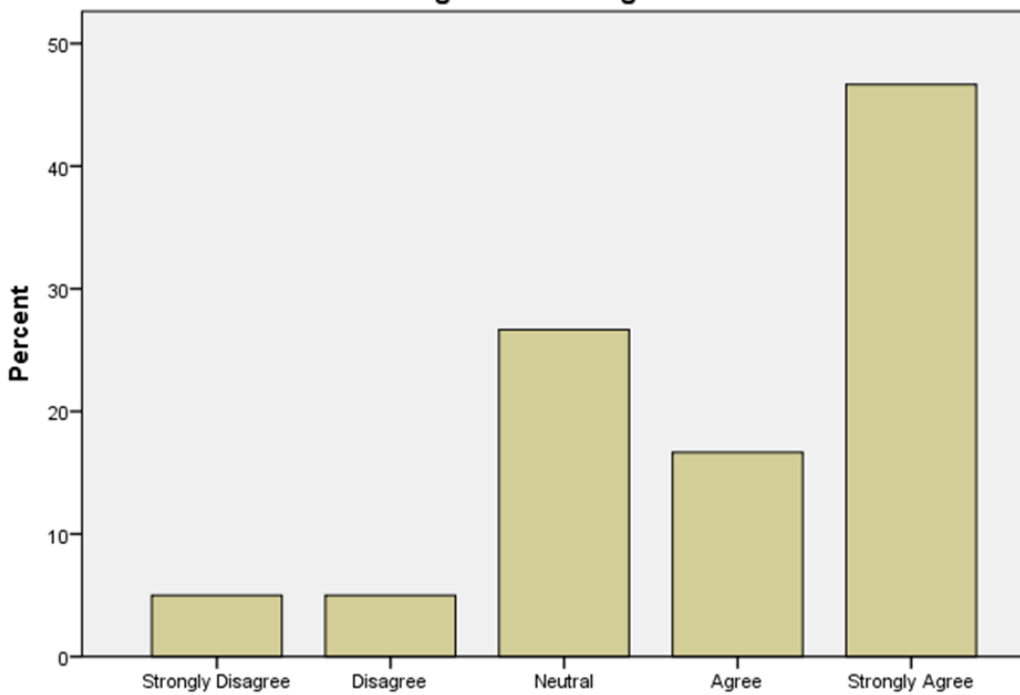


**2.54Ha**

*Average Increase in Sustainable farming land per farmer in South-West compared to 2021*



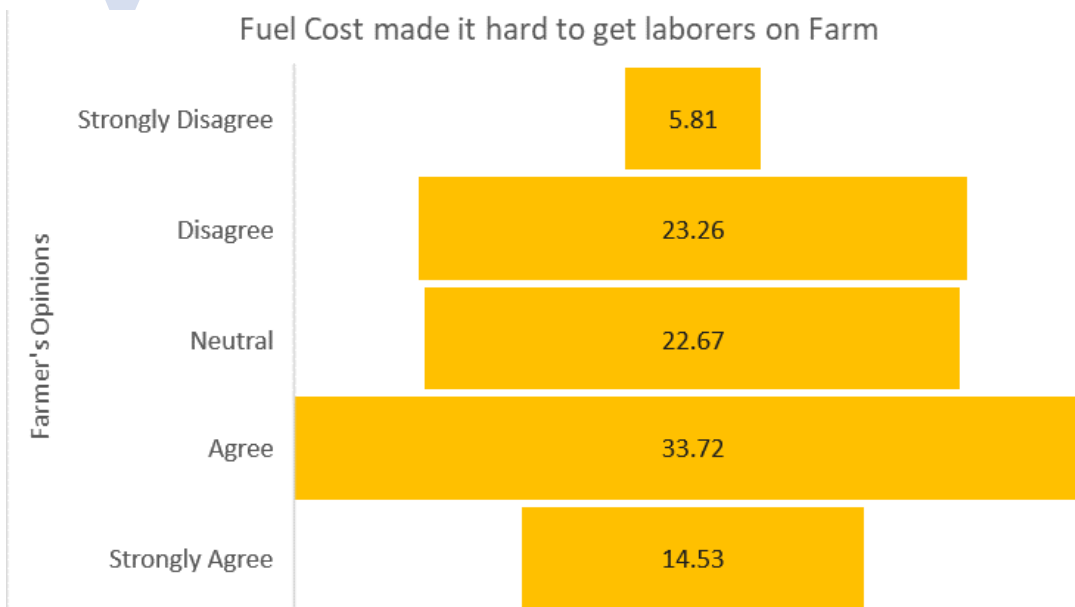
Perspective on the idea that cashless policy and currency swap have affected beneficiaries' ability to invest in vegetable farming



67%

*Of HortINigeria farmers experienced increased yields due to technical assistance offered.*

Fuel Cost made it hard to get laborers on Farm

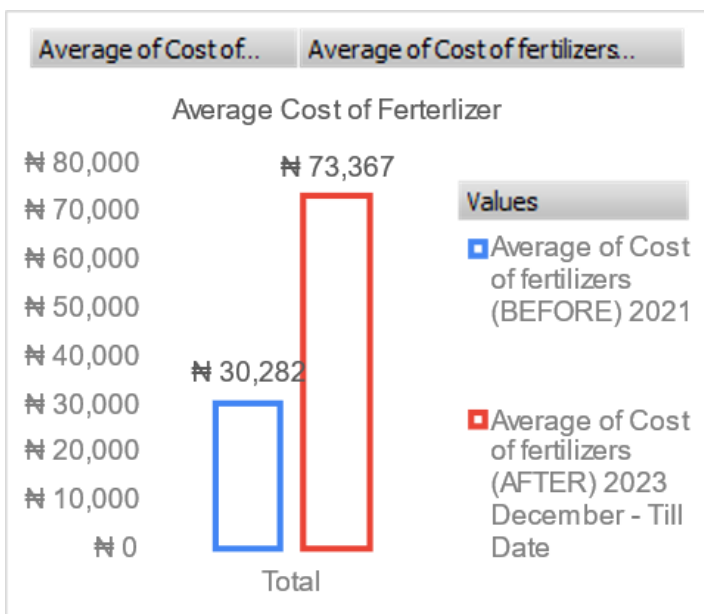


Key findings of policy impacts on socio-economic profile of HortiNigeria beneficiaries and programme implementation were:

- Technical support offered by HortiNigeria provided higher profitability and increase in sustainable land use amongst farmers
- Fuel subsidy removal is still the key factor affecting the socio economic improvement of the sector.
- Fiscal policies of the Central Bank of Nigeria caused deep damage to the profitability and the ability to re-invest into vegetable farming.

# Results & Impact Analysis

## Trends in production costs & returns in horticultural investments

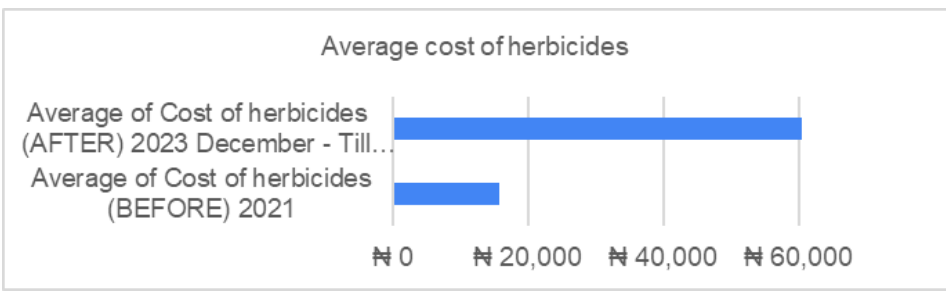


**8/10**

Entrepreneurial farmers believe removing border restrictions on horticultural fertilizers would improve the sector

