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Assessment of Agricultural Diversification in Bayelsa State of Nigeria

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Abstract

The study assessed the Agricultural diversification in Bayelsa State. The sample size of the study was 115 farmers and extension agents who were randomly selected. Data were analyzed with descriptive statistics such as frequency and percentage, while inferential statistics such as multiple regression. As much as 93.3% of farmers agreed they had credit facilities as an agricultural diversification resource, and 92.4% availability of farming equipment, 86.7% aligned themselves with fertile soils and 73.3% have availability of planting materials, 93.3% of respondents welcome the use of pesticide innovation, 81.9% preferred the use of fertilizers. Perceived impact showed increased gross domestic-product was accepted with mean 4.22, while longevity of agricultural products was rejected by farmers with mean 2.94. Finally significant difference in the responses of both extension agents and farmers on the assessment of agricultural diversification. This study therefore recommends government agencies to support in empower youths to partake in agricultural activities which will aid on a faster shift from a mono-economic societies.

Keywords: *Agricultural Diversification and Bayelsa*

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Background to the Study

Today petroleum accounts for over 90% of Nigerian's export revenue and over 80% of the government's budget. (Michael and Anthony, 2015). They further stated that, it is unfortunate that the different tiers of government in Nigeria cannot pay their workers talk less of embarking on any meaningful project without reliance on petroleum revenue. The situation has left the economy of the country at the mercy of the vagaries of petroleum market. Again, the neglect of other sectors of the economy has left majority of her work force unengaged or under-engage, creating a large pool of unemployed people that become easy tools for destabilization of the country. The Oil Industry cannot engaged significant member of the work force. This problem has given an urgent need for Nigeria to diversify her economy to curb unemployment and stabilize her economy for sustainable national development. Today, agriculture has suffered from long years of neglect, mismanagement, inconsistent and poorly conceived government policies, lack of government meaningful incentive to farmers, lack of basic infrastructure and lot of bureaucratic bottlenecks in executing policies and agricultural programmes among government agencies as cited by Ariyo (1997) in Maria, (2015). Recalling the past benefits of agricultural activities to the nation's economy, it is necessary to re-invest in the sector to boost the economy in this time of need. This therefore calls for diversification of the economy to agriculture.

Diversification implies movement into new fields and stimulation and expansion of existing traditional products. (Sunday, Clement, Etong, 2013). Diversification does not discourage specialization, but requires that resources be channeled into the best alternative uses (Sunday et al, 2013).

In macroeconomic planning, diversification promotes growth and development through the mobilization of savings from surplus sector for use in the development of deficit sectors of the economy. There are different areas or sectors a nation could diversify her economy.

Options for diversifying an economy abound, such as agriculture, entertainment, financial services, industrialization, information and communication technology, tourism, among other. However, it is worthy to note that country-specific circumstances ought to as a matter of necessity, be considered. This is cogent, since due to structural differences, a model that fits an economy perfectly well prove in-relevant in another (Sunday et al, 2013). Given this understanding, therefore, this study concentrated on agricultural diversification, given the agricultural prosperity of Nigeria.

Bayelsa states with an economy almost solely dependent on the government, it has an overstretched responsibility to meet its core obligation to build infrastructure and improve the live of this populaces. He further stated that for Bayelsa state to achieve its goal it must diversity its economy and focus more on its agricultural sector, putting in mind its benefits.

According to Bayelsa state investment Agency (undated), Bayelsa state benefit from arable land, plentiful rainfall and abundant land conducive for agricultural activities. Their enquiry stated that, agricultural produce is the leading non-oil revenue contributor to the state's

economy and employs at least 80 percent of the state's labour force. Investment in infrastructure and modern inputs-fertilizer, seeds, tools and agro-chemicals would greatly improve the quality and quantity of agricultural output.

Cocoa is Bayelsa state major crop. A predicted steady and relatively high international cocoa price and potential to improve productivity makes this an attractive investment, prospect. Bayelsa state forests are a source of high quality timber, oil palm, rubber and cashews. All are found in commercial quantities.

