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# Innovation Lab for Food Security Policy

## Nigeria Agricultural Policy Project

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### Promoting Cassava Productivity in Delta State: Linking Data and Policy

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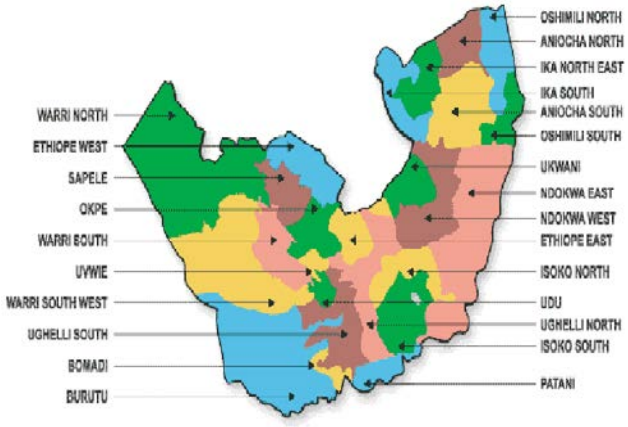
### Introduction and background to Delta State

Delta State lies between longitudes 5º and 6º N and is situated in the region known as the south-south geopolitical zone of Nigeria (DSG, 2016). Though Delta State is one of the key oil and gas producing states in Nigeria, about 75% of its population still depends on agriculture for their livelihood (UNDP, 2014). The state has a total population of 4,098,291 according to the 2006 census. The total land area is estimated at 18,050 square kilometers with an enriched coastline of 163 kilometers in the south. The breakdown of the land area in the riverine area is 1,770 square kilometers of freshwater, 5,840 square kilometers of mangrove swamps and 10,088 square kilometers of rainforest.

Figure 1: Local Government Areas of Delta State




*Source: Ofuoku (2012).*

### Key Messages

- About 2 million metric tons of cassava is produced annually in Delta State with an average yield of 14.6 MT/ha.
- The inadequate and untimely release of resources limit the current gains in cassava productivity.
- A mix of actions ranging from strengthening of extension services, access to inputs, use of modern machineries and transport logistics, agricultural data information service and a well-articulated update of the state's agricultural policy would help to maintain and sustain the current increase in cassava yield.

The crops produced in the state include cassava, yam, plantain, oil palm, rubber, tomato, pineapple, rice, maize, okro, raffia palm and citrus. Livestock production is mainly poultry and piggery while goat and sheep are traditionally free range. The populace along the coastal areas is involved in artisanal fisheries while aquaculture is carried out throughout the state (UNDP, 2014).

The state administrative structure consists of 25 Local Government Areas (LGA), and each of the LGAs is headed by a chairperson (see Figure 1).

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## The Delta State Government programs for agriculture under the Agriculture Promotion Policy

Given the sharp decline in revenue from oil and gas, the state government, through its Ministry of Agriculture, is committed to strengthening the focus on agriculture towards diversifying the state's economy. One of the key priority crops for the state is cassava. In a bid to increase cassava production and value addition of cassava tubers for international and local markets, a number of initiatives have been put in place.

**Supply and distribution of high yielding and disease resistant cassava cuttings** - This aims to replace low-yielding Cassava Mosaic Disease (CMD) cuttings. Some examples of high-yielding varieties distributed are Pro-Vitamin A/Beta Carotene Cassava (UMUCASS36, UMUCASS37 & UMUCASS38). Since 1999, over five million bundles of high-yielding cassava cuttings have been procured and distributed to farmers (MANR, 2012). Over 1,000 bundles of the improved Pro-Vitamin A/Beta Carotene Cassava cuttings have been distributed to rural farmers by the State Committee on Food and Nutrition. Multiplication sites for high-yielding cassava in Abraka, Ethiope East LGA and Uwheru, Ugheli North LGA have been developed on 100 hectares (ha) and 600 ha of land respectively (IFAD/NDDC/FGN/CBRMDP 2015).

