

CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

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Czech University of Life Sciences Prague

**Faculty of Tropical
AgriSciences**

**Impact of Fadama III Project on Youth Access to
Land and Livelihood Choice in Rural Areas of
Bauchi State, Nigeria**

MASTER'S THESIS

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Declaration

I hereby declare that I have done this thesis entitled “**Impact of national *Fadama* development project III on youth access to land and livelihood choice in rural areas of Bauchi State, Nigeria**” independently, all texts in this thesis are original, and all the sources have been quoted and acknowledged by means of complete references and according to Citation rules of the FTA.

In Prague 26th April 2019

.....

Abdullahi Yusuf

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Abstract

National *Fadama* Development Project was initiated against the backdrop of agricultural production and general inability of previous agricultural policies to address poverty in rural areas of Nigeria. The study investigates the impact of *Fadama III* project on youth access to land and choice of farming occupation in the study area. The study adopted multiple sampling techniques in a multi-stage sampling process to select the study communities and respondents. A total of 720 youth (between 18 -35 years) in a ratio of 360 *Fadama III* project beneficiaries, 360 non-beneficiaries, and 54 elders (older than 44 years) were surveyed in 18 communities. The data were collected through structured questionnaires and personal interviews which were analysed using descriptive and inferential statistics. The chi-square result shows significant difference at 1% between beneficiaries and non-beneficiaries on ownership of land while the t-test result indicates no significant difference between beneficiaries and non-beneficiaries on land size. Lack of fund, non-availability of land, high cost of purchasing and renting land, reliant on inheritance were perceived by both beneficiaries and non-beneficiaries as the most severe constraints for youth access to land in the study area. The logistic result explores, gender, age, household size, fathers' occupation, ownership of land and access to *Fadama III* project benefits to have positive effect on youth choice of farming occupation while years of education has negative effect on youth choice of farming occupation. The study recommends the improvement of the project to aid youth to access land and making policies that will bring educated youth in to farming occupation.

Key words: *Fadama III*, land, rural, youth, farming occupation, Bauchi, Nigeria.

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List of the abbreviations

ACGS	Agricultural Credit Guarantee Scheme Fund
ADB	African Development Bank
ADF.	African Development Funds
ADP	Agricultural Development Programme
ATBU	Abubakar Tafawa Balewa University
BIC	Bauchi State Investment Corporation
BLP	Back to Land Programme
BSADP	Agricultural Development Programme
CBN	Central Bank of Nigeria
FCA	Community Association
CDD	Community Driven Development
CULS	Czech University of Life Sciences
FUG	Fadama User Group
FAO	Food and Agriculture Organisation
FMARD	Federal Ministry of Agriculture and Rural Development
FMAWR	Federal Ministry of Agriculture and Water Resources
FTA	Faculty of Tropical AgriSciences
GRP	Green Revolution Programme
IFAD	International Fund for Agricultural Development
ILO	International Labour Organisation
LFA	Law of Federal Republic of Nigeria
LDP	Local Development Plan
LUA	Land Use Act
LUD	Land Use Decree
MIJARC	International Movement of Catholic Agricultural and Rural Youth
NAFP	National Accelerated Food Production
NALDA	National Agricultural Land Development Authority
NPA	National Policies on Agriculture
NSFP	National Special Food Security Programme
NBS	National Bureau of Statistics
NEEDS	National Economic Empowerment and Development Strategy
NFCO	National Fadama Coordinating Office

NFDP	National <i>Fadama</i> Development Project
NPC	National Population Commission
OFN	Operation Feed the Nation
RBDA	River Basin and Rural Development Authorities
SAP	Structural Adjustment Programme
SS	Statistics solution
UNESCO	United Nation Education, Scientific and Cultural Organisation
WB	World Bank

1. Introduction and Literature Review

1.1. Introduction

The agricultural sector is faced with the challenges of climate change, population boom, depopulation of youth in rural areas due to rapid urbanisation, therefore, the sector needs additional workforce and innovation to neutralize the effect of those challenges particularly in Sahel region and other agrarian economies in Africa and elsewhere. Taking in to account, in Africa most of the population is under 25 years old while the average age of farmers is 60 years, ensuring agriculture provides attractive employment will be vital for food security and economic development in the continents (Hanna 2018).

But is farming an attractive livelihood choice for youth in rural areas of developing country like Nigeria? What opportunities and constraints do young people see in farming as a means of livelihood?

Economic development goes hand in hand with the shift of labour from agriculture to non-agricultural sectors, as the expenditure on food by households gradually reduces, relative to the expenditure on manufacturing and service products. This economic transformation is repeatedly observed in many countries in the world, this transformation is known as Petty's law (Murata 2008). In West Africa, Nigeria is one of the fastest-growing countries, have a largest population of approximately 184 million habitat and has the largest population of youth of in the world (World Bank 2018). More than fifty percent of the youth live in rural areas (NPC 2006).

According to the World Bank (2015) when Nigerian were asked to rank the main problems facing the country, many Nigerians cited unemployment as the most important challenge. Unemployment rate in Nigeria is presently growing at the rate of 18 percent annually with the youth impacted the most and accounting for three times the general unemployment (Doreo 2013). Unemployed Nigerians increased by 3.3 million from 17.6 million in 2017 to 20.9million in 2018, the rate of job losses in the rural areas far outpaced that of urban centres, the rate of unemployment in the rural areas increased by 7.7%, in 2018 while there was 2.2% decreased in unemployment in urban centres (NBS 2018).

In spite of oil agriculture remains the base of the economy, providing the main source of livelihood for most of Nigerians (FAO 2018). The agricultural sector is strategically positioned to have a high multiplier and linkage effect on any nation's quest for socioeconomic and industrial development. Despite the recognition of the potential of the agricultural sector internationally and nationally, literature points to the decline of youth interest and engagement in farming. Adebo & Sekumade (2013) reported lack of access to land and finance are some of the reasons why youth disinterested in agriculture. Eforuk & Thomas (2014) found lack of incentives from the government limits the youth from involving in agricultural activities. Countries that depend heavily on agriculture may not necessarily create sufficient jobs for the youth in non-agricultural sectors in the medium term (Brooks et al. 2013). According to the African Centre for Economic Transformation report (2017), the agenda to attract young people into farming has to focus on addressing the challenges that discourage them from farming, generally the same as those that discourage older farmers, including access to land, inputs, finance and markets.

In view of the above and many other problems facing the agricultural sector, Nigerian government introduced many programmes to address some of the problems such as *Agriculture Development Program (ADP)*, *Agricultural Credit Guarantee Scheme (ACGS)*, *Rural Electrification Scheme (RES)*, *National Agricultural Land Development Authority (NALDA)*, *Strategic Grains Reserves Programs (SGRP)*, and *Rural Banking Program (RBP)* (Ogwumike 2002). The programmes have achieved some success but most of them were not sustainable, and some did not benefit the target population. In spite the failure of many these agricultural policies and programmes, National Fadama Development has been lauded for making a great achievement in rural development and poverty reduction which led to its sustainability (ADF 2003; Ayanwale & Alimi, 2004; Ike 2012).

The first phase of the project is popularly known as the National Fadama Development Project I (NFDP I) was executed between the years 1993 and 1999 and focused mainly on promotion of simple low-cost irrigation technologies in the bid to increase food production (Oscar 2003). At the completion of the project phase in 2004, The Nigerian government adopted new rural development strategies, which was in line with African development Bank's strategic plan that had focus on a number of

approaches to development and implemented the second phase of the project in 2004 to 2009 as Second National Fadama Development Project II (NFDP) (FMARD 2007).

According to Muhammed (2018) as a result of positive success in both Muhammed (2018) as a result of positive success in both scope and implementation in all components of the Fadama II project captured in mid-term review report of 2007, the World Bank's Board of Directors in July 2008 approved the implementation of third phase of the project as a follow-up to Fadama II project. The third national Fadama development project was implemented on July 1, 2008 and to be completed by December 31, 2019 with a budget of US\$ 4250million (WB 2018).

According to FMARD (2008), Fadama III is an agriculturally diversify programme, aims to cover every private economic unit whom their livelihood depends from the exploitation of natural resources in a given community, empower them with resources, needed technical training and support to properly manage the resources for their personal benefits and at large, community development.

There are many studies that examined youth in agriculture and evaluated the impact of *Fadama III* project. The following are few among the many studies on youth in respect to various aspects of agriculture: Abdul Rahut et al (2017) examined the occupational choice of educated youth in agriculture in Bhutan; Panny et al (2017) examined the determinants of youths participation in food crops production in Nigeira; Bovorava et al (2016) examined the migration motivation of rural youth in Russia; Bezu & Stein (2014) examined access of land to youth in the study title are youth abandoning agriculture in Ethiopia; Aphunu & Akpobosa (2010) study the attitude of youth toward agriculture in Nigeria; Joseph et al (2017) examine access of land to youth in Ghana.

While other studies in respect to evaluation the impact of *Fadama III* project are: Yunana et al. (2013) evaluates the impact of *Fadama III* project on income and wealth of beneficiary farmers in Gwagwalada area, Abuja; Ishiaku et al. (2017) evaluated the impact *Fadama III* project in respect to poverty alleviation among small-scale rice farmers in Nasarawa state, Nigeria; Muhammed (2018) examined the impact of *Fadama III* project on beneficiaries productivity in Oyun area of Kwara state Agbaresvo & Okwoche (2014) evaluate the effect of *Fadama III* on food production in Kwande area of Benue state

Among the available literatures including studies that evaluated the impact of *Fadama III* project, none has examined the impact of the project on youth access to land

and choice of farming as primary occupation particularly in rural areas of Bauchi state, Nigeria.

1.2. General Information on Nigeria

Nigeria is located in west Africa and lies between latitude 9° 4' 39.90" N and longitude 8° 40' 38.84" E with population of 193 million in 2017 with annual population growth rate of 3.2% and with under 5 years mortality of 101 per 1000 live birth (NBS 2017). In Nigeria, over 41% of population is between the age of 0-14 and the country's population is predicted to reach 410 million by 2050 (NBS 2017). Male to female ratio is 102.64 males to 100 females (World Bank 2015). The GDP of the country is 375.745 \$ with annual growth rate of 2.4% dominated by oil industry, while agriculture, forestry, fisheries contributed 20.8% and industry (including construction) constituted 22.3% and goods and services contributed 13.2%. The population in working age is 115 million while only 69.5 million were fully employed. The children school enrolment for primary school achieved 84.7% and for secondary school 42.0% in 2016 (NBS 2017).