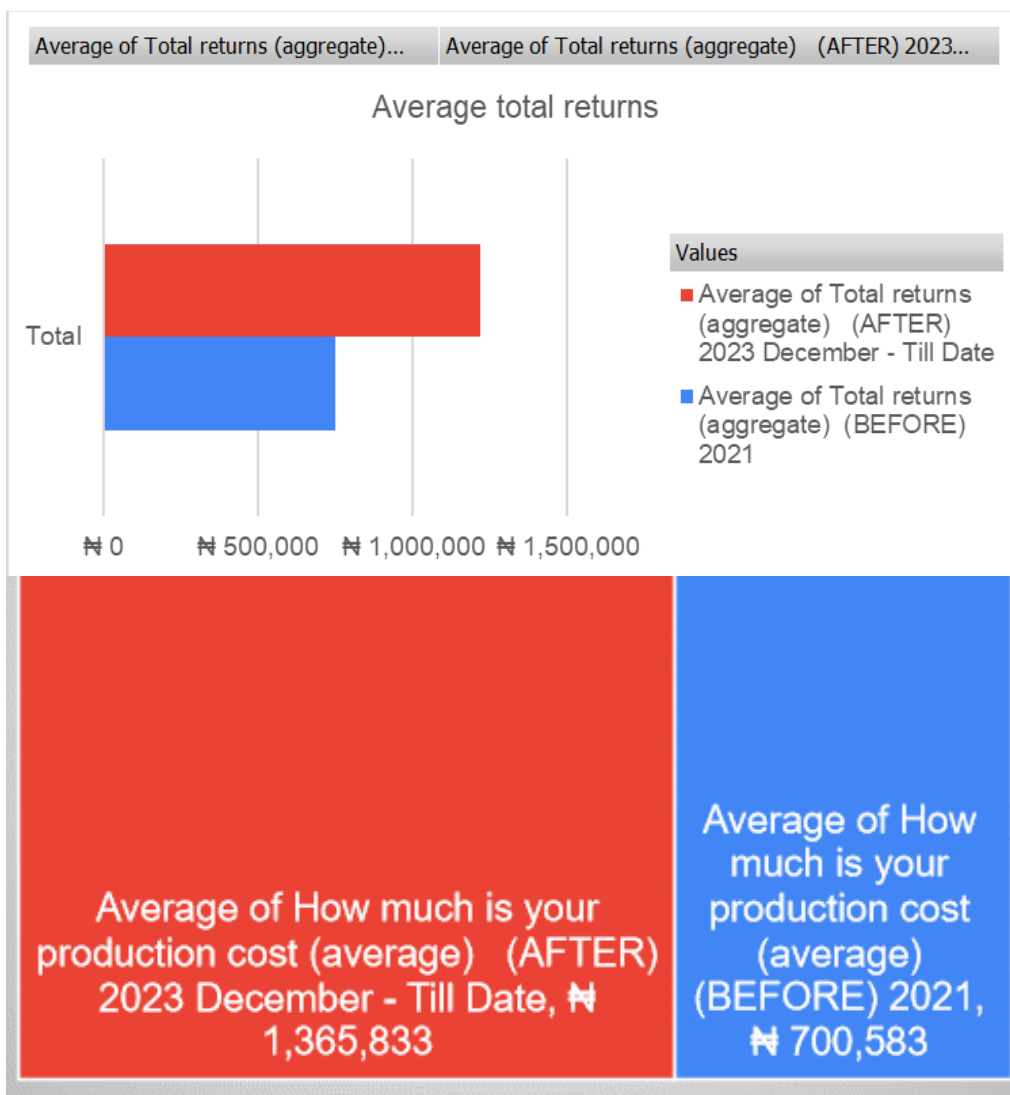
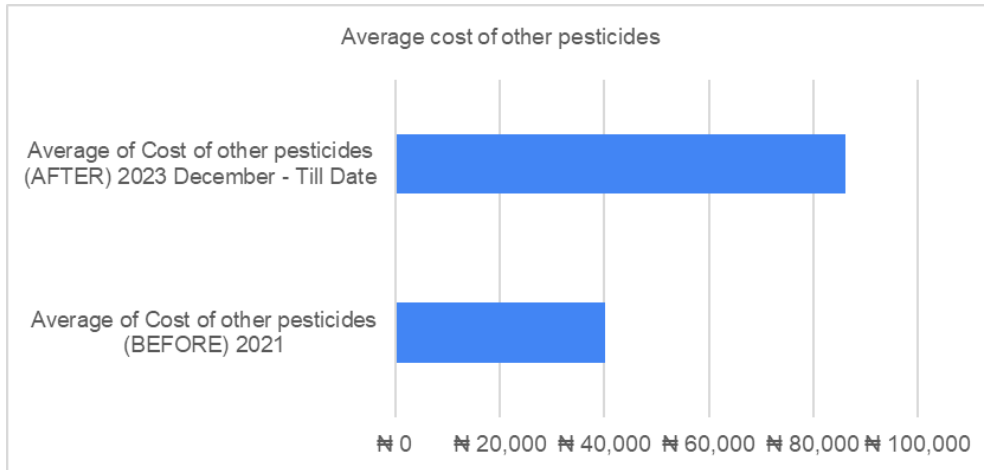
**30%**

Agro-input dealers struggling to break even due to Naira devaluation



**313%** *Increase in farmer investments in hybrid vegetable seeds*

# Trends In Horticultural Production Costs



**210%**

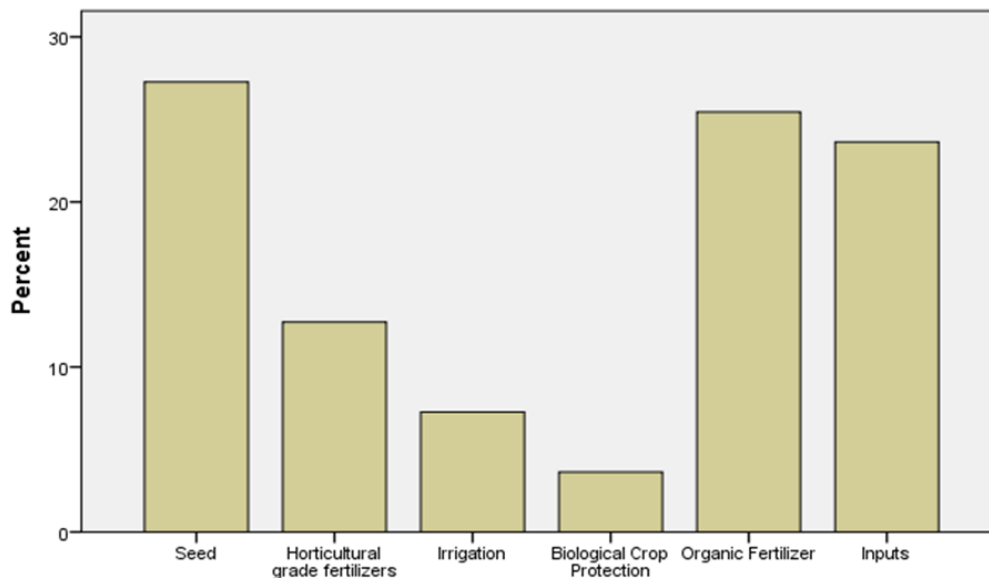
*Increase in irrigation costs. Vegetable farmers are spending N49,822 more on fossil fuels for rrigation In 2023 than in 2021.*

# Results & Impact Analysis

## Trends in production costs & returns in horticultural investments

The success of horticultural production hinges on the quality of inputs and expertise. Recent policy shifts and global events, notably the Ukraine-Russia conflict, have severely disrupted the supply chain, affecting the availability and cost of quality fertilizers in Nigeria. Specifically, the price of Muriate of Potash (MOP)—a key component of NPK fertilizer—escalated from N18,000 to N40,000 per 50kg bag between February 2021 and December 2023. This surge has significantly impacted the production costs for crops like tomatoes and peppers, essential to the HortiNigeria program. This study reveals a 142% hike in fertilizer expenditure by vegetable farmers in 2023 compared to 2021, a rise not mirrored by the selling prices of major crops, which increased by no more than 25%. For instance, tomato prices ranged from N50-N70 per kg in the 2021 dry season to N80 per kg in the 2023 dry season, with a marked increase during wet seasons. Consequently, the production costs for tomatoes and peppers rose by 45% and 55%, respectively. In contrast, onion production costs remained stable due to reliance on farmer-saved seeds and open-pollinated varieties (OPVs), with minimal fertilizer usage. The absence of hybrid seed and fertilizer expenses, which soared by 313%, allowed onion farmers to maintain consistent production costs, predominantly influenced by labour and irrigation expenses.

