Access to Agricultural Land in Delta, Edo, and Ondo States Study Report

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FOUNDATION FOR PARTNERSHIP INITIATIVES IN THE NIGER DELTA

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List of Acronyms

- **ABCs** Agro Business Cities
- **ADPs** Agricultural Development Projects
- **BDS** Business Development Services
- **CBN** Central Bank Of Nigeria
- **CCAECS** Consultative Committee On Agricultural Export Commodity Statistics
- **CDD** Community-driven Development
- **CDUs** Cocoa Development Units
- **CRIN** Cocoa Research Institute Of Nigeria
- **CSOs** Civil Society Organizations
- **C of O** Certificate Of Occupancy
- **DFRRI** Directorate For Food Roads And Rural Infrastructure
- **DSMTDP** Delta State Medium-term Development Plan
- **EAP** Edo Agropreneurs Programme
- **EDOGIS** Edo State Geographic Information Service
- **FADU** Farmers Development Union
- **FAO** Food And Agriculture Organization
- **FFA** Free Fatty Acid
- **FFBs** Fresh Fruit Bunches
- **FGD** Focus Group Discussion
- **FSS** Farm Settlement Scheme
- **GIS** Geographical Information System; Graduate Internship Scheme
- **GM** Gross Margin
- **HA** Hectares
- **IITA** International Institute Of Tropical Agriculture
- **KIIs** Key Informant Interviews
- **KG** Kilogram
- **KM** Kilometer
- **LAPDO** Life And Peace Development Organization
- **LBAs** Licensed Buying Agents
- **LG** Local Government
- **LGA** Local Government Area
- **LO** Liaison Officer
- **M4P** Making Markets Work For The Poor Training
- **MFB** Microfinance Bank
- **MoU** Memorandum Of Understanding
- **MT** Metric Tonne
- **NAEC** Nigerian Agricultural Entrepreneurship Curriculum
- **NALDA** National Agricultural Land Development Authority
- **NDPI** Niger Delta Partnership Initiative
- **NEC** National Economic Council
- **NFDP** National Fadama Development Project
- **NGN** Nigerian Naira
- **NGO** Non-governmental Organization
- **NIFOR** Nigeria Institute For Palm Oil Research
- **NIRSAL** Nigeria Incentive-based Risk Sharing System For Agricultural Lending
- **OFN** Operation Feed The Nation
- **P.A.S.S.** Profarmers & Agropreneurs Sustainable Scheme
- **PIND** Foundation For Partnership Initiatives In The Niger Delta

List of Acronyms

- **RBDAs** River Basin Development Authorities
- **SDA** Social Dimension Of Adjustment
- **SSA** Senior Special Assistant
- **TCUs** Tree Crop Units
- **ton/ha** Tonnes Per Hectare
- **UNDP** United Nations Development Program
- **USAID** United States Agency For International Development
- **VBAs** Village Buying Agents
- **WECA** Wealth Creation Agency
- **WIA** Women In Agriculture

Executive Summary

This study was designed to understand the access to agricultural land policies and implementation in Edo State, Delta State, and Ondo State. Starting with the national policies and efforts at alleviating the problems of access to agricultural land, some past and present policies and programs of the federal government were reviewed. To get a proper handle on these issues, it is important to adopt a value chain approach since it affords the opportunity to comprehensively study the factors influencing such issues.

As part of the methodology, government officials were interviewed to gain insight into government policy compliance and implementation. While many government officials felt free to discuss, they were extremely reluctant to part with concrete data as empirical evidence to support their claims. To achieve representativeness, a two-stage purposive sampling approach was adopted. The first stage is to divide each state into senatorial districts, after which one community was chosen in each senatorial district in each state. In the chosen communities, FGDs (focus group discussions) were held to discuss the issues of access to agricultural land and gain some understanding of the supply side. At the end of the exercise, there were in total 90 farmers (ten per community) as respondents, 27 inputs dealers (three per community), 27 marketers (three per community), 27 processors (three per community), and 27 transporters (three per community) were interviewed for the study.

To validate the data collected from the respondents, KIIs (key informant interviews) were carried out with the senior staff of ministries, departments, relevant agencies, and farmers associations (seven from Edo State, six from Delta State, and six from Ondo State). After collecting primary data from the respective states, responses from the sample survey were analyzed using parametric statistical tools. The results of the analysis have been presented and discussed in detail. For example, there was no out-grower scheme in any of the communities studied.

The farmers and other value chain actors were very cooperative and transparent in their responses. It was discovered that access to farmland is not considered the biggest challenge of small farmers. Farmers consider working capital as a source of access to production inputs as the top priority. The so-called big investors ride on governments' goodwill to acquire large parcels of land, but some of them cannot access the finance to carry out investment on the land. Therefore, governments, especially in Edo State, have had to revoke some occupancy rights to pave the way for more serious investors that are ready to hit the ground running. The idea of the land bank committee and digitization in the states is worthy of emulation. Similarly, the practice in the three states (Edo, Delta, and Ondo) of clearing and preparing farmland ready for occupation is highly desirable.
This is so because of the exorbitant costs and land tenure issues that the government can overcome

through such interventions.

Access to agricultural land was discovered not to be as difficult as imagined for the small-scale farmers. This cannot be true for big investors who always need government as a broker (between investors and communities) in such agricultural land deals. It was also discovered that many of the agricultural land allocated in the past secured by certificates of occupancy remain undeveloped. This is partly because the investors had difficulty raising investible funds. As a result, states like Edo start by giving land for agriculture in installments of 500 ha (hectares). One of the findings emanating from this study is that many unemployed youths allocated farmlands and supplied with production inputs abandoned the farms due to the flawed recruitment process. Appropriate screening rather than political patronage has been recommended. Agricultural land is difficult to buy or lease (on a long-term basis) in Delta State because of scarcity. The man-to-land ratio is very high in the maritime state, unlike in Edo State and Ondo State.

Digitization of available land in all the states and the land bank committee will, to a large extent, help in the appropriate allocation of land. Whenever approached by prospective investors, it will be possible to quickly know what lands are vacant and what lands are allocated.

In conclusion, this study has revealed the situation in access to agricultural land in the three states covered (Edo, Delta, and Ondo). It is particularly revealing that many states are not doing enough to assist real farmers in expanding their farming businesses. They are also helpless in assisting some vulnerable groups such as unemployed youths and women in their quest to access agricultural land for productive ventures. In many cases, they are left to sort themselves out. As for the big investors with sufficient resources, the story is different as they can access significant land with the assistance of the state governors. In general, Delta State, Edo State, and Ondo State acknowledge the fact that access to land to big investors is a big problem and binding constraint in agricultural production.

1.0 Background of the study

Access to agricultural land is a fundamental means whereby the poor grow their own food and generate income. This applies both to societies in which subsistence agriculture is prevalent, where access to agricultural land is the sine qua non of household food security; and to societies where agriculture is more market-oriented, in which family farming provides a principal source of employment-generating the income with which to buy food [FAO (Food and Agriculture Organization), 2006; Garner, 2015).

Access to agricultural land is a major constraint to the increased productivity of smallholder farming in Nigeria. Lesser farmland has consequences for productivity, income, and the wellbeing of the vulnerable smallholder farmers and the rural population where these farmers are clustered (FAO, 2006). There has been some anecdotal evidence that smallholder farmers in the crop value chain in the South-South region of Nigeria do not have adequate access to agricultural land for increased production. The evidence shows that differences in agricultural land access of smallholders are large, resulting in significant differences in production, income, and wealth. In many instances where smallholders can expand their farms, they are allocated land in virgin forests and are consequently faced with the challenge of preparing the land for cultivation at a high cost.

PIND's Cassava Value Chain Analysis, Palm Oil Value Chain Analysis, and Cocoa Value Chain Assessment (PIND, 2011) identified limited access to farmlands for expansion as a major infrastructural constraint for increased crop production in the Niger Delta. This, coupled with low yield and productivity (due to poor farming practices), has limited the capacity of farmers to take advantage of the potential that exists in the agricultural sector. PIND's interventions in the cassava, cocoa, and palm oil sector have focused on improving the productivity of farmers through training and demonstrations of improved practices as well as increasing access to quality agro-input that will guarantee increased yield and productivity of farmers to meet the demands of a growing industrial sector and the needs of a large food market. Taking these interventions to scale would require access to additional lands for new and existing farmers across the region to implement improved practices.

Hence, the purpose of this study is to understand the underlying issues and guiding principles of land availability and allocation for the cultivation of arable and cash crops—with a focus on cassava, cocoa, and palm oil. This assessment would also provide evidence-based data of the economic value of increased production with which to engage government and communities to increase access to agricultural land to smallholder farmers.

1.1 Objective of the Study

The specific objectives of this assessment are divided into three broad categories:

1.1.1 Government: Policies and Programs

This assessment would review past and ongoing government crop programs and explore the impact on smallholder farmers. It would try to understand why the government's interventions do not make provisions for land allocation despite the land tenure system. It would examine why such programs have not worked in the past and the lessons learned. The study would analyze government land policies and the guiding principles of government-reserved agricultural land. It would seek to identify existing government-reserved agricultural land in the focal states (Edo, Delta, and Ondo) and communities where this is prevalent.

The study would identify factors that affect the proper implementation of agricultural land programs and policies for smallholder farmers and the limitations of out-grower schemes designed to feed both the local and industrial markets.

1.1.2 Community: Land Management and Allocation

The assessment would attempt to select and profile three communities per focal state to understand the communal land management structure dynamics.

It would seek to understand the systems adopted for land sharing in the profiled communities and identify possible constraints to availability and access to farmers.
The assessment would also investigate the land fallow systems practiced in communities and explore alternatives methods of farming that would increase productivity with maximum utilization of land. The assessment would investigate how these practices affect women and measures that can be explored to improve access.

1.1.3 Value Chain Actors: Farmers Associations and Large Agro Companies

The study would attempt to identify and garner lessons from farmers' associations and agro companies that had done out-growers' schemes. The study would try to understand the interactions amongst the different actors in such a scheme and related to the issue. The assessment should answer the questions of what is the type of relationship that exists between the actors. How can it improve? What are the constraints, and where does the opportunity exist to make an impact?

1.2 Scope of Work of the Study

The scope and focus of the assessment are first to source data, analyze the data, and recommend an advocacy strategy with which to engage both government and community leadership structures to make land available for smallholder farmers. The consultant shall review relevant policy documents, programs, and strategies in agriculture and other relevant ministries from the focal states of Edo, Delta, and Ondo. There shall also be an extensive review of agriculture programs and the priority commodities that they support.

The use of participatory processes is mandatory for this engagement. Critical reflection of how this issue impacts the different demography in the agriculture sector (civil society, youth, women, business community, and other stakeholders) is integral to developing an effective advocacy strategy that can result in a meaningful change. The consultant will be expected to liaise with the state officials, communities, CSOs (civil society organizations), market development service providers, and co-facilitators.

A desk review of successful land policies that supports smallholder farming like the Cross-River cocoa cultivation model, the Ogun State agricultural land allocation program, and similar programs within Nigeria and other parts of the world.

1.3 Limitations of the study.

There are three limitations to this study. First, the smallness of the sample size concerning the number of communities studied compromises representativeness. One community studied in each of the three senatorial districts in a state, leading to a total of nine communities in all three states (Edo, Delta, and Ondo).
The second limitation is the limited time allowed for the study. The field trips and surveys were rushed while data analysis and report-writing were not given enough time. It is, however, understood that resource constraints must have been responsible for both the first and second limitations.
The third limitation is the reluctance of state government officials (civil servants) to release official documents even where those data are already stale. This dearth of empirical evidence constitutes a limitation to this study.

2.0 Land Administration, Agricultural Land Policies and Programs, and Agricultural Value Chains

2.1 Land Administration in Nigeria

Land is an authentic factor of development in the agricultural sector of any economy. The total landmass of Nigeria is 924,768 square kilometers, while the estimated population as of 2018 was 200 million; the annual population growth rate is 2.8 percent (National Population Commission, 2018). Given the Land Use Act 1978, land accessibility and title ownership are expected to be determined by the state (Udoekanem et al., 2014). The land tenure system is characterized by many actors—such as the government, community leaders, families, lawyers, middlemen, and estate agents. The activities of all these actors are regulated and controlled by the government via policies and programs (Oluwatayo et al., 2019). The land tenure system in Nigeria has changed over the years as grouped into pre-colonial, colonial, postcolonial periods, the Land Use Act 1978 era, and the 2009 National Land Reform Program (Babalola, 2015; Ghebru and Okumo, 2016).

The Land Use Act of 1978 in Nigeria specifies that all land belongs to the government, which holds the same in trust for the public (Alarima et al., 2012). This suggests that the government allots land to individuals and corporate entities based on the objectives of interested parties (Oloyede et al., 2014).

However, this is not the case as the allocation of land is usually primed by political considerations, corruption, and lobbyist tendencies.

The Land Use Act of 1978 gives the opportunities to own land without recourse to families and communal landholdings. The procedure involved in obtaining certificates of tenancy is full of bureaucratic bottlenecks, high registration fees, and payment of levies and taxes (Chikaire et al., 2014). The reality on the ground now is that land tenure is administered by customary laws, especially in rural Nigeria. Hence, tenure security becomes poor as the businesses in the land market are mainly informal (Oluwatayo et al., 2019).

Rural Nigeria is mainly agricultural because 85 percent of its inhabitants depend on agriculture for their livelihood. However, land accessibility is restricted as families and community heads still control land—thereby influencing access to land. The Land Use Act 1978 suggests that the communal land distribution system recipients are not formally recognized as the legal holders of the right to the land. Also, family and community heads depend on memory and reference to natural and artificial features to define plots of land, which is prone to uncertainties concerning the location of boundaries. This is because most communal land allocations are not documented (Twene, 2016).

Land availability influences food and livelihood security considering the level of agricultural development in Nigeria (Odoemelam et al., 2013). Farming processes will remain at the subsistence level because of inadequate land accessibility. About 95 percent of agricultural lands in Nigeria are not titled. This weakens the farmers' capacity to use agricultural lands as collateral to access credit from financial institutions (Hull et al., 2016). Figure 1.1 shows the areas planted to selected arable crops in Nigeria between the years 2000 and 2014. Though Nigeria's population has been increasing over time, the areas planted with the key arable crops have not significantly increased. This is contrary to the expectation of more land being devoted to these crops because of the increasing population.