1.2.1. Agriculture and its challenges in Nigeria

Nigeria has a highly diversified agro-ecological condition which enable the production of various agricultural products, the sector is endowed with available land, water, labour and internal market. It is estimated about 84 million hectares of Nigeria's total land is cultivable; however only about 40% of this is under cultivation (Dom & Oliver 2009; Tolulope & Chinonso 2013).

The agricultural sector plays a significant role in term of employment, food production to the teaming population, raw materials to agro-processing industries and serves as a market for agricultural input and machinery producers (Tolulope & Chinonso 2013). The crop subsector has been responsible for the supply of basic staple foods consume in the country through the smallholder farmers. The major food crops cultivated include rice, maize, sorghum, millet, cowpea, yam, cassava, groundnut, cocoyam and sweet potato. The livestock subsector supplies animal protein from dairy, poultry to fishery. Nigeria's agriculture was the main stay of the economy before the

‘oil boom’, it accounted 57% and 64.5% of the GDP and export earnings in 1960 to 1969 respectively (Isa & Umar 2019).

However, from 1970 upward contribution of agricultural sector to the economy declined due to neglect of the sector as a result of increased in the flow of oil money (Oluwafemi et al. 2019). Such neglect of the agricultural sector is further manifested by the fact that over the past 20 years, statistics on Nigeria has indicated that value added per capital in agriculture in the country was less than 1% per annum, youth unemployment and rural-urban migration rise up, given that agriculture is larger employer of labour particularly in rural areas (Oluwafemi et al. 2019).

Despite the strong economic growth (averaging 8.8% real annual GDP growth) experienced in the country between 2000 and 2007, yet agricultural sector lingered behind 3.8% GDP growth rate (Ojeka et al. 2016). The share of agriculture to National Domestic Product has been hanging around 40-44.1% annually from 2010. The crop production subsector has been the largest contributor to national output, follows by livestock and then fishery subsector as shown in Table 1 below.

Table 1. Percentage share of agricultural sectors to gross domestic product.

Year	Share in total%							
	2003	2004	2005	2006	2007	2008	2009	2010
Agriculture	41.01	40.98	41.19	42.72	42.20	42.18	41.79	40.84
Crop	36.51	36.48	36.69	37.20	37.65	37.65	37.54	38.12
Livestock	2.60	2.60	2.61	2.63	2.64	2.64	3.61	2.84
Forestry	0.54	0.54	0.53	0.53	0.53	0.64	0.58	0.60
Fishing	1.37	1.36	1.36	1.37	1.37	1.38	1.40	1.39
Agriculture growth	6.64	6.50	7.06	7.40	7.43	6.27	5.88	5.64

Source; Adopted from Ojeka et al 2016

According to National bureau of statistics (2018) the share of agriculture to national GDP dropped down and fluctuated from 2011 to 2017 as shown in the figure 1.

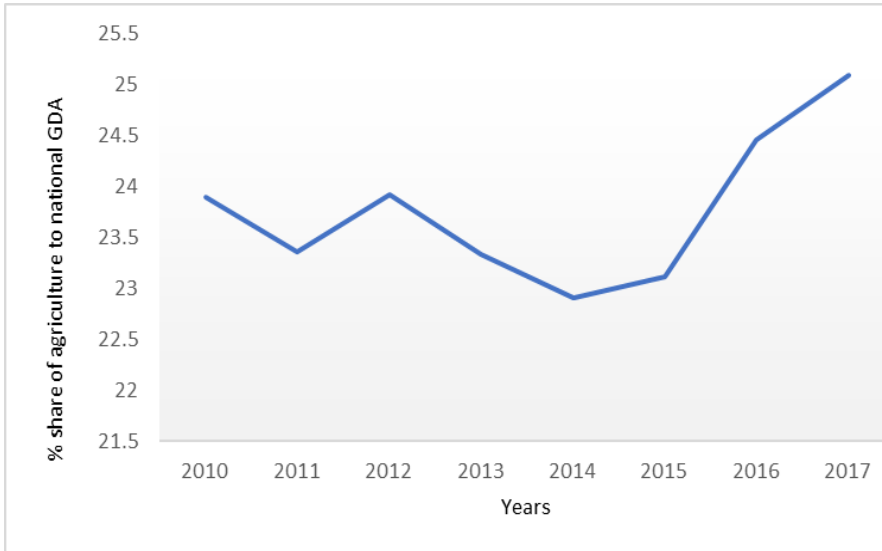


Figure 1. Share of agriculture to National GDP

Source NBS 2018

The dropped was attributed to the insecurity in the north east, farmers pastoralist conflict in the north central, flood and drought in far north within the that period. The agricultural growth rate within that period can be seen in the figure 2 below.

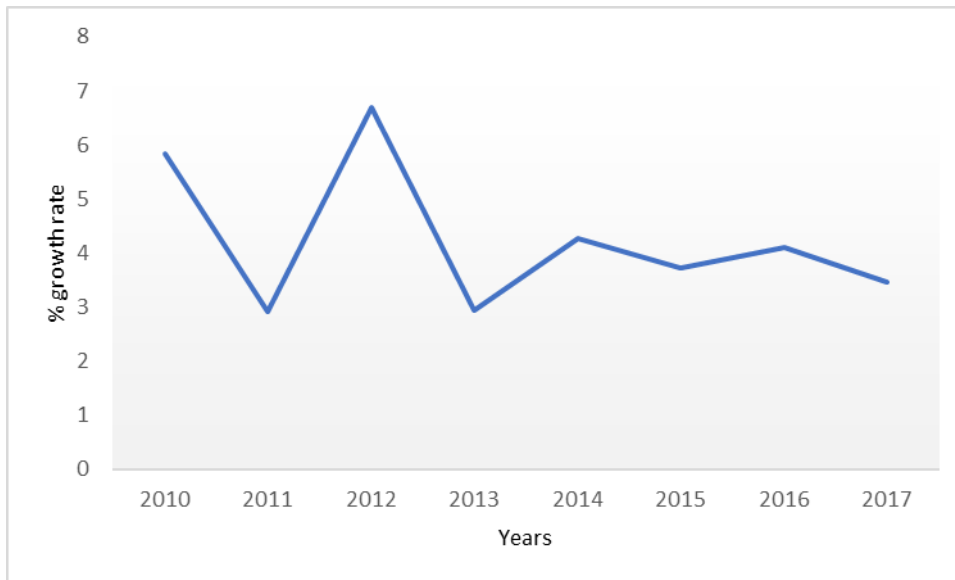


Figure 2. Agricultural growth rate.

Source; NBS 2019

The sector from 2017 to 2018 grew by 18.45% year on year in nominal terms showing an increase of 8.45%. Crop Production remains the major driver of the sector,

accounting for 89.84% of nominal agricultural GDP. On an annual basis, agriculture GDP grew by 14.27% higher than 11.29% recorded in 2017. (NBS 2019).

The agricultural sector has the potential which could be translated into increased production, incomes and food security, but has not been actualised, the sector remains poor, underdeveloped and continues to rely on the primordial of production, processing, storage and distribution (Tolulope & Chinonso 2013). FAO(2018) listed the challenges facing the agricultural sector as notably outdated land tenure system that constraints access to land, (1.8ha/farming household); a very under developed irrigation system;(Less than 1% of cropped land under irrigation); limited adoption of innovations and technologies; high cost of inputs; poor access to credit; inefficient fertilizer procurement and distribution); inadequate storage facilities and poor access to markets have all combined to stagnant agricultural productivity (average of 1.2 metric tons of cereals/ha) with high postharvest losses and waste. According to Ogunlela & Ogungbile (2006) underdeveloped infrastructure in rural areas is responsible for the poor access to input and output market. Land degradation and low investment in agricultural research are other important constraints to agricultural productivity (FAO 2018). Agricultural research is an important strategy that could improve production, creates job opportunities, stabilise food by securing food availability (Ogunlela & Ogungbile 2018).

The government in Nigeria has over the years implemented good agricultural policies and programmes aimed to improved food production but such policies and programmes failed to give a desire intended outputs (Nchuchuwe & Adejuwa 2012). Despite the policies and programmes implemented to redress the challenges facing the sector, the sector remains unattractive to youth even in rural areas where farming based.

1.2.2. Agricultural policies in Nigeria

The need for government to give better attention to Agricultural sector through refine programs was alarmed by the deterioration and abandon of the sector in Nigeria, due largely to commercial exploration and exportation of crude oil. Before then, Nigeria had a very vibrant agricultural sector with self-sufficiency in food production and little imports of luxury food for the few bourgeois population; farmers produced sufficient food to feed the population and provide a mean for foreign exchange earning which

generated foreign currencies used by the country to finance national budget. Each region of the country specialized in the production of specific cash crops for exportation; North and middle belts of Nigeria were specialized in cotton, hides and groundnut exportation, South West region specialized in cocoa, while rubber and palm oil were produced and export from the Southern East and South-South region. The government intervenes in areas of research, extension services, marketing and pricing of export crops (Ojeka et al. 2016).

In the second decade (1970 – 1986), the country experienced a rapid retrogression in the country's agricultural sector. Apart from the superseding of food demand over supply and increasing food import bills, there was prompt declines in government foreign exchange earnings from agricultural exports and labour deficit in the sector. The situation worsened by residual civil war, severe drought in some regions of the country, government fiscal and monetary policies and above all, an “oil boom” which escalated the labour shift from agriculture (Moses & Michael 2015).

In an effort to revive the sector, based on the recognitions of the success recorded in the agricultural sector due to implementation of agricultural extraction policies by colonial government before independents (Iwuchukwu & Igbokwe 2012). The government introduced a number of agricultural policies. Agricultural policy in Nigeria can be categorized as follows;

- Pre-structural Adjustment Period (before 1986)
- Structural Adjustment Period (1986–1993) and
- Post-structural Adjustment Period (1994 till date).

The Pre-structural Adjustment policies and programmes were *National Accelerated Food Production (1972 – 1973), Operation Feed the Nation (1976 – 1980), Green Revolution Programme (1981 – 1983), Back to Land Programme (1983 – 1985)* (Uche 2011). Others were *Nigerian Agricultural and Co-operative Bank, Agricultural Credit Guarantee Scheme Fund (ACGSF)* in 1973 and 1978 to finance agricultural activities. Moreover, *Agricultural Development Programme* were introduced in six states with the assistance of World Bank to provide extension services. (Ojeka et al. 2016).