### Horticultural Inputs negatively affected by Border restriction policies



The increase in production costs for horticultural crops particularly amongst the beneficiaries of the programme would negatively affect the rate of adopting technologies piloted during the programme, if financing options and start up grants are not offered to Horti SMES and farmers. The productivity increase is well documented across all the demonstration and piloting fields of the programme indicative of the effectiveness of the technologies and the capacity of the beneficiaries.

# Results & Impact Analysis

## Stimulating Investment & Financial Inclusion in Horticulture

The financial inclusion initiative of the program is designed with specific KPIs to enhance beneficiaries' access to financing and improve their financial literacy. This empowers them to effectively utilize financial services and tools, boosting their profitability and livelihoods. The program emphasizes investment readiness, focusing on better record-keeping and audited financial statements. Training and capacity-building activities are conducted along the value chain to address the unique challenges of the horticultural sector.

The lead of the HortiNigeria program's financial inclusion component disclosed that the initiative has provided financial literacy training to 122 horticultural MSMEs, with 29 businesses receiving assistance in developing business plans and investment-ready proposals using the business canvas model.

Attracting private sector investment to Nigeria's horticultural sector has been challenging due to the naira's devaluation and the economy's forex crunch. This has led to complex negotiations and repeated renegotiations.

HortiNigeria has engaged with market stakeholders, such as Mile 12 market traders and the National Crate Association, for post-harvest agro-logistics investments, although these discussions have been hindered by fiscal policy shocks.

Financing vegetable farmers has become increasingly complex due to the fuel subsidy's impact and the country's economic downturn, which have diminished farmers' purchasing power and profits. The shift towards a cashless economy and the cash swap policy have further affected smallholder farmers, particularly those without formal bank accounts in rural areas. The widespread use of POS terminals has also fragmented their financial histories and imposed additional costs on their narrow profit margins. Financial institutions' reliance on historical data for financing evaluations has been a challenge for these farmers. The study also found that insurance is underutilized in the vegetable business, both in primary production and agro-logistics.

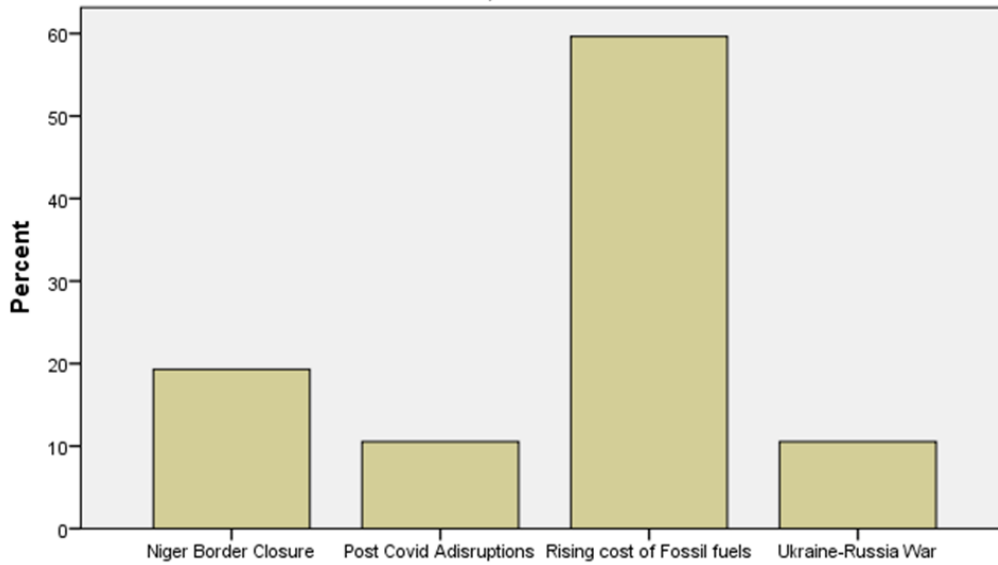
Some observed impacts of other systemic shocks on the financial inclusion component implementation.

- Border re-opening for tomato pastes affects the ability to attract investment into its primary production as its cheaper in other regional markets particularly from China.
- Creation of direct jobs affected by fuel subsidy due to lowered investment into production.
- Global disruption of supply chain has direct impact on mobilization of finance for agro-inputs. companies.