Figure 2.1

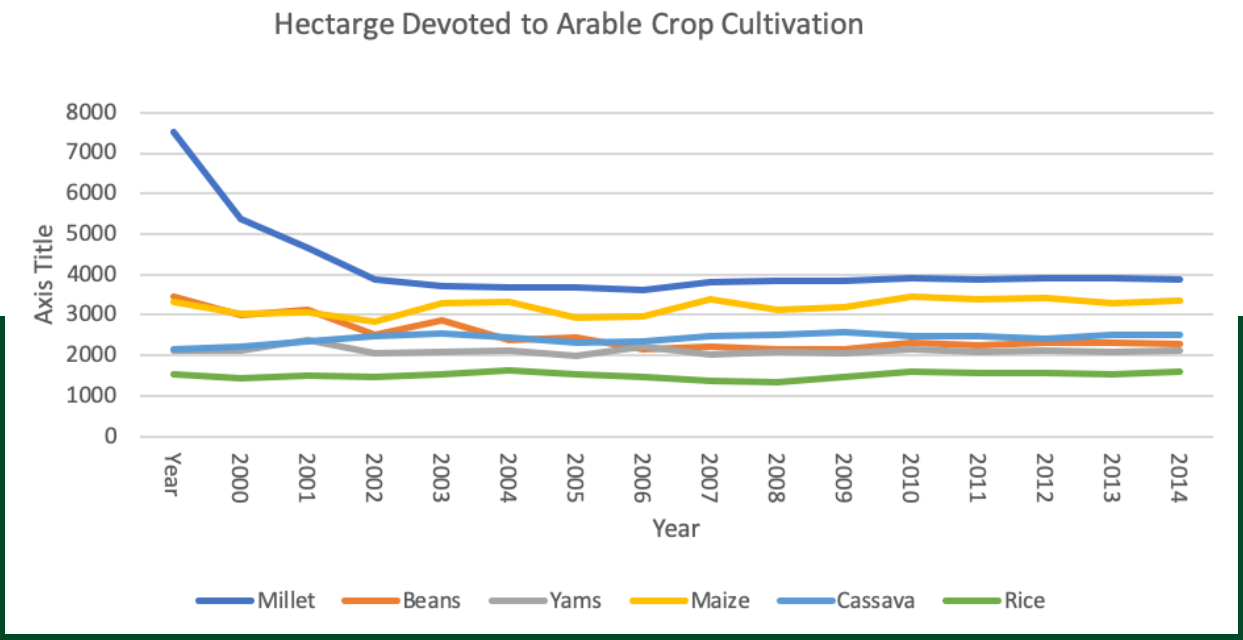

Figure 2.1: Chart based on Data from the National Bureau of Statistics, 2017

2.1.1Agricultural Land Policies and Programs in Nigeria

In the early '60s, Nigeria's agricultural sector was able to thrive on export crops with little support from the government. However, problems started to emerge when there were increasing food supply shortfalls, rising food prices, and declining foreign exchange earnings from agricultural exports. The government initiated several agricultural policies, programs, and projects to address these serious problems, largely within three successive national development plans from 1970 to 1974, from 1975 to 1980, and from 1981 to 1985. However, experience from these policies, programs, and projects has convinced the government and all those concerned with agricultural development efforts in Nigeria that there is no alternative to well-designed and articulate agricultural policies as instruments for promoting agricultural growth and development in Nigeria. It is, therefore, in the realization of this fact that the government has adopted a comprehensive package of policy instruments to further develop and improve the performance of the country's agricultural sector (FMAWRD). Some of these policies and programs were directed at facilitating access to agricultural land by smallholder farmers. Some of these policies and programs are reviewed in the following section.

2.1.1A Farm Settlement Scheme (FSS)

The FSS (Farm Settlement Scheme) was initiated by some regional governments in Nigeria and was a critical element of the Western Nigeria Policy of Agricultural and Natural Resources of 1959. The main objective of this scheme was to settle young school leavers in a specified area of land, making farming their career, thereby preventing them from moving to the urban areas in search of white-collar jobs. These settled farmers also served as models in good farming systems for farmers residing in nearby villages to emulate. However, the program was faced with some challenges, which include: the naivety of the settlers in farming, resulting in a high level of dropout from the scheme, the assumption of the settlers of getting a paid job by mere participating in the scheme, withdrawal of the participants from the scheme as soon as their allowances were stopped, and the high cost of establishing a viable farm settlement in terms of cash and human capital requirement.

2.1.1B Operation Feed the Nation (OFN):

The OFN (Operation Feed the Nation) program was launched in 1976 to increase food production in the entire nation through active participation across disciplines. The program encouraged everyone to be responsible for partly or wholly feeding themselves. Under this program, every available piece of land in urban, suburban, and rural areas was meant to be planted. Government-provided inputs and subsidies [like agrochemicals, fertilizers, improved variety of seed/seedlings, DoCs (day-old chicks), machetes, sickle, and hoes] went to government establishments, and individuals received these inputs at a subsidized rate. Specific challenges that serve as impediments to the success of the program include:

- Government establishments and individuals in authority are given preference of input supply over poor farmers.
- The supply of food outweighs its demand because many people produce most or part of the food they consumed.
- Endemic-poultry-disease incidents, especially the Newcastle disease, wipe out birds due to lack of quarantine and routine vaccinations.

2.1.1C River Basin Development Authorities (RBDAs)

River Basin Development Decree was promulgated in 1976 to establish eleven RBDAs (River Basin Development Authorities) (Decree 25 of 1976) (Ayoola, 2001). The scheme became necessary because of persistent short rainy seasons in many parts of the country, which has continued to restrict cultivation to single cropping patterns the year-round. Thus, by providing irrigation facilities and enabling multiple cropping, the scheme indirectly increased the area devoted to the cultivation of arable crops in a year. Also, the scheme led to the acquisition and development of more land for agricultural production purposes.

The initial aim of the authorities was to boost the economic potentials of the existing water bodies, particularly irrigation and fishery, with hydroelectric power generation and domestic water supply as secondary objectives. The objective of the program was extended to other areas most important to production and rural infrastructural development. Due to the establishment of various large-scale irrigation facilities, the country witnessed unprecedented multiple cropping patterns. Also, larger areas were put into cultivation, while livestock and fisheries production were also intensified. Problems found in the program were: several RBDAs grew out of proportion, and the operations of some suffered from intensive political interference. Besides, substantial public funds were wasted in streamlining the sizes and functions of RBDAs through the disposal of their non-water assets.

2.1.1D Directorate for Food Roads and Rural Infrastructure (DFRRI)

The DFRRI (Directorate for Food Roads and Rural Infrastructure) was initiated in Nigeria in January 1986. It was a home-grown SDA (social dimension of adjustment) embarked upon in most African countries by the World Bank, Africa Development Bank, and the UNDP (United Nations Development Program).
The program was designed to improve the quality of life (improvement in nutrition, housing, health, employment, road, water, and industrialization) and the standard level of living of the rural dwellers using many resources in the rural areas and mass participation of the rural people.

The idea of opening rural areas with feeder roads and integrating them with other parts of the country facilitates the transportation of food across the country. This enhances the quantity of food and raw materials consumption across the country. The poor quality of infrastructures provided by the directorate, probably due to embezzlement/ mismanagement of funds, made the impact of the program almost insignificant. The directorate was criticized in the past for lack of proper focus and program accountability (Idachaba, 1988).

2.1.1E National Agricultural Land Development Authority (NALDA)

NALDA (National Agricultural Land Development Authority) was established in 1992 and aims to give strategic public support for land development; assist and promote better uses of Nigeria's rural land and their resources; boost profitable employment opportunities for rural dwellers; raise the level/ standard of living of rural people; target and assist in achieving food security through self-reliance and sufficiency. NALDA was able to develop 16,000 hectares of land. Out of this, 12,984 (81.1 percent) were cultivated with various crops. It also provided extension services to farmers at project sites. The major aim of the program is to move farming from subsistence to commercial level.

2.1.1F National Fadama Development Project (NFDP)

The first National Fadama Development Project (NFDP-1) was designed in the early 1990s to promote simple, low-cost improved irrigation technology under World Bank financing. The main objective of NFDP- I was to sustainably increase the incomes of the Fadama users through the expansion of farm and non-farm activities with high, value-added output. NFDP adopted a CDD (community-driven development) approach with extensive participation of the stakeholders at an early stage of the project. This approach aligns with Nigeria's policies and development strategies, emphasizing poverty reduction, private sector leadership, and beneficiary participation. The first phase of the NFPD, Fadama 1, was implemented from 1993 to 1999 in some selected states' ADPs

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(agricultural development projects).

This phase encouraged and facilitated resource-poor farmers to embark on dry season farming to generate increased income and alleviate poverty. Fadama II addressed the noted shortcomings of Fadama I and represented a shift from public sector domination to a community-driven development approach. After this came Fadama III, which was built on the objectives of Fadama I and II. In the third phase of the NFDP, the World Bank has drastically reduced its support to a minimal level to enable the various stakeholders to consolidate on the precedents they set. The problem associated with the project lies in the fact that unskilled handling of water application through irrigation can degrade and deplete the soil of its productive capacity (Afolayan, 1997), while environmental impact assessment conducted on behalf of the NFDP showed that the program did not pose a serious threat to the environment (Agriscope, 2001).

2.2 Land Administration in Edo State

Before the Land Use Act of 1978 came into effect, land in Oredo, Ovia, and Orhionmwon LGAs (local government areas) of the former Bendel State (now Edo State) was vested in the traditional authorities. The functions of the traditional authorities were legislative, administrative, and judicial. These functions concerning land directly relate to ownership, control, and land management. Within the ambit of these functions, new laws and guidelines were created, normally with the advice and consent of traditional councils. And, because the land was invariably the most important capital at the time, these laws and regulations invariably related to the use, control of ownership of land within the different groups in the society. Before the enactment of the Land Use Act 1978, the supremacy of traditional rulers (the Oba of Benin) over land had been established. (Osemwota, 1989).

According to Osemwota (1989), most of the traditional rulers agreed that traditional rulers historically (i.e., before the advent of colonialism and modern forms of government) owned, controlled, and managed land in the study area. Seventy (73.3 percent) of the respondents believed that traditional rulers, particularly the paramount executives, were the landowners in theory but held it in trust for the community in practice. Another 6.7 percent of the respondents stated that the traditional ruler had the power to appoint others to superintend over the land on his behalf. In terms of control of land, 77 percent stated that control of land rested with the paramount traditional ruler, while 22.6 percent believed that village heads and subordinate chiefs helped control the land. The majority (56.2 percent) of the respondents perceived the traditional ruler as the one who grants land to persons and settles land disputes. It was perceived by 86.6 percent that the role of traditional rulers in land administration has since changed. About 76 percent of the respondents indicated that all state land is now vested in the Governor. In comparison, 9.3 percent grieved that traditional rulers no longer enjoy the right to make direct grants of land to individuals.

2.2.1 Agricultural Land Policies and Programs in Edo State

In 2014, the Edo Government acquired 410,000 hectares of land in the state for investments in agriculture by the private sector. Out of this land, 50,000 hectares of the land had been set aside for rice cultivation by the Dangote Group, and 60,000 hectares were acquired for the cultivation of palm oil by the United Food Industries Limited (makers of Indomie noodles). The remaining 300,000 hectares had been kept for other investors interested in farming activities. The land was also allocated to youths interested in agricultural activities, and measures have been put in place to ensure proper use of such land (Oroh, 2014). The estimated areas and outputs for cocoa, palm oil, and rubber in Edo State during the 2004/2005 season and estimated area and outputs for cocoa, palm oil, cassava, maize, yam, and plantain in Edo State during the 2010 to 2011 season are presented in tables below.

Figure 2.2.1: Estimated area and production of selected cash crops for Edo State in 2004/05

S/N	Crop	Area (in thousands of hectares)	Production (in thousands of tonnes)
1	Cocoa	55.92	12.10
2	Rubber	10.05	6.03
3	Palm Oil	90.17	67.63

Source: CCAECS (Consultative Committee on Agricultural Export Commodity Statistics) (2007)

Figure 2.2.2: Estimated area and production of selected cash and arable crops for Edo State in 2010/2011

S/N	Crop	Area (in thousands of hectares)	Production (in thousands of tonnes)
1	Cocoa	102.49	26.04
2	Oil Palm	93.13	66.98
3	Cassava	50.21	504.43
4	Maize	74.83	151.69
5	Yam	35.03	563.56
6	Plantain	23.61	108.29

Source: National Bureau of Statistics/ Federal Ministry of Agriculture and Rural Development (2012).

Recent efforts to improve the narratives on agricultural production in Edo State led the government to take some actions, which include the cultivation of 2,500 hectares of rubber plantations at Urhonigbe in Orhionmwon LGA by the state government (Edo State Government, 2018); the donation of 51 hectares of land to start the Edo Palm Oil Initiative (Edo Invest, 2019); and the allocation of 500 hectares of land for cassava cultivation in Edo State —with youths cultivating 200 hectares and the remaining 300 hectares for other cassava farmers (Business Day, 2017). Another EAP (Edo Agropreneurs Programme) will use 4,400 hectares of land across the 18 LGAs of the state for agriculture-related activities in the state (Edo Invest, 2019).

2.2.1A Edo State Geographic Information Service (EDOGIS)

Edo State has a law that regulates land administration which is called Edo State Lands Administration and Geographic Information Service Law of 2018 that came into operation on April 3, 2018. Based on the law, the state government established the EDOGIS (Edo State Geographic Information Service) to maintain and the Edo Geographic Information System. This system was created to:

- enhance land use, management, and administration in the state
- compile and collate information and data about land in the state
- provide products and services derived there from and other related information to the government and the general public
- establish and regulate the standards to be applied in the compilation of data relating to land and its administration in the state
- maintain and manage all copyrights and patents over all such data generated in the course of its duties on behalf of the state government
- be responsible for all land administration matters and enforcement in the state

The duties of EDOGIS were to introduce, implement and sustain best practices for land administration services in the state; ensure that the system of land administration supports the development of social and economic rights in the state; ensure that the state's geospatial data conforms to national standards; and undertake registration of all land titles and instruments in the state—including but not limited to the issuance of certificates and recertification of land instruments in cases where certification had been carried out before the coming into force of the Edo State Lands Administration and Geographic Information Service Law of 2018.