These programs at their cores followed a policy switch of joint government and citizenry participation in agriculture to build a sustainable and self-sufficient socio-economic system, where there would be a reduction in food import. These policy shifts

promoted incentives and the issuance of various types of subsidies to farmers and citizenry alike towards improving food production (Andohol 2012)

In spite of all the policies and startling programmes with promising success, food security is yet to achieve in Nigeria. These formulations according to Shimada (1999) were a fantasy based on outcomes. This was due to the ad-hoc nature of planning and principally bad governance. All these policies and programmes initiated did not help much in the improvement of the living condition of the rural populace. Rather it has aggravated the predicament of the farmers by depriving them of their lands as occurred in *Bakolori project* in Sokoto state. The beneficiaries of these capital-intensive agricultural programmes and schemes were the elites who live in the urban area. The credit and loans received never went to agriculture but to other personal non-agricultural activities (Enyi 2014). The problems set to address by these policies and programmes are still militating agriculture and rural areas in Nigeria (Iwuchukwu & Igbokwe 2012). Therefore, the policies and programme differed only in name, period of implementation and organizational structure but almost emphasize unique objectives like to achieve food security and sufficiency, produces surpluses for export, reduce poverty and support the development of rural areas (Iwuchukwu & Igbokwe 2012).

In the case of *National Accelerated Food Production Programme* (NAFPP) initiated in 1973 with main objective to achieved food security in the country through rapid increase in production of seven basic food crops: maize, rice, wheat, millet, sorghum, guinea corn and cassava. But feasibly the major achievement of *the National Accelerated Food Production Programme* was prompt adoption of technologies evolved by research, nevertheless, the programme was hindered by huge non-adoption of improved crop varieties due to socio-cultural factors; weak extension service, decline in government support (Njoku & Mijindadi 1985).

Subsequently *Operation Feed the Nation* (OFN) was launched in 1976 with the aim of achieving food security and restoring farmers dignity. Youth and students were encouraged to work on farms during the programme. After two years of its implementation, many contentious statements had been made with regard to success or failure of the programme. The main aim of increasing food production has not been achieved (Aura 1980). According to Obadan (1990) the programme did not make any improvement in food production and country's GDP, though its increased awareness on the need for increased food production.

The *Operation Feed Nation* was replaced with *Green Revolution Programme* (GRP) which has been captured in the Fourth National Development Plan (1981 – 1985). The programme was initiated to achieve self-sufficiency in basic staple foods, increased food fish and livestock production to meet domestic and export needs. In order to achieve its objectives, government allocated 13.5% of 1985 budget to agricultural sector development, which had the largest allocation of designated preferences of the plan. This plan was to be accomplished via partnership of agencies such as Ministries of Agriculture; water; labour and commerce; *The River Basin and Rural Development Authorities (RBRDA)* and ADPs (Andohol 2012). The objective of the programme has not been achieved because of the poor monitoring and evaluation, delayed in execution of many projects' components of the programme (Iwuchukwu & Igbokwe 2012).

Most of agricultural policies implemented in the period of *Pre-structural Adjustment Programme* (Pre-SAP) failed due to the complex and unpredictable nature of the policy making process which lacked policy designed that should have mapped programme expectations (Olanrewaju 2010). According to Bamidele (2000) the failure of agricultural policies during *pre-SAP* period was due to contradiction between agricultural and non-agricultural macro-economic policies. For instance, a fixed exchange rate and food import policy demoralized exports and production in *the pre-SAP* era.

However, the *Structural Adjustment Programme* (SAP) policy which had been rejected hitherto, was re-introduced for national debate by the new regime. Despite the government lost the debate from public opinion, the government proceeded with the program in 1986.

The SAP was aimed at reconstitution of the economy's productive foundation and reduce her dependence on petroleum exports; eliminate distortions and rationalize consumption and expenditure patterns. *SAP* proposed a greater role for the private sector in domestic economy and directed towards encouraging market-led competition, rational resource distribution and utilization (Dom & Oliver 2009). The era was marked with liberalization of Nigeria Agricultural exports, including the eliminating of commodity boards and deregulation of the entire economy (Ojeka 2016).

In the next few years of *SAP*, the agricultural sector marked anticipation of enhancement and lend a helping hand to lessen the share of food and live animals in

total imports to 8.7% in 1991. However, food imports recommenced an upward trend to reach 13.5% in 1996 Bamidele (2000). The sustained growth of output from the agricultural sector in 1990s was attributed to favourable weather conditions; intensification effort of the *National Agricultural Land Development Authority* (NALDA) (Bamidele 200).

The present-day, democratic era (Post-SAP) that begun in 1999 bring about new agricultural policy which incorporated in three broad policy and economic instruments currently bear on the agricultural sector. These include *National Policy on Agriculture* (NAP) in 2001, *National Economic Empowerment and Development Strategy* (NEEDS I & II), and the 7-Point Agenda. Within the three broad Plan (NPA, NEEDS I & II) are sub-policies (including *Agricultural Trade Policy*, *Agricultural Subsidy Policy* *National Fertilizer Policy*, , and *Food Security Policy*) and programmes (including the *Presidential Initiatives on Commodities*, *National Special Food Security Programme* (NSPFS), *Commerce 44*, *Export Expansion Grant* (EEG), *Agricultural Credit Guarantee Scheme* (ACGS), *National Fadama Development Programme*, *National Cocoa Development Programme*, and *Commodity Development and Marketing Companies*) (Dom & Oliver 2009).

The overall strategic objective of the NEEDS and *National Policies on* (NPA) is to diversify the productive base from oil and to promote market-oriented and private sector-driven economic development with strong local participation. The target objective of the NEEDS strategized to achieve a minimum annual growth rate target of 6% per annum in agricultural sector; grasp a minimum agricultural export of 3 billion US dollar per annum from the Cassava initiative alone, and awfully reduce food imports to 5% by 2007 from the 14.5% in 2001. The scheme planned to extend the cultivable arable land by 10% per annum and foster implementation of private sector participation through incentives schemes to achieve agricultural production sustainability (CBN 2004).

Below in Table 2 is the overview of the outcomes and impediments in counters by some of the agricultural policies and programmes in Nigeria

Table 2a. Overview of selected agricultural policies and programmes in Nigeria

Programme/policies	Period	Aims	Outcomes	Impediment	Reference
National Accelerated Food Production (NAFP)	1972 - 1973	To achieve food security in the country through rapid increase in production of seven basic food crops: maize, rice, wheat, millet, sorghum, guinea corn and cassava	It promoted prompt adoption of technologies evolved by research, but the main objectives were not achieved.	It was hindered by huge non-adoption of improved crop varieties due to socio-cultural factors; weak extension service, decline in government support	Njoku & Mijindadi (1985)
River Basin Development Authorities (RBDA)	1963 to date	To cater for the development of land and water resources potentials of Nigeria for agricultural purposes and overall rural development.	In 1984, it helps in putting 188,194 hectares of land in to cultivation. In 1987, it also developed 51, 558 hectares of land, 12, 540 hectares for irrigation and drilled 58 boreholes, constructed 443 km of roads in rural areas.	The programme was hampered due to inadequate planning and data, shortage of funds and difficulties in securing land for development in some regions of the country.	Uche (2011)
Agricultural Credit Guarantee Scheme Fund (ACGSF)	1973 date	- To increase the level of bank credits to agricultural sector.	It increased the funding of agricultural sector in the country	It has encountered problems with non-complies of some commercial banks fully, Failure of loan repayment by farmers.	Uche (2011)

Below is the continuation of Table 2 indicating other agricultural programmes implemented in Nigeria with their objectives, outcomes, impediments and period of implementation.

Table 2b. Overview of some selected agricultural policies and programmes in Nigeria

Policies/programme	Period	Goal	Outcomes	Impediments	Authors
Operation Feed the Nation (OFN)	1976 – 1985	1. To curtail food importation 2. To achieve food security through restoring farmers dignity and promoting mechanized farming	It increased awareness on the need for increased food production. It brought the mass population including students to farming.	The main aim of increasing food production was not achieved due to poor implementation.	Aura 1980; Obadan 1990.
Structural Adjustment Programme (SAP)	1986 – 1990	- To reconstitute the economy's productive foundation through diversification, elimination of distortion, rationalize consumption and expenditure patterns	It improved greater role of private sector in the agricultural sector.	It failed to sustain the overall economic growth, and food import increased.	Bamidele (2000); Dom & Oliver (2009); Ojeka et al. (2016.)
National Agricultural Land Development Authority	1991	To develop 30,000 -50,000 hectares of arable land in each state from 1992 -1994.	It was able to develop average of 16,000 hectares of land in each state by 1995.	Lack of funds was the major setback for the programme	Bamidele (2000)
National Economic Empowerment and Development Strategy (NEEDS)	1999 to date	to eradicate poverty to generate employment and create wealth through value addition	It recorded 6% annual growth in agricultural GDP, it increases the export of agricultural products,	It recorded some achievement and still the programmes is ongoing	Iwuchukwu & Igbokwe (2012)

1.2.3. Third National Fadama Development Project (NFDP III)

The agricultural production in Nigeria is mainly rain-fed and characterised by low land and labour productivity despite the potential comparative advantage of diversified agro-ecological condition such as low-lying planes with alluvial deposits called *Fadama*, which could enable the production of various economic agricultural products year-round (FMAWR 2007). In order tap these untapped potentials, the *First National Fadama Development Project* was designed in the early 1990s to promote simple and low-cost improved irrigation technology under World Bank financing (Oscar 2003).

Fadama is a Nigeria's tribal word (*Hausa language*), which refers to flood plains and shallow aquifers found along Nigerian major river systems. *The National Fadama Development Project* (NFDP) is a *Community Driven Development* (CDD) project of the Federal Ministry of Agriculture and Rural Development. It is jointly funded by the Federal Government of Nigeria and the World Bank with counterpart funding by states and local governments. The project is agriculturally based that aim at increasing the income of *Fadama* lands and water resource users to reduce rural poverty, increase food security and empower rural communities through *Fadama Community Associations* (FCAs) and *Fadama User Groups* (FUGs). The first phase of the project is popularly known as the *National Fadama Development Project I* (NFDP I). It was executed between the years 1993 and 1999 and focused mainly on the promotion of simple low-cost irrigation technologies in the bid to increase food production but largely neglected the livestock, fishery and the down-stream activities such as; processing, preservation, conservation, and rural infrastructure meant to ensure efficient evacuation of farm produce to the markets (Muhammed 2018).

