



OYSADA

OYO STATE AGRIBUSINESS DEVELOPMENT AGENCY

Strategic Plan for Strengthening Oyo State Food System during COVID-19 Pandemic



IITA

Transforming African Agriculture



RESEARCH
PROGRAM ON
Agriculture for
Nutrition
and Health

Led by IFPRI

Strategic Plan for Strengthening
Oyo State Food System
during COVID-19 Pandemic

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Foreword

In the first quarter of the year 2020, the world faced the biggest health challenge in decades with Coronavirus (also known as COVID-19). World Bank reports that millions of people got infected by the virus and died, while economic activities paralyzed due to the lockdown imposed by most countries. Poverty-prone countries continue to languish while schools were shut down and most hospitals and front-line staff were overwhelmed. Market places were locked-up, and farm produce got wasted because either buyers or aggregators could not uptake the produce due to movement restrictions. The emergence of the virus exposed the inadequacies of the Nigerian government in the health and agricultural sectors.

Due to wide gaps in the area of food production exposed by the COVID-19 pandemic, there is a need for proactive measures that will bridge gaps created to increase the rate of food production to meet its demand.

During the COVID-19 pandemic, private sector organizations and well meaning individuals donated food items to support the established emergency food palliative measures in Oyo State. The donated food items were stored, repackaged, and rebranded before distributing to targeted groups of people. Smallholder crop and poultry farmers in the State were not left out.

The distribution of the palliative items to the selected farmers was in three phases. In the first phase, the distribution of palliative farm inputs to the selected tomato farmers (items include improved tomato seeds, herbicide, and a 50kg bag of fertilizer to each beneficiary). The second phase - the distribution of farm inputs (cassava stems, maize seed, herbicide, and insecticide) to selected cassava and maize farmers; and the third phase, distribution of maize to poultry farmers in all Local Government Areas (LGAs) and Local Council Development Areas (LCDAs) of Oyo State.

It is important to stress that food and nutrition security is everybody's responsibility. Individuals, groups, the private sector, non-governmental organizations, and international organizations are stakeholders in the agriculture value chain, and therefore charged to see a fertile area where they can tap resources for their use and increase their income.

This publication highlights the effort of the Oyo State government in providing food and nutrition security. A strategic plan to strengthen the Oyo State food system and response to food and nutrition security pre- and post-COVID-19 pandemic.

Engr. Seyi Makinde
Executive Governor, Oyo State

Acronyms/Abbreviation

BVN	Bank Verification Number
CBN	Central Bank of Nigeria
FAO	Food and Agriculture Organization
FIFO	First in First Out
GAP	Good Agronomic Practices
GIZ	German Agency for International Cooperation
Ha	Hectare
IAR&T	Institute of Agricultural Research and Training
ICT	Information and Communication Technology
IDH	Sustainable Trade Initiative
IGR	Internally Generated Revenue
IITA	International Institute of Tropical Agriculture
IMF	International Monetary Fund
Kg	Kilogram
LCDA	Local Council Development Area
LCDAs	Local Council Development Areas
LGA	Local Government Area
MF	Micro Farm
MOARD	Ministry of Agriculture and Rural Development
NGOs	Non-government Organisation
NGOs	Non-government Organisations
No.	Number
NSPRI	Nigerian Stored Products Research Institute
OYSADA	Oyo State Agribusiness Development Agency
ROI	Return on Investment
SHF	Small Holder Farmers
SME	Small and Medium Enterprises
t/ha	Ton/hectare
YGF	Youth Graduate Farmers

Executive Summary

With a population of almost eight (8) million residents, Oyo State is impacted by the COVID-19 pandemic that has disrupted food production and supply chain. The Oyo State COVID-19 Taskforce on Food Security in Emergency, a subset of the Oyo State COVID-19 Taskforce, proposed two strategies in managing the possible food security issues by strengthening the food system within the State.

The first approach (emergency food palliative measure) will be to develop a palliative strategy that targets residents who are most vulnerable to the COVID-19 pandemic. It will involve fundraising for essential food items, oversee the collection, and manage the distribution of the palliative materials within the State.

The second approach will address the general populace and focus on medium- and long-term responses to food security emergencies covering food production through processing to consumption. Based on the comparative advantage in terms of production, processing, and marketing, we will target five essential food staples: cassava, yam, maize, cowpea, and soybean.

We will support the food system from production, processing, packaging, marketing, and consumption. We will also develop an urban farming system that focuses on vegetables, aquaculture, and poultry production for nutrition.

Oyo State Government will be implementing its COVID-19 medium response strategy by three (3) models:

1. The aggregation of youth farmers (18-35 years) using a cluster model (cost-shared between youths and government/funder)
2. Mobilizing smallholder farmers in the communities
3. Structured out-grower schemes operated/funded by the private sector.

These models are developed based on the fact that about 70 percent of farmers are smallholder farmers using rudimentary technology and achieving low yields. There is a need to grow their capacity by introducing mechanization, improved seeds, viable agro-farm inputs, training on Good Agronomic Practices (GAP), and capacity-building established through an ICT platform - Oyo Digital-Ag. In general, the state will strengthen 10,000 farmers disaggregated into seed producers, out-grower farmer processors, and other farmers.

Under the private sector out-growers' scheme model, about one thousand eight hundred (1,800) young farmers will each be allocated five hectares (5ha) of land to cultivate the selected crops. In line with the state gender policy, about 30% of the youths will be women. The transaction dynamics, including terms and conditions for the allocation of land, will be elaborated at the inception of the project depending on several factors like the funding situation and equity contribution of stakeholders, etc.

The intervention will execute as a “government-enabled” and “private sector-led” initiative that implies that the government will facilitate the availability of contiguous land where necessary, land clearing and preparation. The government will facilitate access to finance for the young farmers at a preferential single digit interest.

The existing small and medium agro-allied businesses engaged in the purchase, storage, processing, distribution, and marketing of these crops will serve as off-takers. In some cases, these off-takers will provide the required inputs and financial support to the young farmers. The use of an out-grower scheme model will ensure a fair price to the farmers. The state will mop up excess production into the strategic food reserve of the Oyo State Food Bank. The state will also support policies that strengthen mobility in the food value-chain across the state during and after the COVID-19 travel restriction.

International Development Partners and Research and Academic Institutions will play vital roles in mobilizing donor funding, sharing new and updated technologies and skills, and assist in monitoring and evaluation activities.

The objectives of this intervention include support for:

- Increase in the production and yield of selected staple crops by 25% within the next 48 months
- Deployment of innovation that will mitigate restriction of support to smallholder farmers from production to market
- Increase in the overall agricultural productivity, farmer's income, and livelihoods through enhancing food security post-COVID-19.

Introduction

In the wake of the COVID-19 global pandemic, the world is grappling with the reality of the consequent economic recession and emergency responses needed to sustain the food supply and keep citizens safe and healthy. Nigeria, like most developing countries, is overwhelmed with the outbreak of the COVID-19 virus.

The situation calls for concern as the nation had been grappling with a weak recovery from the 2014 oil price shock to the 2016 economic recession causing GDP growth diminish to around 2.3 percent in 2019. Later in February 2020, the International Monetary Fund (IMF) revised the GDP growth rate downward to 2% due to relatively low oil prices and limited fiscal space. Nigeria's heavy dependency on the importation of commodities (maize, rice, wheat, raw sugar, palm oil, frozen chicken, and fish) from Asia, Europe, North America, and other continents exposes and speaks to the weaknesses of her agriculture system.

The emergence of COVID-19 has worsened the already fragile situation for Nigeria as countries impose protectionists policies limiting external trade of essential commodities in addition to internal measures to cut the spread of infection among its citizens. The measures include travel restrictions, social distancing, a ban on gatherings (including the closure of markets), and outright lockdown in some cities. It has impacted the economy, limiting labour supply to food production and distorting the supply chains.

These suggest a looming danger to the food crisis in the country. Already restrictions in the movement make it difficult for smallholder farmers to either access inputs such as seeds or sell their produce. According to FAO, about seven million Nigerians will experience food shortages between June and August this year (2020). So far, most state governments in Nigeria are issuing palliatives in cash and food to few citizens in the short-term. However, there is no evidence that these governments have any medium-to-long-term plan to forestall the impending danger of acute hunger after the pandemic.

The Oyo State Government Intervention Plan

While the immediate and long-term challenges that will be presented by this situation cannot be underrated, the impact varies across countries and states. Oyo State's proactive response has kept the pandemic at a manageable level, with daily progress still being made with time. The outbreak of COVID-19 poses a threat to the food security of Oyo State as lockdowns have disrupted the food production and supply chain in the state. In other neighboring states, lockdowns are already triggering hunger and social unrest.

The Oyo State government responds with a dual approach (1) providing food to the vulnerable. (2) building the resilience of its agricultural systems.

Oyo State is already investing in developing its food security responses to COVID-19 and engaging with several stakeholders to develop a blueprint to enable the state to answer the questions posed by the COVID-19 pandemic on the food system. To achieve this, the Oyo State Government has set up a State Taskforce on COVID-19 led by the Governor of Oyo State, His Excellency, Governor Oluwaseyi Makinde. The Taskforce has oversight on developing short and long-term strategies and support policy plans with an emergency and implementable guideline to combating the pandemic.

Problem statement

The sudden emergence of COVID-19 has exposed the realities of the lack of preparedness of many governments in strengthening the food system and ensure food security for its people. In Nigeria, Oyo State, in particular, has substantially disrupted the food supply chain specifically by the inadvertent depletion of the food reserve of farmers through purchase and distribution by governments, organizations, and philanthropists to vulnerable groups. The situation portends the possibility of food insecurity in the State for which proactive measures have to begin. How can the state build food systems that would: preserve the role of market systems, reduce dependency on government, minimize further disruptions, and ensure consistent and high-quality performance of all actors across the agricultural food supply and nutrition value chains?

Terms of Reference of the Food Security in Emergency Task Force

The Task Force has a mandate to:

- Develop an initiative for mitigation of the food security issues that could arise from the COVID-19 pandemic
- Develop a strategic implementation plan of the initiative
- Develop and provide an integrated support response to the food system in the State
- Design and implement an emergency food supply and distribution system for the most vulnerable group in the State.

Mode of Implementation

The Oyo State Food security project will be implemented using two operational strategies:

- Emergency Food Distribution and Palliative Approach; and
- Emergency Food Production, Food security and Farmer Income Enhancement Plan.

Emergency Food Distribution and Palliative Approach:

We will develop a palliative strategy that targets residents who are most vulnerable to the COVID-19 pandemic. Tasks include: supporting fundraising for the purchase of essential food items, expedite collection, management of donations, and supervising the distribution of the palliative materials within the State.