2.3 Land Administration in Delta State

Before the introduction of the Land Use Act 1978, the land was largely owned and administered by the community, a village, or a family in most of present-day Delta State. With the introduction of the Land Use Act 1978, ownership of land in the urban areas became vested in the Governor while the non-urban land was vested in the chairman of the local government council (Ajabor and Uwagboi, 2015)

Though the state government now has a major role to play courtesy of the Land Use Act of 1978, the land administration system in Delta state is focused on parcels titling and land ownership for residential and commercial purposes. C of O (certificate of occupancy) for farmlands is restricted and uncommon, particularly within the low-income group of farmers. The administration of agricultural lands is still largely within the purview of native land law and custom for the peasant farmers and individual plantation ownerships (Dabiri, Oluseye, Thomas, 2015). The current configuration of land administration in Delta State has not made it easy for potential farmers to easily access land for agricultural purposes. This was confirmed by the DSMTDP (Delta State Medium-Term Development Plan), from 2016 to 2019 (Delta State, Ministry of Economic Planning, 2020), which states that lack of access to land for intending youth farmers due to land tenure system is a constraint worthy of note in the plan.

2.3.1 Agricultural Land Policies and Programs in Delta State

In Delta State, the demand for land is more than the supply because the land is a limiting factor of production, and the price of land keeps increasing in the state. Again, the land is owned on trust for the family by the family heads and community leaders. Hence, due to the loss of trust due to previous land-related developments, Delta State citizens are no longer willing to release their family and community land for developmental projects and programs. They found out that when the government requested land from the communities for developmental projects and programs, such land is often shared among the politicians. The said projects and programs were not executed. For example, there is an ongoing agro-park project, but the community in which the agro-park is being established is not supporting the project concerning land donation. Also, members of the communities are often factionalized because of local politics. Thus, if the government's request for the land is made through a contact that is considered to be in an opposing faction, the project becomes dead on arrival.

There is a problem in the state concerning land and farming because herdsmen enter the state through the Mbirri forest reserve. Some communities resorted to the use of traditional medicine to chase the herdsmen away from their land. It got to a point when the Governor decided to appoint an SSA (senior special assistant) on Hausa matters, mediating between the Fulani herders and the landowners in the state. The SSA played a significant role in making sure that the herders did not encroach on the land that was not given to them for grazing, and there was peace in the land. Also, in some cases, most community lands are within two states. Therefore, it becomes difficult to use such land for developmental projects and programs. Some forests are also reserved for ancestral worship, which makes such forests to be unfit for farming. It is difficult to change some community members' social norms and cultural values in protecting their ancestral land.

Of importance is the trust of non-indigene about land for farming. A serious problem may ensue if indigenes are not involved in the use of the land. Indigenes are unwilling to give out their virgin forest for farming again to non-indigenes because of future ownership problems on such land. So, the indigenes do not trust the non-indigenes with their land for farming. Therefore, community land should be given to the indigenes to farm.

2.3.1A Farm Settlement Scheme (FSS)

The FFS in Delta State aimed to provide contiguous land for medium-scale agricultural production to boost food security, improve the economy, create jobs, and encourage trained youth to live in settlements. Available data indicate that from 1999 to 2003, NGN 21.6 million was spent on projects in three settlements (Mbiri, Utagbo-Uno, and Okunigbo) and 85 hectares of palm oil plantations (Mbiri and Utagbo-Uno). The full attainment of the objectives of the FSS is rated as unlikely, especially considering that other programs initiated after 1991 are competing with the schemes for the achievement of similar objectives (Delta State Ministry of Agriculture and Natural Resources, 2016). Despite this conclusion, the FSS is conceptually still a veritable tool to support start-ups in agriculture. It provides easy access to agricultural land and other basic infrastructure for new agricultural production entrants.

2.3.1B Communal Farms

The objective of the communal farms is to assist youths in communities to establish farms as

business ventures, provide employment, curb youth restiveness, and reduce poverty. From 1999 to 2003, more than 2,000 hectares of land were cultivated by 223 participant farmers in three communal farms (Ogwashi Uku, Irri/Aviara, and Deghele). Based on the interaction with beneficiaries, the achievement of the objectives of the communal farms is rated as likely. However, there is a need for better communication with the participants and more efficient and timely government facilitation of access to inputs and financial resources (Delta State Ministry of Agriculture and Natural Resources, 2016). While communal farm as a model for gainfully engaging youth is good and in line with some age-long traditional practices, it is not a model that can enable individual youths to grow independently and be self-sustaining over time. The model will continue relying on government support for the organization and for input supply, even if the inputs are given on credit. However, like the farm settlement, the scheme guarantees easy access to agricultural land.

2.3.1C Cassava Development Scheme

The goal of the cassava development scheme is to upscale cassava production by enhancing yields on already existing farms and expanding cassava cultivation to unused suitable lands. Towards this goal, the government will take an integrated set of measures in the designated production clusters as follows:

- Facilitate access to land for the expanded cultivation of cassava.
- Scale-up the use of high-yielding cassava varieties by increasing farmers' access to improved planting materials and the use of efficient production inputs, such as fertilizer and agrochemicals.
- Support land clearing and preparation as well as land development to ease the cultivation of cassava.
- Promote cassava marketing arrangements to create price and demand incentives for farmers (Delta State, Ministry of Economic Planning, 2016).
- Provide support for the training and enlightenment of farmers in improved crop and soil management practices to enhance productivity.

One of the actions government planned to take under the scheme involved using its powers under the Land Use Act of 1978 to facilitate the cassava farmers' access to land. This action still has the potential to make increase the land available for agricultural production in the state.

2.3.1D Palm Oil Development Scheme

Under the palm-oil-value-chain-development scheme, the government will undertake an integrated set of measures as follows:

- Support the rehabilitation of palm oil estates, the expansion of existing palm oil plantations, and/or the establishment of new plantations using improved seedlings and subsidies to farmers.
- Support the development of nurseries for raising palm oil seedlings by encouraging private nursery operators, for example, to raise improved tenera seedlings for distribution to smallholder palm oil farmers.
- Promotion of improved methods of bunch harvesting and handling through the provision of subsidized motorized harvesters to ease fresh fruit harvest and enhance yields.
- Provide subsidy for the use of yield-increasing palm-oil-production inputs such as fertilizer, herbicides, and wire collars.
- Support the establishment of cottage palm-oil-processing mills situated within designated clusters of smallholder producers. The palm-oil-processing mills will be established in partnership with local communities with the proper management structure in place.
- Facilitate the flow of private sector investments to palm oil processing and value addition to stimulate the establishment of palm oil estates, as well as the maintenance of existing ones (Delta State, Ministry of Economic Planning, 2016).
- Palm oil development—whether on a small, medium, or large scale—requires dedicated land for new plantation development. Hence, it is assumed that Delta State's government will facilitate access to land, especially for largescale and corporate investors who may wish to invest in the palm oil sector of the state.

2.4 Agricultural Land Administration in Ondo State

The land is a stable and viable asset. It can serve as a store of value that generally appreciates. Those who appreciate this have made their wealth from buying and selling land. Over recent decades, explicit land transactions – sales, cash rentals, sharecropping – have become more common.

Before the introduction of the Land Use Act in 1978, land ownership and use rights were vested in the family, kinship groups, and traditional authorities; the governance of which is summed in the customary

land tenure systems.
Studies carried out in Ondo State showed that the agricultural land market can operate efficiently under customary land tenure systems. It can be used to allocate land from land-surplus landowners to land-deficient migrant farmers. However, it can also lead to the conversion of good agricultural lands to non-agricultural uses with its attendant implications for household and national food security.

The responsibility for controlling and managing land in Ondo State rests on the Ministry of Lands and Housing. Three departments of land services—urban, regional planning, and surveying—undertake the task. The Land Use Act of 1978 spurned the ministry to create a land use and allocation committee. Today, the Commissioner for Works on behalf of the Governor is now discharging the responsibility of allocating land. The allocation of land by the departments is restricted to government land, although they are responsible for the issuance of a C of O (certificate of occupancy) regulations; inadequate manpower, the inadequate institutional framework for land management, inadequate funding, amongst others (Aribigbola, 2008).

2.4.1 Agricultural Land Policies and Programs in Ondo State

2.4.1A The Ondo State Wealth Creation Agency (WECA)

The Ondo State WECA (Wealth Creation Agency) was established in 2009 to promote economic diversification and create jobs in agriculture and food security. It was designed to develop policies and programs that foster youth participation in agricultural entrepreneurship in Ondo State. WECA consists of the Livestock Unit, the Arable Cultivation Unit, the Aquaculture, and Fisheries Program, which had employed 100,000 youths in Ondo State. The Apiculture nit, which is responsible for the training of IT students from tertiary institutions on beekeeping and honey production, the Sericulture Section, which produces silk used in the state's production of lawyers' wigs, and the ABCs (Ago Business Cities) Section. WECA exercises supervisory control over the Ondo State ABCs by facilitating financial aid for agribusinesses from the state government and training youths on modern agricultural methods while exposing the trainees to the entire value chain of agriculture through the initiatives.

The ABCs initiative was adapted from the FSS introduced by Obafemi Awolowo under the old Western region. Four modern farm settlements called ABCs were established at:

- Ore, in Odigbo LGA in the South Senatorial District
- Epe, in Ondo East LGA in the Central Senatorial District
- Isuada in Owo LGA in the North Senatorial District
- Auga, in Akoko North-East LGA, in the North Senatorial District

The Ore ABC spans over 3,500 hectares of land and was upgraded to international standards through its partnership with the IITA (International Institute of Tropical Agriculture). The farming activities carried out at the ABCs include poultry, fishery, cattle rearing, arable farming, sericulture, and apiculture. The crop production section covers over 400 hectares of farmland. On cassava production alone, over 40 young people benefited from the training, many of whom had no previous experience in farming or were unemployed. The 40 graduates were equipped with improved business and management skills in commercial agriculture through the NAEC (Nigerian Agricultural Entrepreneurship Curriculum) training; and technical and practical training on agricultural mechanization through demonstration farms. Each farmer was provided with two hectares of land for cassava, resulting in the creation of 40 jobs (Ondo State Government, 2019). With an output of 3.8 million tonnes in 2016, Ondo State is one of the largest cassava producers in Nigeria. The state claims to be the most efficient cassava-producing state in Nigeria, with an average yield of 17.8 tonnes per hectare. The average yield across Nigeria is 11 tonnes per hectare (Ondo State Government, 2019).

2.4.1B Profarmers & Agropreneurs Sustainable Scheme (P.A.S.S)

P.A.S.S. (Profarmers & Agropreneurs Sustainable Scheme) was launched on May 19, 2014. Young graduates are trained in the business of agriculture for 18 to 24 months at ABCs. They learn about the entire value chain of agricultural finance, the supply of input, production, preservation, processing, packaging, marketing, distribution, and export. The Ondo State government provides all the agricultural inputs and basic facilities such as land, accommodation, electricity, and training under the scheme. With the federal government's support through the GIS (Graduate Internship Scheme), the graduates are paid a monthly stipend as upkeep. Aside from this, the scheme is also a participation-ownership scheme where trainee participants sell their produce to the Ondo State Government at competitive prices. The capital is reinvested into the business after sales, while the participants keep the profit.

2.4.1C Agro Women Initiative

The WIA (Women in Agriculture) program aims to boost women farmers' access to agricultural extension services, such as business training on new techniques. Many states in Nigeria adopted this program to increase food production and farm incomes. However, the WIA program has not been successful in many states, with little evidence that smallholder women farmers benefit from it. WIA suffers from a lack of funding, and because it has a rigid budget line within the ADPs, it cannot be adapted to meet the needs of the women farmers. However, in 2018, the Ondo State Government created a new budget line specifically targeting smallholder women farmers by allocating NGN two million to the initiative (Women Advance Deeply,2018). The goal of the Agro Women Initiative is to improve the agricultural productivity of women farmers in the state by providing them with funding and capacity building. Women farmers in the state working with LAPDO (Life and Peace Development Organization) succeeded in getting the new budget line approved after an advocacy campaign. Through a project that was funded and supported by USAID (United States Agency for International Development) and PIND, LAPDO encourages women farmers in the state to have a voice in the sector, especially cassava women producers and fish farmers (PIND, 2016). The program has trained sixty women from the 18 local governments in the state in fish farming. Many women farmers in the state have an idea of how to farm fish. The initiative has armed the women farmers with updated techniques and practical information to help them earn a living from the activity. Women farmers are to be trained on how to tap into the cassava value chain. The initiative plans to educate women on how to use cassava flour to bake and how to store the flour to reduce its moisture content and increase its shelf life.

LAPDO also facilitated meetings with the rural women farmers in Ondo State due to the myriads of challenges the organization observed after conducting training [Making Markets Work for the Poor (M4P)] for the women farmers. These meetings led to the formation of a cooperative association of about 4,000 members. After the meeting, farmers were linked with service providers, including an agricultural input dealer. The women provided land for Cassava demonstration after the linkage. The organization facilitated their relationship with an engineering firm to help them construct farming and processing equipment. They also facilitated their contact with FCMB bank for access to farmers' funds (PIND, 2016).

2.4.1D Cash Crop Farmers Credit Grants

In 2019, the Ondo State Government secured an NGN 200 billion-facility from the CBN (Central Bank of Nigeria) for farmers of five major cash crops at a single-digit interest rate. The cash crops were cocoa, cashew, palm oil, shea butter, and sesame seeds. The state government took the battle to include the cocoa and palm oil sector to the highest level of the NEC (National Economic Council), where the breakthrough was achieved for the farmers. The conviction of CBN to advance the facility to the cocoa and palm oil sector as it did to rice farmers becomes imperative because Ondo State is a leading producer of cocoa and a major producer of palm oil. This is important to ensure improvement in cocoa production, which is the surest way to maximize the country's comparative advantages in cocoa production.

2.4.1E Cocoa Revolution Project

Ondo State Government has embarked on a Cocoa Revolution Project to rehabilitate moribund cocoa plantations established on 2,000 hectares of land. The project is ultimately aimed at boosting cocoa production and introducing new premium hybrid cocoa seedlings that are disease resistant and harvestable in 18 months, as opposed to five to six years. There are vast opportunities for cocoa production and processing for local and foreign consumption. The Cocoa Revolution Project, coupled with the short gestation time of the improved seedlings, would allow investors to make profits from cocoa within a shorter period.

2.4.1F Palm Oil Revolution

Ondo State is currently in partnership with Malaysia-based Agro Bayu to revolutionize all oil plantations located within the state. The targeted annual palm oil produce is 320,000 metric tonnes. There are three major players in the palm oil industry in State: Okitipupa Palm oil Company Plc., Ore-Irele Palm Oil Company Limited, and Araromi-Ayesan Palm Oil Limited. The state is looking for opportunities to collaborate with private or institutional investors to resuscitate moribund companies and invest in large-scale production and processing.

2.4.1G Rubber Revolution

The state has a targeted annual production volume of 60,000 metric tonnes of rubber. This industry has one key player: Rubber Estates Company Nigeria Limited, located on a 4,500-hectare plantation in the Araromi area of Ilaje Local Government in the state.