The neglects of the other aspects of agriculture and rural development resulted in not only perpetual conflict between users, but restricted benefits to only those who were involved in crops production (NFDP 2007). At the completion of the project phase in 2001, the Nigerian Government adopted new rural development strategies, which was in line with African Development Bank's strategic plan that had as its focus a number of

approaches to development. The plan stressed the need for consistency, sustainability and greater equity in the access to benefits of the land resources in Fadama areas of the country. Consequently, the Bank deemed it necessary to agree to Nigerian Government's request for funding phase II of the project not only as a follow-up of the phase I, but also to expand its scope (NFDP 2003).

The design of phase two of the project, that is *National Fadama Development Project II* (NFDP II) which implemented between 2004 and 2009, was an instrument for achieving overall agricultural development. It was funded by the World Bank and the African Development Bank to the tune of US\$ 100 million and US \$ 30 million respectively. Twelve (12) out of the 18 states participated in *Fadama II Project* including Bauchi state were assisted by the World Bank. The project applied *Community Driven Development* (CDD) approach, in which various *Fadama* users (crop farmers, hunters, pastoralists, women, youths, vulnerable groups and many more) operating through their respective *Fadama* community associations, manage the design and implementation of the project and are empowered through skills and capacity buildings to improve their livelihoods (FMWRD 2007).

As a result of positive success in both scope and implementation in all components of the *Fadama II project* captured in midterm review report 2007, the World Bank's Board of Director in July 2008 approved the implementation of third phase of the project as a follow-up to the implemented *Fadama II project* (Muhammed 2018).

The *Third National Fadama Development* project was on July 1, 2008 and to be completed December 31, 2019 with a budget of US\$4250 million (WB 2018). A sub-programme was created as the result of additional funding from the World Bank Known as *Fadama III Additional Finance* (AF). The main objective of the *Fadama III Additional finance* (AF) for the *Third National Fadama Development Project* is to increase the incomes for users of rural lands and water resources within the *Fadama* areas in a sustainable manner throughout the recipients' territory. *Fadama III* is an agriculturally diversify programme, aims to cover every private economic unit whom their livelihood depends from the exploitation of natural resources in a given community, empower them with resources, needed technical training and support to properly manage the resources for their personal benefits and at large, community

development. The programme applies bottom-up approach in contrast to top-down. Benefiting community groups are authorised to develop participatory and socially inclusive *Local Development Plan* (LDPs) (Agbaresvo & Okwoche 2014).

Under the *Fadama III Additional Finance*, 65983 youth farmers are registered across states in Nigeria (NFCO 2018). According to Bauchi state Fadama Coordinating Office reports (2018), over 2000 rural youth were supported with training, farm input, credit, irrigation facilities and connected to market.

The *Fadama III projects* has been under evaluation in respect to different aspects of agriculture and rural development by many independent scholars. Most of the studies found that the project has positive impact on the participants and in general, participating communities. For instance, Agbaresvo & Okwoche (2014) evaluate the effect of *Fadama III* on food production in Kwande area of Benue state and found participating farmer has recorded increased in crop yield; Muhammed(2018) examined the impact of *Fadama III project* on beneficiaries productivity in Oyun area of Kwara state where he found beneficiaries had recorded 24% overall increase in output for all the crop produced; Agunloye et al. (2017) evaluate the effects of *Fadama III project* on the scope and scale of beneficiaries' farming activities in south west of Nigeria and found beneficiaries' scope of crop production has significantly increased for maize, cassava, yam, plantain and agro processing and the scope of livestock production also increased for goatry, fisheries, poultry and for fish processing but decreased in piggery; Ishiaku et al. (2017) evaluated the impact *Fadama III project* in respect to poverty alleviation among small-scale rice farmers in Nasarawa state, Nigeria, and the result of the analysis revealed that the per capita expenditure for participants \$2,083.8 per annum. While that of non-participants was \$1,682.9 per annum. The poverty line for the participants and non-participants were \$1,389.2 and \$1,121.9 the poverty head count was 18.20% and 41.30%, the gap index was 10.20% and 25.90%, poverty severity index was 3.30% and 6.90% respectively. All the poverty indices showed that non-participants were poorer than the participant's household in the study area. The poverty line and core poverty for participants were found to be higher than that of the non-participants, indicating that the participants had better standard of living when compare with non-participants, meaning the programme have positive impact on their consumption expenditure through increased in income accrued. Yunana et al. (2013)

evaluates the impact of *Fadama III project* on income and wealth of beneficiary farmers in Gwagwalada area, Abuja where the result showed that the value of productive assets of *Fadama* beneficiaries increases from \$507.6 before *Fadama III* to \$5,309.9 after *Fadama III project*. Conversely, there was a decrease in the net farm income of *Fadama* beneficiaries from \$1,239.1 to \$1,063.6 during *Fadama III project*. The decrease in the net farm income, he attributes it to the limitation encounters by farmers.

Most of the *Fadama III* evaluators as quoted some above and on Table 3 below, focused on farmers productivity, wealth generation through increase income and assets acquisition. Since the *Fadama project* has no exclusion in grooming youth to have better life with agricultural enterprises in the rural areas, there is need to find answers whether the programme has effect on youth land accessibility and livelihood choice in agricultural sector such as adopting farming as a primary occupation.

Table 3. Impact of Fadama III project on farmers' income, asset and production

Area	Components of evaluation	Indicators of project outcomes (measured at beneficiaries)	Source
Bauchi state	Production	Yield of primary agricultural products (rice, maize, sorghum) increased by 40%.	BSFCO (2018)
	Income	Sustainable income of <i>Fadama III</i> users by 40%	
	Assets	Increased ownership of production assets by 26%.	
Benue state	Food crop production	Yield in food crop production increased.	Agbaresvo & Okwoche (2014)
South-west Nigeria	of Livestock production	Increased in production by 24% (pigs, goats, poultry and fisheries)	Muhammed (2018)
Nasarawa	Poverty alleviation	Improved in standard living of the participants	Agunloye et al. (2017)
Abuja	Income and wealth	Value increase beneficiaries' productive assets increased from \$507.6 to \$5,309.9	Ishiaku et (2017)

Below is the overview of the entire three phases of the programmes including the budgets allocated as shown in Table 4.

Table 4. Overview of National Fadama Development Project in Nigeria

Project	Budget/Period	Approach	Scope	Result
Fadama I project (NFPDP I)	\$67.5million/ (1993* – 1999)	Top-down, building on the ADPs with a heavy emphasis on infrastructure investment.	Bauchi, Gombe, Jigawa, Kano, Kebbi, Sokoto, and Zamfara) and invested heavily in small-scale infrastructure.	Objectives substantially achieved
Fadama II project (NFPDP II)	\$ 69.9 million (2003 – 2007)	Bottom-up, building on Fadama I with the incorporation of local development plans (LDPs) for a more inclusive model.	Adamawa, Bauchi, Gombe, Imo, Kaduna, Kebbi, Lagos, Niger, Ogun, Oyo, and Taraba) (FCT), with the AFD covering six additional states (Borno, Katsina, Kogi, Kwara, Plateau, and Jigawa), bringing the total to 18.	Objectives substantially achieved
Fadama III project (NFPDP II)	\$250 million / (2008 – 2019)	: Bottom-up, building on <i>Fadama II</i> with the incorporation of the Fadama Users' Equity Fund (FUEF) for a more sustainable model.	All 36 states and the FCT	On track to achieving project targets.
Fadama III Additional finance	\$ 200 million/ (2013-2019)	Focusing on agricultural development in key value chain products	Seven chosen states (Anambra, Bauchi, Enugu, Kano, Kogi, Lagos, and Niger).	Ongoing, is too early to assess

Sources: FMAWR 2009; Hima et al. 2016.

1.2.4. Youth in agriculture in Nigeria

Youth are key actors and a driving force for countries development. They are critical factor in the development of nations and their contribution to society must be measured in terms of productive pursuits of service to the nation (NBS 2012).

The National Youth Policy defines Youth as a Nigerian citizen between the ages of 18 – 35 years. According National Population Commission about 60% of the Nigeria's total population is below 35 years old in 2012 and more than 37% of the youth were engaged in different forms of agricultural activities, disaggregated by sex, 48.4% were males while 51.6% were females (NBS 2012). Agriculture is one of the most important economic sectors in Nigeria, it is a critical sector targeted to create more jobs for youth in Nigeria (NBS 2012).

Youth agricultural firms contributed a total of 38.234 billion US dollar in 2012. According Ministry of Youth Development (2012) about 957,030 youths were engaged in various forms of agriculture in Bauchi State.

There a lot of contentious finding about youth perception, attitude and engagement in agriculture and related activities in both urban and rural areas of developing countries where agriculture accounts for a significant share of national GDP and labour force. Gladys et al (2016) examined the characteristics and attitude of rural youth in Nakuku, Kenya and found that about 70% of the respondents did not practice farming and expressed disinterest in working as a farmer; Gemma et al (2013) he examined youth engagement in agriculture in Uganda, and found that youth disengagement in agriculture is higher than that of the older population; Aphunu & Akpobosa (2010) found that youth in rural area of Delta state, Nigeria were engaged in some agricultural activities, but they generally indicated unfavourable attitude toward agriculture; Abdullahi et al. (2016) report rural youth have unfavourable attitude toward family farming in Dass, Bauchi state, Nigeria:

The youth disinterest and unfavourable attitude toward farming and its alike activities were found to be due to lack of access to land as a result of unfavourable land tenure system, lack of access to market, lack of access to information and education, lack financial support, poor return of agricultural investment, low social status of farmers and farming business in the community(Adenkule et al. 2009; Gemma et al. 2013; FAO 2014 Abdullahi et al. 2016).

While other studies had found, youth have positive attitude toward agricultural activities and were willing to have a means of livelihood from the agricultural sector, like Wole-Alo et al (2016), found that rural youth have positive perception toward agriculture as a profession in Oriade, Ondo state, Nigeria; Adalakun et al (2019) found that graduate youth in Nigeria has favourable attitude towards agro-allied skill set of the skill acquisition and entrepreneurship development programme.

The positive attitude and willingness to engage in some agricultural enterprises was due to their high level of education, available resources under their control such as land and capital, financial independency, ability to manage resources, lack of alternative jobs (Abdullahi et al. 2016; Wole-Alo et al. 2016; Adalakun et al. 2019).

Since the *Fadama III* project aimed to address most of the factors constraining youth in taking farming occupation, it could be imperative to evaluate the impact of the project on youth livelihood choice in rural areas where the project has been or under implementation.

1.3. Land Tenure System in Nigeria

According to IFAD (2006) land is an economic resource and an important factor in the formation of individual and collective identity, and in the day-to-day organization of social, cultural and religious life. It is also an enormous political resource that defines power relations between and among individuals, families and communities.