Table 1: Emergency food palliatives measure

Activity 1	Collection
Method	<p>The COVID-19 Emergency Food Distribution and Palliative Approach team will receive all donated food and palliative items on behalf of the Oyo State Government, provide storage facilities and keep the inventory of all donations. It will have designated collection points and staff at the collection points.</p> <p>At least three team members will be on the ground to receive the donations. The food and palliative items received will be displayed publicly with the media in attendance, reporting to ensure transparency and accountability.</p> <p>Details of the items received will be made available to the State Task Force on COVID-19 bi-weekly and a copy submitted to the central fundraising Task Force team for documentation and publicity.</p>
Actors	Food collection Implementation team.
Milestone	April 10-30, 2020

Activity 2	Storage
Method	<p>The project will create a central storage facility for all donated items. The environment shall be well concealed. All food items shall be placed on pallets and arranged based on the different food items, and the store opened once a week for proper ventilation and air circulation.</p> <p>All food and palliative items received shall be entered into an inventory sheet. Weekly drawdowns will be undertaken and distributed to the most vulnerable people of the State.</p> <p>Security agents shall be provided at the storage facility to secure the items.</p>
Actors	Food collection and distribution implementation team.
Milestone	April 15-30, 2020

Activity 3	Selection
Method	<p>The part of the population to benefit in the target communities shall be determined.</p> <p>The deficit in food supply confirmation shall be by quantifying the percentage of food requirements predicted to be unmet over the distribution period.</p> <p>The palliative will focus on two groups (households and selective units). The selective units determined by the level of vulnerability and stationary units, comprising: the orphanage and aged homes, sick patients in the hospitals, physically challenged and stranded students.</p>
Actors	Governor's office and Ministry of Special Duties.
Milestone	April 15-30, 2020

Activity 4	Packaging and branding
Method	<p>Each household shall receive three (3) different types of non-perishable food items packaged in 5kg branded bags. Specific communities in each Local Government Area (LGA)/Local Council Development Area (LCDA) shall receive perishables like eggs. Children shall get items in a protected pack to take home or motherless baby homes through religious organizations.</p> <p>The sealed branded bag shall have the inscription "Oyo State Government, COVID-19 Emergency Food Response" with the Task Force contact, phone numbers, or social media handles.</p>
Actors	Food Distribution Implementation team
Milestone	May 9-15,2020

Activity 5	Distribution
Method	<p>We shall adopt the First-in First-out (FIFO) method to avoid spoilage of the food items.</p> <p>Distribution would be done through selected volunteers with support at different locations as applicable by the Residents Associations, Community Development Associations, and Religious Bodies and possibly Pensioners and Artisans Associations.</p> <p>We shall identify a point person in each LGA/LCDA, preferably a retiree, community leaders, eminent Christian or Muslim scholars of age within each LGA/LCDA or wards.</p> <p>They will be the point of contact to support the distribution at the LGA/LCDA and Ward levels.</p> <p>Names of the team members and team leader in charge of distribution at each center with phone numbers would be declared. We shall prepare a comprehensive spreadsheet stating items, vehicle no. and drivers' details, accompanying officers, center commander, and coordinator.</p> <p>Would-be recipients shall register with their details through these data collection processes and bodies in a list including names, contact, age, and Bank Verification Number (BVN) or another official identity where possible. These details will be needed to screen the list and harmonize for proper monitoring.</p> <p>The Task Force would increase the drive to get more foods distributed through other Innovative donations.</p> <p>We shall establish a fit-to-purpose ICT platform (Oyo DigitalAg) to map and track beneficiaries of the program for improved coordination using mobile phones.</p>
Actors	Food distribution team and the State Volunteers
Milestone	May 15-31 2020

Activity 6	Mode of distribution
Method	<p>The Task Force would simultaneously distribute the palliative in all the LGAs/LCDAs and increase the drive to get more food.</p> <p>Volunteers would be recruited and will work with the identified bodies in each of the LGA/LCDA; We shall train volunteers in data gathering and monitoring. The data to be collected will include pictorial and video documentations.</p> <p>Recipient phone numbers in the data bank receive on the spot calls for identification and to avoid duplications.</p>
Actors	Food Distribution Implementation Team and Volunteers
Milestone	May 10, -30, 2020

Activity 7	Information and communication
Method	<p>Radio Broadcasts of distribution details to various locations with distribution centers at each identified community and date will be made available.</p> <p>A list of beneficiaries shall be made available to the press and the general populace.</p>
Actors	Ministry of Information, Media houses.
Milestone	April-May 2020

Activity 8	Monitoring/Evaluation
Method	We shall set up a monitoring and evaluation team to check the distribution efficiency and efficacy.
Actors	External monitoring
Milestone	April-May 30, 2020

Emergency Food Production, Food Security and Farmer Income Enhancement Plan:

The focus shall be on responses to food security issues and the food supply chain during and post COVID-19 pandemic. We shall build the program of action on the achievement of food and nutrition security.

The implementation strategy shall use the four pillars of food security (Accessibility, Availability, Utilization, and Stabilization) and Affordability (Fig. 1).

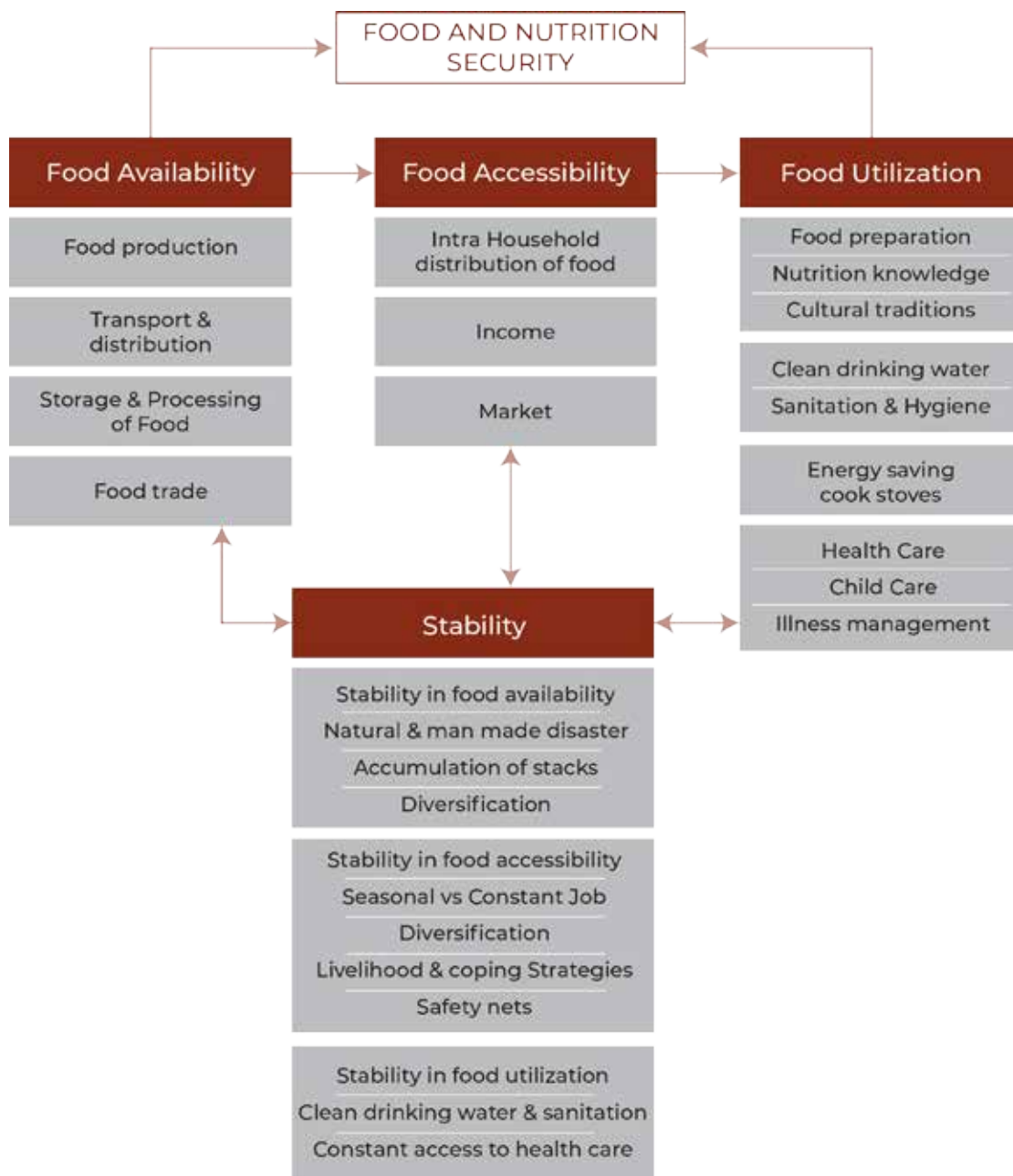


Figure 1: Implementation strategy based on the four pillars of food security - Accessibility, Availability, Utilization and Stabilization (Source: Adapted from Uma Le et al., 2016).

With the general populace at the center, the approach shall focus on responses to the emergency food supply chain from seed production through processing to household consumption, putting in perspective perishable and non-perishable essential food commodities.

Based on comparative advantage in terms of production, processing, and marketing, with emphasis on the following five (5) essential staple crops:

- cassava
- yam
- maize
- cowpea and
- Soybean

The approach will also support urban farming of vegetables, aquaculture, and poultry to enhance nutrition. We shall jump-start an efficient and productive agribusiness enterprise using young farmers as models. It will enhance productivity while supporting smallholder farmers.

Using the Agricultural Value Chain Strategy

A commodity value chain is the full range of activities required to bring a product or service from conception to birth. It involves a combination of physical transformation and the input of various producer services, delivery to final consumers, and final disposal after use. The key actors in a typical agricultural value chain are input suppliers, producers/farmers, processors, marketers, and consumers.

A typical flow diagram of a commodity value chain is seen below in Figure 2.

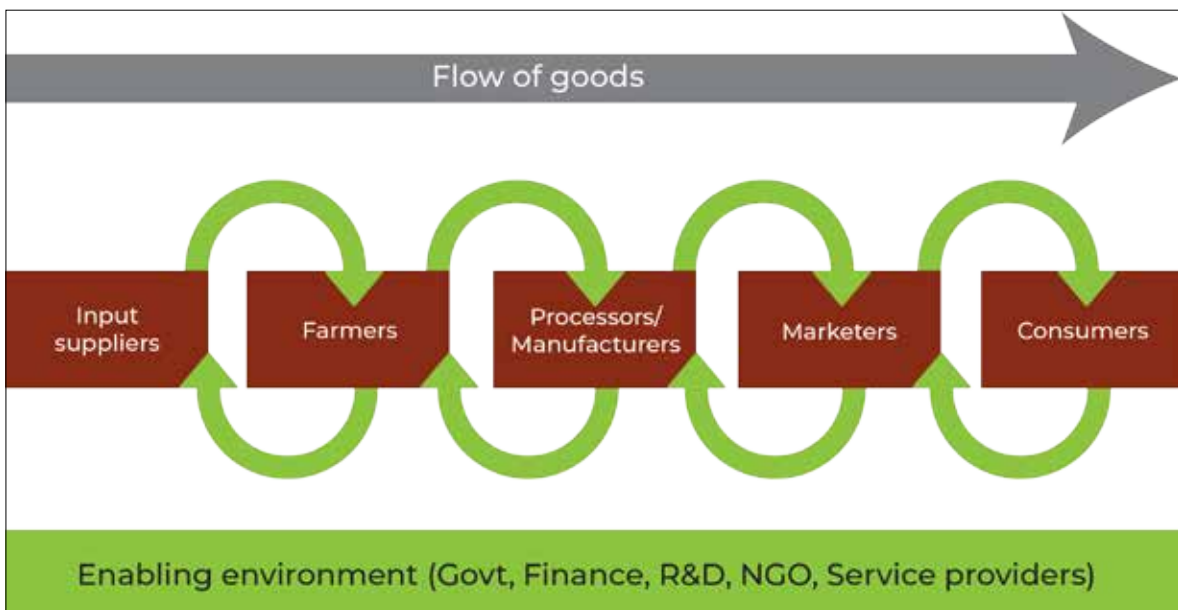


Figure 2: Typical commodity value chain actors and channels

Why is the Agricultural Value Chain Preferable?