Statement of the Problem

The decline in the agricultural sector was largely due to rise in crude oil revenue in the early 1970s, less than 50% of the Nigeria's cultivable agricultural land is under cultivation (Lawal, 2011). According to him small holder and traditional farmers who use rudimentary production techniques, with resultant low yields, cultivate most of this land. The small holder farmers are constrained by many problems including those of poor access to modern inputs and credit, poor infrastructure, inadequate access to markets, land and environmental degradation and inadequate research and extension services.

The inability to capture the financial services requirements of farmers and agribusiness owners who constitute about 70 percent of the population is inclusive, low agricultural output has a negative effect on the Nigerian economy as a whole (Olajide et al, 2012)

Objectives of the Study

The main objective of the study was to assess the agricultural diversification in Bayelsa state, Nigeria. The specification objectives of the study were to;

i. Assess the agricultural diversification resources available to farmers in the study area.
ii. Ascertain the adoption of improved agricultural technologies introduced to farmers by extension agents to encourage diversification in the study area and
iii. Determine the effects of agricultural diversification in the study area.

Methodology

Bayelsa state consist eight local government areas with Yenagoa, Brass, Sagbama, Ogbia, Kolokuma/Opukuma, Ekeremor, Nembe and Southern Ijaw. The state shares boundary with Delta state on the North, Rivers state on the east and the Atlantic Ocean on the West and South. It covers an area of 9415.8 square kilometers. The state lies between latitude $4^0$15 North, $5^0$23' South and longitude $5^0$22' West and $6^0$45 East. According to Audu and Arikawei (2013). The state is mainly rural. Even the state capital, Yenagoa can best be, described as a sub-urban town. For despite the availability of some basic amenities in the town, it is yet to transform into a modern city. It has an approximated population of two million people. The people are predominantly fisherman, petty traders and farmers. However, a few are civil servants. There is no industry in the state despite its oil and gas production status.

The study was undertaken in three agricultural zones namely, Brass, Sagbama and Yenagoa zone. The total population of farmers (both male and female) was 150,337. According to the

Chief Extension officer in Agricultural Development programme Bayelsa State, and current population of extension agents was 12, the 3 agricultural zones was sub-divided into 27 blocks and 179 circles and simple random sampling, 35 respondents were selected from each agricultural zone to get a total of 105 farmers, 6 extension agents, 1 supervisor and 3 block agents. A total of 115 respondents were sample size.

Table 1: Sample Design

Zones	Respondents
Brass	35
Sagbama	35
Yenagoa	35
Extension worker: 1 Supervisor, 3 block agents, 6 extension agents	10
Total	115

Source: Field survey, 2017

Result and Discussion

Assessment of Agricultural Diversification Resources available to Farmers

Table 2 shows that 96.2% of the respondents were of a opinion that transportation was available resource that promotes agricultural activities in the study area, this implies that they had no challenges in transporting agricultural produce from their farms to their market place and back home while 93.4% had availability of farming equipments such as fishing nets, seedlings, and stem cutting. Also 86.7% respondents had fertile soils which supports agricultural activities such plantain plantation, cassava production, fish farming (earthen ponds), livestock rearing (supports grazing animals). Agreeing with Abdulsalam (2015), the land and climate of Bayelsa state supports the cultivation of both food and cash crops. These include sugar cane, pineapple, Cocoyams and cassava, etc. finally the visite by extension agents 88.6% while the least agricultural diversification resource found in the area was veterinary care for livestock with 10.5%

Table 2: Assessment of Agricultural Diversification Resources Available to Farmers

Agricultural Resources	Frequency	Percentages (%)
Fertile soil	91	86.7
Availability of farming equipment'	97	92.4
Land accessibility	36	81.9
Presence of extension service	93	88.6
Quality of water resource	85	81.0
Availability of planting materials	77	73.3
Manure/fertilizer availability	24	22.9
Transportation	101	96.2
Storage facilities	93	88.6
Processing factories	90	85.7.
Building for livestock rearing '	20	19,0
Veterinary care for livestock	11	10:5
Credit facilities	98	93.3
Government intervention	96	91.4
Manpower development/capacity building	65	61 .9