Land tenure systems are multiplex social institutions. They can either be formal nor informal; statutory or customary; legally acknowledge or not legally identified; permanent or temporary; of private ownership or of common property; primary or secondary. Tenure systems in many developing countries evolved based on former colonial land policies that overlaid established patterns of land distribution. Thus, many national and local systems are made up of a multiplicity of overlapping (and, at times, contradictory) rules, laws, customs, traditions, perceptions and proclamation that guide how people's rights to use, control and transfer land are exercised (IFAD 2008).

There was different land tenure system operated in different region of Nigeria. In 1861 English freehold land tenure systems was established in Lagos colony, while at the early of 20th century customary and communal systems operated in southern and northern Nigeria (Namaso et al 2014).

The system in northern Nigeria where the colonial land administration had put all lands under the control and liable to the stand of the Governor. Title to occupation and used of land was only valid with the permission of the Governor. The tenure system operated based on the Maliki Law brought by the Fulani after the conquered of the most area of norther Nigeria in 19th century (Oshio 1990). According to the other system operated in southern Nigeria, land belong to the lineage or extended families. While the Governor's power is limited to a Royal domain specifically recognised or acquired for public purposes. The Governor only intervenes to acknowledge the conveyance of land right from lineages to aliens (Mabogunje 2011).

These land tenure systems created a lot of social problems particularly in southern Nigeria where a single land was sold to multiple buyers at different times by land holders out of legal land transaction processes (Felix 2015). After independence in 1960, many individuals become land speculators which resulted in the rise of land price, traditional and other influential individuals considered land as a tool for enriching themselves at all costs which resulted in increased insecurity of title to land, litigation, inequality in land ownership and landlessness among the less privilege of the population (Oshio 1990; Mabogunje 2011).

Moreover, the massive labour migrations brought by colonialism could not proceed without land being conveyed to strangers and migrants. At that point, transactions in land and individualisation of land gently emanated in the all corners of the country. Such land remained in individual ownership until the death of the owner when, based on inheritance law, it again subject to multiple ownership claims.

In addition, the change from shifting cultivation of mostly food crops to fixed cultivation of perennial crops like cocoa, rubber, oil palm, building of personal houses which necessitated the establishment of firm right on a particular plot of land increased the alienation and sales of land in all regions, substantial indictment and communal discord (Mabugunje 2011).

As a result of these contrasting land tenure systems, the significant nuisance in acquiring land for public purposes, willingness of government to ensure and ease access to land for government and individual, the government modified the northern land tenure system, and extended to whole of the country through the Land Use Decree of 1978 (Famario 1978).

The Land Use Act No.6 of 1978 was enacted into law with effect from 29th March 1978 to date as the nation's land policy. The Act regulates the ownership, alienation, acquisition, administration and management of land within the Federal Republic of Nigeria (Namso et al 2014). The Act vests all land comprised in the territory of each state (except land vested in the Federal Government or its agencies) solely in the Governor of the State, who would hold such land in trust for the people and would henceforth be responsible for allocation of land in all urban areas to individuals resident in the State and to organizations for residential, agricultural, commercial and other purposes while similar powers with respect to non-urban areas are conferred on Local Governments. (LFN 1990)

In order to ensure the continuity of the Decree by the subsequent coming government, it was made an essential part of the 1987 Constitution and in the amended 1999 Constitution. The decree has eased for government to acquire land for public purposes, significantly reduced the burden of land compensation and court litigation overland but generated new brand problems for land management in the country (Mabogunje 2002).

As a result of such problems of the Land-Use Decree of 1978, many groups with interest in development and efficient system of land management in Nigeria have been agitating for the removal of the Decree from Nigerian Constitution in order to be subjected to amendment. Major areas that need to be adjusted in the Decree are the two clauses of the Land Use Act of 1978. These are sections 34(2) which relates to urban land and 36(2) which relates to land in rural areas;

“Where the land is developed, the land shall continue to be held by the person in whom it was vested immediately before the commencement of the Act as if the holder of the land was the holder of a statutory right of occupancy issued by the Governor under this Act”.

Likewise, in respect to most land owners living in rural areas, section 36 (2) states as follows:

“Any occupier or holder of such land, whether under customary rights of otherwise however, shall if that was on the commencement of this act being used for agricultural purposes, continue to be entitled to possession of the land for use for agricultural purposes as if a customary right of occupancy had been

granted to the occupier or holder thereof by the appropriate Local Government, and the reference in this subsection to land being used for agricultural purposes includes land which is, in accordance with the customary law of the locality concerned, allowed to lie fallow for purposes of recuperation of the soil.”

1.3.1. Constraints of access to land

The provisions of the leave owners and occupiers of land everywhere in the country vulnerable to the claim of any other individuals who may succeed in getting a statutory or even customary right of occupancy over the land for which he was declared to have possessory under the Act (Mabogunje 2011).

In a rural community, land is a fundamental factor of production. It plays an essential role in increasing as well as sustaining agricultural production. Land is therefore a basic source of livelihood providing employment, the key agricultural input, and a major determinant of access to other productive resources and services. Secure access to productive land is critical to the huge number of poor people living in rural areas and depending on agriculture, livestock or forest for their livelihood (IFAD 2008). Both in urban and rural areas accessibility to land has been very competitive (Gbenga et al 2016).

Access to land is the ability to utilise land with associate natural resources and to have right over the management of the land (Raihan et al 2009). Contrarily, land rights are considered as socially or legally recognized entitlements to access, utilize and control areas of land and related natural resources. (Gbenga et al. 2016).

According to IFAD (2008) economic growth leans to be better shared broadly in a situation where people have equitable ad secure access to land. In a World Bank 2005 land policy analysis done in 73 countries from 1960 to 2000, reveals that countries with better equitable initial land distribution achieved growth two to three times higher than those where there was unfair land distribution. In rural areas, the landless and other members of the community with insecure tenure rights, largely constitute the poorest and most marginalized and vulnerable groups. The rights of these categories tend not to be extended beyond use right; besides, these rights are often lack protection and weak (IFAD 2009).

Access to land is guided through land tenure systems. Land tenure is the bundle of rights and responsibilities assigned among people, as individual or group with respect

to ownership and use of land resources through a common law or customary law (Sumner 2002). According to Eze (2011) and Shimelles (2009) traditional land tenure system is among major constraints upon the achievement of efficient agricultural production and physical development. As such in 1978 led to the enactment of Land Use Act in Nigeria (Mabugunje 2011).

However, the Land Use Decree 40 years ago failed to address the current land issues due to changes occurred in traditional land tenure systems, where by land is treated as free good, elements of the Land Use Act are substituted by majority of claim land owner with what the Land Use Act prohibits such as sales of land. The Land Use Act increased land speculation instead of reducing it (Raimi et al. 2013).

The Land Use Decree (LUD) has increased the marginalization, dislocation and fragmentation of small agricultural land, it has not improved security of land tenure and has therefore, only intensified regression in agricultural production. Productive lands have been allocated to individuals who have cared little about farming or land conservation (Raimi et al. 2013). Moreover, high cost of land, inability to transfer land, difficulties in land transaction are other land accessibility constraints in Nigeria (Gbenga et al. 2016).

Access to land is highly important for youth especially in rural areas where agriculture is main means of livelihood. Land access determine youth engagement in farming, contribute to family food security, means for employment and income generation. Youth from all over the world consider secure access to land as essential for choosing farming as a means of livelihood, still they face greater challenges than adults in accessibility to land, and the challenges are poorly documented and differ between continents and countries (FAO 2014).

Frank et al (2016) listed the constraints to accessibility to land face by youth in Africa as: Unfavourable land tenure systems and customary practices; over reliance on inheritance; poor sale and rental land markets; lack of funds to buy or rent land; inadequate access to information; lack of legal protection of rights for youth and lack of youth consideration in state-sponsored land redistribution programs.

Youth in rural areas of Nigeria like in other African countries are mainly access land through inheritance, however, various factors have reduced the effectiveness of this means of access to land. A key factor is shortage of land. In many African countries, the average land being cultivated is already too small to support commercial agriculture,

with farm size averaging less than 1.5 hectares in Ethiopia, Madagascar, Malawi, Nigeria, Rwanda and Uganda (Frank et al. 2016).

The access to land through inheritance is not effective for youth, due to increase in life expectancy all over the continents, land transfer often occurs at a later age, therefore, youth have to wait for longer time before inheriting share of family land (FAO 2014). Further, elder members in rural areas are often unwilling to give out land to youth and even they give, mostly they give out infertile land or land far distance from home to youth (Bezu & Stein 2014)

2. Objectives of the Study

This chapter explains the problems statement, research questions, objective of the thesis, hypothesis, justification and significance of the thesis.

2.1. Statements of the Problem

African uncultivated land estimated to be more than half the world's uncultivated arable land which shows how large surplus land existed in the continent (Frank et al. 2017). Much of the land remains idle due to poor infrastructure that constraints accessibility of input and out market, and underdeveloped irrigation system. Youth employment challenge is a top political priority for the region (ILO 2017). The high level of under and unemployment is regarded to be the root of many socio-political problems in the region.

Nigeria has a total population of about 199 million in which about 60% of the total population is below 35 years old in (NBS 2017). Unemployment is the most important challenge facing the youth in the country (World Bank 2015). Unemployed Nigerians increased by 3.3 million from 17.6 million in 2017 to 20.9 million in 2018, the rate of job losses in the rural areas far outpaced that of urban centres, the rate of unemployment in the rural areas increased by 7.7%, in 2018 while there was 2.2% decreased in unemployment in urban centres (NBS 2018).

Agriculture is most important economic sector identified and targeted to create more jobs for youth in Nigeria. (NBS 2012). Despite the recognition the potential of the agricultural sector internationally and nationally, literature points to the decline of youth interest and engagement in farming (Gemma et al. 2014). Lack of access to land, finance, government incentive, access to farm inputs extension service and market are key factors associate with youth disinterest and disengagement in agriculture (Adebo & Sekunde 2013; Efarouk & Atoma 2014; FAO 2017).

In an attempt to readdress the problems of youth unemployment through agriculture in Nigeria, government in initiated many policies and programmes, in which there were some successes reported with these programs, but while many were not sustainable, some did not benefit the intended population (Ogwomike 2003). Despite

the many problems encountered by agricultural programmes in Nigeria, National Fadama Development Project has been lauded for huge success in terms of poverty reduction and infrastructural development in rural areas through increased productivity, income, assets acquisition, closing gender gap and other indirect effect in the implemented areas (Ayanwale & Alimi 2004; Ike 2012; Yunana et al. 2013; Ishiaku et al. 2017).