The agricultural value chain strategy is preferred for the implementation of this project because:

1. It consists of actors and actions that improve a product while linking farmers to processors and markets¹;
2. It improves the efficiency of a commodity and benefits smallholder farmers, by increasing demand and revenues accruing to them. It also promotes food security.
3. Majority (over 75%) of Oyo State farmers are smallholders.
4. International Institute of Tropical Agriculture (IITA) facilitated Oyo Digital-Ag, enhances precision delivery, improved coordination, and communication between the implementers, input suppliers, service providers, knowledge experts, extension services and beneficiaries.

Key actors and their Roles

The key actors envisaged in the implementation of this project and their ascribed roles include:

- a) Government of Oyo State:** With responsibility for the provision of land, coordinated support to food security hotspots threatened by COVID-19 and other essential material needs of the project such as certification, license, facilitating access to special loan schemes, etc. Lead the project design activities, monitoring and evaluation. Formulate appropriate State policy on agricultural development and enact enabling legislation and regulation on agribusiness.
- b) Research and Development Institutes:** The international and national research institutes in the state will assist in training, sourcing and facilitating access to quality seeds (planting materials), SMART farm/Information and Communication Technology (ICT) tools and inputs under their mandate for the project.
- c) Financial Institutions:** They will assist in unlocking access to finance for farmers to access input and market for harvested produce. They will develop and execute a Memorandum of Understanding with the State Government, Farmers and Off-takers to embark on the Anchor Borrower Schemes for Agricultural Credit Facilities in the State. In addition to developing firm business cases for the selected crops and livestock interventions. They will facilitate credit facilities as revolving loans to Youth Farmers from land preparation to harvesting. They will facilitate access to credit facilities by smallholder farmers for the supply of quality seeds/planting materials, herbicides, and fertilizers using credible and certified Agro Inputs Dealers. All credit facilities will have a 10-year tenor. They will also apply a moratorium period as set by the Central Bank of Nigeria (CBN) low interest rate.

¹ <https://www.devex.com/news/agricultural-value-chains-a-game-changer-for-small-holders-83981>

- d) **International and Local Non-governmental organization:** They will provide support with access to international funding, through ongoing relevant projects in coordination with Development Partners such Sustainable Trade Initiative (IDH), German Agency for International Cooperation or (GIZ), Food and Agriculture Organization (FAO), IITA, Technoserve, World Bank, African Development Bank, etc. The Oyo State Programme currently implementing similar projects in the State will be contacted for collaboration and support in trainings, part funding of quality seeds, provision of agricultural inputs or farm labour or operation cost sharing, and service as may be feasible (e- extension, data gathering, monitoring and evaluation, etc.
- e) **Service providers:** The private sector service providers will be prevailed upon to make available their platforms including Agri-tech solutions and services, e.g., mechanization, marketing, training, storage, logistics, etc. to the project. The existing small scale agro-allied businesses engaged in food production, processing and purchasing these crops produce will serve as off-takers. The Private Companies participating as off-takers will facilitate access to credit from the State Government for the farmers for the procurement of seeds, herbicides, fertilizer etc. They will assist farmers with land preparation, procurement of quality seeds and agrochemicals. They will be encouraged to buy back produce from farmers at a pre-determined and negotiated price moderated by the State Government.
- f) **Farmers:** Participating farmers who commit to the operational procedures of the project will be guaranteed higher yields per hectare and increased income.

Adapting the Value Chain Strategy to Food Security in the Project

It is envisaged that adapting the value chain strategy to food production for enhanced food security in the State will result in:

1. Increase by 25% in the production of food staples such as maize, cassava, yam, cowpea, and poultry through the adoption and use of high yielding plant varieties and breeding stocks.
2. Reduction in post-harvest losses by 60%, improved market linkages, expanded processing capacity, storage and distribution.
3. Improved market efficiency through policy reform, adoption and adaptation of ICTs, reduced transaction costs, improved distribution flow and enabling environment. Adapting trading relationships and supply chain structure for smallholder sourcing; (last mile distribution, pricing, storage, logistics, payment systems, e-commerce, etc.)
4. Integration and Coordination: The adoption of both direct and market system facilitation by ensuring the integration and coordination of the relevant stakeholders. At the project inception, partners would be disaggregated into categories such as input providers, service providers, off-takers (such as processors, entrepreneurs, etc.), financial partners, NGOs, donors and farmers etc. all working in tandem to achieve a common objective.

- Adoption of ICT platform for mapping and virtual integration of value chains and value chain actors for better reach, delivery and market access.
5. Establishment of the Oyo State Food Bank: The project will elicit the mapping of food producers and processors in the state, setting up a strategy for triggering uptake of products and produce from partners; distribution strategy and storage within a food bank system.
 6. Partnership with Donors and NGOs interested in transitioning from humanitarian to development mode of operation in the utilization of producers and processors in Oyo State in a well-designed Supplementary Feeding Program and use of commodities from the state.
 7. Establishment of a \$100 million fund – accessible to all agro ecological zones in Oyo State, multi-partner initiative that would pair technical assistance with access to finance to agri-SMEs in Oyo state/Nigerian food systems.

The table below summarizes the Value Chain approach to food security in the medium term that will be adopted by Oyo State.

Table 2: Application of Value Chain Approach for Food Availability

No.	Aim/Target	Method	Actors
1.	Double productivity of staples (Maize, cassava, yam, cowpea and livestock within the next two years	Provision of high yielding varieties of crops and breeds of livestock Adoption of best agricultural practices (agronomy and plant protection) and labour-saving technologies, including use of ICTs Facilitate new seed producers	IITA, IAR&T, ADP, NASC, Certified Seed companies
2.	Reduced Post Harvest Losses (60%) within the next three years	Improve market linkages, processing capabilities and provision of storage facilities Demonstrate mobile processing facility to small holders and cooperatives	Oyo State Agribusiness Development Agency (OYSADA), Nigerian Stored Products Research Institutes (NSPRI), Institute of Agricultural Research and Training (IAR&T), International Institute of Tropical Agriculture (IITA), Private Sector

No.	Aim/Target	Method	Actors
3.	Improve Market Efficacy by 70% within the first year	<p>Review Policy, improve transportation, distribution and supply chain, pricing</p> <p>Digitization of value chains for improved coordination, communication, networking, and market linkages.</p> <p>Digitization of service and extension sector for delivery, monitoring and coordination.</p>	Ministry of Agriculture and Rural Development, Oyo State Agribusiness Development Agency, Private sector, IITA
4.	Incubate and birth at least additional 5,000 new agro-allied SME business into Agric value chain within the next 4 years in the state	Empowering and engagement of not less than 1,200 young unemployed graduates as agripreneur into crop production in the state each year	Oyo State Agribusiness Development Agency, Private Sector, Development Partners
5.	Integration and Coordination	<p>Convoke State regular meetings, briefing and planning on all interventions</p> <p>Establishment of ICT platform for improved communication, coordination, and monitoring</p>	Oyo State Agribusiness Development Agency, Private Sector, Development Partners
6.	Establishment of Oyo State Food Bank	Rehabilitate all existing warehousing in the State. Draw out demand and supply work plan on quantity, quality, pricing and delivery time. Establish Food Emergency forecast team to determine which groups require food support.	Oyo State Agribusiness Development Agency, Development Technical partners, Private partners

No.	Aim/Target	Method	Actors
7.	Partnership with Donors and NGOs	Establish a Consortium of Implementation Team including major Development partners to leverage on pre-planned project supports within the State	Oyo State Agribusiness Development Agency, Development Donor and Technical working group.
8.	Establishment of \$100 million Fund	Plan, launch and coordinate donations of Funds	Oyo State Government through Oyo State Agribusiness Development Agency

Basic assumptions of the value chain strategy

- I. A model for five essential staple crops for which Oyo State has comparative advantage
- II. The five (Cassava, Yam, Maize, Cowpea, Soybean) essential crops are selected for support from government. Two livestock products (Fish and Poultry) and vegetable as other viable nutrition produce that could be supported by the state government,
- III. The choice of the two operational approaches (categories) is to ensure the food support program by the state provide a supply of well-balanced food security and nutrition for the state.
- IV. The cost and revenue analysis of the crops was done to determine the types of assistance to be provided/facilitated by Government and Development Partners.
- V. The lowest off-taker price was used to estimate the revenue profile while the highest market price was used to estimate the production cost for the chosen crops/poultry/vegetable production in all scenarios.
- VI. The state is divided into five zones (Table 3) based on the dominant agro-ecology stratification.
- VII. The crop cultivation was therefore allocated to zone 1 - 4 is based on the most commercially viable crops from each zone. Zone 5 is purely for urban farming in fish, poultry and vegetables.
- VIII. Three categories of farmers were identified (the Micro-Farmers, Small Scale Famers and the Prime Farmers) as potential beneficiaries and target group for the program.
- IX. The Prime Farmers are young graduates who are currently unemployed, with little or no farming experience.
- X. At least thirty (30) percent of these beneficiaries will be female.
- XI. The role of government is to facilitate access to cost-recovery revolving loans to the beneficiaries from financial institutions and development partners to adopt commercially viable business model.

Table 3: Agricultural Zones in Oyo State

Zones	Name Zones	List of Components LGs	No. of LGS (28)	Dominant Agriculogy	Crops/ Produce	Off takers
1.	Ibadan /Ibarapa	Akinyele, Egbeda, Ido, Lagelu, Oluyole, Ona Ara, Ibarapa East, Ibarapa North, Ibarapa Central	9	Tropical Rainforest	Cassava, yam, poultry, fish	CHI Foods, Ajanla Farms, Durante, Zartech, Animal Care, Aquaculture and Feed Millers, Open Markets, CPGs/VPGs Obasanjo Farms, UAC FOODS (Meat Plant),
2	Oke Ogun /Saki	Atisbo, Oorelope, Kajola, Irepo, Olorunsogo, Iwajowa, Saki East, Saki West	8	Guinea Savanna	Yam, Cassava, maize, cowpea, soybean	Niji Foods, Ilero; Psaltry International Company, Ado Awaye; Al Fawaz Farms, Iseyin; Kofo Agro, Iseyin; Golden Lad, Maya, Tosmat, Soku and Open Markets, CPGs/VPGs
3	Oyo	Afijio, Atiba, Oyo East, Oyo West, Itesiwaju, Iseyin	6	Rainforest/Guinea Savanna	Cassava, maize, cowpea, soybean	Ocean Trans Farms, Ojongbodu, Oyo; Amo Byng, Durante, Zartech, Animal Care, Aquaculture and Feed Millers, Open Markets, CPGs/VPGs
4	Ogbomoso (05 LGs)	Ogbomoso North, Ogbomoso South, Surulere, Oriire, OgoOluwa	5	Guinea/Savanna Rainforest	Cassava, yam, maize, soybean,	OLAM, Aquaculture and Feed Millers, Open Markets, CPGs/ VPGs
5	Ibadan Municipals	Ibadan Southeast, Ibadan Southwest, Ibadan Northeast, Ibadan North, Ibadan Northwest	5	Rainforest	Urban farming: Vegetables, Tomatoes, Poultry, Fish,	Open Markets, CPGs/VPGs

The Agroecology was adapted from : <https://iart.gov.ng/wp-content/uploads/2017/04/OYO-2017-REFILS-PROPOSAL.pdf>

Agricultural Support Models

The implementation of the project is organized using the following models:

1. Cluster model aimed at aggregating young farmers for commercial production.
2. Cost sharing model targeting smallholder farmers.
3. Processors Private sector-led facilitation of young farmer's crop model farms within their zones.