Source: Field survey, 2017 multiple responses

Improved Agricultural Technologies Introduced to Farmers

The result in Table 3 shows that majority 93.3% in the study area are familiar with the use of pesticides innovation. It was also revealed that 81.9% of them went for the use of fertilizer which may be as a result of its accessibility from the research institutes and also getting to know of its benefits through demonstrations on small plots by extension agents, the wide usage of fertilizers can also be attributed to the fact that farmers can affords it, agreeing with Oyewole and Ojeleye, (2015) who stated that the increase in the use of fertilizer was attributed to the awareness it has gotten over time and also availability. The least technology adopted by farmers despite interest is the use of tractors, with 3.8% accepting the use, which is as a result of its complexity in usage. Agreeing with Oyewole and Ojeleye, (2015), they stated that the use of machineries like tractors, diesel engines, crushers, threshers, seed drill, are part of elements of technologies classified as new machines. They also observed that farmers welcomed the idea of the use of tractors when and only if a technical know-how personnel is around and only few farmers had such personnel.

Table 3: Improved Agricultural Technologies Introduced to Farmers

Technologies	Frequency	Percentage (%)
Use of fertilizer	86	81.9
Use of tractor	4	3.8
Use of pesticides	98	93.3
Use of herbicides	84	80.0
Use of irrigation	37	35.2
Yam minisett	6	. 5.7
Cassava/maize intercrop	4	3.8
Plantain/cocoyam intercrop	65 .	61.9
Improved cassava variety e.g TMS 30572,98/0505	64	61.0
Improved feeds	72	68.6
De-beakers	4	3.8
Fibre ponds	3	2.9
Concrete ponds	86	81.9
Artificial insemination system	4	3.8

Source: Field survey, 2017. Multiple responses

Farmers Perceived effect of Agricultural Diversification

The respondents were of the view (table 4) that increased domestic product which was generally accepted having a mean of 4.22. Table 4 reveals that farmers accepted better facilities to rural areas, improved agricultural technologies, more agro-allied facilities, higher income of farmers and cheaper food stuffs with means (3.56), (3.82), (4.18), (4.88) and (4.91), respectively. This implies that these effects are possible to achieve if agricultural diversification is looked up to in the study area. Finally the findings revealed that farmers in the study area rejected longevity of agricultural products with a mean of 2.95

Table 4: Farmers Perceived Effects of Agricultural Diversification

Effects	Mean of Means ($\bar{x}$)
Increased Gross Domestic Product	4.22
Improved standard of living	4.77
Create more jobs for our youths	4.82
Better facilities to rural areas	3.56
Longevity of agricultural products	2.94
Improved agricultural technologies	3.56
More agro-allied facilities	3.18
Higher income of farmers	4.18
Cheaper food stuff	4.91

Source: Field Survey, 2017

Extension Agents Perceived Effects of Agricultural Diversification

The respondents were of the view (Table 5) that on increased gross domestic product 70.0% of extension agents in the area agreed while 20.0% strongly agreed and 10.0% stood on neutral ground, with a mean of 3.92 (accept). Creation of more jobs for youth was accepted by extension agent with a mean of 4.63. improved standard of living, higher income for farmers and better facilities to rural areas were accepted by extension agents with means of (4.67), (4.81) and (3.93) respectively.

Table 5: Extension Agents Perceived Effects of Agricultural Diversification

Effects	Mean of Means ($\bar{x}$)
Increased Gross Domestic Product	3.92
Improved standard of living	4.67
Create more jobs for our youths	4,63
Better facilities to rural areas	3.93
Longevity of agricultural products	4.34
Improved agricultural technologies	4.35
More agro-allied facilities	4.52
Higher income of farmers	4.81
Cheaper food stuff	4.52

Source: Field Survey, 2017

Conclusion and Recommendation

Farmers in the study area have poor interest in the use of recent innovations such as artificial insemination systems, fibre ponds and de-beakers. These can contribute immensely to agricultural production and as well boost agricultural diversification and in turn bring about the shift from overdependence on crude oil. Further more great potentials in resources available which can boost agricultural activities, but shows neglect in crucial areas such as veterinary care for livestock and housing for livestock. The agricultural sector in the state needs to be referred to aid the switch from oil to agriculture, with this in place, jobs will be created, development will be restored in rural areas bringing about good roads, electricity, increased agricultural produce and more. It therefore calls for investment in its potential there is need for government agencies to help enlighten farmers, update them with new, ideas and most importantly encourage them to try new innovations for increased production.

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