There are huge investment prospects within the rubber industry and an avenue for investors to get a quick return on investment through the production and processing of rubber (Ondo State Government (2019).

2.4.1H Forestry

The state is a major source of timber for construction and furniture making in Nigeria. It is endowed with rich forest reserves with exotic and varied economic trees such as teak, gmelina, and indigenous tree species. To make industry entry easy, the government gives out licenses to participants in that industry to cut and process timber. The state has a volume target of six million cubic meters per annum. There are existing players in this industry, such as Premier Timber industries and Wanwood Nigeria Limited. There are opportunities for local and foreign investors to set up timber processing plants and furniture factories in Ondo State because of the abundant presence of raw materials used in furniture making.

2.5 Cocoa, Cassava, and Palm Oil Value Chains

The value chain describes the full range of activities that firms and workers do to bring a product from its conception to its end use and beyond. This includes activities such as planning/design, production, marketing, distribution, and support to the final consumer (Oguntade, 2013). The value chain is a progression of value-adding activities; it starts with the raw material and ends with selling the finished product or service. It describes the full range of activities that are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use (Carter & Barret, 2006; Jansen, 2007). Development practitioners and researchers have utilized value chain approaches to capture the interactions of increasingly dynamic markets in developing countries and examine the inter-relationships between diverse actors involved in all stages of the marketing channel (Karl et al., 2009). Value chain approaches can be used to intervene in value chains, in which there are many poor households, intending to promote economic growth and reduce poverty.

The analysis of agricultural value chains provides an understanding of the chains' structure and how they function by showing the various chain actors and their intricate relationships and synergies. There is this understanding that value chain approaches provide a good basis for planning and carrying out development interventions (UNIDO, 2009).

2.5.1 Cocoa Value Chain

Functional analysis of the cocoa value chain in Nigeria is provided in Figure 2.5.1. The table shows that several players are involved in supplying inputs in the cocoa economy. The LBAs provide credit in cash and kind; agrochemical companies' representatives, dealers, and retailers; state institutions [CDUs (cocoa development units) and ADPs] supply all kinds of agrochemicals. Cocoa pods and seedlings are supplied by CRIN (Cocoa Research Institute of Nigeria) and state institutions (CDUs and ADPs). The cocoa farmers and sharecroppers are the main agents responsible for the establishment, maintenance, and management of cocoa farms—as well as harvesting and processing of cocoa pod into cocoa beans. VBAs are performing the marketing and transportation functions concerning graded cocoa beans (village buying agents), LBAs, cooperative societies, BDS (business development service) providers, and produce inspectors. Some of the cocoa beans that are not exported are processed into the cocoa cake, powder, and butter by cocoa processing firms (Oguntade, 2013).

Photo Credit: Unsplash

Figure 2.5.1: Nigeria's Cocoa Value Chain: A Functional Approach

S/N	Stage of Chain	Function	Agent	Output
1	Inputs Supply	Marketing, Transportation, Research, Extension	Credit providers (LBAs), agrochemicals companies' representatives and dealers, state institutions, CDUs, TCUs (tree crop units), ADPs, fertilizer companies, CRIN, etc.	Inputs delivered to farmers Training and support services to farmers and their organizations
2	On-farm Production	Establishment, Maintenance & Management, Harvesting & Selling	Farmers, Sharecroppers	Cocoa beans, pods, and tree stocks
3	Off-farm/Post-Harvest Handling	Primary processing	Farmers, Sharecroppers	Cocoa beans
4	Product Management Intermediate Trade	Marketing, Transportation	LBAs, Cooperative Societies, VBAs, BDS providers, Produce inspectors	Graded cocoa beans delivered to exporters or crushers in good condition.
5	Product Transformation	Processing	Cocoa processing firms	Cocoa cake, powder, and butter
6	Export trade	Handling, Financing, Marketing	Produce inspectors, Cocoa bean exporters, Cocoa processor, Banks	Primary and processed products exported

Source: Oguntade (2013). Cocoa Value Chain Governance in Nigeria, paper presented at the First Stakeholders' Meeting of the Kokodola Project, Continaf and FADU (Farmers Development Union), 17 October 2013

An analysis of Nigeria's cocoa value chain reveals some constraints in different aspects of the chain. A holistic intervention along the entire value chain will be more effective in addressing these constraints because different players' activities impact each other. Studies have shown that the Nigerian cocoa value chain is characterized by inadequate information on cocoa farm assets, low income and limited level of diversification, unstructured trade, weak and poorly coordinated farmer organizations, inadequate support service system, need to improve R&D infrastructure, and threats to local processors (Oguntade and Folayan, 2006; Gilbert, 1997).

Photo credit: www.britannica.com

2.5.2 Cassava Value Chain

The functional analysis of the cassava value chain is presented in Table 4. The table indicates the existence of six functional stages in the value chain, some of which have several actors (agents). The critical input suppliers for cassava are farmers, research institutions (such as IITA and ADPs). They all provide stem cuttings which is the most critical input after labor. Cassava cultivation is dominated by smallholder farmers and household members engaged in both upstream (production) and downstream (homestead processing & marketing) activities. Different levels of processing can be observed. There is homestead processing by farmers' wives; commercial processing by women who buy tubers for processing and sale of products; and toll processing by professionals who provide peeling, milling (grating), pressing, and frying services. Few industrial processors buy gari and fufu for the domestic market and cassava for processing into starch and derivatives for use in other industries. In between these players are middlemen and women who perform different marketing functions (Oguntade, 2013).

Figure 2.5.2: Nigeria's Cassava Value Chain: A Functional Approach

S/N	Stage of Chain	Function	Agent	Output
1	Inputs Supply	Marketing, Transportation	Farmers, research institutions (IITA), public institutions (ADPs), extension agents, agrochemicals dealers, credit providers, equipment dealers, laborers	Inputs delivered to farmers (cuttings, credit, chemicals, advice, implements, and fertilizers)
2	On-farm Production	Cultivation, Maintenance/ Management, Harvesting	Farmers	Cassava tubers, stem
3	Post-harvest Handling	Marketing, Transportation	Middlemen/women, processors	Tubers delivered to markets, and processors
4	Primary Product Transformation	Primary processing,	Farmers, cottage entrepreneurs, industrial processors	Gari, chips, flour, starch, etc.
5	Product Trading	Marketing, Transportation	Middlemen/women	Products delivered to end-users and consumers
6	Secondary Product Transformation	Secondary processing	Flour millers, textile manufacturers, pharmaceutical companies, livestock feed millers, pulp, paper, and packaging.	Composite flour, textiles, glucose, livestock feeds, drugs delivered to end-users, etc.

The analysis of the cassava value chain shows that some of the constraints in the value chain include:

- Little or no use of purchased inputs by smallholder farmers because of the belief that it is a food security crop; it is resilient and therefore planted in poor soils with little fertilizer.
- Inefficiencies in the marketing chain vis-a-vis the high perishability of fresh cassava.
- The bulkiness and low value of fresh cassava make transportation costs a large share of the final price.
- The perishability and high water content of fresh cassava requires that processing plants be located close to production centers for fresh cassava
- The reliance on sun drying for the processing of chips and flour creates serious scale issues.
- The high labor intensity of processing operations, especially peeling, tends to constrain operational scale to small and medium levels.
- Other commercialized ventures (industrial starch users and animal feed manufacturers) have not offered a high enough price to farmers to make cassava production sustainable.
- There is poor coordination among value chain actors leading to cycles of glut and scarcity. (Meridian Institute)

The analysis of the palm oil value chain indicates that some of the challenges facing the value chain are:

- Lack of quality parameters for local palm oil trade
- High FFA (free fatty acid) level of palm oil produced by most FFB processors
- High iron content (residues from oil mills) due to non-utilization of food-grade steel in the fabrication of micro mills which might endanger the consumers' health/
- Low extraction rate
- Widespread presence of low oil-yielding semi-wild varieties among palm oil trees at the grove/ farm level.
- Inadequate public support infrastructure
- The proliferation of adulterated seeds and seedlings
- Increasingly limited access to agricultural land for new plantations
- The continuous destruction of the wild grove:
- High cost of transportation
- Inappropriate milling technology
- Under-capacity utilization

2.5.3 Palm Oil Value Chain

An overview of the palm oil value chain in Nigeria is provided in Figure 2.5.3. The table shows that public institutions (ADPs, NIFOR, TCUs), extension agents, agrochemicals dealers, credit providers, implement traders are the sources of inputs for palm oil production. Sprouted seeds and seedlings of palm oil are supplied by NIFOR, while TCUs and ADPs supply seedlings.

The farmers and sharecroppers are the main agents responsible for the establishment, maintenance, and management of palm oil plantations—as well as harvesting and processing of FFBs (fresh fruit bunches) into palm oil and palm kernel. There are toll millers who mill boiled palm nuts for processors (farmers, women, etc.). There are also large-scale plantations with industrial processing capacities that palm oil companies own. They process their FFBs into palm oil and cracked palm kernels to obtain the nuts. Processors process palm kernels into crude and refined vegetable oil. Of course, some middlemen are performing various marketing functions concerning these commodities. Some of these middlemen include VBAs, LBAs, cooperative societies, and produce inspectors (Oguntade, Daramola, and Akinola, 2010).

Figure 2.5.3: Nigeria's Palm oil Value Chain: A Functional Approach

S/N	State of Chain	Function	Agent	Output
1	Inputs Supply	Marketing, Transportation	Public institutions (ADPs, NIFOR, TCU), extension agents, agrochemicals dealers, credit providers, implement traders.	Inputs delivered to farmers
2	On-farm production	Establishment, Maintenance/ Management, Harvesting	Farmers	Oil palm trees, Fresh fruit bunches
3	Post-harvest handling	Primary processing, Marketing, Transportation	Middlemen, farmers, wives, drivers, and transport owners	Palm nuts and free bunches, palm kernel nuts delivered to markets, and processors
4	Product Transformation	Secondary processing	Oil millers, farmers, wives, palm kernel crushers, cooperative societies, and oil refineries.	Palm oil and kernels. Crude palm kernel oil, palm kernel cake, refined and bleach palm oil.
5	Product Trading	Marketing, Branding, Packaging, Transportation	Middlemen, Oil millers, oil refiners, cooperative societies.	Products delivered to end-users

Source: Oguntade, A.E., Daramola, G.A, and Akinola, A. (2010).

3.0 Methodology

3.1 Pre-engagement Discussion with PIND Officials

The EO (Engagement Officer) organized a pre-engagement discussion on the study in which the EO and six PIND staff participated in onboarding the consultant into PIND. The discussion afforded both parties to seek clarifications as necessary before the commencement of activities.

3.2 Desk Review

Some documents on a similar study were provided to the consultant to provide him an overview of the program. These documents were reviewed, and notes were taken of the existing structure of a similar study conducted by the PIND organization. The information provided was on the value chain actors of cocoa, cassava, and palm oil.

3.3 Study Area

The study area was determined by PIND and Edo State, Delta State, and Ondo State.

3.4 Sample Size and Sampling

Two hundred-and-seventeen (217) respondents were selected for the study using a multistage sampling technique. Edo, Delta, and Ondo states were purposively selected because of a similar study done by PIND. In each of the three states, one community per senatorial district was selected based on information obtained during the KIIs. In each of these communities, ten farmers, three processors, three input dealers, three transporters, and three marketers were selected for the study.

Figure 3.4.1: Sample size in each community

S/N	State	Senatorial Zones	Actors	Number
1	Edo	North	Farmers Processors Input dealers Transporters Marketers	10 3 3 3 3
		Central	Farmers Processors Input dealers Transporters Marketers	10 3 3 3 3
		South	Farmers Processors Input dealers Transporters Marketers	10 3 3 3 3
2	Delta	North	Farmers Processors Input dealers	10 3 3

			Transporters Marketers	3 3
		Central	Farmers Processors Input dealers Transporters Marketers	10 3 3 3 3
		South	Farmers Processors Input dealers Transporters Marketers	10 3 3 3 3
3	Ondo	North	Farmers Processors Input dealers Transporters Marketers	10 3 3 3 3
		Central	Farmers Processors Input dealers Transporters Marketers	10 3 3 3 3
		South	Farmers Processors Input dealers Transporters Marketers	10 3 3 3 3
4	KIIs	Edo Delta Ondo	**Senior staff of the ministry, relevance agencies, and farmers' associations** **Senior staff of the ministry, relevance agencies, and farmers' associations** **Senior staff of the ministry, relevance agencies, and farmers' associations**	7 6 6
			Total	**217**

3.5 Data Collection

A moderator administered the data collection instruments (structured questionnaire) with the support of a note-taker. A tape recorder was used for recording the sessions for quality control and backup purposes. This enhanced the reliability and quality of the process. Respondents for data collection were farmers, processors, input dealers, transporters, and marketers (VCAs). FDGs and KIIs were used to back up and ascertain the veracity of the data collected via the structured questionnaire.

3.6 Data Analysis

Descriptive statistics were used in analyzing the data collected. Descriptive statistics utilized include means, standard deviation, frequency distribution, cross-tabulation, bar charts, histograms, and pie charts.

4.0 Findings

4.1 Edo State

4.1.1 Land

Edo State Government invested in the development of land for farming purposes. For example, the Edo State Government established 100 hectares of farm settlements in Sobe; 800 hectares of farm settlements in Ekpoma; 180 hectares of farm settlements in Usugbemu near Irrua (although the plan was for 400 hectares). All these farm settlements were established to encourage the youths and existing farmers to access land for farming. Furthermore, 500 hectares of farm settlements was established in Wareke in the Edo North Senatorial District. Three hundred hectares were cleared in Iguokhiiari, which was set aside as farm settlements. But the project was Oria, Esan South East for 500 women—to be allocated at the rate of two hectares per woman for farming. Currently, 150 hectares of land were cleared, and planning is ongoing to clear the remaining 750 hectares. One thousand hectares of farmland have been approved for clearing in Ozalla. Another 1,000 hectares approved by the state government for clearing in Emoora close to Ozalla, 400 hectares of farmland have been approved for clearing in Iddo near Ubiaja. Another 530 hectares of farmland have been approved in Uze close to Okada, but there has been no development on the land to date. In Eewu, 400 hectares of farmland have been approved for clearing. In Evbonogbeon and Udo, 427 and 400 hectares, respectively, have been approved for clearing. Again, 14,000 hectares of farmland were approved for Duffil for the planting of palm oil in Ogbomudeh. They have not started production.