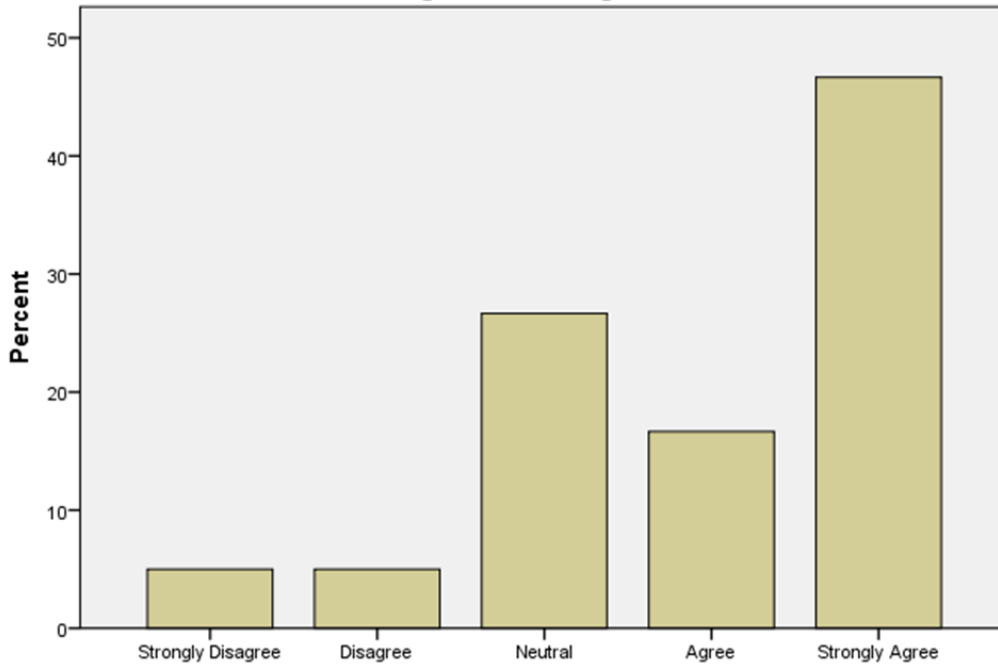
# Results & Impact Analysis

## Stimulating Investment & Financial Inclusion in Horticulture

### Shocks with the biggest impact on HortiNigeria beneficiaries' businesses

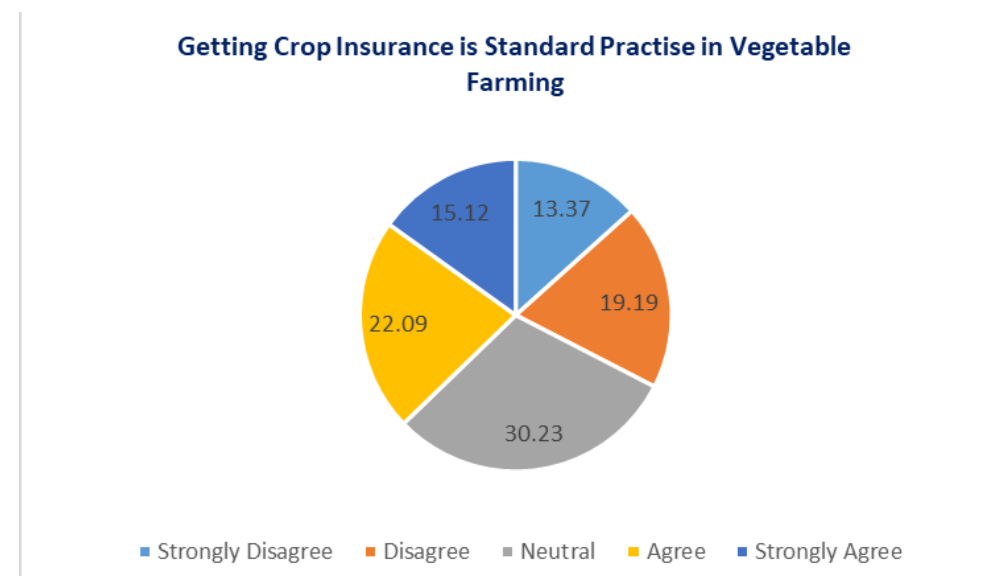
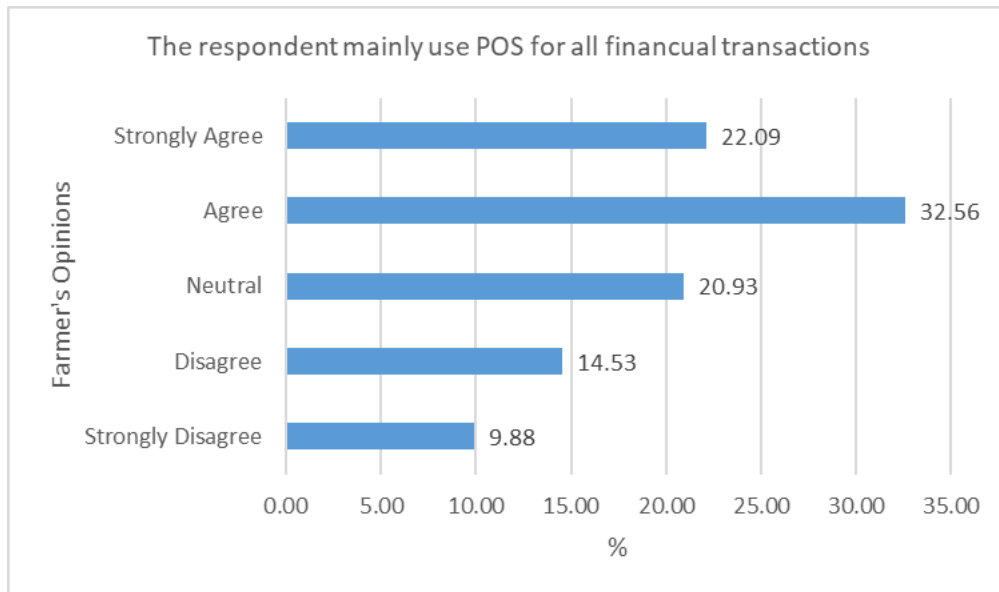


### Cashless policy and currency swap have affected beneficiaries' ability to invest in vegetable farming



# Results & Impact Analysis

## Stimulating Investment & Financial Inclusion in Horticulture

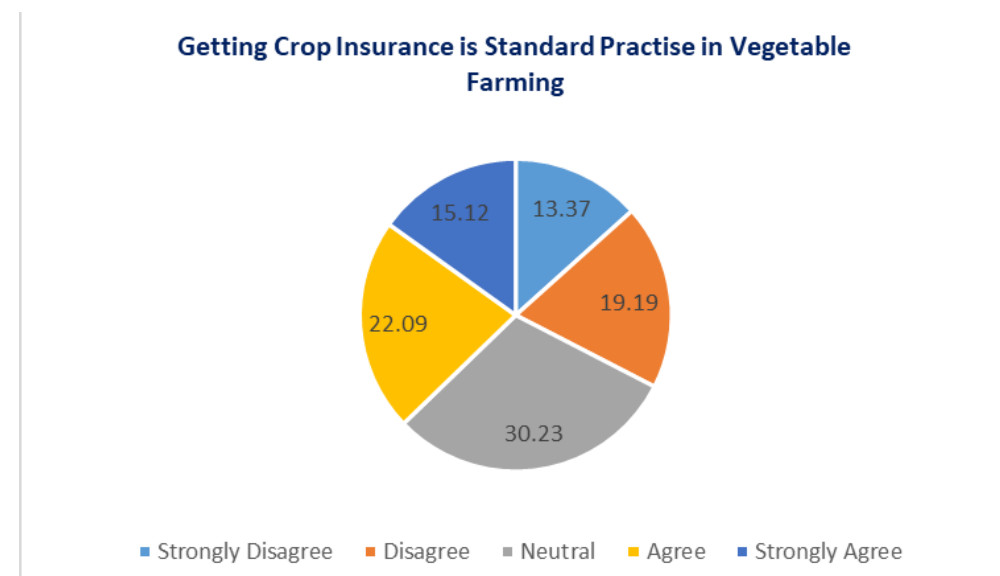
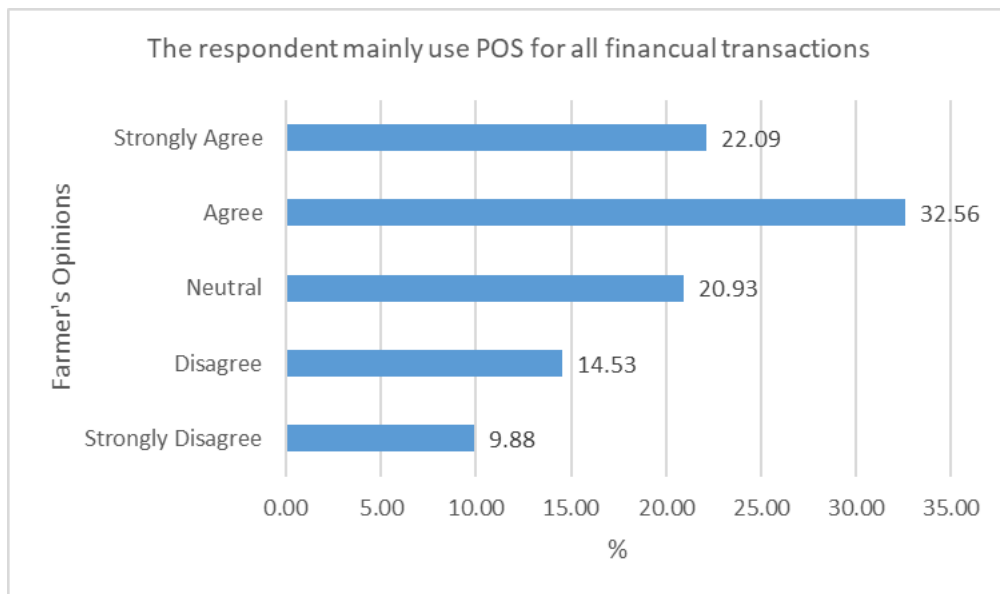


Some observed impacts of other systemic shocks on the financial inclusion component implementation.

- Border re-opening for tomato pastes affects the ability to attract investment into its primary production as its cheaper in other regional markets particularly from China.
- Creation of direct jobs affected by fuel subsidy due to lowered investment into production.
- Global disruption of supply chain has direct impact on mobilization of finance for agro-inputs. companies.

# Results & Impact Analysis

## Stimulating Investment & Financial Inclusion in Horticulture



Some observed impacts of other systemic shocks on the financial inclusion component implementation.

- Border re-opening for tomato pastes affects the ability to attract investment into its primary production as its cheaper in other regional markets particularly from China.
- Creation of direct jobs affected by fuel subsidy due to lowered investment into production.
- Global disruption of supply chain has direct impact on mobilization of finance for agro-inputs. companies.