**Value addition initiatives -** Three modern cassava processing mills, each with a capacity of 2 metric tons (MT) per day, are under construction at Ubulu-Okiti in Aniocha North, Oghara in Ethiope West and Ogbe-Ijoh in Warri South West of Delta State. Expected outputs from the mills are cassava starch, pellets, flour and chips. There are also small scale capacity mills for over 25 women groups, 100 co-operative farmers' groups and individual farmers for the production of garri, starch, flour, tapioca, fufu and chips (MANR, 2012). A modern cassava processing factory was established at Uzere in Isoko South LGA and donated to Delta State for management. The factory processes cassava tubers into industrial starch and garri. The factory is of a very high standard, but it is currently underutilized due to lack of raw materials like the specific cassava variety needed. There are opportunities for the establishment of bio-ethanol/glucose plants used for export (MANR, 2012).

**Community-driven production initiative** - This initiative aims to increase food production in the state. Ten communal farms have been established across the state, where individual farmers in a community are encouraged to pool their land resources together in order to form a contiguous cassava farm. Such communal farms and land allocated are found in Ogwashi-Uku (200 ha), Irri-Emede (100 ha), Deghele (150 ha), Ute-Ogbeje (50 ha) and Kokori (10 ha) (MANR, 2012). Three farm settlements have been developed in villages across Delta State and 250 ha of cassava farms have been cultivated in these settlements. In these farm settlements, small-scale processing mills for cassava roots have been provided to reduce drudgery. The Youth Empowerment Through Agriculture/Farmers Support Program (YETA/FSP) trained unemployed youths—40 youths per LGA—in various agriculture enterprises and assisted to setup their own small scale agricultural business. So far, 50 youths have been assisted to establish about 100 ha of cassava farms across the state (MANR, 2012). There are plans to train these youths on cassava processing for value addition.

## Cassava in Delta State

In Delta State, the land area allocated to cassava annually was 134,700 ha on average over the period 2006-2015 (see Table 1). Over the same period, about 2 million MT of cassava was produced annually with an average yield of 14.6 MT/ha. The land area under cassava production ranges between 3-10 ha for individual farmers and 50-300 ha for communal farms. The cassava produced is used for the production of starch, ethanol, adhesives, garri, flour,

chips and pellets. Cassava is also consumed in the local cuisine in dishes such as fufu, abacha and shredded cassava.

Table 1

| Year | Yield, land area, and output of cassava in Delta State, 2006-2015 | | |
|---|---|---|---|
| | Yield (MT /ha) | Land Area ('000 ha) | Output ('000 MT) |
| 2006 | 14.667 | 104.5 | 1532.7 |
| 2007 | 14.2 | 122 | 1732.4 |
| 2008 | 14.01 | 123.79 | 1734.3 |
| 2009 | 14.48 | 130.15 | 1884.6 |
| 2010 | 14.5 | 140 | 2030 |
| 2011 | 14.6 | 142.2 | 2076.1 |
| 2012 | 14 | 144 | 2016 |
| 2013 | 14.8 | 135.15 | 2000.2 |
| 2014 | 15 | 152 | 2280 |
| 2015 | 15.7 | 153 | 2402.1 |
| **Average** | **14.6** | **134.7** | **1968.8** |

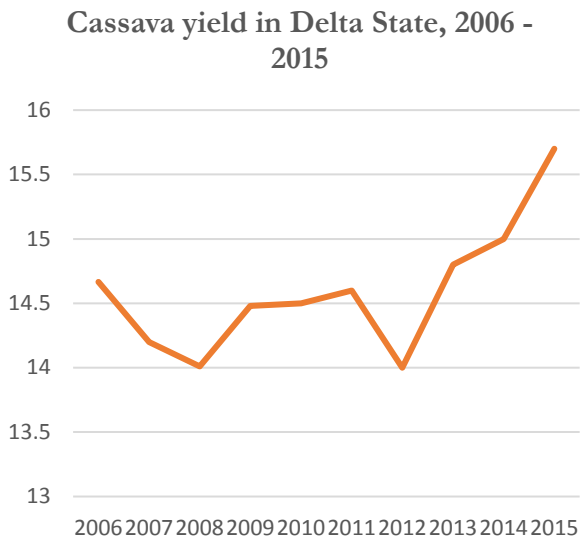
*Source: MANR, Asaba, Delta State.*

## Explaining the recent productivity gains in cassava productivity in Delta state

Figure 2 shows that cassava yield decreased from 14.5 MT/ha to 14.1 MT/ha between 2006 and 2008. This can be attributed to the lack of resources and planning resulting from political transitions during the same period. In effect, many programs and policies such as Live and Own A Farm (LOAF) were abandoned (MANR, 2012).