On the palm oil initiative, the Edo State Government is developing 250,000 hectares of land for planting palm oil in the state. However, 55,000 hectares of ground-breaking was done. It has been allocated to farmers based on five hectares per farmer. The project is CBN-supported with NGN 69 billion. Upon acquiring land, the state government set up a forest acquisition committee, and the committee worked on a degraded reserved forest in the state. Hence, for every five hectares allocated for a farmer, four hectares are for farming and one hectare to plant trees (reforestation). For the program, the Edo State government used degraded reserved forests. Sarro, NOSAL, etc., have shown a commitment to the project and applied to CBN for assistance. The Edo State Government gave out 2,000 hectares for farming before, but people were not using the land. The government is now planning to revoke such land after three or four years if they refuse to use the land. Okomu is planting palm oil up to Owoude and Asaba. Palm oil is big in Edo State. For cassava, some companies are beginning to show interest, but most off-takers are not in the state but Ondo State. However, Asinata is planning to establish 40,000 litres of ethanol per day factory in the state. The company is partnering with the Cassava Farmers' Association Nigeria (CFAN) in Edo State to mop up their cassava production.

On cassava, 97,000 bundles of an improved species of cassava stem are to be distributed to the farmers by the IFAD, and the government is supporting a complete starter pack (cassava stems and other inputs).

The focus of the program is cassava, maize, and sorghum.
Cocoa is big business in Ovia, Akoko Edo, and parts of Edo South Senatorial District. Planting cocoa is like a business that such a Yoruba-speaking area of the state has learned over the years. This year, Edo State distributed 97,200 cassava stems. The state plans to give each of the farmers a full package of the stem, fertilizer, and other inputs.

The Director of Land Services of the Edo State Ministry of Agriculture and Natural Resources oversees agricultural land issue in the state. According to him, some land is vested in the family, community, and state government. Conflict issues on land are usually handled by the Edo State Ministry of Agriculture and Natural Resources. An example is the encroachment of 3,000 hectares of land owned by the Christ Embassy Church. The church initially allowed some people to use the land for farming. Others are now trying to encroach into the land, a common phenomenon because the land is fixed (not easily accessible). The office has been working on how to broker peace. What the Edo State Ministry of Agriculture and Natural Resources does for investors is to help them verify any land they intend to buy or lease from the community for the authenticity of such land; and the Endo State Ministry of Justice is also involved in the process. Now, every interested user of land should apply to the Governor directly.

The Governor will then minute to the ministry for merit consideration. Presently, the ministry is geo-referencing all the land in the state. Once the exercise is completed, one can know the available land in the state from the ministry.

An example is the 2,000 hectares of land application by Presco Ltd. Many forests have been released for development, and Presco Ltd. has paid compensation for the land up to Abraka. When a request is made to the Governor, the Governor will send it to the Commissioner. The governor will approve the 5,000 hectares in the first instance. And, if it is properly utilized, then such an organization can come back for more land allocation. This is done to avoid the problem of land being procured by persons/entities for speculative purposes.
Currently, in the state, there is no ministry of the land, but there is a GIS (geographical information system) unit. There used to be a state land allocation committee but not again. If a young graduate needs land for farming, such youths can come to the commissioner in a group, and the commissioner will write to the director of forestry to allocate land for them in the forest reserved. In such a situation, one hectare per individual youth can be allocated for farming in the clustering of ten youths per cluster. This serves as a safety net for the youths and women in the state. According to the director, there is pressure on land in the government forest reserved by the cocoa farmers.

4.1.2 Cassava Value Chains

Even though palm oil is a major crop in Edo State, especially Edo Central, cassava dominated the sample captured in the study. This could be attributed to the fact that Presco Ltd. has taken over most of their land for palm oil production, making them go into cassava production. Therefore, the crop under consideration in Edo State was cassava.

4.1.2.A Farmers

The cassava farmers in the state explained that indigenes and non-indigenes can access agricultural land through family allocation and inheritance (for indigenes only) or outright purchase, rent, or lease. The land is rented at the rate ranging from NGN 10,000 to NGN 25,000 per hectare per year, while government reserve is rented out to the farmers at the rate of NGN 6,000 per hectare per year. Very few cassava farmer respondents stated that the community experienced land conflicts caused by either disagreement within the family or herdsmen invasion. Most of the respondents revealed that land was available for sale. The price is dependent on the location and acquisition of the C of O. Land could be sold at the rate of NGN 150,000 per hectare in some locations, while the rate could be NGN 1,500,000 per hectare for land with C of O and NGN 500,000 for land without C of O in some other locations.

Most of the respondents (90 percent) stated that land being used for farming was rented, while ten percent explained that the land used for agriculture was purchased. The average farm size of the respondents was 6.02 hectares indicating that the farmers were operating on a small scale. The identified constraints to access to agricultural land are financial problems, high cost of land, herdsmen attack, scarcity of land, and community problems. The mean cassava output realized by the farmers in 2019 was 3,711 kilograms per hectare. This is still buttressing the fact that the farmers operate on a small scale. About 40 percent of the respondents said they hired a tractor to clear their cassava farm in 2019, while all the respondents did manual harvesting in 2019. All the respondents said they bought their farm inputs from the community market and sold all their outputs within the community market. The major constraints to increased production as identified by the respondents are financial problems, pests and diseases, herdsmen invasion, storage problem, high cost of land preparation, weather problem, lack of extension services, and transportation problem.

About 30 percent of the respondents said they had access to credit facilities in 2019, and the source was their various cooperative societies, LAPO MFB (Microfinance Bank), and money lenders. They were able to access above 88 percent of the loan amount that they requested. The respondents' other source of finance for farming activities was personal savings. Only 13 percent of the respondents said they were visited by the extension agents from the Edo State Ministry of Agriculture and Go-ahead Farm in 2019. Cassava production was a profitable venture in the community with an average GM (gross margin) of NGN 2,026,745.22 per mean farm size of 6.02 hectares.

4.1.2B Processors

In 2019, the processor respondents' mean output was 75,184.3 kilograms of garri. About 66 percent of the respondents said their equipment was locally fabricated. All the respondents stated that they never received any assistance from the state government or international organizations. A majority (77.8 percent) of the respondents reported that their sources of raw material were their farms and other farms within the community. The mean processing capacity of the respondents' machine was 3,831.7 kilograms of cassava per day, while 2,143.3 kilograms per day was the mean actual processing of cassava. This is an indication that there was a gross underutilization of the respondents' capacity. Most of the respondents said their equipment was most utilized between July and November, while they all farmed when their equipment was not busy. The respondents identified epileptic power supply, lack of finance, insufficient water, lack of firewood, and non-availability of waste disposal site as the major challenges limiting processing operations. They suggested that the government should assist with credit facilities and a stable power supply. About 77.8 percent of the respondents said they had an adequate supply of raw materials for processing in the year 2019, and 22.2 percent said they did not have an adequate supply of raw materials for processing in the year 2019. All the respondents stated that they had adequate demand for their products. The majority (66.7 percent) of the respondents sold their products to marketers within and outside the community—about 55.6 percent of the respondents sold to the middlemen within and outside the state. The land being used for the processing factory was purchased by the majority (66.7 percent) of the respondents. Land scarcity was the major constraint to access land for processing. The GM value of NGN 2,235,277.80 per annum indicates that the processing business is profitable

4.1.2.C Input Dealers

All the input dealer respondents were marketing agrochemicals, cutlasses, hoes, and other farm implements, which they bought from Onitsha and Benin. About 55.6 percent of the respondents said they were wholesalers, while 44.4 percent said they were retailers. The major customers of the respondents were farmers within the community. All the respondents sold right in their shop in the community market with a mean distance of 28 kilometers to the main market. All the respondents said they got their supply directly from the factory and wholesalers, indicating that they were into large-scale input marketing. All the respondents said the source of their working capital was either loans from banks, cooperatives societies, families, friends, or personal savings. About 44.5 percent of the respondents said they got a loan in 2019 from their cooperative societies, banks, or friends, while 55.5 percent said they never accessed any loan in the same year. Those who got the loan in 2019 said they got between 75 percent to 100 percent of the amount they applied for. All the respondents stated that the financial problem was the major challenge in the input supply business, and they all requested financial assistance from the government and developmental organizations. A majority (88.9 percent) of the respondents said they belong to an association/union and said to have benefitted from loan and Information sharing from the association/union. The GM value of NGN 2,843,999.80 per annum indicates that input marketing is a profitable business in the state.

4.1.2D Marketers

The respondents' agricultural produce is cassava, watermelon, potato, cucumber, garri, plantain ad pineapple, with most of them selling as wholesalers. They all got their supply from farm gate and processors, while 66.7 percent sold to the customers within the communities in the state. All the respondents were using hired vehicles (Toyota Hilux pickup trucks, Toyota Dyna trucks, Volkswagen Passat cars, and Toyota HiAce vans) to transport their agricultural produce to the market. The source of working capital of all the respondents varied from loans from banks to cooperative societies and to personal savings. Only about 33.3 percent of the respondents took a loan from either banks or cooperative societies and said to have received between 50 percent to 100 percent of the amount applied. The respondents' major challenges to marketing activities are financial problems, poor road network, and price instability. They suggested financial assistance, rehabilitation of roads, and making price stable to solve the identified challenges in the state. Most of the respondents said they belong to an association/union and said to have benefitted from loans from their respective associations. The GM value of NGN 983,868.70 shows that the marketing of agricultural produce is profitable.

4.1.2E Transporters

The respondents' agricultural produce is cassava, watermelon, cucumber, garri, palm oil, plantain, yam, pawpaw, cocoyam, rice, and fertilizer. The majority (77.8 percent) of the respondents said they belong to one association or the other. The respondents were using Ford cargo vans, Toyota Dyna trucks, Toyota Sienna vans, and other pickup trucks for

their transport business. Some of the respondents said they were just the drivers, while some were the owners of the vehicles used for transportation business. The average distance covered by the respondents per trip was 99.8 kilometers. The major challenges facing the transport business were a bad road network, lack of security on the highway, and extortion from Union leaders. They all suggested that the government assist in constructing good roads, ensuring maximum security on the highways, stopping extortion at the park, and coordinating financial assistance. The GM value of NGN 24,111.70 per day shows that the transport business is profitable.

4.2 Delta State

4.2.1 Land

Subsistence farming and shifting cultivation were the predominant systems in the state's agricultural system in the past years. Thus, farmers were cultivating crops they need most to meet household food needs. They were moving from one parcel of land to another once they believed the soil nutrient status had been depleted. However, with the increasing population, shifting cultivation became inappropriate while production for the market increasingly became the vogue. The increasing population also changed the value people place on land; hence the concept of individual land ownership came into play. Also, after the civil war, the inheritance system changed, the eldest son started to share inherited land with the younger brothers; the land became an inheritance, and farmland became personalized. However, there are still community lands that an individual does not own. The community land is, however, reducing gradually because of the increasing population. Presently in Delta State, few communities have a community land, and the king has ownership of community land.

There was a paradigm shift in the community land ownership because of the developmental projects and programs which led to land hunting. As a result of this, the government is now serving as an intermediary between the communities and private organizations. The parties involved are mandated to sign a Memorandum of Understanding (MoU) detailing the relationship between the community and the private entity. However, there are "enumerated" land in the state that private organizations can use for developmental purposes.

4.2.1A Access to Land for Farming

The land is not easy to access for farming in Delta State. This is because if a potential investor (farmer) secures (purchases) family land from a landowning family member of the community (aside from the landowning family) will always make trouble with the potential investor. Hence, the community members still have a strong say when accessing land in the state. Though land can be bought, the process is very difficult with various obstacles. Again, the land is sold (leased) usually for 99 years in the state. There is a land development committee and land bank in the state. There is always advocacy in any community where the government intends to solicit for land. Land conflict is common in the state.

4.2.1B Creation of Land Bank

The Delta State Government has adopted the land bank concept and has set up a land bank to serve as an intermediary between the landowners and the investors. Currently, the land bank has the following tracts of land:

(i). 37,700 hectares of land was donated to the state government.
(ii). 1,700 hectares of land were donated by the Abraka community for the cassava star program, Federal government cassava revolution program.[1]

(iii). 1,500 hectares of land in Mosogah, but it is a secondary forest.

(iv). 602,000 hectares in Oguwhaku, Delta North Senatorial District, out of which 200 hectares were given to Obasanjo Farms. Other investors on the land plan to establish plantain and banana plantations on 30 hectares; the federal government will create a cassava revolution program on 100 hectares; and cassava farming will begin on 130 hectares.

(v). 612 hectares in Degele/Sapele, Central Senatorial Zone that is good for rice and cassava.

(vi). 513 hectares in Irrimede, Delta South Senatorial Zone. This is a swampy area that is prone to flooding. Therefore, cassava is being planted around November and harvested around August.

4.2.1C How Smallholder Farmers Can Access Land

Smallholder farmers in Delta State can access land for farming purposes through purchase from individuals, land-owning families, and communities

1 However, Presco is already laying claims on the land. The cause of the problem on the land in Abraka is lack of boundary between Edo and Delta State because the land was given to Presco by Edo State.

through the heads of the communities and government allocation. The smallholder farmer can also lease the land, especially if it is for arable crops cultivation, rather than an outright purchase. If the smallholder farmer is an indigene, he could access land from his own family's or the community's land through allocation by the household head or community leaders. Which of the options will apply to a particular smallholder farmer will depend on which part of the state he wants to set up his farm, whether he is an indigene or not, and if he has the financial wherewithal to purchase the land or not

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4.2.2 Cassava Value Chain

4.2.2.A Farmers

The cassava farmers in the state said both indigenes and non-indigenes who want agricultural land for farming could buy, lease, or rent. The respondents said potential farmers could purchase the land outright, depending on the location. The price ranges from NGN 1,000,000 to NGN 1.5 million per five acres. While the common practice about farmland in the state is that families rent out their land for farming within a cycle of production, which is one year and three months and is between NGN 10,000 and NGN 15,000 per acre. Farmers can access land from the government forest reserve. Hence, there are various means of accessing agricultural land in the state that can be exploited to benefit any organization or individual that want to go into large scale farming or out-grower scheme. In the state, conflict on farmland was not common, and buying farmland does not require any recourse to the local government (LG) Chairman. The state Governor is only involved in selling land in the community by issuing a C of O to the buyer. Most of the farmers inherited the land they were using for farming, while some rented their farmland and very few buy parts of their farmland. The mean farmland of the cassava farmers in Delta State was 4.98 hectares. The major constraint to access of agricultural land, according to the farmers, were insufficient funds to buy land, lease, or rent land, poor road networks, and some said floods were the major constraint to access agricultural land in the state because the terrain of some communities in the state is prone to flooding.