The conceptual framework of the Agricultural Support Models is shown below in Table 4. These models are classified on the assumption that about 70 percent of farmers in Oyo state are still smallholders with low yields and using rudimentary production technologies. Therefore, there is a need to grow their (farmers) capacities through provision of quality and improved seeds, viable agro-farm inputs and trainings in a business-like manner while at the same time ensuring that they are food secure.

Model One: Cluster model aimed at aggregating youth farmers for commercial production

A. Facilitate effort to set up seed production units:

In partnership with IITA, young farmers will be supported to develop seed production units to supply planting materials to their respective off-takers within their zones. Processors annually lose more than twenty (20%) percent of the quality of the product due to low quality fresh roots recycled and adulterated planting materials. Given their high stake, young farmers will be provided with technical assistance to develop skills and capacity to produce cassava planting materials from IITA Go Seeds and BASICs II Project.

B. Young Farmers as producer of Crops

The young crop farmers will be clustered around existing processing factories within each zone. The company and the farmers will sign memorandum of understanding on raw material delivery plan taking care of quantity, pricing and duration of supply. Specifications for the supply of fresh roots will be supervised by the Implementation team of the Oyo State Covid-19 Task Force in collaboration with the appropriate financial institutions. This activity will set a major out-grower scheme for off-takers. All financial requirements will be released on loan at 5% interest rate by financial institutions like CBN, NIRSAL or ACCOS while the State Government will serve as Guarantor for the loans.

Table 4: The conceptual framework

S/N	Model	Total land required	Total government direct equity fund	The total fund required for other areas of production (Input, fertilizers, etc)	Available and potential Market	Employment Generated or supported
1.	Government Facilitated: Clustered models facilitate young farmers as producers of crops.	6,000 hectares	Specifically, on Land clearing ₦900million	Anchor loan from CBN Mix of 1 and 2 model sector loan Government financed	Private processor mapped in each region of the State Government reserve	1,780 Farmers include (80% youth)
2.	Private Sector Facilitated: Clustered model processor – led facilitation of young farmers crop model.	4,000 hectares	N/A	Private sector fund	Private processor mapped in each region of the State	800 farmer
3.	Cost sharing model targeting Small Holders Farmers (SHF)	2,500 hectares	N300 million	Cost sharing on farm inputs Farmers Government through a processor	Private processor mapped in each region of the State	30,000 SHF
4.	Farm Estate Product Hub	2,500 hectares	Infrastructure development for production. ₦1billion	Private sector	Processing hub within the Farm Estate	833 youth
	Total	15,000 hectares	₦2.2 billion			3,413 youth 30,000 SHF

Table 5: Land Allocation for Crop Production in Agro-ecology Zones in the State

Zones		Land required		Land Requirement by Zone	No of Farmers by Zone
		by farmer category	No. of farmers by category		
Zone 1: Ibadan/ Ibarapa	MF	140	28	1400	280
	SHF	420	84		
	YF	840	168		
	Total				
Zone 2: Oke Ogun /Saki	MF	150	30	1500	300
	SHF	450	90		
	YF	900	180		
	Total				
Zone 3: Iseyin/ Oyo	MF	150	30	1500	300
	SHF	450	90		
	YF	900	180		
	Total				
Zone 4: Ogbomoso	MF	150	30	1500	300
	SHF	450	90		
	YF	900	180		
	Total				
Zone 5: Ibadan Municipals	MF	10	60	100	600
	SHF	30	180		
	YF	60	360		
	Total				
		6000	1780	6000	1780

Table 6: Gender Distribution of Farmland and Farmers to be Empowered

Zones	Category	Land Distribution				Employment Distribution		Total	
		By Category		By Zone		Male	Female	Land	Jobs
		Male	Female	Male	Female				
Zone1: Ibadan/Ibarapa	MF	98	42	980	420	196	84	1400	280
	SHF	294	126						
	YF	588	252						
Zone 2: Oke Ogun /Saki	MF	105	45	1050	450	210	90	1500	300
	SHF	315	135						
	YF	630	270						
Zone3: Iseyin/Oyo	MF	105	45	1050	450	210	90	1500	300
	SHF	315	135						
	YF	630	270						
Zone4: Ogbomoso	MF	105	45	1050	450	210	90	1500	300
	SHF	315	135						
	YF	630	270						
Zone 5: Ibadan Municipals	MF	7	3	70	30	420	180	100	600
	SHF	21	9						
	YF	42	18						
		4200	1800	4200	1800	1246	534	6000	1780

MF-Micro farmers SHF=Small Scale Farmers (ABP) YF – Youth Farmers

*Urban farm will start 1 ha farmland.