Bauchi state with total land of 49,119km² and population density 95/km² (NBS 2012), fits to mention features in addition to being Fadama III beneficiary state.

According to Filner et al (2014), and Frank et al. (2017) improving and modernizing of the entire agricultural sector from production to consumption would contribute significantly in addressing the employment challenges in Africa.

Fadama III project was introduced with the aim to achieve food security and reduce poverty through addressing some of agricultural challenges in rural areas of Nigeria. Therefore, this study aims to provide answer to the following research questions:

1. What are the differences on land ownership between *Fadama III project* beneficiaries and non-beneficiaries?
2. What are the differences between *Fadama III* beneficiaries and non-beneficiaries on land size?
3. What are the factors constraining youth access to land in the study area?
4. What are the factors influencing the decision of the rural youth in choice of farming occupation in study area?

2.2. Main objective

The main objective of the thesis was to analyse the impact of the *Third national Fadama development project* on youth access to land and choice of farming of occupation in rural areas of Bauchi State, Nigeria.

Specific objectives

The study was conceived to achieve the main aim through the following specific objectives:

- I. To examine the effect of *Fadama III project* on youth land ownership in the study area;

- II. To examine the effect of *Fadama III project* of on youth land size;
- III. To identify and compare constraints faced by youth in accessing land in the study area;
- IV. To analyse the factors affecting youth decision in choice of farming occupation in the study area.

2.2.1. Hypothesis of the study

Despite the expectation of *Fadama III project* to have effect on access to land and choice of farming occupation, the hypotheses remain that the project and other demographic factors has no effect on either youth access to land or choice of farming occupation until the finding of the research.

- 1. H1₀ There is no significant difference between *Fadama III* beneficiaries and non-beneficiaries in term of land size.
- 2. H2₀. Access to land and access to *Fadama III* benefits have no significant effect on youth decision in choice of farming occupation.

2.2.2. Justification of the study

The population of Nigeria is forecast to be 230 million people by 2030, the current average age of a Nigerian farmer is around 55 years and by 2030 it is expected to rise to around 75 years and estimated 50% more people will migrate to urban areas (Akpan & Akpabio 2012). This justifies the need to create more jobs both in urban and rural areas, increase food production which can be achieved by increasing the number of young people in agriculture who are people capable of adoption and implementation of innovation promptly.

Realising that Nigeria demographic and agricultural potential to address the emerging problems, government developed *National Action Plan on Employment Creation* (2009–2020), which identified the major activities needed to meet unemployment challenges. Furthermore, in 2016 the government validated *National Employment Policy* to harmonize the different employment strategies and mainstream employment and decent work in all sectors. In 2014, it launched a nationwide *Youth Employment in Agriculture Programme* (YEAP) to develop 750,000 young commercial farmers and agribusiness entrepreneurs. In 2014, the government also launched

National Schools Agricultural Programme (NSAP) aimed at developing a new generation of young agricultural entrepreneurs in Nigeria. In addition to the existing *Fadama III project* across the states in the country.

Since youth and agriculture are the key actors in achieving the objectives of those policies and programmes such as *Fadama III project*, there is need to evaluate the impact of such programmes on youth engagement in agriculture and related activities. This justifies this study to analyse the impact of *Fadama III project* on youth access to land and choice of farming occupation in rural areas of Bauchi state, Nigeria.

2.2.3. Significance of the study

The study will contribute to the research and evaluation discussions over the impacts of development project such *Third National Fadama Development Project* (NFDP III).

Further, the study will provide an inside on the effect of *Fadama III project* on youth access to land and adoption of farming as a means of livelihood in rural areas of Bauchi state. This will help the Bauchi state government efficient implementation of policies and programmes aimed in poverty reduction, food security, youth unemployment, youth rural-urban migration and rural development in larger context

3. Methods

The methodology of this study described the method through the following sub-topics: study area, sampling procedure, tool for data collection and tools for data analysis.

3.1. Study Area

Bauchi state occupies a total land area of 49,119 km² representing about 5.3% of Nigeria's total land mass and is located between latitudes 9° 3' and 12° 3' north and longitudes 8° 50' and 11° east. The state is bordered by seven states, Kano and Jigawa to the north, Taraba and Plateau to the south, Gombe, Yobe to the east and Kaduna to the west (ATBU press 2006).

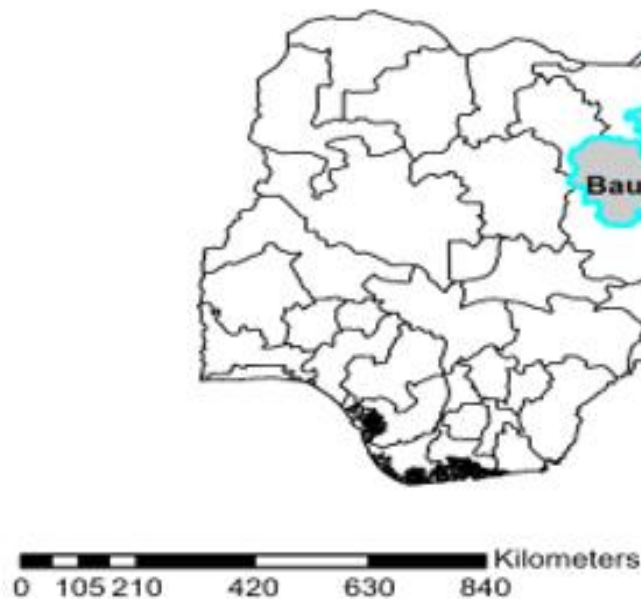


Figure 3. Map of Nigeria with Bauchi state highlighted

Source: Author 2019

region, rains generally come from the south as they are carried by the south westerlies (Blench 1999).

The state has an estimated population of 6,537,300 and 32.9% of the population are between the age of 15-35, and 51.7% live in the rural areas (NPC 2016). Agriculture is major economic activities and 70 % of the population are farmers, of which only 25 percent are youths' farmers (BSADP 2018). The average farm size per person is 1.8 hectare (FAO 2018). Domestic animals and food crops are the major farm produce in the state such as cattle, goat, sheep, maize, rice, sorghum, millet, groundnut, cowpea, cotton, and vegetables which are produce under irrigation (SMARD 2018).

3.2. Agricultural Division of Bauchi state

Bauchi state is divided in to three agricultural zone which included northern agricultural zone, central agricultural zone and western agricultural zone.

3.2.1. Northern agricultural zone

The northern agricultural zone consists of eight local government area (Local government area is a third sub-administrative division in Nigeria) with an estimated population of 2.5 million people in which about 70% are farmer (NPC 2016; BSADP 2018). The local government areas include Dambam, Giade, Gamawa, Itas/gadau, Jama'are katagum, Misau and Zaki.

The agricultural zone falls in the Sahel savannah vegetation, it is a semi-desert vegetation that comprises isolated stands of thorny shrubs (White 1983). The zone has two main seasonal climates which comprise wet and dry seasons. April is the hottest of the year and December is the coldest with temperatures averaging 22.4°C and minimum rainfall of 600-900 mm per year (Bose 2018). The zone is crisscross with Hadeja-Jama'are river basin and Fadama (Flood Plain) areas which provide suitable land for agricultural activities and supported by several dams meant for irrigation and other purposes. Major crops grown in the zone include millet, sorghum, cotton, sesame, groundnut, cowpea tomatoes, lettuce, cabbage, pepper (BIC 2011).

3.2.2. Central agricultural zone

The central agricultural zone of Bauchi state comprises of four local government areas which are Darazo, Ningi, Ganjuwa, and Warji (NIPC 2018). The zone has an estimated population of 1.2 million where about 70% are farmers and live in rural areas (Gizaki et al.2015).

The zone falls in a Sudan savannah vegetation, the vegetation is characterised with the coexistence of tree and grasses such as shea, baobab, locust bean tree. Sorghum, millet, maize farming and traditional animal husbandry are the major economic activities in the zone due to abundant grasses. (BSADP 2018).

3.2.3. Western agricultural zone

The western zone stretches from 9^o 30' to 10^o48'N and 8^o45'E to 10^o15'E characterised with mountains and annual rainfall between 1,000 mm to 1,300 mm per annum (Fabiya & Hamidu 2011). The zone has estimated population of about 2.8 million distributed according across seven local government areas that include: Alkaleri, Bogoro, Bauchi, Dass, kirfi, Tafawa Balewa and Toro (NIPC 2018; NPC 2016).

Farming is the dominant activities in the area, livestock such as goat, sheep, cattle and pig are raised while rice, maize, soy bean, tomato, spinach, are cultivated (Abdullahi et al. 2010).

3.3. Study Sample and Target Groups

The *Fadama III Additional Financing Project* supported farmers in all 20 LGAs. The support was provided through clusters. Each LGA has five clusters, in each cluster there are 10 farmers associations with 10 registered members, making 100 farmers in each cluster. Approximately, there were 140 youth farmers distributed across clusters in each local government which represents 28% of the total beneficiaries. In this study, 360 youth, equivalent to 12.8% of the total youth benefited from Fadama III and other 360 youth who did not benefit were sampled as shown in the Table 5.

The state is divided in to three agricultural zone those are north, central and western zone; Multi-stage sample procedure was applied in the sampling:

First stage: two local government area from each zone were randomly selected making 6 LGAs;

Second stage: Purpose sample procedure was applied based on this criterion. The criterion is that: the community must be beneficiary of *Fadama III* project for either rain-fed or irrigation farming. Therefore, three communities that fulfilled the above-mentioned criterion were purposely selected from each LGA making 18 communities.

Third stage: Snow ball sampling procedure combining with gender quota sampling (on the basis *Fadama III* data where the gender distribution was 75% male and 25% female) was employed in the stage. Youth (fifteen males, five females) who were beneficiary of *Fadama III* project and other youth (fifteen males, 5 females) who were non-beneficiary of the *Fadama III* Project, and three elders were selected from each community through referral by *Fadama III* desk officer, *Fadama* group leaders', and youth leaders in the community. This gave a total of three hundred and sixty youth beneficiaries, three hundred and sixty youth non-beneficiaries and fifty-four elders.