The mean cassava output was 29,707 kilograms per annum, and very few hired tractors to clear their cassava farm in 2019 (17 percent). Most of the farmers (80 percent) said they got their farm inputs, mostly agrochemicals from the community markets, and very few (20 percent) said they got theirs from the government. Some of the respondents said that they usually sell their cassava output at the farm gate or the community market, while a few said they sell directly to the processors within their communities. According to the respondents, the constraints limiting the increase in cassava production include lack of finance, herdsmen invading their farm, bad road network, high cost of farmland, unpredictable weather, pest, and flood. Very few (17 percent) respondents said they accessed a loan to farm in 2019, and the source of the loan was their various cooperative societies. The amount applied for as loan ranges from NGN 150,000 to NGN three million and the amount received ranges from NGN 50,000 to NGN 1.5 million (33.3 percent to 50 percent). The other source of financing for their farming activities is personal savings. Very few respondents (ten percent) said they were visited by the extension agents three times in 2019. The extension agents were from the Delta State Ministry of Agriculture. Cassava production is very profitable in the state, with an average GM of NGN 1,862,918.15 per mean farm size of 4.98 hectares or NGN 374,080 per hectare.

4.2.2B Processors

The mean output of garri processed in 2019 was 5,400 kilograms of garri. Most of the processors said their equipment was locally fabricated (80 percent), and few said the equipment was imported (20 percent). Few said they received assistance from the state government through the FADAMA program to buy their equipment (33.3 percent), and the rest said they took a loan to buy their equipment. The respondents said their source of raw material is their farm and others within the community. The processing capacity mean value was 585 kilograms of cassava per day, and the mean actual process was 330 kilograms per day. The equipment was most utilized from October to January, and all the respondents said they went into farming when their equipment was not busy. The major challenge limiting operations was lack of finance, high cost of diesel fuel, and high transportation costs.

They all suggested that the government assist them with credit facilities to mitigate all the mentioned challenges and fix the road. Some of the respondents said they have an adequate supply of raw materials for processing in the year 2019 (67 percent), and 33 percent said they did not have an adequate supply of cassava to process in the year. Very few said they usually support their raw material suppliers with the loan (ten percent). All the respondents said they had adequate demand for their products. Most of the respondents sell their product within the state (90 percent), and very few sell outside the state (ten percent). They mostly sell to the middlemen who sell within the community market or outside the community but within the state.

While few who are wholesalers sell outside the state. According to the respondents, the major constraints in the processing business were a lack of finances and adequate power supplies. Most (80 percent) of the respondents said they purchased the land being used for their factory, while 20 percent of the respondents said they inherited the land. The cost of land ranges from NGN 150,000 per plot (100 feet by 60 feet) to NGN 500,000 since their factory is within the community, unlike farmland that will be in the outskirt. The mean GM of NGN 509,416.85 per annum indicates that the cassava processing business was profitable.

4.2.2C Input Dealers

All the respondents were into agrochemicals marketing such as herbicides and pesticides, and a few were into tractor hiring. Some of the respondents said their source was Onitsha, some said theirs was from the government, and few said theirs was from the government at a subsidized rate (ten percent). About 67 percent of the respondents said they were into wholesale marketing and about 33 percent of the respondents were into retailing. All the respondents said their customers were farmers in their communities. Marketing directly to the customers in various shops within the community was the marketing system adopted by all the respondents. The mean distance of 8.7 kilometers shows that most of the respondents sell within the environs. Most (80 percent) of the respondents said the source of their working capital was personal saving, and the remaining few said they got theirs through loans from cooperative societies, banks, and friends. About 67 percent of the respondents said they got loans from their cooperative societies and LAPO MFB in 2019. About 33 percent said they never accessed any loan in the same year. Those who got the loan in 2019 said they got between 50 percent and 100 percent of the amount they applied for. Challenges in the input supply business, according to the respondents, are lack of finance and transportation problems. They all requested financial assistance from the government and NGOs. About 90 percent of the respondents said they belong to an association, and all those who belong to the association/union said they benefitted from loans. The GM value of NGN 3,348,050.05 indicates that the input dealership is a profitable business in the area.

4.2.2D Marketers

The respondents said they were marketing garri, palm oil, maize, and palm kernel. About 67 percent said they were wholesalers, and about 33 percent said they were retailers.

All respondents said to get their supply from the farm gate mostly, processors and wholesalers. About 33 percent of the respondents said they market outside the state, and about 67 percent said they market within the state. All the respondents were using hired vehicles (Toyota HiAce vans) to transport their agricultural produce to the market. About 50 percent of the respondents said their source of working capital was their savings. About 50 percent said they got loans from the bank, cooperative societies, families, and friends to start their marketing business. About 40 percent of the respondents said they did not receive any loan in 2019, and about 60 percent said they received a loan in the same year. Those who received the loan said they got the loan from their cooperative and LAPO MFB, and they got 90 percent to 100 percent of the loan they applied for. According to the respondents, the major challenges to marketing activity were lack of adequate capital, bad road network, and high cost of transportation. The respondents said the government should assist them with credit facilities and assist in rehabilitating the bad roads. All the respondents said they belong to an association/union, and they all said to have benefitted from loan and information sharing. The mean GM of NGN 960, 577.76 indicates that the agricultural marketing was profitable.

4.2.2E Transporters

The respondents said they belonged to an association and transported agricultural produce such as cassava, maize, plantain, and palm oil. The respondents were using Toyota Dyna trucks, Toyota HiAce vans, and other pickup trucks for their transport business. About 67 percent of the respondents said they were drivers and not the actual owners of the vehicle they were driving, while about 33 percent said they purchased their vehicle outright.

The average distance of 91.7 kilometers per trip shows that most of the respondents do not travel far. The mean distance of about 135 kilometers per trip shows that most of the respondents travel within the state and the mean average trip per day was twice. All the respondents said poor road networks, the cost of maintaining their vehicles, the high cost of fuel, and the lack of security on the road were major challenges to their ability to transport produce. They suggested that the government assist in constructing good roads, ensuring maximum security on the highways, and stabilizing fuel prices in Nigeria. The GM value of NGN 22,000 per day shows that the transport business was profitable.

4.3 Ondo State

4.3.1 Cocoa Value Chain

4.3.1A Land

Access to farmland is a key factor in ensuring the expansion of the productive capacity of farmers. Ownership of land is a combination of inheritance, outright purchase, rent, and lease. About 90 percent of the cocoa farmers purchase their farmland, while 50 percent inherited their farmland. The farmers that own farmland through inheritance are usually indigenes who could lay claim to land within the communities. Cocoa farmers have access to farmland—bout 50 percent of the cocoa farmers obtained their farmland by buying, while the remaining 50 percent obtained theirs either through rent or lease. All the farmers said that individuals could access agricultural land by purchase, rent, or lease.

The price of a hectare of land ranged from NGN 7,500 in the forest reserve to NGN 500,000 within the communities. Conflict is an occurrence that is prevalent either among farmers or between farmers and invaders such as herdsmen. Information obtained from the farmers reveals that 50 percent of the farmers have witnessed conflict on their farmlands. The sources of the conflict are usually boundary disputes and invaders. The hectares of land cultivated by farmers tend to influence their output and level of commercialization. About 30 percent of cocoa farmers cultivated over five hectares of farmland. The mean hectares of land cultivated is 5.64, implying that most of the farmers are medium-scale farmers. As obtained from the cocoa farmers, the major constraints to accessing agricultural land are family disputes over land, boundary disputes, and the long distance between forest reserves and the community.

4.3.1B Farmers

The output of cocoa ranges from 0.5 tonnes to more than 2 tonnes. Most of the farmers (50 percent) produced 0.5 to one metric tonne of cocoa beans annually, while 30 percent produced more than two metric tonnes. The average output of cocoa is 1.93 metric tonnes per farmer. No cocoa farmers in Ondo State hired tractors for their farm operation in the last cropping season. Likewise, all of them made use of manual tools in harvesting their cocoa pods. The cocoa farmers purchase their inputs from the Bank of Agriculture, retailers, and directly from input markets. Cocoa farmers offer their produce for sale at their homestead and on-farm. Also, farmers do sell directly to cocoa processors. Half of the farmers regarded lack of finance as the major constraint to increasing cocoa production, while 30 percent stressed unfavorable weather conditions. Bad roads were a challenge identified by 20 percent of the farmers, while conflicts with herdsmen were a challenge identified by ten percent of the farmers. Access to credit or grant is a key factor in ensuring expansion and increasing agricultural output and productivity. However, none of the cocoa farmers had access to the loan. Access to extension services by farmers enhances their agricultural knowledge base— enhancing their production capacity and improving their welfare. Half of the cocoa farmers had access to extension services within the senatorial district. This area is worth improving on. The profitability analysis of cocoa production estimated that the average cocoa farmer earned NGN 1,417,750 annually, while the variable costs incurred were NGN 91,228. Cocoa farming is a profitable venture worth investing in, with a net profit of NGN 1,326,522 annually.

4.3.1C Processors

As obtained from the result, cocoa bean is processed into cocoa butter and cocoa cake. The output of cocoa butter processed in 2019 ranges from 1,330 to 5,800 metric tonnes. The average output of cocoa butter processed is 3,256.667 metric tonnes. The output of cocoa cake in 2019 ranges from 1,470 to 6,500 metric tonnes, with an average output of 3,776.67 metric tonnes. All the cocoa processors belong to at least one processing association. The most common association they belong to is the Cocoa Processors Association of Nigeria.

The benefits derived from being a member of the association include training and export expansion grants. However, the federal government no longer provides export expansion grants. All the processors interviewed revealed that they imported all their equipment into the country. None utilized locally manufactured processing machines. About 33 percent of the respondents obtained loans from commercial banks. A total of NGN five billion was applied for and granted, with a nine percent interest rate spread over six years. Assistance is usually provided to the cocoa processors in export expansion grants to allow the processors to sell their products at international prices. However, the government has ceased giving the grant. The government also grants import duty waivers on the imported processing machines. Cocoa beans are mainly sourced from LBAs, while about 67 percent of the processors source small quantities of cocoa beans from trusted farmers. However, none of the processors engages in an out-growers' scheme.

The installed capacity of the processing machines ranges from 25 to 83 metric tonnes of cocoa beans per day. The average installed capacity is 54.33 metric tonnes. Conversely, the actual quantity processed per day ranges between 20 to 50 metric tonnes. The average quantity of cocoa beans processed per day is 30.66 metric tonnes. The implication of this is that there is a shortfall of 23.67 metric tonnes per day. Based on the information obtained from the processor respondents, their processing facilities are very busy starting from September to January. They stock the cocoa beans purchased during this period to augment the quantity purchased during the light season.

The respondents' major processing challenges include unreliable electricity, inadequate funds, and double taxation by the government. The suggested measures that could mitigate these challenges are adequate power supply, granting single-digit loans, checkmating double taxation, and preventing corruption. The processors affirmed that they have an adequate supply of raw materials, mainly obtained from LBAs and occasionally from trusted farmers. The processors said they have adequate demand for their products both locally and outside the shores of Nigeria. All the processors affirmed that their products are purchased both locally and internationally.

However, over 90 percent of their product is exported directly from the factory to European countries and the United States; less than ten percent is sold to companies within Nigeria (ex: Nestle, Cadbury, and Fan Milk). About two-thirds of the processor respondents obtained their land from private owners, while 33 percent obtained their land from the government. The cost of land could not be provided during the period of the interview. The profitability analysis of the cocoa processing activities revealed that an average income made in 2019 was NGN 4.67 billion, while the average expenditure was NGN 4.9 billion. The processors in Nigeria incurred a net loss of NGN 230 million. The reason given for this shortfall is unstable naira value, which makes the processors unable to sell their products at the international market price.

4.3.1D Input Dealers

The types of inputs the respondents market include farm implements such as hoes, cutlasses, shovels, and others. Aside from these, they sell agrochemicals and fertilizers. Based on the information obtained from the input dealers, they purchased their input from the Agrotech Company and wholesalers. About 67 percent of the respondents sell in bulk as wholesalers, while 33 percent were retailers. The input dealers affirmed that they sell their produce to farmers only.

Moreover, they stressed that they offered their products for sale inside shops and through their cooperative society.

The distance of their outlets to the main market was between the range of 0.1 kilometers and one kilometer. The mean distance was 0.4 kilometers. The input dealers all asserted that they use their saving to fund their business. They reiterated that they did not have access to loans. Lack of access to loans could adversely affect the expansion of their enterprise since personal savings are inadequate to fund a business. The entire sample of the respondents agreed that inadequate finance was the main challenge confronting their business as this has prevented them from expanding the scope of their enterprise. However, they solicited loans from the government to expand their business and improve their welfare. Being a member of a cooperative society allows one to derive the benefits accrued to the society. Based on the information garnered, 33 percent of the respondents belonged to the cooperative society, while 67 percent did not. About 33 percent of the respondents affirmed the provision of credit as the benefit they derive from being a member of the society. The profitability analysis of input dealing enterprise is a pointer to ascertaining whether the business is worth investing in. The mean income that accrued to the enterprise in 2019 was NGN 3,176.666.70, and the mean expenditure was NGN 2,596,888.90 on the average NGN 579,777.80 represents the profit. This shows that agricultural input marketing is a profitable venture.

4.3.1E Marketers

All the respondents affirmed that they market cocoa beans only. However, 67 percent of the marketers sell at the wholesale levels, while 33 percent sell at the retail level. About 67 percent obtained the cocoa beans at the farm gate, while 33 percent purchased beans from wholesalers. As relayed by the respondents, their major customers are companies such as Sunny Oro. Buyers do come from Auchi to purchase cocoa beans from the markets. The marketers stressed that some of the respondents transport their products to the markets using their vehicles, while some hired vehicles to convey their products to buyers.

Also, some buyers do come with their vehicles to convey the products.

About one-third of the respondents transport their products inside Cabster vehicles, as well as Dyna and pickup trucks.

The entire respondents confirmed that their source of working capital is personal savings, and none of the respondents received loans to finance their business in 2019. The major challenges confronting the operations of markets in the state were inadequate funding and cocoa beans' price fluctuations. The measures to curb the challenges suggested by the respondents include granting single-digit interest rate loans and ensuring the price stability of cocoa beans. About two-thirds of the total respondents did not belong to the marketing association. However, 33 percent were members of one marketing association or the other. Those that were members of the association affirmed that they collectively negotiated the tax to be paid on their products. The average revenue made by the processors in 2019 was NGN 8.08 million, while about 76 percent of the revenue value went to operating costs. A profit of about NGN 1.96 million was realized in 2019, an indication that cocoa marketing is profitable.