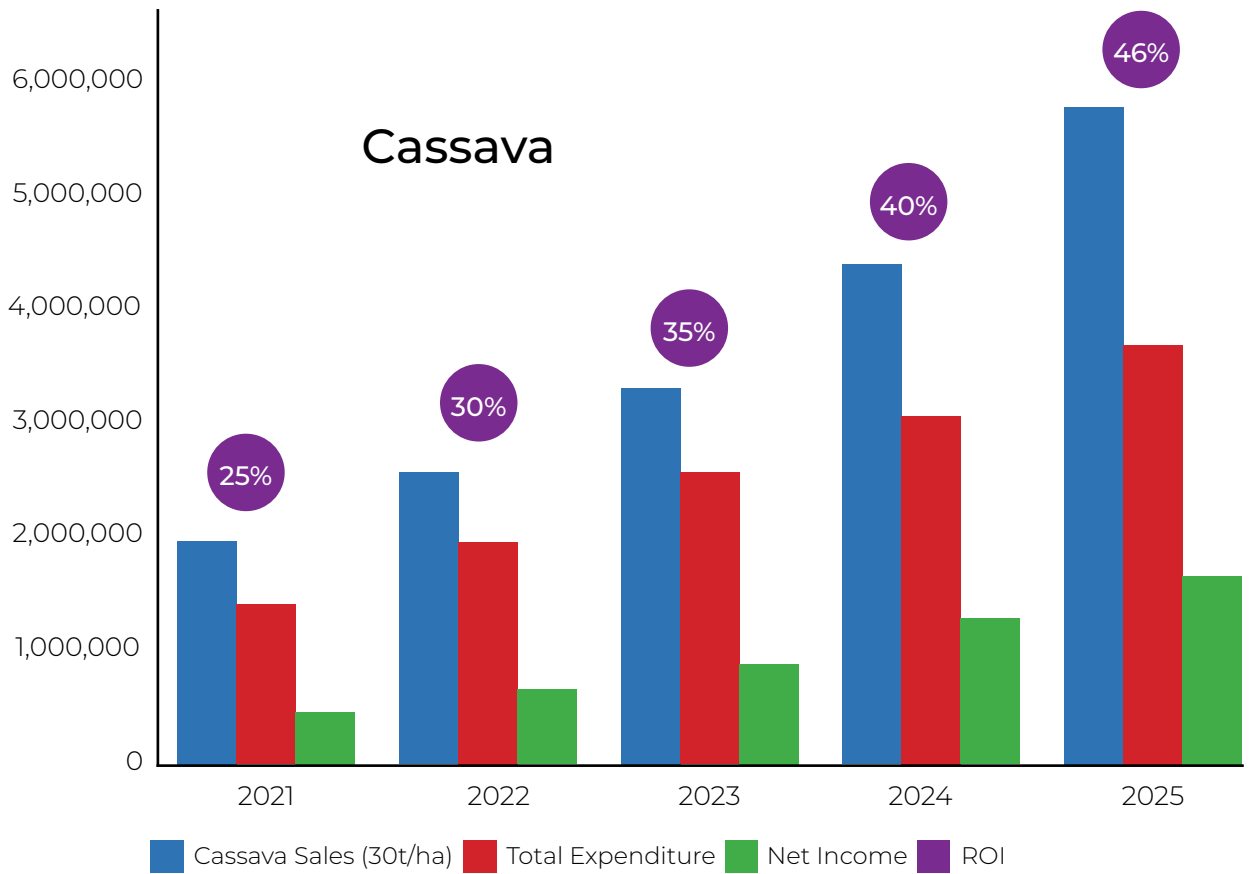


Fig 3-1: Investment Cost for Cassava

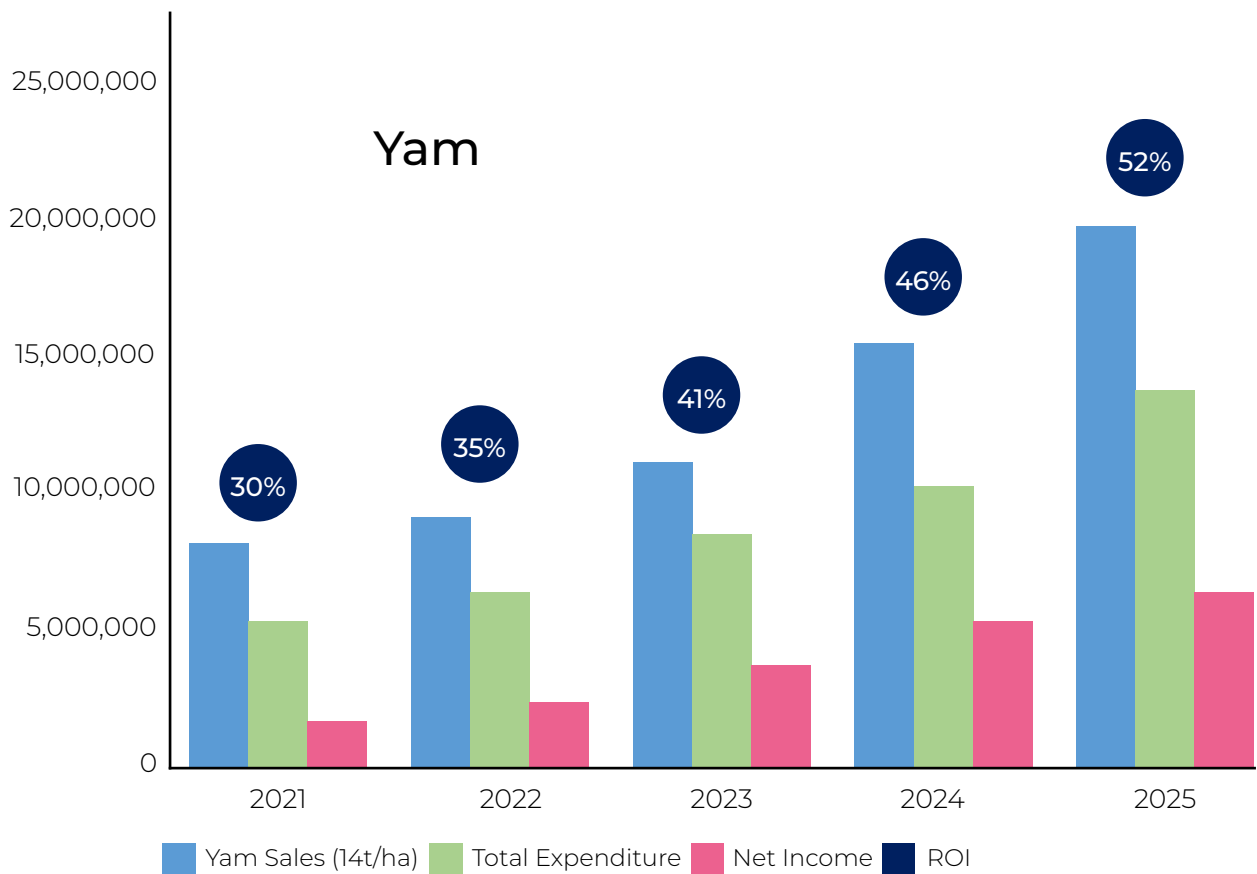


Fig 3-2: Investment Cost for Yam

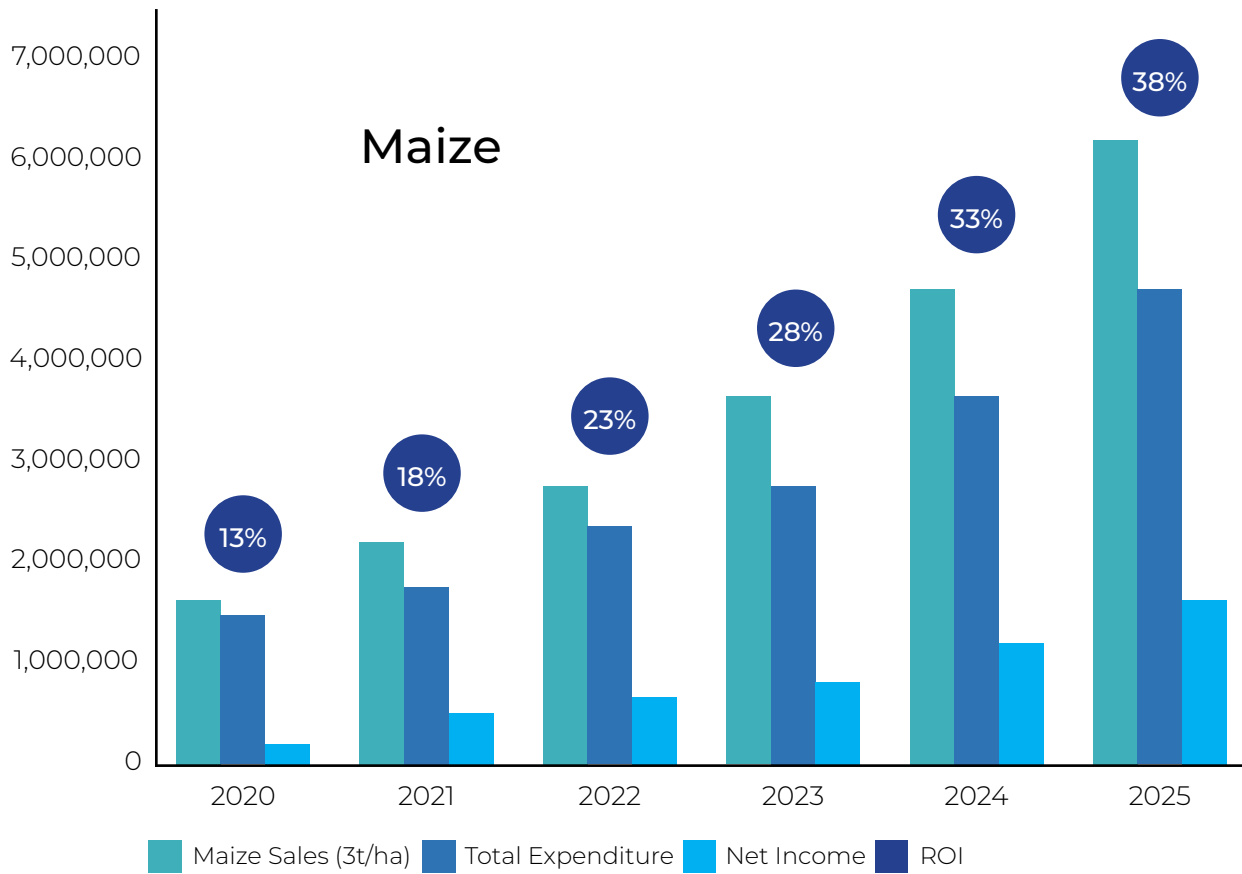


Fig 3-3: Investment Cost for Maize

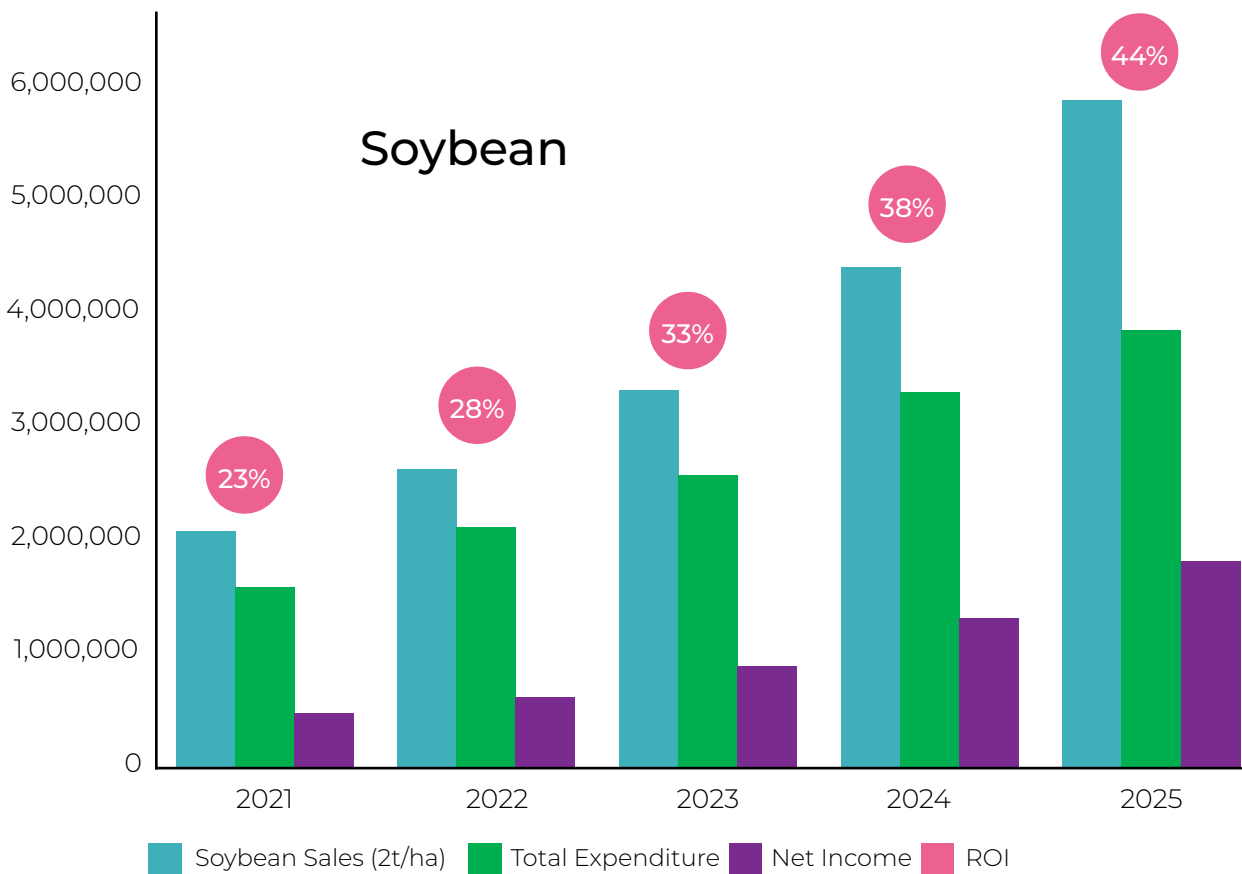


Fig 3-4: Investment Cost for Soybean

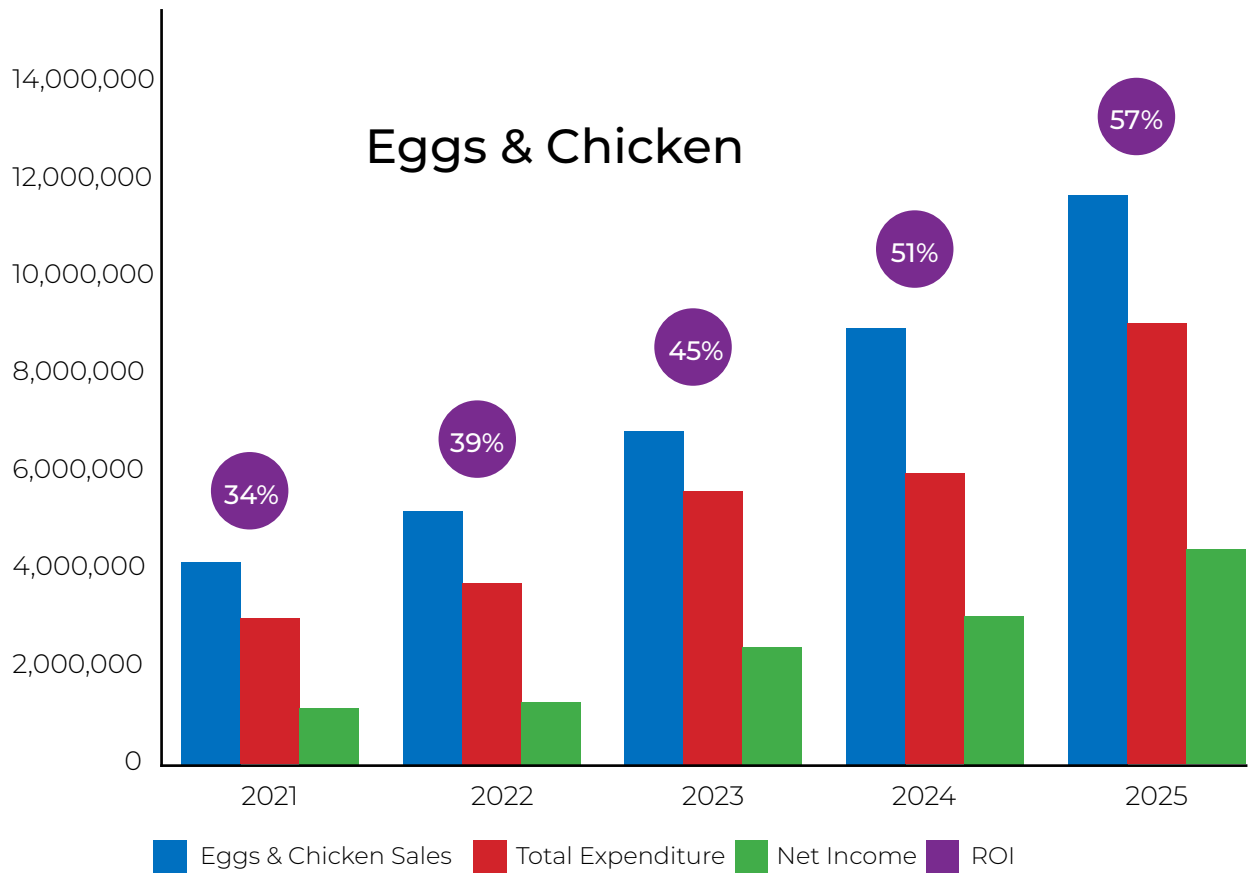


Fig 3-5: Investment Cost for Eggs & Chicken

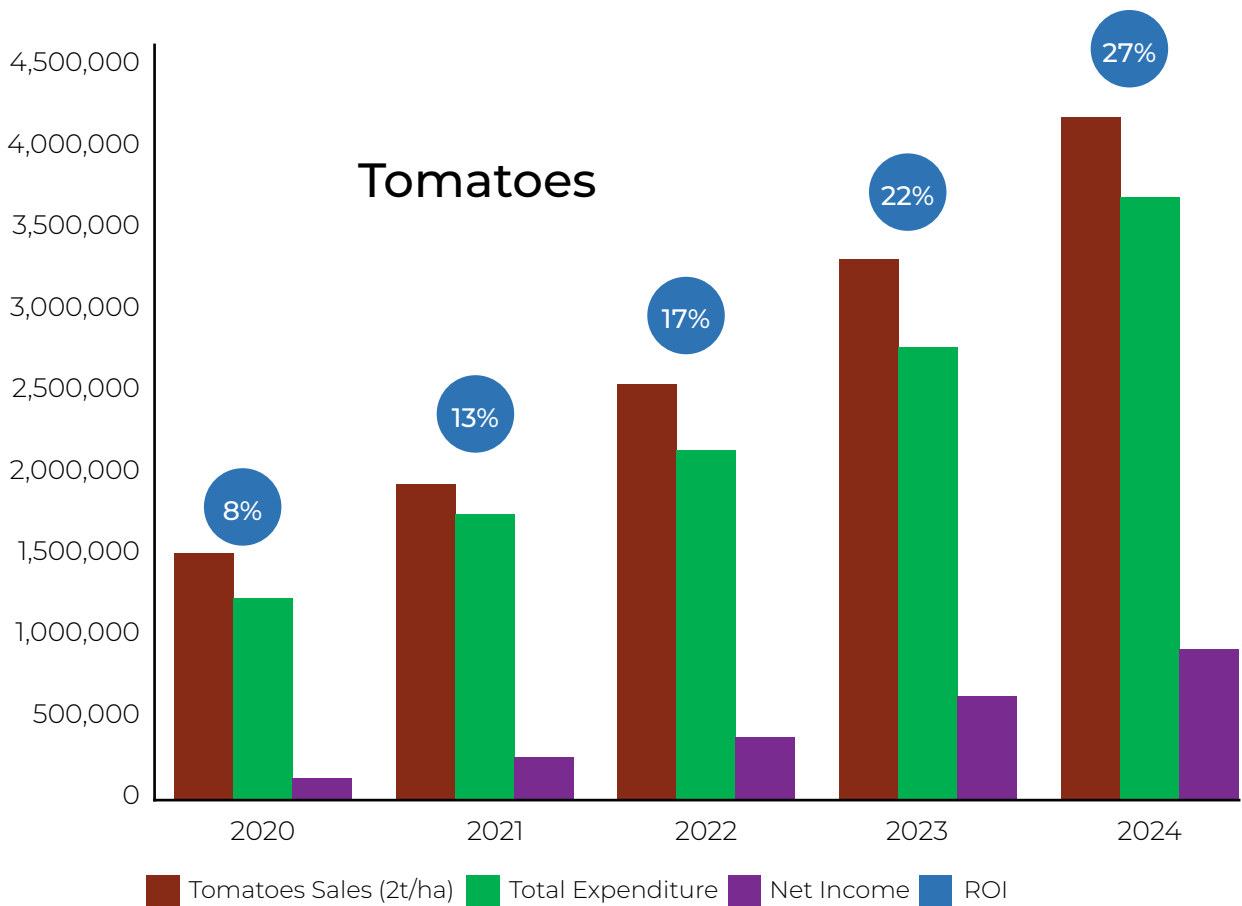


Fig 3-6: Investment Cost for Tomatoes

Table 7: Investment Cost for Youth Farmers and Small-Scale Farm Holders in the State

	Farm Size(ha)	No of Farm Holders	SHF	MF & YF	Cost of Crop Production	Cost of land clearing for MF& YF	Cost of Fert, Seed & Herbicides to SHF	Total Cost of land preparation to be Facilitated by Government	Total Cost Seed, Herbicides and Fertilizer to be facilitated by government	Total Cost of intervention per crop
Cassava	2330	466	138	328	₦852,000	₦150,000	₦375,000	₦49,200,000	₦51,750,000	₦100,950,000
Yam	1541	308	96	212	₦1,075,250	₦150,000	₦375,000	₦31,800,000	₦36,000,000	₦67,800,000
Maize	686	137	42	95	₦145,475	₦150,000	₦375,000	₦14,250,000	₦15,750,000	₦30,000,000
Cowpea	670	134	42	92	₦162,525	₦150,000	₦375,000	₦13,800,000	₦15,750,000	₦29,550,000
Soybean	673	135	39	96	₦162,525	₦150,000	₦375,000	₦14,400,000	₦14,625,000	₦29,025,000
Fish	30	180	54	126	₦400,000	₦150,000	₦375,000	₦18,900,000	₦20,250,000	₦39,150,000
Poultry	30	180	54	126	₦500,000	₦150,000	₦375,000	₦18,900,000	₦20,250,000	₦39,150,000
Tomatoes	40	240	72	168	₦400,000	₦150,000	₦375,000	₦25,200,000	₦27,000,000	₦52,200,000
Total	6000	1780	537	1243	₦3,697,775	₦1,200,000	₦3,000,000	₦186,450,000	₦201,375,000	₦387,825,000

MF-Micro farmers SHF=Small Scale Farmers (ABP) YF – Youth Farmers

*Urban farm will start 1 ha farmland.

Table 8: Summary of Proposed Intervention

	Land clearing cost Loan to	Farm Inputs (Stems, Fertilizers, Herbicides) Loan	Training opportunities with project implementation of Development Partners	Training on GAP/GHP/ Bus Mgt
1243 Youth Farmers	₦186,450,000		√	√
537 Small Holder Farmers		₦201,375,000	√	√
All the 1780 Farmers	₦387,825,000		√	√

Model Two: Cost sharing model targeting smallholder farmers

The cost sharing model will target 30,000 small holder farmers in the rural, peri-urban and urban area under the state Agribusiness micro enterprise growth. This model is built on the premise that about 70 percent of farmers in Oyo State are still smallholder and micro enterprise, growing crops on an area of less than one to two hectares (1 - 2 ha) of land. Therefore, there is a need to grow their (farmers) capacities through training and provision of improved seeds in a business-like manner while at the same time ensuring that they are food secure.

This model can be built on existing concepts such as the Cassava Weed Management Project of IITA, that has proven that majority of resource-poor farmers are willing to keep to agreements and repay loans. Therefore, government’s idea to co-invest with the farmers is a step in the right direction and will bring benefits.

An example of cassava cost sharing model (Table 9) will entail:

Government provides	Farmer provides	Profit Sharing