Table 5. Sample frame

Zones	1 st stage	2 nd	3 rd	Beneficiaries		Non-beneficiaries	
	LGAs	Communities	Elder	Male	Female	Male	Female
North	Misau	Gwaram	3	15	5	15	5
		Jarmari	3	15	5	15	5
		Chiroma	3	15	5	15	5
		Isawa	3	15	5	15	5
	Giade	Doguwa	3	15	5	15	5
		Zirami	3	15	5	15	5
Central	Darazo	Gabarin	3	15	5	15	5
		Lago	3	15	5	15	5
		Fundun	3	15	5	15	5
	Ningi	Adandamu	3	15	5	15	5
		Balma	3	15	5	15	5
		Nasaru	3	15	5	15	5
West	Alkaleri	Fanti	3	15	5	15	5
		Futuk	3	15	5	15	5
		Gaji talong	3	15	5	15	5
	Dass	Baraza	3	15	5	15	5
		Dauwa	3	15	5	15	5
		Zwal	3	15	5	15	5
Total	6	18	54	270	90	270	90

Source: Author 2019

The overview of samples of this study taken from the study are:

1. Three hundred and sixty (360) youth who benefited from Fadama III project;
2. Three hundred and sixty (360) youth who did not benefit from the Fadama III project;
3. Fifty-four Elder (54) that involves traditional leaders;
4. Seven (7) official from the state Fadama III co-ordinating office; and
5. Three (3) official from land and survey department.

3.4. Data Collection

The research design employed both qualitative as well as quantitative methods. Data collection took place between July to September 2018 as shown in Table 6.

Table 6. Thesis time frame

	October 2017- February 2018	July2018- September 2018	October 2018- January 2019	February 2019-April 2019
Analysis of Secondary data				
Formulation of Methodology and Research Proposal				
Questionnaire designing				
Pilot Test				
Data Collection				
Data Processing and coding				
Data Analysis				
Data interpretation				

Source. Author 2019

Both structured questionnaire and open-ended interview for In-depth were employed for data collection. While structured questionnaires were administered to the youth, the interview focused on the elders and the traditional leaders for their views on land allocation and usage in their community as can be seen from the photo in Appendix 5 how the questionnaire was admitted. The interviewed was done in local language (*Hausa*) and translated to English language. The interview with elders and

administering of questionnaires to youth were done simultaneously with three enumerators.

Structured questionnaire was the main instrument chosen in this for primary data collection. It was considered as the most appropriate tool for data collection from large number of respondents in a short period of time (Timoshonko 2018).

Table 7. Structure of the questionnaire

Part of the questionnaire	Variables	No. of questions
Demographic characteristics	Gender, age, education, marital status, household size, parent occupation, cooperative membership, family land ownership and size	14
Choice of farming occupation	Youth primary occupation, reasons for choice of farming, reasons for not choice of farming, reasons for change from farming to other occupation.	5
Access to land	Youth ownership of land, mode of land ownership, size of the land, certificate of the land, knowledge about land policy.	9
Constraints of access to land	Unavailability of purchasing land, high cost of purchasing land, lack of fund, reliant on inheritance, unwillingness to transfer land, unavailability of renting land, high cost of renting land, unavailability of leasing land, high cost of leasing land, difficulties in land transfer.	10
Access to Support programme	Access to benefit from any development project, kind of benefit, source of capital	3

* Set of constraints were provided in 5-point Likert ranking scale (Strongly agree=5, Agree=4, Undecided=3, Disagree=2, Strongly disagree=1)

The questionnaire was elaborated in English language with forty-one (41) questions categorised in to different section as shown in Table 7 above. It involved single response with nominal categories, multiple choice responses and scale responses. The full version of the questionnaire can be found in Appendix 1.

3.5. Data Analysis

The primary data collected were analysed using descriptive statistics and inferential statistics as shown in Table 8 below.

Before analysis of the data, the fitness of the data for binary logistic regression, was checked using variance inflation factor test and Hosmer-Lemeshow test. While for the t-test the distribution of the data was checked on spss using normality test.

Table 8. Overview of statistics used in data analysis

Objective	Descriptive statistics	Use	Inferential statistics	Use
Objective I	frequency and percentage	Rate of youth land ownership	Chi-square	To analyses the effect Fadama III project on youth land ownership
Objective II			Independent t-test	To analyses the effect of Fadama III project on youth land size
Objective III	Frequency, percentage and mean	Identify the constraints faced by youth in accessing land	Independent t-test	Compare the respondents' perception on the severity of the constraints.
Objective IV			Logit regression model	To analyse the effects of factors influencing youth decision in choice of farming occupation

In objectives I, chi-square was used to analyse the differences between *Fadama III* beneficiaries and non-beneficiaries on ownership of land. The Pearson chi-square test was suitable in analysing the differences between categorical variable (SS 2019).

In objective II & IV: Independent t-test was used to analyse the effect of *Fadama III* project on youth land size and compare the perception of youth on the severity of the constraints.

The independent sample t-test is one of test in t-test family, which involves mean value comparison of continuous-level (interval or ratio data), normally distributed data. The independent sample t-test compares the scores of two groups in a given variable, that is two mean scores of the same variable, where by one represents the

average of that characteristics for one group and the other mean represents the average of that specific characteristics in another group. It clarifies whether the difference between the two independent samples is a true difference or whether it is just a random effect caused by skewed sampling (SS 2019).

Assumption of the independent samples t-test are as follows: The variances of the dependent variable in the two population are equal. The dependent variable is normally distributed within each population. The data are independent (score of one participant is not related systematically to scores of the others) (SS 2019).

In objective IV: the logit regression model was used to analyse the effects of factors influencing youth decision in choice of farming occupation. The logit regression model is a statistical probability model with two categories in the dependent variable. The logit regression assumes that the categorical dependent variable reflects binomial distribution. The binary dependent variable takes on the value of zero and one. According (Panny & Dengle 2017) Logit regression is a qualitative response model used widely to investigate factors affecting an individual's choice from among two or more alternatives.

The logit model was used by this study to analyse the factors influence rural youth decision to choose farming occupation. Youth occupation was captured as dummy variable with the value of 1 assigned to a youth practicing or willing to practice farming occupation while 0 was assigned to youth who practiced or willing to practice other non-farming occupation.

The model is specified as (Panny & Dengle 2017):

$$P_i = P(Y = 1/X_i) = \beta_0 + \beta_i X_i, \mu_i = 1, 2, \dots, n..$$

where:

$P_i = P(Y = 1/X_i)$ is the probability of the i^{th} youth choosing of farming occupation

and $Y = 1$ means choice of farming occupation; $Y = 0$ means otherwise

X_i = explanatory variables,

β_0 = the intercept

β_i = the corresponding coefficient and

U_i = error term

n = sample size

Dependent variable: Youth whose present occupation was farming or intended to be a farmer was coded as 1 while non-farming occupation coded as 0.

Variables and their expected coefficients are contained in Table 9.

Table 9. Variables used for the Logit Regression, their Units and expected Signs

Variable	Measurement	Expected sign
Gender (X1)	Male= 1 Female=0	+
Age (X2)	In years	-
Marital status (X3)	Married=1 Unmarried=0	+
Household size (4)	Number of persons	+
Educational level (X5)	In years	+
Parents 'occupation (Male) (X6)	Farming=1 Otherwise =0	+
Family ownership of land(X7)	Family owned land=1 Not owned=0	+
Youth ownership of land (X8)	Youth owned land=1 Not owned=0	+
Access to <i>Fadama</i> Benefit (X9)	Access=1 Otherwise=0	+

3.6. Operational Variables in Logit Regression Model

The choice of farming as an occupation in this study is the dependent variables. This is measured by asking the respondent to indicate their primary occupation among set of options. Exogenous variable expected to affect youth decision in choice of farming occupation included socio-economic characteristics of the respondents (age gender, marital status, household size, years of education, parent occupation (father's primary occupation,) land, access (Family ownership of land, youth ownership of land), access to *Fadama III project benefit*. Each variable was described briefly to give out the theoretical justification for its inclusion of each in the model.

Age: It is a continuous variable defined as the age of youth respondent at the time of data collection measured in years. According to Nnadi and Akwiwu (2008) age has significant effect on youth participation in agriculture. Therefore, in this study to age was expected to have positive effect on youth choice of farming occupation.

Gender: It is a dummy variable taking a value of 1 for male and 0 for female. Gender is included in the variable to differentiate male and female in the choice of farming occupation. Gender play greater role in agriculture and determine the livelihood choice of an individual. Gender is associated with positive effect toward male in choice of farming occupation (Muhamma et al. 2009; Prosper et al. 2015).

Years of education: It is a continuous variable defined as the number of years respondents spent while schooling. Education is important in creating positive mental attitude toward adoption of innovation (Osandu et al. 2015). It was negatively associated with the choice of Farming (Rahut et al. 2017; Panny & dengle 2017) while according to Gemme et al (2013) education has positive effect on decision to engage in agriculture.

Marital status: It is a dummy variable 1 was assigned for married and 0 to single. According to Proctor et al (2015) married youth have to engaged in farming more than unmarried one, in order to cater for the family responsibilities. Therefore, in this study marital status was assumed to have positive effect on the youth decision in choice of farming occupation.

Household size: it is a continuous variable defined as defined as a group of persons who make common provision of food, shelter and other essentials for living, it is exclusively taken as the number of people under the care of the respondent. Household size has positive association with participation in farming (Panny & Dengle 2017).

Parents' occupation: It was included in the model as a dummy variable where 1 is assigned for farming occupation while otherwise 0. According to Nnadi & Akwivu (2008) background and orientation of the youth's virtue of their parents' occupation would influence their desires, interests and engagements. Therefore, the assumption in this study parent's occupation affects youth decision in choice of farming occupation positively.

Access to land: Access to land is extremely important for young people trying to earn a livelihood in agriculture. Access to land is not only the number one requirement for starting farming, but it can also contribute to household food security and is a means for employment and income generation (FAO 2014). Access land is associated with positive effect on youth choice of farming occupation (Rahut et al. 2017; Kasec et al 2018) in this case two factors were considered to enable youth access to land these are as follows: youth ownership of land; family ownership of land

Land ownership: it is a dummy variable defined as any respondent possess a land or have absolute right over the land during the data collection. 1 is assigned to the owning a farming land while 0 is assigned to lack of ownership of land.

Access to Fadama III project benefit: It is a dummy variable defined as any respondent who benefited from the *Fadama* project in term farm inputs, extension service, access to market and farm machinery. Its coded as 1 is assigned to access to *Fadama* III benefit while 0 is assigned to lack of access to *Fadama* III benefit. It was assumed to have positive influence on youth decision in choice of farming occupation as indicated by (Adekunl et al. 2009; Akpan 2010; Chikezie et al 2012) that access to farm inputs and extension service have positive effect on youth engagement in agriculture.