4.3.1F Transporters

About 66.7 percent of the respondents stated that they transported pawpaw, vegetable, cocoa, and yam, while 33.3 percent stated that they transported plantain and cassava. The mean year of transport business experience was 17.3. All the respondents had 15-20 years of transport business experience. All the respondents said they belonged to one association or the other. 66.7 percent of the respondents said they were using 18 passenger buses for transport business while about 33.3 percent of the respondents were using Toyota Picnic vans for their transport business. Moreover, 33.3 percent of the respondents said they were drivers and not the actual owner of the vehicle they were driving, while 66.7 percent said they purchased their vehicle outright. The average distance of 20.4 kilometers per trip shows that most of the respondents do not travel far.

They probably cover within the state. About 66.7 percent of the respondents said their average distance per trip was between 15 and 16.10 kilometers; 33.3 percent said their average distance per trip was around 30 kilometers. The average number of trips of the respondents per day was three. All the respondents said poor road network was the major challenge to their transport activity. They all suggested that the government should assist in the construction of good roads. The average GM of NGN 31,166.70 per day indicates that the transport business is profitable.

4.3.2 Cassava Value Chain

4.3.2A Land

Cassava farmers (both indigenes and non-indigenes) accessed agricultural lands through outright purchase, rent, or lease. However, outright purchase (90 percent) was the most prominent way of accessing land in the state. This is an indication that there was access to farmland so long the individuals were ready to buy.

All the cassava farmer respondents agreed that land could be purchased for agricultural purposes in the state by both indigenes and non-indigenes. The price of land ranged from NGN 25,000 per hectare in the forest to NGN 150,000 per hectare within the communities. The outright purchase of farmland was the most prevalent type of land ownership in the state. All the cassava farmers said they owned land by outright purchase; some acquired other farmlands through inheritance (ten percent). No conflict was recorded among the farmers or between the farmers and herdsmen, indicating mutual and peaceful coexistence between and among community members, either indigenes or non-indigenes.

The hectares of land cultivated by a farmer would determine their output, which in turn would enhance their level of commercialization of his produce. As examined in the study, 60 percent of the farmers cultivated less than five hectares of land, while 30 percent cultivated over ten hectares. On average, a cassava farmer cultivated 14.2 hectares of farmland, indicating that they operated at medium to large-scale levels. Cassava farmers in Ondo State reiterated that the major constraints to accessing agricultural land were the high cost of acquiring the land and inadequate capital to acquire the farmland. They stressed that farmland was available, so far as individuals were willing to pay for it.

4.3.2B Farmers

The output of cassava is a function of the size of the farm cultivated and how efficient a farmer is in combining his resources. Half of the cassava farmers harvested five metric tonnes or less in 2019. However, 40 percent harvested more than 10,000 kilograms in 2019. On average, a farmer harvested 10,400 kilograms of cassava roots in the 2019 cropping season from an average farm size of 3.58 hectares. No single farmer hired a tractor for his farm operations in 2019, while harvesting was done manually. Most of the farmers used local implements for their farm operations.

Farmers obtained their planting materials and

other inputs from Tulip, CRIN, and main markets and sold their produce at the main market, through cooperative and on the farm. Inadequate finance was the most important factor limiting production, as identified by the farmers. Likewise, 50 percent of the farmers identified bad roads as a challenge that limited cassava production in the district. Pests and diseases; and unfavorable weather conditions were the other factors mentioned by the farmers. Few of the cassava farmers in the state had access to credit.

This is not encouraging as an expansion of their productive capacity would be an impossible task if there were no external financial support. All the cassava farmers enjoyed extension support in the last cropping season in the form of capacity building. The profitability analysis of cassava production shows that the average cassava farmer made revenue of NGN 1,104,000 in the last cropping, while the cost of operations was NGN 485,860.80. Thus, the average farmer realized a profit of NGN 618,139.20. This shows that cassava production was a profitable venture.

4.3.2C Processors

The output of garri processed ranges from 5,000 kilograms to 9,400 kilograms. The mean output of processed garri is 7,900 kilograms indicates that respondents processed about eight metric tonnes of garri yearly. The cassava processors affirmed that they did not belong to any processors' association and were not receiving any member benefits. The equipment used by the processors for their operations was locally fabricated. This tends to reduce their processing capacity and the quality of the products they processed. The entire cassava processor respondents reiterated that they did not obtain any loan from financial institutions. The provision of loans tends to ensure the expansion of processing operations and increase the output of the processed products. The processors affirmed that they had not received any form of assistance from the government, neither have they received from non-governmental organizations.

All the respondents submit that they obtained their raw materials from their farms and did not outsource their raw materials. The processors said that they could process five bags of garri per day. However, they were unable to process more than 300 kilograms per day. This was mainly due to the primitive processing facilities the processors were still using in carrying out their processing operations. The busy periods for cassava processors within a year is between July and September.

This is the period their operation is at its peak. They engage in other non-farm activities during the off-season period. The cassava processors listed the major challenges confronting them with their processing operations. These include lack of finance, use of primitive equipment for their processing operations, and bad roads. Suggested measures highlighted by the processors to tackle these challenges are granting of credits, supply of modern processing equipment, and rehabilitation of bad roads.

The processors emphasized that there was an adequate supply of raw materials for their processing operations. They also affirmed that there were readily available markets for their processed products. Their major customers were marketers and consumers. As obtained from the processors, 66.7 percent of the respondents owned the land they used for processing operations, while 33.33 percent used community land. No value was quoted for the land use for processing activities. The profitability analysis of cassava processing revealed that a processor makes average revenue of NGN 416,666.70 annually, while about 87 percent of the total revenue was the operating cost. In all, a cassava processor made a profit of NGN 53,333.40 in a year. This shows that cassava processing is a profitable venture.

4.3.2D Input Dealers

The input dealer respondents indicated that they sold farm equipment such as hoes, cutlasses, files, and sprayers. In addition to this, they also marketed agrochemicals. As relayed by the respondents, they purchased their inputs from Agrotech, WACOT, Jubaili, and other wholesalers. About 33 percent of the respondents sold their products in bulk, while 67 percent were retailers. All the input dealers reiterated that farmers were their main customers. All the respondents affirmed that they have shops where they offered their products for sale. The distance of their shop to the main market ranged from one to two kilometers. The average distance covered by the respondents to get their produce to the main market was 1.43 kilometers.

The respondents highlighted their different sources from which they obtained their working capital as personal savings, loans from family and friends, and cooperative society. About 33 percent of the respondents received credit to fund their business in 2019. Their cooperative societies provided the loan, and the whole amount applied for was granted. As highlighted by the respondents, the major challenges confronting their business were financial constraints, unfavorable weather conditions, and bad roads.

The suggested measure to curb these challenges includes the provision of credit and rehabilitation of bad roads. All the respondents belonged to one association or another. The benefits they derived from being a member of an association include

loan, bulk purchase, and market information sharing. The profitability analysis shows that an input dealer made an average of NGN 2.4 million in 2019, while the cost incurred was about 87 percent of the accrued income. A profit of NGN 413,332.30 was realized in 2019. This shows that agricultural inputs marketing was profitable in 2019.

4.3.2E Marketers

The marketers relayed that they market cassava products, mainly garri, and sold them at the wholesale level. One hundred percent of the respondents obtain their input from the farm gate and offer the products for sale to the middlemen in the markets. All the respondents affirmed that they usually hire a vehicle to convey their products to the buyers. The types of vehicles they normally hire were pick-up and motorcycle. All the respondents emphasized that they fund their business mainly with personal savings, and none of the respondents financed their business with the loan in 2019.

The respondents' major challenges were inadequate finance to support their business and bad roads—the suggested credit grants and road rehabilitation as measures to curb the challenges. About 33 percent of the total respondents belonged to a marketing cooperative society. The benefit derived from society was financial assistance to registered members. The profitability analysis shows that an average income of NGN 633,333 was made in 2019, while the operating cost was about 65 percent of the income. Cassava marketing had an annual profit of NGN 225,000 in 2019.

4.3.2F Transporters

About 66.7 percent of the respondents said they belonged to one association/union or the other, while 33.3 percent did not belong to any association. Likewise, 33.3 percent of the respondents said they were using Nissan pick-up for transport business, and 66.7 percent of the respondents were using Dyna truck for their transport business. All the respondents said they purchased their vehicle outright. The average distance of 50 kilometers per trip shows that most of the respondents travel far within the senatorial district. About 33.3 percent of the respondents said their average distance per trip was 20 kilometers, while 66.7 percent said that they covered between 60 and 70 kilometers per trip.

The average number of trips was two per day. All the respondents said poor road network was the major challenge to their transport activity. They all suggested that the government should assist in the construction of good roads. The average GM of NGN 40,000 per day indicates that the transport business was profitable.

4.3.3 Palm Oil Value Chain

4.3.3A Land

Palm oil farmers indicated that both indigenes and non-indigenes could access agricultural land in Ondo State. About 70 percent of the respondents obtained their farmlands through purchase. A sizable percentage obtained land via rent and lease, while 20 percent cropped in forest reserves. About 90 percent of the farmers agreed that farmland could be accessed through purchase, rent, or lease. The implication of this is that there was access to agricultural land in the state. The cost of a hectare of land ranged from NGN 265,000 to NGN 600,000. About 80 percent of the farmers obtained their farmlands through inheritance and purchase, while ten percent obtained theirs by rent. The obvious forms of land ownership in the state were through inheritance and purchase.

About 70 percent of the farmers cultivated less than 20 hectares, and ten percent cultivated more than 40 hectares. The mean value of hectares cultivated, 20.6 hectares, implies that the farmers operate at the commercial level. Conflicts on farmland have been a significant factor in hindering productivity and welfare among farmers. About 50 percent of the farmers affirmed that there were conflicts on agricultural land in the state. The sources of conflicts include sales of farmland by unauthorized individuals and invaders. The farmers agreed that there were some challenges in accessing farmland within the district. These challenges include scarcity of farmland outside forest reserve and the high prices charged by individuals willing to sell land.

4.3.3B Farmers

About 40 percent of the farmers produced five metric tonnes or less of palm oil per annum on their farm, while four out of ten farmers produced more than 40 metric tonnes. The mean output was 44.8 metric tonnes of FFBs. None of the farmer respondents hired tractors in carrying out their farm operations and harvested produce with hand tools. The farmers explained that they obtained their farm inputs from harvest feeds, markets, and ADPs, while they offer their farm produce for sale to processors, sell at the main market and on-farm. As obtained from the farmers, major constraints limiting their farm operations were lack of finance, lack of modern farming and processing equipment, and bad roads. In total, 80 percent of the farmers identified inadequate capital as the major challenge, while 20 percent emphasized a lack of modern farming equipment and bad roads. About 90 percent of the farmers did not have access to credit. This challenge may serve as a hindrance to farmers expanding their production capacity. It was noted that ten percent of the farmers utilized credit facility, which was obtained from the palm oil processor. The sum of NGN 100,000 was applied for while NGN 50,000 was granted with an interest rate of three percent per month charged on the capital. Five out of every ten farmers had access to extension support. This group of farmers is likely to be more productive than those without access to extension support because extension services tend to open the farmers to new ideas about farm operations and market information. The GM analysis per hectare revealed that the average palm oil farmer made NGN 731,450, while the cost of operation was NGN 123,266.50. The profit made by an average palm oil farmer per hectare in the senatorial district was NGN 608,183.50—an indication that palm oil production was a profitable venture.

4.3.3C Processors

The quantity of palm oil processed is between 15 metric tonnes to 400 metric tonnes per annum. The average output produced was 158.2 metric tonnes. All the palm oil processor respondents confirmed that they utilized locally fabricated machines for their processing operations. This could reduce their level of efficiency in palm oil processing. None of the oil processor respondents had access to loan facilities. The inability to access loans may prevent the processors from achieving their optimum processing capacity. Assistance from the government in the form of loans or input subsidies will go a long way in enhancing the processors' productive capacity, which will improve their welfare status. However, none of the respondents had received any form of assistance from the government. As obtained from the respondents, 66.67 percent of the processors sourced their raw materials from their own farm and other farms, while 33.3 percent obtained their raw materials from their own farms only. On average, the processors' installed capacity per day is seven metric tonnes, while the actual processing capacity is 3.53 metric tonnes per day. The implication of this is that the processors could process about 50 percent of the installed capacity. Based on the information obtained from the processor respondents, their processing facilities were usually very busy from February to May. However, they take up other non-farm jobs during the off-season period. Major processing challenges highlighted by the respondents include lack of finance and lack of modern equipment. The measures suggested by the processors to checkmate these challenges include the provision of credit facilities and modern processing facilities that could enhance their processing operations.

The processor respondents said that they have an adequate supply of raw materials, which they obtained from their own farms and other farmers. They confirmed that they have adequate demand for their products, and the buyers of their products were marketers. The processor respondents emphasized that their products were conveyed from the factory to the middlemen, who were mainly palm oil marketers. The land used for processing palm oil was either inherited or belonged to the community. About 50 percent of the palm oil processor respondents obtained their land from each of the two sources. No cost was attached to the land used by all the processors. The profitability analysis revealed that the revenue that accrued to palm oil processing activities was NGN 5,711,000, while the cost incurred was about 75 percent of the revenue value. The profit made was NGN 1,424,333. This is a confirmation that palm oil processing was a profitable enterprise.

4.3.3D Input Dealers

The types of inputs offered for sale by the dealers were agrochemicals and fertilizers. Also, they sold farm implements such as hoes, files, and knapsack sprayers. The respondents stressed that they obtained their inputs from Akure. They also went as far as Ibadan and Onitsha to purchase their inputs. As reiterated by the input dealers, they all sell at the retail level, and their major customers are farmers. The respondents affirm that they sell their products from shops, while about 33 percent submitted that they supply their products to individual customers. The respondents confirm that the distance of their outlet to the main market ranges between 0.8 and 2 kilometers. On average, about 1.2k would be covered to get to the main market.

The respondents stressed that they obtained their working capital from personal savings, loans from friends and family, and cooperative society. About 33 percent accessed credit in 2019 from their cooperative society. An average credit of N2 million was applied for, and all the amount was granted. Major challenges confronting inputs dealers in the district were financial challenges and security issues. The suggested measure to curb the challenges includes providing loans at single-digit interest rates and providing adequate security to protect lives and property. All the input dealers said they belonged to a cooperative society or union. The benefits derived from being a member of the group were credit support and collective tax payment. They also shared current market information among members.

As obtained from the profitability analysis, on the average, an input dealer in Ondo State made NGN 6.07 million, while the operating cost was about 89 percent of the accrued revenue. The profit realized in 2019 was NGN 678,000. This shows that agricultural input marketing was a profitable venture.