# Results & Impact Analysis

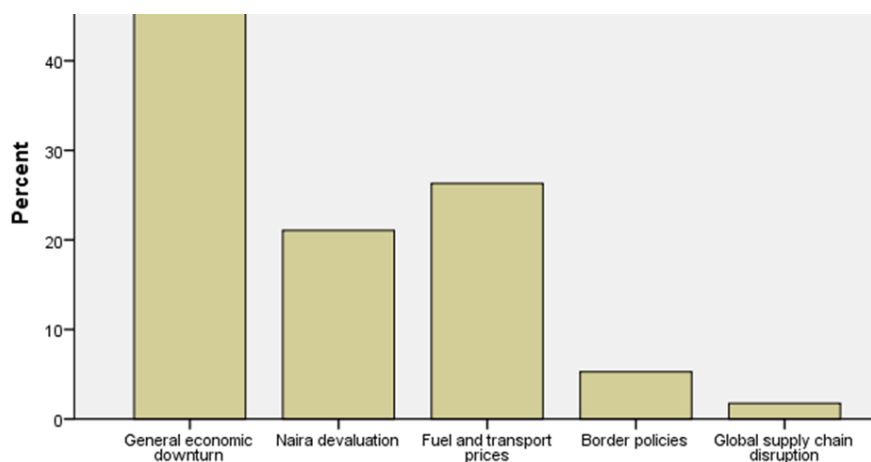
## Impact on Sector Coordination & Sustainability

The HortiNigeria programme's sector coordination component aims to drive systemic change through policy advocacy and inter-component linkages. Economic growth is pursued by fostering partnerships across the value chain, but fuel subsidy removal has impeded these efforts, as reflected in the KPIs and log-frame. While market linkages have progressed, effective trade requires ongoing interaction, challenged by increased transportation costs.

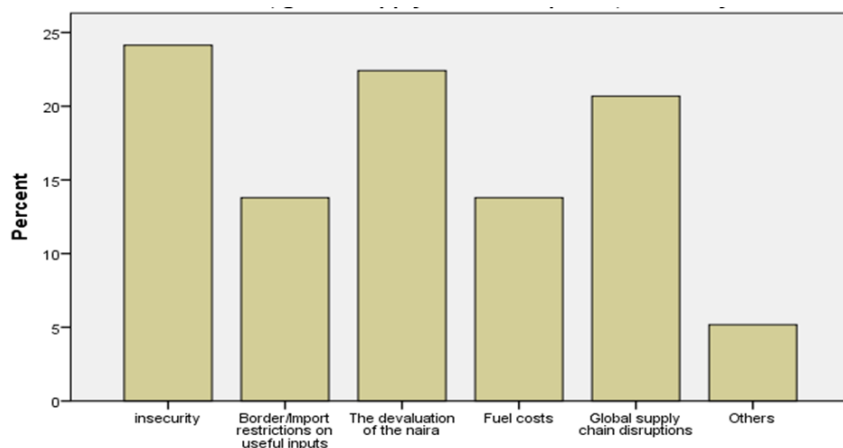
The fuel issue has also disrupted logistics for farmers and hindered stakeholder meetings, affecting initiatives like Tomato Jos's partnership and NIHORT's technical working groups. Border policies and global supply chain issues have further constrained sector coordination, although training of sector professional's implementation has adapted through technology, to reach the target of 100 beneficiaries by mitigating some impacts of transportation costs and fuel subsidy changes. Fiscal policies, including naira swap and currency devaluation, have also hindered partnership formation.

The government's border policies, specifically the relaxation of tariffs on imported tomato paste and the restriction of multi-element fertilizers, have significantly impacted the protected cultivation and soilless farming subsectors. These sectors have been deprived of essential soluble fertilizers that are crucial for enhancing productivity and business growth. Efforts to address these issues have involved multiple engagements with key stakeholders across industry, government, and research institutions to seek viable solutions.

### The primary factors influencing the ability to host regular policy forums and produce white papers



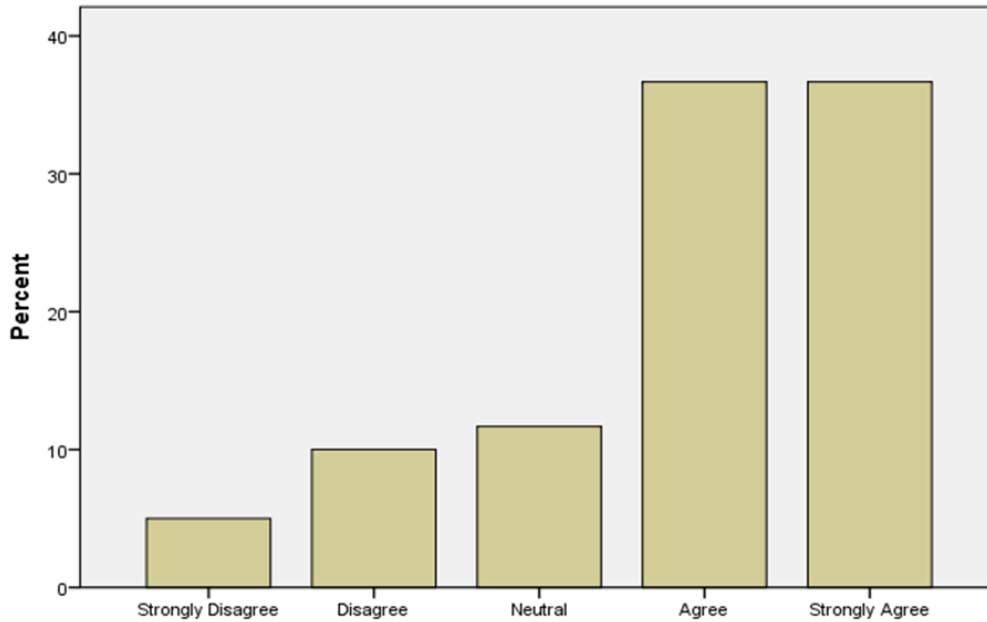
### Biggest challenge for systemic management of Tuta Absoluta crisis in Nigeria



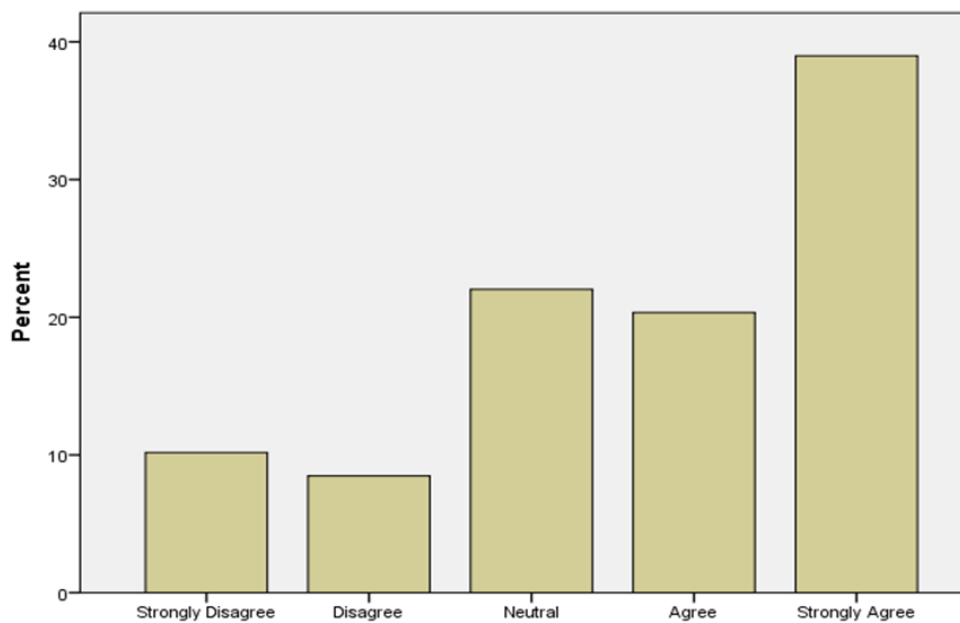
# Results & Impact Analysis

## Impact on Sector Coordination & Sustainability

### Perspective on the Idea that the Synergy Among Policy, Advocacy, and Innovation Within The Hortinigeria Program is Great