In 2009, cassava yield in the state increased slightly to 14. 5 MT/ha and remained constant until 2010 before falling to 14 MT/ha in 2012. This slight and maintained progress can be attributed to the Youth Empowerment Through Agriculture (YETA) and Farmers Support Program (FSP) put in place between 2009 to 2010. With these programs, farmers received farm inputs such as new improved cassava varieties, fertilizers, insecticides, pesticides, knapsack sprayers and extension services. In 2012, floods in 15 LGAs coupled with the political transition period of 2011 further affected yield. The floods resulted in the loss of farmlands and soil fertility. This translated into a sharp drop in cassava yield and production in the affected areas. After the floods, between 2013 and 2014, the state benefited from a suite of relief interventions by humanitarians, NGOs, as well as national and international donors for the victims (MANR, 2017). These interventions provided farmers with cassava cuttings that boosted production among other actions. One major program that might have positively affected yield is the Fadama III project in 2012.

Figure 2: Cassava yield in Delta State (2006-2015)




*Source: MANR,, Asaba, Delta State.*

The Fadama III project is a collaboration between the Delta State Government (DSG), the federal government and World Bank, a donor partner. Fadama III took off in 2008 with the objective of increasing the income of the rural poor on a sustainable basis. Its specific targets were: 40% increase in income for 75% of the participants, and 20% increase in yield of primary agricultural produce. From the adoption surveys conducted in 2012/2013, there were indications that the program's objectives would be achieved. The survey report indicates a 39%

increase in income of participants and yield increases of major crops, ranging from 14% for maize, to 18% for cassava, 24% for fisheries and 30% for goats. Fadama III is rated as likely to achieve its objectives, especially with the program now working in collaboration with another World Bank assisted project, the State Employment and Expenditure for Results (SEEFOR), to fund implementation of community sub-projects in five LGAs from 2014-2017 (UNDP, 2015).

### Challenges to cassava productivity growth

- The land tenure system gives rise to small farm sizes, which is a big challenge for mechanization.
- Fertilizer and improved cassava cuttings are not readily available, and when they are, the distribution does not reach farmers in a timely manner.
- Poor rural farmers do not have the resources to hire tractors or other farm equipments to open up new farmlands in an agro-ecological zone dominated by thick forests and mangrove swamps.
- Limited access to extension services due to the lack of staff and technology.
- Poor database for monitoring and impact assessment as well as market linkages and information.
- Natural disasters caused by floods and erosion lead to the loss of cassava farmland and drastic fall in crop production.
- Environmental pollution stemming from the activities of the multinational oil companies have negative effect on cassava production.
- Farm roads are very poor. Thus, transportation of harvested tubers to rural market is very expensive and cumbersome.

### Sustaining and improving cassava productivity growth in Delta State

To maintain and sustain the current increase in cassava yield, there should be improved access to extension services. The early provision of improved planting materials and other inputs should also be a priority. In addition, the establishment of more modern cassava processing mills across the states would be beneficial. Capacity building activities for farmers and extension workers can also boost productivity in the sector. To promote large-scale cassava farming and develop the value chain, the government could encourage Public Private Partnership (PPP). Making mini cassava processing machines available to farmers could additionally help sustain cassava productivity. To assist the ministry ensure the swift distribution of cassava cuttings within the state, it will be important to provide trucks (at least two per senatorial district).

### Conclusion and key recommendations

Cassava is grown in every LGA of the state. Cassava related products are in great demand for a variety of reasons. Indeed, cassava is used for preparing local staples. The cassava-related products such as bio-ethanol, glucose syrup, High Quality Cassava Flour (HQCF) or starch (HQCS), pellets and chips, adhesives and mosquito coils can effectively boost the economy of the state. The growth of the cassava sector in the state will require an innovative approach both at the production and processing level. Since the production of cassava has the capacity to increase rural income, generate employment and create wealth for numerous unemployed youths, this is a worthy undertaking for the state.

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