4.3.3E Marketers

About 67 percent of the respondents marketed palm oil, while 33 percent sold palm oil fruits. The palm oil marketers operate at the retail level, while the palm oil marketers sell at the wholesale level. Most of the respondents (67 percent) obtained their raw materials at the farm gate, while 33 percent purchased their products from the wholesalers. The major customers of the marketers were the retail outlet owners and companies. Most of the marketers (67 percent) utilized motorcycles as a mode of transportation, while 33 percent used their private vehicles to transport the palm oil products.

The types of vehicles used in transporting palm oil products are motorcycles and cabsters. According to all the respondents, the palm oil marketing business is financed solely through personal savings. None of the respondents had access to a loan to finance their business in 2019. The major challenge highlighted by the palm oil marketers was inadequate capital to finance their business. They suggested a way of combating the challenge was the provision of single-digit loans to expand their business.

As obtained from the respondents, 67 percent did not belong to the marketing association, while 33 percent were members of the palm oil marketing association. The benefit derived from being a member of the association is providing a credit facility with a reasonable repayment plan. In the year 2019, a palm oil marketer realized NGN 13.8 million as income on the sale of palm oil, while the profit realized was NGN 6.3 million. Thus, the palm oil marketing business was a profitable venture.

4.3.3F Transporters

The respondents transported FFBs, palm oil, and palm kernel based on the information obtained from the respondents. All the respondents had 20 to 25 years of transport business experience. All the respondents said they belonged to an association. The respondents were using Cabstar for their transport business. All the transporter respondents stated that they purchased their vehicle outright.

The average distance of 13.05 kilometers per trip shows that most of the respondents did not travel far. About 33.3 percent of the respondents said their average distance per trip was 8.05 kilometers, while 66.7 percent said 15 to 16 kilometers as their average distance covered per trip. The average number of trips per day was three. All the respondents said poor road network was the major challenge to their transport activity. They all suggested that the government should assist in the construction of good roads. The average GM of NGN 30,333.30 per day indicates that the transport business was profitable.

5.0 Summary

In this section, major findings from the field survey about the agricultural value chains, the actors, and access to land have been provided. Specifically, the Land Use Act 1978 is still in operation. However, the implementation of the act and the involvement of the state governments vary from state to state. Some of the actions of governments and attitudes towards land allocation policies have largely been shaped by the experiences of the governments. For example, it was discovered that many corporate bodies just applied for very large parcels of land under the guise of investing in agricultural enterprise only to either keep them undeveloped or convert it to real estate. This was an obvious distortion.

At the federal level, there is an ongoing effort at reforming the Land Use Act 1978 to make it more responsive to the developmental challenges of the Nigerian economy. The study was able to expose some of those operational difficulties at the state and community levels. By far, the most creative state is Edo State that has been able to acquire agricultural land at many locations within the state and gradually open them up to benefit smallholder farmers in a well-structured manner. As for Delta State, land is scarce due to high population density, waterlogging, and high oil exploration activities, especially in Delta South and Central Senatorial Districts. In Ondo State, successive governments since the return of democracy in 1999 have been clearing and preparing land for agricultural activities in different parts of the state. However, the political will and commitment have not been consistent nor high enough to achieve any tangible result for the agricultural sector and the economy.

5.1 Pitfalls and Gaps in Policies

In each of the communities and states, it was discovered that families are holding different parcels of land. The small-scale farmers did not have the resources and wherewithal to develop the arable land within their control. As a result, they restricted their activities to their smallholdings, lease, or rent out the land to whoever wants to cultivate part of their family land. In some cases, the key members of the family agree they can sell and share the financial proceeds. This outright sale is only common in Edo State and Ondo State. In Delta State, the annual renting out of land is more favored, possibly due to the paucity of agricultural land. This is a pitfall because no meaningful agricultural development can occur where land renting or short-term leasing is the norm.

The idea of the land bank committee in Delta State is a very lofty one with the way it is being implemented. The purpose is to collate all available parcels of land as a basis for agricultural planning. This idea is also being implemented in the remaining two states but under different nomenclatures and arrangements.

Many land speculators have used their connections with the politicians and governors to get large parcels of land allocated to them backed up by certificates of occupancy for more than ten years without any agricultural development on such land. These corrupt tendencies can be found across the three states (Edo, Delta, and Ondo) and are being addressed by successive governments by revoking such occupancy rights. The new twist in Delta State and Edo State is that their governments acquire the land, clear it, and give it out to smallholder farmers in the neighborhood or young school leavers. There are three noticeable pitfalls. First, the communities resist the idea of bringing beneficiaries from outside their communities. Second, the allocation is usually done in a partisan manner such that only members of the ruling party within the state corner such allocations. Third, the majority of the young school leavers allocated such land collect the inputs, sell them off at a discount and return to the cities. This was reported in Delta State as prevalent. The screening process needs to be more thorough to ensure that only passionate prospective farmers get into such schemes.

5.2 Challenges Facing Supply and Demand

The land is a fixed resource and has many alternative uses. With increasing urbanization and development, there is stiff competition for available land everywhere. Housing, schools, infrastructure, and industry are some of the strong competitors for arable land in the three states studied—Edo, Delta, and Ondo. Many erstwhile rural communities

with a lot of agricultural land are witnessing the dwindling availability of such land due to increasing urbanization and population growth. The pressure on land generally is growing at an alarming and unsustainable rate.

On the supply side, the role of government and families cannot be over-emphasized in the supply of arable land within the three states studied (Edo, Delta, and Ondo). While the Land Use Act 1978 vests the official allocation and issuance of occupancy rights on the government, the actual ownership lies with the families and communities. In essence, a prospective investor can hold the title and still find it impossible to access the land. The government needs to serve as a broker by getting involved in sourcing the land and facilitating access. Compensations need to be paid to farmers and communities before land can be released. This is a role that the government must play on the supply side of land availability. Merely signing the title paper for the prospective investors cannot work and has never worked. In addition to paying compensations through enumeration of economic crops on the land, there are usually negotiations on other non-monetary benefits such as employment opportunities and some other corporate social responsibility projects and initiatives to be undertaken by such prospective investors. A creative one found on the field is where Edo State acquired and cleared a large parcel of land, give half of it to a big agricultural investor, and the other half is shared among the local farmers who will later supply their produce to the big investor serving as off-taker. This is a win-win model that is acceptable to many communities and can be replicated everywhere.

On the demand side, prospective investors are in three major categories. First, we have big investors who are looking for agricultural land. Second, we have retired city dwellers who are looking for moderately sized farmland and are willing to invest in agriculture. Lastly, we have unemployed youth, women, and small-scale farmers who are looking for farmland for job opportunities. While the big investors have deep pockets and can afford to go through the governments to serve as middlemen, most of the retired city dwellers have modest resources to approach landowners and acquire the land before formalizing it through their application for occupancy rights. The last category is the most vulnerable group because they are usually resource-poor. They will only get access through their family-owned land, rent small plots of land, or depend on the land to be provided and allocated by the government. This scenario is common to all the three states studied (Edo, Delta, and Ondo).

5.3 Challenges Facing Landowners and Governments

The land is a non-renewable resource with the implication that the more of it is used, the less we have available for other purposes. Besides, the land is a resource held in trust by the present generation on behalf of the future generation. Therefore, a high sense of responsibility is expected in order not to compromise the future generation. A serious challenge facing landowners generally is the lack of official title at the community level. This challenge makes it impossible to utilize such land as collateral for bankable investments within the agricultural sector. Delta State is trying to solve this problem through its land bank committee, whereby an inventory of available agricultural land is being developed. Another challenge is the scarcity of resources to invest in available agricultural land. Many of the land available is in the rainforest, which requires a lot of money to clear. Therefore, the idea of the government acting on behalf of prospective small farmers by assisting with clearing is a lofty one. Edo State is currently performing excellently well in this direction. Again, the family sizes are growing phenomenally, thus reducing individual holdings due to population and several development pressures.

The increasing awareness about land as a valuable resource has led to even government land coming under serious threat. Many forest reserves in all three states (Edo, Delta, and Ondo) are increasingly being converted to agricultural land by their original family and community owners. It started initially through encroachment but gaining momentum with time. In some states, the government has been proactive by allocating the forest reserves or parts thereof to small farmers or big investors. This is a threat to forestry revenues of the state government and biodiversity conservation.

5.4 Challenges Facing Small-scale Farmers

Many of the small farmers have challenges of land acquisition through purchase, lease, and/or rent. Even where there was no problem of acquisition, exorbitant land clearing costs and preparation inhibit the growth of small-scale farmers. There is also the problem of access to finance to acquire production inputs. Unlike in the past, where marketing used to be a big problem for farmers, it appears the problems have been narrowed down to road infrastructure and access to finance.

Farmers believe that with access to finance removed they can always hire tractors to work on their farms and even pay hired labor where tractors are unavailable. These are some of the other considerations limiting their growth. While out-grower schemes may be a desirable idea, many of the farmers are only interested in it to the extent that the off-takers will supply them with production inputs and thereby eliminate their working capital challenge. So, the out-grower scheme is a creative way of solving both product marketing and input supply challenges facing the small farmers.

Many state governments and even the federal government have come to appreciate this problem. The CBN (Central Bank of Nigeria) is working with the state governments. And commercial banks have many agricultural credit schemes, including NIRSAL, which are currently operational to help small-scale farmers. Although many of the farmers interviewed said not to have benefited from such schemes.

The linkages between the value chain actors appear to be very strong on the ground but highly informal. They are not usually formal but effective to the extent that all parties are involved in sustainable business operations.

5.5 Challenges Facing Peace

From the empirical evidence made available during this study, there were no conflicts on land. This is not to rule out the fact that there may be inter-community skirmishes over farmland and boundaries. Literature is rich in the existence of such clashes up till this present day because of high values attached to land both culturally and economically. The only reported case is between Edo State and Delta State around the Abraka area. Please recall that the two States were together in the former Bendel State (now Edo State) before their creation. A large palm oil investor active in Edo State (Presco Ltd.) had acquired a large parcel of land whose land area extends to Abraka in the Delta State. According to information gathered during the fieldwork, the company has the title to the land under the former Bendel State (now Edo State). This can always be resolved by the government of Delta State giving the company the title for the portion that falls within their jurisdiction.

6.0 Conclusion and Recommendations

This study has revealed the situation in access to agricultural land in the three states covered (Edo, Delta, and Ondo). It is particularly revealing that many states are not doing enough to assist farmers in expanding their businesses. They are not doing enough to assist some vulnerable groups such as unemployed youths and women in their quest to access agricultural land for productive ventures. As for the big investors with enough resources, the story is different as they can access significant land with the assistance of the state governors. In general, the three states (Edo, Delta, and Ondo) acknowledge the fact that access to land is a big problem and binding constraint in agricultural production.

The following recommendations were suggested for governments, communities, and farmers to act on.
Governments should:

- encourage the communities to donate land to the government for agricultural and other uses
- directly acquire land for public interest as enshrined in the constitution
- open primary and secondary forests for agricultural purposes
- build access roads to farmlands
- determine the fertility of the soil to provide farmers with appropriate recommendations on fertilizer application
- provide improved agricultural inputs at subsidized rates
- train farmers to acquire the required skills for agricultural production
- make policies that are favorable to the farmers
- protect farmers against herdsmen/cattle rearers who sometimes graze their livestock on farmers' fields, destroying crops and delivering losses to farmers
- provide a conducive atmosphere for farming
- facilitate the acquisition of agricultural loans at a five percent interest rate
- facilitate the acquisition of C of O for agricultural land at an affordable price
- create agricultural land use database with geo-referencing as well as validation of land by government (proper land banking system)
- strengthen farmers' associations and reconnect them to the appropriate agencies of government to create a synergy between their activities and policies and interventions of government
- trust-building between government agencies (MDAs), investors/host communities/ landowners
- strengthen the synergy between relevant government agencies (MDAs, investors, and the community in the process of accessing/ acquiring land

Communities should:
- come out with a guideline on land acquisition which all the approved structural representatives should witness
- encourage people to form a cooperative society
- set up a committee to deal with all land issues where offenders should be appropriately sanctioned

Farmers should:
- form cooperative societies/farmers' associations
- make themselves readily available for training
- make sure they adhered to government policy on land issues

6.1 Lessons learned

There are a few lessons learned while undertaking this study. A major lesson learned by the state governments is that many capitalists and prospective investors are not serious about investing in agriculture but are only interested in land grabbing. So, the governors now give such investors about 500 hectares asking them to fully develop it before asking for additional land. This is Edo State's approach to a problem that cuts

across all the states of the federation. The other states should learn from the Edo State's land policy review.

Another lesson from this study is the policy of allocating substantial land to corporate investors for agriculture. After clearing and preparing the land for cultivation, half of the entire allocated land will be shared out to the small-scale farmers within the neighborhood while the big investor cultivates the remaining half. The half shared to small-scale farmers is still considered as part of the big investor's land as the small-scale farmers are organized into the out-growers scheme, with the big investor being the off-taker. In addition to providing a guaranteed market outlet, the big investor also supplies inputs such as seeds, fertilizers, agro-chemicals (such as herbicides and pesticides), tractor services, etc., on a credit basis. The value of the production inputs supplied will be deducted from the proceeds accruable to the farmers.

Many agricultural lands under cultivation in the three states (Edo, Delta, and Ondo) have no official title whatsoever. Therefore, the assets without official or formal documents make those assets dead as they cannot be used as collateral to secure bank credit. This absence of ownership title is a disadvantage to the small farmers because they cannot access credit from formal sources. Such credit is necessary for boosting the economic activities of small-scale farmers and the nation at large.

In all the three states (Edo, Delta, and Ondo), unemployed youth recruited hardly stay on the farm for a single growing season. There were reported cases in Delta State and Ondo State where the production inputs supplied to the unemployed farmers were sold at a discount before abandoning the farms. The reason for this abandonment can be traced to the fact that some of the young farmers were not interested in farming in the first place. Many of them made it to the list either because they were relatives or supporters of the politicians. They were not interested in farming nor passionate about agriculture. The recruitment process needs to be thorough and objective rather than using political patronage.

Finally, the practice whereby investors will secure land allocation first before shopping around for funds to invest has proved a complete failure. Instead of allocating land-based on proposals, the allocation should be contingent upon documentation of the investor's equity contribution—based on evidence from the bank account statement and banker's guarantee. This will make such agricultural land allocation to corporate entities more effective and realistic.

6.2 The way forward

This study and final report provide the Edo State, Delta State, and Ondo State governments with lessons that can be learned from a peer review of access to agricultural land. Studies and policy papers on access to agricultural land should be developed for each state to make them more effective and responsive…

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