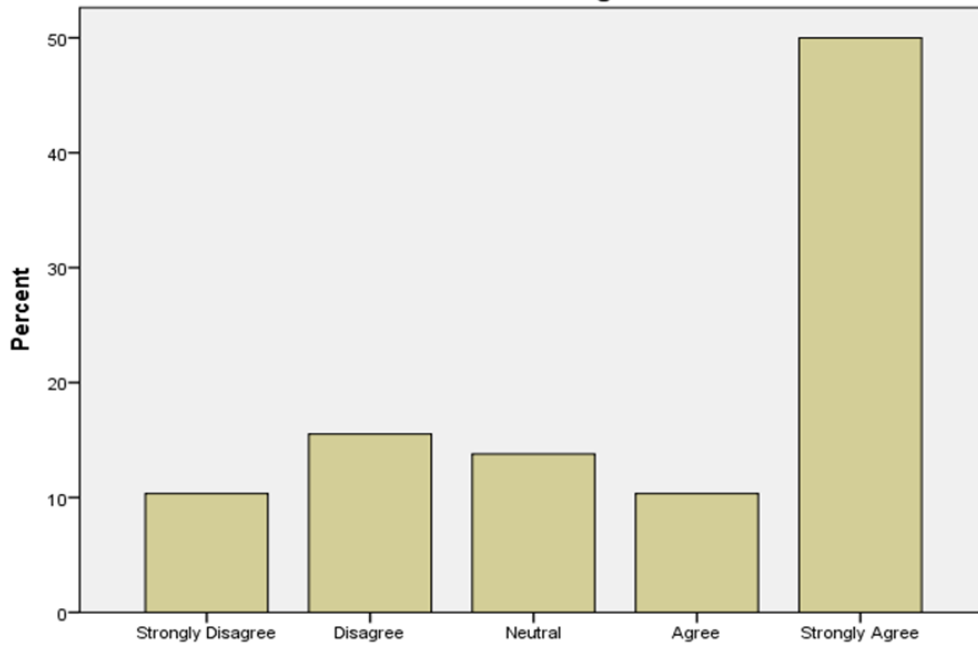
### Perspective on the Idea that Beneficiaries feel well represented by the advocacy activities of HortiNigeria



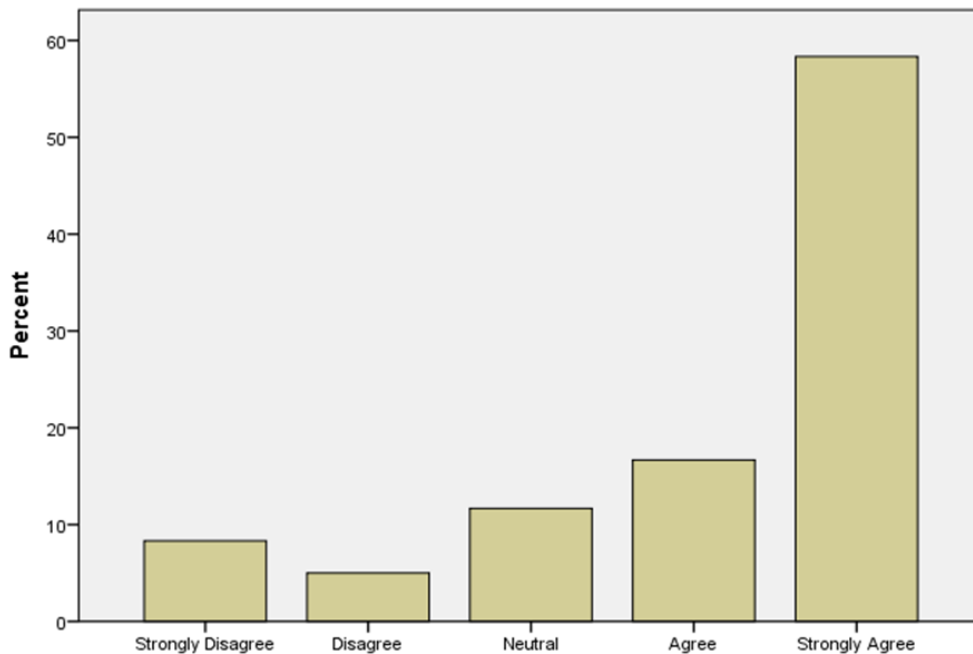
# Results & Impact Analysis

## Impact on Sector Coordination & Sustainability

### Perspective on the Idea that Fixed Contracts are Bad Idea During the Inflation Periods



### Perspective on the idea that beneficiaries wish to participate in more trade fairs and events, but the transportation costs are prohibitive



# Component Alert of Systemic & Policy Shocks

The impact study helped identify key systemic shocks and government policies that have had the most impact on the various components of the HortiNigeria programme. These impacts are measured against each component's deliverables and proposed outcomes as presented in an overview below to provide the deliverables and its effect on these key deliverables. While the overall impacts of policies tend to be cross-cutting, some are impacted much more than others in the context of that policy and the overall HortiNigeria framework.

# Component Alert of Systemic & Policy Shocks

<b>Component 1- Productivity, profitability &amp; Eco-sustainable</b>	
<b>POLICIES &amp; SYSTEMIC SHOCKS IDENTIFIED</b>	<b>KPI &amp; Outcomes Impacted</b>
Fiscal policies -( <i>Naira Redesign &amp; Devaluation of Naira &amp; Cashless economy drive</i> )	(i) Negatively impacts ability to increase productivity of farmers and primary producers (ii) Negatively affects affordability and availability of vegetables leading to higher consumption of vegetables
Border Re-opening for specific import goods	Negatively impacts on investments into primary production of vegetables
Removal of fuel subsidy	(i) Negatively impacts the % yield increase in specific crop production (ii) Improvement of sector professionals and ability to cascade knowledge (iii) Little to no impact on sustainable land use increase amongst beneficiaries
Global Supply Chain Disruptions (Post Covid & Ukraine-Russia War )	(i) Negatively hinders the ability to increase productivity for 60,000 smallholder farmers. (ii) No recorded impact on ability to Increase in sustainable acreage for vegetable production. (iii) Limited impact on % increase in yield of target crops

# Component Alert of Systemic & Policy Shocks

<b>Component 2 - Piloting Innovation &amp; Regional Diversification</b>	
<b>POLICIES &amp; SYSTEMIC SHOCKS IDENTIFIED</b>	<b>KPI &amp; Outcomes Impacted</b>
Fiscal policies -(Naira Redesign & Devaluation of Naira & Cashless economy drive)	-
Border Re-opening for specific import goods	Availability of quality climate smart inputs e.g. fertilizer and irrigation materials
Removal of fuel subsidy	Affects the adoption of new knowledge & technologies.
Global Supply Chain Disruptions (Post Covid & Ukraine-Russia War )	Affects the adoption of new knowledge & technologies.