<ul style="list-style-type: none"> Improved cassava planting materials for 1 ha (₦800 per bundle x 70= ₦56,000) Herbicides (Land preparation + Pre-emergence + Post emergence) = ₦60,000 Fertilizer (4 bags) = ₦28,000 Advisory services through the MOARD extension service department and available e-extension 	<ul style="list-style-type: none"> Land Clears the land Ploughs the land Harvest the cassava 	<ul style="list-style-type: none"> Farmer takes Half of the cassava roots Farmer takes Half of the stems Government takes Half of the stems and roots to repay the cost of investment by the government

Benefit:

This model assumes that if all agronomic practices are followed, the farmer will harvest about 25 tons per ha. If cassava roots sell at N18000 per ton, he will get =N450,000 and share half of the amount with the government to repay cost of investment. The farmer can continue as a seed entrepreneur hence, he has access to clean seed materials, expanding his business opportunities.

To successfully implement this model will cost N250,000 per ha. This include time and technical support. The technical support to the farmer is very crucial to make this work. There is also the option of the farmer to intercrop the cassava with maize for higher profits.

Table 9: Cost sharing scenario per ha using cassava as a case study

Item	Cost estimate (ha)	Responsibility
Improved planting material	₦800 per bundle (₦56,000 per ha)	Oyo State Government
Herbicides	N60,000 (Land preparation + Preemergence + Post emergence)	Oyo State Government
Fertilizer	4 bags (N28000) per ha	Oyo State Government
Advisory services & logistics, training facilitation and monitoring	N56,000	Oyo State Government
Total Oyo Govt investment	N250,000 per ha	
- Ploughing	20000	Farmer
- Land clearing	20000	Farmer
- Cassava Harvest	20000	farmer
Total farmer investment	N60,000 per ha	
Total investment (Government + farmers)	N250,000 + N60,000/ha	
Total expected returns (Government + Farmers)	N450,000 (25 tons ha achieved and sold at N18000 per ton)	

*Total returns is shared by government and the farmer on 50:50 bases. So same with cassava stems.

The farmer selection criteria are indicated in Table 10.

Table 10: Farmer Selection Criteria.

Age	18 –35 years for Youth; Micro Farmers: > 50 years
Gender	At least 30% of beneficiaries must be female
Land Size	5ha on the average
Planting Season	Wet or Dry Season
Agronomy Skills	First-hand experience cultivating the specified crop e.g. maize, cowpea, soybean, yam and cassava
Commodity Group Membership	Membership in an active group or willing to join and be committed to a group
Attitude	Willingness and readiness to attend project activities (training)

Model 3: Processors-led facilitation of young crop model farms within their zones

The consortium will ensure opening of youth farms for interested processing factories that will serve as off-takers and be ready to pre-fund some element of production cost for the young farmers. For instance, the private sector serving as off-takers will be encouraged to procure and supply young farmers with inputs (e.g. cassava stems, herbicides, fertilizer, etc.) in partnership from reputable and pre-qualified Agrochemical dealers and financial institution under a multipartite contract farming business model. This will create a link between farmers and financial institutions with the processor as an intermediary. In addition, the processors will be advised to adopt nucleus estate contract farming business model within their zones. Government help secure such land for the youth farmers.