# Component Alert of Systemic & Policy Shocks

<b>Component 3 - Financial Inclusion</b>	
<b>POLICIES &amp; SYSTEMIC SHOCKS IDENTIFIED</b>	<b>KPI &amp; Outcomes Impacted</b>
Fiscal policies -(Naira Redesign & Devaluation of Naira & Cashless economy drive)	(i) Significantly affects ability to make 50 Horti-SMEs investment ready. (ii) Negatively impact the mobilization of private finance for Horti-SME and Agro-input dealers (iii) Affects increasing profitability of farmers and primary producers
Border Re-opening for specific import goods	Impacts on the ability on to mobilize private finance for Horti-SMEs & Agro-Input businesses
Removal of fuel subsidy	(i) Hinders creation of 1,000 direct jobs (ii) Increased profitability of farmers and primary producers  (iii) Increased profitability of agro-input dealers and Horti SMEs
Global Supply Chain Disruptions (Post Covid & Ukraine-Russia War )	-

# Component Alert of Systemic & Policy Shocks

<b>Component 4 - Sector Coordination &amp; B2B Linkages</b>	
<b>POLICIES &amp; SYSTEMIC SHOCKS IDENTIFIED</b>	<b>KPI &amp; Outcomes Impacted</b>
Fiscal policies -(Naira Redesign & Devaluation of Naira & Cashless economy drive)	(i) Negatively impacts market linkages/off-take agreements (ii) Negatively affects affordability and availability of vegetables leading to higher consumption of vegetables
Border Re-opening for specific import goods	Adversely affects brokering and building partnerships for 200 businesses
Removal of fuel subsidy	Limited impact on major improvement in State and Federal Horti policies
Global Supply Chain Disruptions ( <i>Post Covid &amp; Ukraine-Russia War</i> )	-



# POLICY ANALYSIS MATRIX

## MEASURED IMPACT OF NEW GOVERNMENT POLICIES & SYSTEMIC SHOCKS ON VEGETABLE PRODUCTION COSTS ANALYSIS NIGERIA (2021-2023)

### **Private Costs (PC):**

#### Material Inputs:

The costs of material inputs, including fertilizers, seeds, herbicides, and pesticides, have increased by an average of 137.20%. Fertilizers and herbicides experienced the highest percentage increases at 162.94% and 143.39%, respectively. The significant increases in costs of material inputs indicate higher private costs incurred by vegetable producers. These costs have risen due to factors such as increased prices of inputs and potentially higher transportation costs associated with the removal of fuel subsidies and the impact of global supply chain disruption on vegetable farmers.

#### **Labour:**

Labour costs also witnessed a significant rise, albeit relatively lower compared to material inputs, with an average increase of 81.97%. Labour for the plant support system and trellising of crops saw the highest percentage increase at 165.95%. The rise in labour costs, especially for tasks like land preparation, planting, and harvesting, contributes to increased private costs for vegetable producers. This is directly impacted by the fiscal policies implemented by the government and also the fuel subsidy removal.

#### **Spraying and Irrigation:**

Costs associated with spraying and irrigation activities related to vegetable production have seen a substantial surge, with a staggering average increase of 246.23%. Notably, the cost of fuel for irrigation soared by 271.77%, indicating a substantial impact on production costs. The increase in the cost of fuel for irrigation directly impacts private costs, as it raises the expenses associated with irrigation practices. This study identifies the fuel subsidy removal as the cause of these effect on the HortiNigeria beneficiary's farmer.

#### **Others:**

Other costs, including packing materials, transportation, storage, and commission fees, have also risen significantly by an average of 89.02%. Fuel used for irrigation and storage of produce registered the highest percentage increases at 133.31% and 131.21%, respectively. These costs have further added to the private costs borne by vegetable producers. Border and import restriction policies as well as the fiscal policies of the government all contribute to this measured impact on the vegetable farmers.

#### **Internal Resource Costs (IRC):**

The internal resource costs represent the opportunity costs of resources employed in vegetable production. The significant rise in private costs implies higher internal resource costs for producers as they allocate more resources to production inputs, leaving fewer resources available for other uses or alternative production activities.

#### Effective Rate of Protection (ERP):

The ERP measures the effective protection provided to the agricultural sector. In this case, the removal of fuel subsidies may have inadvertently exposed vegetable producers to higher input costs, reducing the effective protection afforded to them. Higher input costs, particularly for fuel-intensive activities like irrigation, imply a negative ERP, indicating a decrease in protection for vegetable producers.

# POLICY ANALYSIS MATRIX

## MEASURED IMPACT OF NEW GOVERNMENT POLICIES & SYSTEMIC SHOCKS ON VEGETABLE PRODUCTION COSTS ANALYSIS NIGERIA (2021-2023)

### **Private Profitability (PP):**

The gross margin experienced a significant decline from 144,328.98 N/HA profit in 2021 to a loss of (112,421.06) N/HA in 2023. This suggests that the increase in costs has outpaced the revenue growth, resulting in negative profitability. The negative gross margin (GM) observed in the results indicates a decline in private profitability for vegetable producers. The surge in production costs, coupled with a relatively modest increase in revenue, has resulted in negative private profitability. Negative private profitability suggests that producers are unable to cover their costs of production, posing financial challenges and potentially threatening the viability of vegetable farming operations in Northern Nigeria.

### **Social Profitability (SP):**

The social profitability considers the broader welfare implications of agricultural production. The negative private profitability suggests that social profitability may also be compromised, as producers struggle to generate income and sustain their livelihoods. Additionally, the decline in profitability may affect employment opportunities, rural development, and food security, thereby impacting the overall welfare of communities reliant on vegetable production in Northern Nigeria. In context of HortiNigeria, this also causes a negative impact on the gender and youth engagement with the sector.

In summary, the new government policies in tandem with a plethora of other systemic shocks has led to a substantial increase in production costs for vegetable producers taking part in the HortNigeria programme resulting in negative private profitability and potentially adverse welfare implications. Policy interventions to mitigate the impact of cost increases, such as targeted subsidies or support for alternative energy sources, may be necessary to sustain the viability and social welfare benefits of vegetable farming in the country.

# POLICY ANALYSIS MATRIX

## MEASURED IMPACT OF NEW GOVERNMENT POLICIES & SYSTEMIC SHOCKS ON VEGETABLE PRODUCTION COSTS ANALYSIS NIGERIA (2021-2023)

Impact of New Government Policies on Vegetable Production Costs: Analysis for Nigeria (2021-2023)

SNO	Factors of Production	Cost (N/HA)		
		2021	2023	% Change
<b>A. Material Inputs</b>				
1	Fertilizer	144,812.55	380,772.58	162.94
2	Seeds	58,283.18	107,724.32	84.83
3	Herbicides	11,321.27	27,554.69	143.39
4	Pesticides	10,032.96	16,346.93	62.93
	<b>Sub-Total A</b>	<b>224,449.96</b>	<b>532,398.52</b>	<b>137.20</b>
<b>B. Labour</b>				
5	Labour for land clearing & installations	26,792.25	44,638.43	66.61
6	Labour for raising nursery	7,187.90	16,319.24	127.04
7	Labour for land preparation	33,319.67	57,610.78	72.90
8	Labour for plant support system ( staking, trellising etc)	13,739.13	36,538.80	165.95
9	Labour for planting/Transplanting	19,166.02	35,187.17	83.59
10	Labour for fertilizer application	19,199.85	30,736.42	60.09
11	labour for weeding (aggregate)	28,292.99	48,077.13	69.93
12	Labour for harvesting	47,393.38	85,900.52	81.25
	<b>Sub Total B</b>	<b>195,091.19</b>	<b>355,008.49</b>	<b>81.97</b>
<b>C Spraying and Irrigation</b>				
13	Vegetable Spraying	5,277.77	11,228.26	112.75
14	Fuel used for vegetable irrigation	27,579.64	102,533.35	271.77
	<b>Sub Total C</b>	<b>32,857.41</b>	<b>113,761.61</b>	<b>246.23</b>
<b>D Others</b>				
15	Packing materials (non-reusable)	16,737.22	24,611.51	47.05
16	Transportation of harvest to aggregation centers /Sales point	13,369.47	24,376.76	82.33
17	Transportation for agro-input van (seeds, fertilizer and crop protection)	5,300.26	12,254.65	131.21
18	Storage of produce and harvested crop	14,346.59	33,471.68	133.31
19	Commission fees, market levy, road taxes+ any other marking costs	3,136.01	5,255.95	67.60
	<b>Sub Total D</b>	<b>52,889.54</b>	<b>99,970.53</b>	<b>89.02</b>
	<b>TVC</b>	<b>505,288.09</b>	<b>1,101,139.14</b>	<b>117.92</b>
	<b>TR</b>	<b>649,617.07</b>	<b>988,718.08</b>	<b>52.20</b>
	<b>GM</b>	<b>144,328.98</b>	<b>(112,421.06)</b>	<b>-177.89</b>

Source: HortiNigeria Field Survey 2024

# ACTIONABLE RECOMMENDATIONS

The program has demonstrated commendable early achievements, adhering to its projected timelines in the face of economic adversities. The provision of robust technical assistance, meticulously customized to meet the unique requirements of the beneficiaries, has significantly bolstered their resilience. Observations across various program sites reveal a notable capacity among participants to not only augment production but also to realize vegetable crop yields that markedly surpass prevailing market productivity standards, notwithstanding the challenges of escalating production costs and diminishing profit margins. Moving forward, the strategic focus will pivot towards the amplification of market-ready innovations and the enhancement of operational efficiencies for primary producers and SMEs within the program's ecosystem, with a broader vision of impacting the larger market landscape..

The following are some actionable recommendations developed with inputs curated from key informant interviews with multiple stakeholders and subject matter experts in the industry during the study.

## 01 Deploy tech enabled platform for knowledge & information sharing

To enhance the benefits of knowledge transfer and capacity building achieved through the program, we propose the development of a technological platform. This platform will act as a comprehensive repository for training materials and tools created during the program's tenure, ensuring accessibility for farmers and extension agents nationwide. Additionally, a dedicated radio program tailored for vegetable farmers with content in multiple Nigerian languages will be initiated to further disseminate valuable insights and foster community engagement.

## 02 Create a Climate Smart Horticulture Fund

To foster sustainable growth and technological adoption in the horticultural sector especially for youths and female, we propose the establishment of a Climate-Smart Horticulture Fund in collaboration with financial institutions. e.g. Access Bank, Union Bank, Sterling, Wema and Taj Bank who are all at the forefront, crafting innovative green financial products. These initiatives are poised to mitigate the challenges faced by horticultural SMEs, input companies, and entrepreneurial farmers, providing them with the necessary capital to invest in climate-smart technologies. This strategic alliance will catalyze the transition towards environmentally responsible and technologically advanced agriculture.

# ACTIONABLE RECOMMENDATIONS

## 03 Input distribution palliative support

To support smallholder vegetable farmers, HortiNigeria should implement a system of palliatives in the form of input distribution. This will be facilitated through Agribusiness clusters, ensuring that essential resources are efficiently allocated. The distribution and financing of these inputs will be managed via a technology-enabled wallet system. This system will specifically target climate-smart horticultural inputs, aligning with sustainable agricultural practices and enhancing productivity for vegetable crops of interest to the programme.

## 04 Pilot a horticultural market building platform

The platform would support the coordination and matching of leading horticultural companies, innovators, input producers and the investment needs of Nigeria's vegetable farmers and horticultural MSMEs.

This platform fortifies SMEs by integrating them with a consortium of innovators, input merchants, financiers, input manufacturers all on the marketplaces. A specialized micro secretariat would support this platform and work directly under the component four lead, offering critical assistance in needs analysis report generation, essential for effective matchmaking. Moreover, the platform diligently assembles matchmaking content, catering to entities across horticultural value chains, spotlighting innovations like Dutch seeds, sophisticated irrigation systems, organic pest control, and infrastructural services. The platform's mission would centre on the judicious introduction of custom innovations, attuned to the local agricultural climate and vegetable producers' needs and demand.

## 05 Expand programme implementation to activities aimed at influencing Vegetable Consumption Patterns

HortiNigeria should undertake action research aimed at deciphering the consumption patterns of vegetables within the nation. This research will delve into the intricacies of consumer behaviour and preferences, providing insights that will inform the structuring of the vegetable sector's market output. By understanding these patterns, HortiNigeria can implement strategies that effectively boost the consumption of vegetables within the programme locations as proposed at inception.

# CONCLUSION

The HortiNigeria program has demonstrated commendable early achievements, adhering to its projected timelines in the face of economic adversities. The provision of robust technical assistance, meticulously customized to meet the unique requirements of the beneficiaries, has significantly bolstered their resilience. Observations across various program sites reveal a notable capacity among participants to not only augment production but also to realize vegetable crop yields that markedly surpass prevailing market productivity standards, notwithstanding the challenges of escalating production costs and diminishing profit margins due to the various systemic and policy shocks. Moving forward, the strategic focus of the programme should lean towards the amplification of market-ready innovations and the enhancement of operational efficiencies for primary producers and SMEs within the program's ecosystem. This report highlights the need for an aggressive push towards impacting the horticultural sector through appropriate technology adoption particularly renewable energy and development of quality inputs locally that can future-proof vegetable farming in Nigeria against future shocks.



## Highlight 1

### **Crop yields are on the increase as well as production costs !**

- Sustainable land use for vegetable farming is on increase amongst programme beneficiaries.
- Government policies have negatively affected farmer profits

## Highlight 2

### **Horticulture has an energy problem. .**

- Fossil fuel costs are taking away farmer profits since subsidy removal
- The need for renewable energy + horticulture is apparent
- Technology adoption is key to success in vegetable farming.



## Highlight 3

### **Fiscal policies and Border regulations have negatively affected investments into the vegetable sector.**

- Market disruptions due to inflation and economic downturn is affecting socio economic landscape of the sector.

# BIBLIOGRAPHY

- Impact of cashless policy on the economic growth of Nigeria – Onodugo Chris 2020, International Journal of Multidisciplinary Research and Development
- Premium Times Nigeria 34,000 metric tonnes of Russian fertiliser to Nigeria stuck at EU ports - Official (premiumtimesng.com)
- The Impact of Central Bank of Nigeria Cashless Policy in Nigeria Economy - Martin C. Ezeamama, Nnamani Joseph Ndubuisi, Dr. (Mrs) Mary I. Marire, & Dr. C.C. Mgbodile
- Highlights of Nigeria's 2023 Fiscal Policy Measures - highlight-of-nigeria-2023-fiscal-policy-measures.pdf (pwc.com)
- nigeria-finance-act-2023.pdf (pwc.com)
- The vegetable and potato sector in Nigeria: an overview of the present status Christine Plaisier, Youri Dijkxhoorn, Fédes van Rijn, Johann Bonnand, Olufolajimi Talabi
- Implications of fuel subsidy removal on the Nigerian economy Peterson K Ozilli, Kingsley Obiorah
- Rapid assessment of the horticulture sector in Nigeria WUR
- WUR, EWS-KT and NABC, 2021. Rapid assessment of the horticulture sector in Kano and Kaduna states, Nigeria: introduction and methodology brief. Wageningen University and Research, Wageningen, 17 June 2021.

This study was made possible by the tireless efforts of the following collectives of development professionals

The **HortiNigeria team** for the superb concept and coordination

The team of enumerators from **Futux Agri-Consult**

**The Global Agri Projects and NABC in Nigeria team behind the impact report**

**All our colleagues from Local and international partner organizations in the horticultural space**

**The donor - Embassy of the Kingdom of Netherlands for funding the HortiNigeria programme.**

**Kabir. O. ADEMOH, Fauziya SADIQ, Prof Aminu SULEIMAN, Rashidat ANIYAKE**

---

*We thank you for your continued engagement and effort to develop horticulture in Nigeria*

---

## CONTACT

NETHERLANDS  
AFRICAN BUSINESS  
COUNCIL  
Titaan - Floor 2, Office  
Nr. 211  
Saturnusstraat 95, 2516  
AG, The Hague  
The Netherlands



[www.nabc.nl](http://www.nabc.nl)  
E:Kabir.ademoh@nabc.nl  
+2348183888025