This Private Public Partnership will guarantee consistent and efficient supply of fresh cassava roots to the factories for its operation since the movement of roots across state borders will be reduced as previous experience shows us that farmers can access markets up to 500 kilometers away for fresh supply. The approach will be supported by IITA, dedicated ICT platform, the Oyo Digital-Ag, for precision delivery, improved coordination, and communication between the implementors, input suppliers, service providers, knowledge experts, extension services and beneficiaries. IITA already established a suite of ICTs for comprehensive agricultural transformation.

This platform meets the immediate need to digitally bridge challenges imposed by physical isolation and movement restriction to minimize the Covid-19 risk. In the medium-term, this platform is expected to evolve as a platform for informed decision-making, leveraging big data generated from the ICTs on land use, production mapping, and soil and climate information for improving system efficiency. IITA proposes two deliverables for 2020.

Quick wins to alleviate Covid-19 impact in 2020

- Tracking and augmenting beneficiaries in Oyo state: Between June and August 2020, Oyo State government organized strategic seed distribution. Using IITA ICTs, map the recipients could track progress, provide extension advisory for crop management (agronomy and weed management using Akilimo and Herbicide Calculator), and link producers to the next level value chain actors and markets, using the Business Connector applications.
- Value addition through digitalization of commodity value chains: Crops such as cassava, maize, and yam are among the key staples in Oyo state. IITA apps can be used for self-registration of producers (seed and ware) and other chain actors (off-takers and processors in particular) to digital map the key actors to digitally bridge key agricultural value chains to enhance market opportunities and improve market linkages. The same platform can be used for delivering extension advisory to end-users.

Performance matrix for ensuring good Return of Investment (ROI) of the project.

- I. The use of quality input resulting into higher yield (proposed estimated tonnage to be produced achieved or exceeded.)
- II. Increase in the adoption of good agronomic practices
- III. Cost effectiveness, i.e., increased financial benefit that can be attributed to the project
- IV. No of new jobs created for youth and women
- V. Generation of additional income for beneficiaries
- VI. Percentage of loan repayment
- VII. Number of successful market linkages
- VIII. Application of technologies; farm mapping, mechanization and services that should be technology driven, for example, farm mapping, data collection, etc. (Incentivize beneficiaries to carry out such services)
- IX. Number of businesses participating in the project.
- X. Number of local businesses increasing revenue

Funding source: Available funding that the project can benefit from

Funding for the project will be sourced from:

- The CBN Anchor borrower program that is purely private sector driven with state government as facilitator and guarantor.
- The NIRSAL Agricultural Intervention Fund with off-takers as facilitators and guarantors
- Other International Fund on COVID-19 on Food security and Nutrition.
- Oyo State Agriculture Credit scheme revolving loan fund.
- Sustainable Development Goal fund

Expected outcome

Benefits accruing from the project in terms of production and processing in the state over short mid-term will include:

- Increase in agricultural productivity (cassava yield will increase from 8-11t/ha to 25-35t/ha; yam will move from 10t/ha to 18t/ha, maize will have yield from 2 t/ha to 4 t/ha, and cover crops like soybean yield will increase from 2 t/ha to 5t/ha).
- Increased and reliable supply of raw materials to Off-takers by at least 25% of their existing supplies.
- Availability and sale of clean and high-quality seeds and planting material to farmers in Oyo State
- Enhanced capacity of farmers to produce improved, disease-free cassava planting materials thereby making the state the hub for quality seeds of improved cassava materials.
- Increase in nutritious food for the teeming population will increase by 40%.
- Enhanced Youth entrepreneurship in food system.
- Increase food security by 25% in the state
- Increase in internally generated revenue (IGR) for the state through increase Agro-allied business incubation leading to sustain livelihood by at least 20%.

Table 11a: Expected Land and Crops to be cultivated between 2020-2021

S/N	MODEL	Total Hectarage planted	Crop							
			Cassava		Maize		Tomato/Vegetable		Soybean	
			Cultivated (Ha)	Yield (25ton)	Cultivated (Ha)	Yield (3ton)	Cultivated (Ha)	Yield (20ton)	Cultivated (Ha)	Yield (2ton)
1	Model 1: Government Facilitated Cluster Model	4,950	2,100	52,500	1,700	5,100	500	10,300	650	1,300
A	Agribusiness industrial hub (Farm estate)		2,000	50,000	1,600	4,800	490	8,600	600	1,200
B	Youth incubation park centers		100	2,500	100	300	10	400	50	100
2	Model 2: Private Sector Facilitated Model	14,270	7741	193525	4,845	14,535	54	720	1,630	3,260
1	Ibadan	1,465	1,270	31,750	185	555	10	20	N/A	N/A
2	Ibarapa	915	745	18,625	160	480	10	20	N/A	N/A
3	Okeogun 1	4,875	85	2,125	3,130	9,390	30	600	1,630	3,260
4	Okeogun 2	6,127	5,027	125,675	1,100	3,300	N/A	N/A	N/A	N/A
5	Ogbomoso	210	100	2,500	110	330	N/A	N/A	N/A	N/A
6	Oyo	678	514	12,850	160	480	4	80	N/A	N/A
3	Model 3: Cost Sharing Model	18,985	8,900	197,500	8,900	27,500	1,335	20,700	1,000	2,000
A	Oyo state Covid-19 support Initiative	4,500	4,500		4,500	13,500	650	13,000	N/A	N/A
B	Anchor borrower-AADS	5,000	400	36,000	400	5,000	200	4,000	N/A	N/A
C	NCARES	6,185	3,000		3,000	9,000	185	3,700	N/A	N/A
D	State Value chain Association	3,300	1,000		1,000		300	600	1000	2000
4	Total	38,205	18,741	443,525	15,455	47,135	1,889	32,320	3,280	6,560

Table 11b: Expected outcome from the elite crops to be cultivated

Total Annual Required	Maize @ 2.5 ton/ha	Cassava @ 25tons/ha	Cowpea @ 1.5ton/ha	Soybean @ 2.5tons/ha	Tomato @ 40tons/ha	Yam @ 15ton/ha	Rice@ 4tons/ha
Total production through clustered farm with 6,000 hectares	18,000	180,000	9,000	12,000	240,000	84,000	24,000
Total production through support for 30,000 farmers at 5 ha/farmers	450,000	4,500,000	225,000	300,000	6,000,000	2,100,000	600,000
Total production through prescribed Farm Estate at: 1,500ha of Cassava 5,000ha of Soybean 500ha of Rice		45,000		10,000			2,000
Total production through Farm Estate : Irrigation at 1,250		37,500		2,500	50,000		
Other products section into SME 4 Anchors on each to 4,000 each	10,000	100,000		20,000	160,000		
Total	478,500	4,862,500	234,000	344,500	6,450,000	2,184,000	626,000

Conclusion

The Government of Oyo State inaugurated a Food Security Emergency Task Force to formulate an emergency food security initiative to address problems that could arise from lockdown and disruption in food system occasioned by the COVID-19 pandemic. This report sets out the strategy that will be adopted for the various components of the initiatives and modalities for its implementation.

It is envisaged that the initiative will provide farmers mostly youths and small holders with the opportunity and access to:

- Training in Good and modern agronomic practices,
- Methodology in good hygienic practices in processing, storage and marketing
- Development of knowledge in management of agriculture as a business
- Exposure and use of modern production and ICT technologies in agriculture

APPENDICES

Appendix 1: Investment Cost for the crops

CASSAVA						
Year	0	1	2	3	4	5
	2020	2021	2022	2023	2024	2025
Income (30t/ha)		₦1,950,000	₦2,535,000	₦3,295,500	₦4,284,150	₦5,569,395
Total Expenditure		₦1,562,000	₦1,952,500	₦2,440,625	₦3,050,781	₦3,813,477
Net Income		₦388,000	₦582,500	₦854,875	₦1,233,369	₦1,755,918
ROI		25%	30%	35%	40%	46%
Note: 25% incremental cost and 30% increase in Revenue per year						
Cassava Production Cost		Income per/ha		Total income/5ha		
₦390,000.00		₦1,950,000.00		₦9750,000.00		
Expenditure Items		Unit Cost /ha		Total Cost/5ha		
Mowing (Mechanical) 2*1500		₦30,000.00		₦150,000.00		
First Ploughing		₦10,000.00		₦50,000.00		
2nd Ploughing		₦10,000.00		₦50,000.00		
Ridging		₦10,000.00		₦50,000.00		
Fertilizer (4 bags@N8000)		₦32,000.00		₦160,000.00		
Cassava Stem (bundles)		₦25,000.00		₦125,000.00		
Planting @N5000/ha		₦5,000.00		₦25,000.00		
Pre-emergence Herbicide		₦15,000.00		₦75,000.00		
Pre-emergence Spraying		₦3,000.00		₦15,000.00		
2nd Chemical		₦6,000.00		₦30,000.00		
2nd Spraying		₦3,000.00		₦15,000.00		
Harvesting		₦35,000.00		₦175,000.00		
Cost of transportation		₦30,000.00		₦150,000.00		
Land rent		₦50,000.00		₦250,000.00		
Farm Utilities/Supports		₦20,000.00		₦100,000.00		
Cost of production				₦1,420,000.00		
Interest on loan (10%)				₦142,000.00		
Total Cost of Production				₦1,562,000.00		
Gross Margin				₦388,000.00		
Return of Investment				25%		

YAM						
Year	0	1	2	3	4	5
	2020	2021	2022	2023	2024	2025
Sales (14t/ha)		₦7,000,000	₦9,100,000	₦11,830,000	₦15,379,000	₦19,992,700
Total Expenditure		₦5,376,250	₦6,720,313	₦8,400,391	₦10,500,488	₦13,125,610
Net Income		₦1,623,750	₦2,379,688	₦3,429,609	₦4,878,512	₦6,867,090
ROI		30%	35%	41%	46%	52%

Yam Production Cost	Income/ha	Total Income/5ha
Expected Revenue (14t/ha)	₦1,400,000.00	₦7,000,000.00
Expenditure Items	Unit Cost /ha	Total Cost/5ha
Mowing (Mechanical) 2*1500	₦30,000.00	₦150,000.00
Ploughing	₦30,000.00	₦150,000.00
Ridging @N15000/ha	₦30,000.00	₦150,000.00
Fertilizer 5*N8000	₦40,000.00	₦200,000.00
Yam Stem (N50x10000)	₦500,000.00	₦2,500,000.00
Planting @N10000/ha	₦30,000.00	₦150,000.00
Muching (5 ce x N5000)	₦25,000.00	₦125,000.00
Insecticide application	₦2,500.00	₦12,500.00
Weed control	₦40,000.00	₦200,000.00
Pre-and -post-emergence Spraying	₦35,000.00	₦175,000.00
Harvesting @N10000/ha	₦100,000.00	₦500,000.00
Cost of transportation	₦30,000.00	₦150,000.00
Admin & technical support	₦35,000.00	₦175,000.00
Land rent @N10000/ha	₦50,000.00	₦250,000.00
Cost of production		₦4,887,500.00
Interest on loan (10%)		₦488,750.00
Total cost		₦5,376,250.00
Net income		₦1,623,750.00
Return of Investment		30%

MAIZE						
Year	0	1	2	3	4	5
	2020	2021	2022	2023	2024	2025
Sales (3t/ha)	₦1,650,000	₦2,145,000	₦2,788,500	₦3,625,050	₦4,712,565	₦6,126,335
Total Expenditure	₦1,454,750	₦1,818,438	₦2,273,047	₦2,841,309	₦3,551,636	₦4,439,545
Net Income	₦195,250	₦326,563	₦515,453	₦783,741	₦1,160,929	₦1,686,790
ROI	13%	18%	23%	28%	33%	38%

Maize Production Cost	Income/ha	Total Income/5h
Expected Revenue (3t/ha)	₦330,000.00	₦1,650,000.00
Expenditure Items	Unit Cost /ha	Total Cost/5ha
Mowing (Mechanical) 2*15000	₦30,000.00	₦150,000.00
First Ploughing	₦30,000.00	₦150,000.00
2nd Ploughing @N10000/ha	₦30,000.00	₦150,000.00
Ridging @N10000/ha	₦32,000.00	₦160,000.00
Fertilizer (4 bags@N8000)	₦10,000.00	₦50,000.00
Cassava Stem (bundles) @N25000/ha	₦10,000.00	₦50,000.00
Planting @N5000/ha	₦2,500.00	₦12,500.00
Pre-emergence Herbicide @N15000/ha	₦10,000.00	₦50,000.00
Pre-emergence Spraying @N3000/ha	₦35,000.00	₦175,000.00
2nd Chemical @N6000/ha	₦10,000.00	₦50,000.00
2nd Spraying @N3000/ha	₦6,000.00	₦30,000.00
Harvesting @N35000/ha	₦5,000.00	₦25,000.00
Cost of transportation	₦14,000.00	₦70,000.00
Land rent @50000/ha	₦20,000.00	₦100,000.00
Farm Utilities/Supports	₦50,000.00	₦250,000.00
Cost of production		₦1,322,500.00
Interest on loan (10%)		₦132,250.00
Total Cost of Production		₦1,454,750.00
Gross Margin		₦195,250.00
Return of Investment		13%

SOYBEAN						
Year	0	1	2	3	4	5
	2020	2021	2022	2023	2024	2025
Sales (2t/ha)		₦2,000,000	₦2,600,000	₦3,380,000	₦4,394,000	₦5,712,200
Total Expenditure		₦1,625,250	₦2,031,563	₦2,539,453	₦3,174,316	₦3,967,896
Net Income		₦374,750	₦568,438	₦840,547	₦1,219,684	₦1,744,304
ROI		23%	28%	33%	38%	44%

Soybean Production Cost	Income/ha	Total Income/5h
Expected Revenue (2t/ha)	₦400,000.00	₦2,000,000.00
Expenditure Items	Unit Cost /ha	Total Cost/5ha
Mowing (Mechanical) 2*15000	₦30,000.00	₦150,000.00
Ploughing	₦30,000.00	₦150,000.00
Ridging @N15000/ha	₦30,000.00	₦150,000.00
Fertilizer 4*N8000	₦32,000.00	₦160,000.00
Soybean Seed	₦25,000.00	₦125,000.00
Planting @N10000/ha	₦10,000.00	₦50,000.00
Insecticide application	₦2,500.00	₦12,500.00
Weed control	₦10,000.00	₦50,000.00
Pre-and -post-emergence Spraying	₦35,000.00	₦175,000.00
Harvesting @N10000/ha	₦10,000.00	₦50,000.00
Threshing	₦6,000.00	₦30,000.00
Winnowing	₦5,000.00	₦25,000.00
Cost of transportation	₦30,000.00	₦150,000.00
Admin & technical support	₦20,000.00	₦100,000.00
Land rent @N50000/ha	₦50,000.00	₦250,000.00
Cost of production		₦1,477,500.00
Interest on loan (10%)		₦147,750.00
Total cost		₦1,625,250.00
Net income		₦374,750.00
Return of Investment		23%

TOMATO						
Year	0	1	2	3	4	5
	2020	2021	2022	2023	2024	2025
Sales (40t/ha)		₦16,000,000	₦16,800,000	₦17,640,000	₦18,522,000	₦19,448,100
Total Expenditure		₦4,694,040	₦4,834,861	₦4,979,907	₦5,129,304	₦5,283,183
Net Income		₦11,305,960	₦11,965,139	₦12,660,093	₦13,392,696	₦14,164,917
ROI		241%	247%	254%	261%	268%

Tomato Production COst	Income/ha	Total Income/5h
Expected Revenue (40t/ha)	₦3,200,000	₦16,000,000
Expenditure Items	Unit Cost /ha	Total Cost/5ha
Land Rent	₦25,000	₦125,000
Ploughing	₦20,000	₦100,000
Ridging	₦20,000	₦100,000
Bed making	₦40,000	₦200,000
Ridging	₦14,000	₦70,000
Seed (7000 seed/25g)	₦26,000	₦130,000
Net	₦20,000	₦100,000
Fertilizer 1 NPK	₦32,000	₦160,000
Insecticide 500ml	₦6,900	₦34,500
Fungicide 4 satchets 200g	₦10,000	₦50,000
Herbicide 250ml	₦4,000	₦20,000
Knapsac sprayer 2	₦60,000	₦300,000
Rope	₦62,500	₦312,500
Plastic crates rental(25kg)	₦200,000	₦1,000,000
Planting	₦10,000	₦50,000
Herbicide application	₦10,000	₦50,000
Pesticide application	₦20,000	₦100,000
Weeding	₦20,000	₦100,000
Staking	₦40,000	₦200,000
Harvest	₦240,000	₦1,200,000
Transportation	₦40,000	₦200,000
Agric Insurance (2%)		₦92,040
Total Cost of Production		₦4,694,040
Gross Margin		₦11,305,960
ROI		241%

Appendix 2: Investment Cost for Youth Farmers in Model One

Total production cost per Youth per 5 Hectares of Cleared Land within a Zone

MF	SHF	YGF	Ha	Cassava Production Cost (N)	Yam Prod Cost (N)	Maize Prod Cost (N)	Soybean Prod Cost (N)
140	420	840	1400	1192800000	1505350000		
150	450	900	1500	1278000000	1612875000		
150	450	900	1500	1278000000	1612875000	218212500	243787500
150	450	900	1500	1278000000	1612875000	218212500	243787500
10	30	60	100	85200000	107525000	14547500	16252500
			6000	5112000000	6451500000	872850000	975150000
				Total	13,411,500,000		

Cost of Clearing Land for 6000 hectares for Youth Farmers

Agro- Zones	MF	SHF	YF	Ha	Clearing Cost	Cassava	Yam	Maize	Soybean
Zone 1	140	420	840	1400	210000000	126000000	42000000	21000000	2100000
Zone 2	150	450	900	1500	225000000	135000000	45000000	22500000	2250000
Zone 3	150	450	900	1500	225000000	135000000	45000000	22500000	2250000
Zone 4	150	450	900	1500	225000000	135000000	45000000	22500000	2250000
Zone 5	10	30	60	100	15000000	9000000	3000000	1500000	150000
				6000	900000000	540000000	180000000	90000000	90000000

Due to paucity of fund, the committee recommends Government to start with 6000ha that supports 1780 Youth farmers.

Appendix 3: Government Support of Farm Inputs (Stems, Fertilizers, Herbicides) to 1250 Small Holders (SHFs)

SHFs	Cassava	Yam	Maize	Soybean	Total
250	56250000	150000000			206250000
250	56250000	150000000	4500000	11250000	222000000
250	56250000	150000000	4500000	11250000	222000000
250	56250000	150000000	4500000	11250000	222000000
250	56250000	150000000	4500000	11250000	222000000
1250	281250000	750000000	18000000	45000000	1,094,250,000

Appendix 4: Summary of Proposed Intervention

	Production cost (Naira)	Land clearing cost for 6000 hectares (Naira)	All Farm Inputs (Stems, Fertilizers, Herbicides) Loan to Small Holders ONLY
1780 Youth Farmers	Cassava: N5,112,000,000* Yam: N6,451,500,000 Maize: N872,850,000 Soybean: N975,150,000	N900,000,000	
1250 Small Holder Farmers to obtain**			N1,094,250,000

Loan at 10% interest rates for 5 years or as determined by CBN

*We are recommending the State to Start with Cassava with over 80% off-takers ready to purchase fresh roots. Also, using CBN Anchor Borrower program will reduce the cost almost by half, if adopted.

Appendix 5: Land Allocation for Crop Production in Agroecology Zones in the State

Zones	Farmers	ha/ zone	%	Cassava	Yam	Maize	Cowpea	Soybean	Fish	Poultry	Tomato & Veg	TOTAL	
				0.333	0.200	0.150	0.150	0.150	0.005	0.005	0.007	1.00	
Zone1: Ibadan/ Ibarapa	MF	1400	0.1	80	60							140	
	SHF		0.3	240	180							420	
	YF		0.6	480	360							840	
Zone 2: Oke Ogun / Saki	MF	1500	0.1	53	31	23	22	22				150	
	SHF		0.3	152	100	69	65	65				450	
	YF		0.6	305	183	137	137	138				900	
Zone3: Iseyin/Oyo	MF	1500	0.1	53	31	23	22	22				150	
	SHF		0.3	152	100	69	65	65				450	
	YF		0.6	305	183	137	137	138				900	
Zone4: Ogbomoso	MF	1500	0.1	53	31	23	22	22				150	
	SHF		0.3	152	100	69	65	65				450	
	YF		0.6	305	183	137	137	138				900	
Zone 5: Ibadan Municipals	MF	100	0.1							3	3	4	10
	SHF		0.3							9	9	12	30
	YF		0.6							18	18	24	60
	Total	6000		2330	1541	686	670	673	30	30	40	6000	

Appendix 6: Employment Generation capacity of Govt. Assisted Crop and Livestock Production in Oyo by Zones

		Cassava	Yam	Maize	Cowpea	Soybean	Fish	Poultry	Tomato & Veg	TOTAL		
		30%	20%	15%	15%	15%	2%	2%	1%	100%		
Zone 1: Ibadan/Ibarapa	MF	16	12								28	
	SHF	48	36								84	
	YF	96	72								168	
Zone 2: Oke Ogun /Saki	MF	11	6	5	4	4					30	
	SHF	30	20	14	13	13					90	
	YF	61	37	27	27	28					180	
Zone 3: Iseyin/Oyo	MF	11	6	5	4	4					30	
	SHF	30	20	14	13	13					90	
	YF	61	37	27	27	28					180	
Zone 4:Ogbomoso	MF	11	6	5	4	4					30	
	SHF	30	20	14	13	13					90	
	YF	61	37	27	27	28					180	
Zone 5: Ibadan Municipals	MF						18	18	24			60
	SHF						54	54	72			180
	YF						108	108	144			360
Total		466	308	137	134	135	180	180	240	1780		