4. Result and Discussions

The results are presented according to these sub chapters: demographic characteristics of the respondents, occupational background of the youth, access to land and associate characteristics, constraints to land access, and determinants of youth choice of farming occupation.

4.1. Demographic Characteristics of the Respondents

The demographic result indicates that, the average age of beneficiaries was 25.5 years while that of non-beneficiaries was 24. 5 years old, 65% of the beneficiaries were married with average household size of 1.7 members and 50.8% of the non-beneficiaries were married with similar average household size of 1.7member as shown in Table 10.

Table 10. Socio-economic characteristics of the respondents (N=720)

Variables	Fadama III beneficiaries		Non-beneficiaries	
	Frequency	Percentage	Frequency	Percentage
Gender				
Male	270	75	270	75.0
Female	90	25	90	25.0
Age (years)				
18-23	170	47.4	199	55.3
24-29	65	18.0	68	18.9
30-35	125	34.6	93	25.8
Marital Status				
Single	111	30.8	157	43.6
Married	235	65.3	183	50.8
Divorced	9	2.5	11	3.1
Widow	5	1.4	9	2.5
Household size				
Less than 3	255	70.9	245	68.2
3-5	98	27.2	98	27.3
6 and above	7	1.9	16	4.5
Education Qualification				
Illiterate	176	48.9	150	41.7
Primary	43	12.5	61	16.9
Secondary	103	28.6	129	35.8
Tertiary	36	10.0	20	5.6

Source: Author 2019

The finding shows that *Fadama III* beneficiaries were older than non-beneficiaries. However, both groups were within energetic age characterised with strength and commitment. Similarly, Panny & Dengle (2017) found that 25 years, was the average age of rural youth in Adamawa, Nigeria.

The result on the educational level of the respondents indicated that, 51.1% of the beneficiaries and 58.3% of non-beneficiaries have different level of education from primary certificate, secondary and tertiary certificate while the remaining 48.9% of beneficiaries and 58.3% were illiterate as shown in Table 10. Education has been shown to be a factor in the adoption of agricultural innovations and employability in the formal sector (Osondu et.al. 2015). Education is expected to influence individual's perceptions of information received and utilisation of it for agricultural activities, as well can be a factor affecting decision to migrate to urban areas and seek jobs in other sector than agriculture.

4.2. Occupational Background of the Youth

The survey took in to account only the primary occupation of the respondents. From the survey results, 70.6% male and 28.9% female parents of the beneficiaries were farmers, while 63.6% male and 18.3% female parents of non-beneficiaries were farmers as shown in Table 11. Farming was also the main primary occupation of the majority (50.3%) of beneficiaries and (33.3%) of the non-beneficiaries while the remain youth were civil servants, students and some involves in family farming and handcrafting as can be seen in Table 11.

Farming was found to be the dominant occupation of the respondents' parents and could the reason why farming was also the dominant occupation of the youth. Because, family background and habitat of a person determine the types of livelihood activities he might involve (Sunday et al 2015). According to FAO (2018) farming is the dominant economic activities in rural areas of Sub-Saharan Africa.

The youth made a claim on family land ownership, where 88.8% of the beneficiaries and 70.0% of the non-beneficiaries claimed their families possessed farming land with average size of 2.6 hectares and 2.4 hectares, respectively. Further 32.7% , male beneficiaries made a claim to get share of family land after getting

marriage, 5.7% at the older age of their parent and 61.3% after the death of their parent as inheritance, while the non-beneficiaries had made same claim that, 21.1% of the male expected to get share of family land when they get marriage, 9.8% when parent get older to work on the land and 69.1% expected to get the land as inheritance after the death of the parents.as show in Table 11 below.

Table 11. Primary occupation of the youth and their parents (N=720)

Variable	Beneficiaries		Non-beneficiaries	
	Frequency	Percentage	Frequency	Percentage
Father's occupation				
Farming	254	70.6	229	63.6
Business	72	20.0	76	21.1
Civil servant	19	5.3	35	9.7
Handcraft	15	4.2	20	5.6
Mother's occupation				
Farming	104	28.9	66	18.3
Business	74	20.6	103	28.6
Handcraft	15	4.2	11	3.1
Housewife	167	46.4	177	49.2
Youth Primary Occupation				
Farming	181	50.3	120	33.3
Business	46	12.8	58	16.1
Civil servant	30	8.3	31	8.6
Handcraft	17	4.7	32	8.9
Student	41	11.4	51	14.2
Family farming	45	12.5	68	18.9
Family ownership of land				
Family with land	316	88.8	273	76.0
Family without land	44	12.2	86	24.0
Family land size				
0.5 – 2	161	51.3	156	58.9
2.1 -3.5	104	33.1	71	25.8
3.6 -6	49	15.6	42	15.3
Period getting share from family land				
Male when marry	103	32.7	58	21.1
When parent cannot farm due to age	18	5.7	27	9.8
After the demise of parent	194	61.3	190	69.1
Youth land size in hectare				
0.5 -2.5	189	97.4	87	94.5
2.6-4	5	2.6	5	5.5

Source: Author 2019

Most of the families in the study area possess their own farming land though they are small land holders, majority of the male youth expect to get share from family land as inheritance after the demise of the parents. According to FAO (2018) Majority of farmers in Nigeria are small land holders.

The reason most of the youth expect to get share of family land as inheritance, could be due to polygamy that is highly practice in the community which led large household size. Since most of the families are small land holders, the land is not large enough to give each member of the family particularly male youths, the family head holds the land at his custody till the end of his life to avoid family social problems (conflicts). Similarly, in Ethiopia, Bezu and Stein (2014) found most of the elderly farmers do not want to give or share land with youth family members, keep the land till the end of their life.

4.3. Land Accessibility and Associate characteristics

Land ownership entitled more land right, land right is a social or legal recognised entitlement to access, utilize and control areas of land (Gbenga et al 2018). From the survey result, 54.6% of beneficiaries possess their own farming land with average size 1.4 hectare while only 25.6% of the non-beneficiaries possess their own farming land with average size of 1.3 hectare as shown in the figure 5.

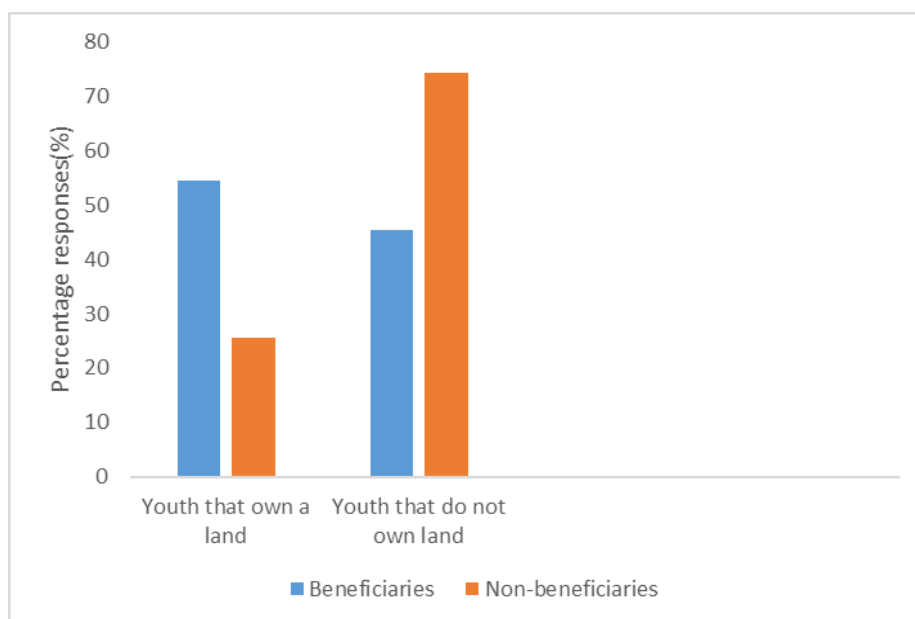


Figure 5. Youth ownership of land. N=720, Source: Author 2019

The result further unveils the youth mode of access to land where majority (48.5%) of the beneficiaries and (53.3%) of non-beneficiaries accessed land through inheritance, 30.1% of the beneficiaries and 16.1% of non-beneficiaries accessed land through purchase, others modes of youth access to land in the study area were gift and allocation by Local Government Authority (LGA) as can be seen in Figure 6.

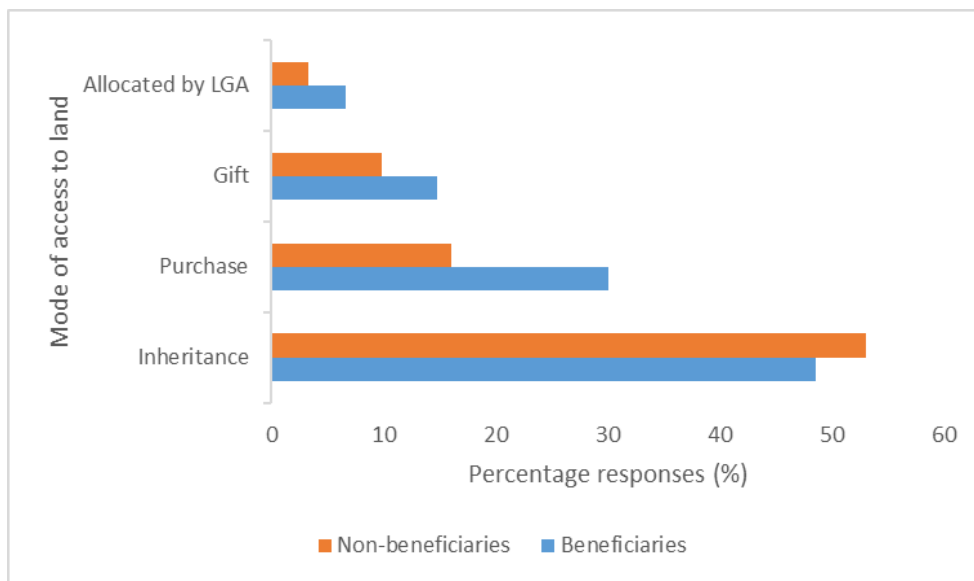


Figure 6. Mode of youth access to land (N=720).

Source: Author 2019

Inheritance is the dominance mode of access to land for both categories of respondents in the study area. Inheritance of land is transfer of land entitlement and right from decedent to family members. According to Frank et al. (2017) and FAO (2018) still inheritance is main mode of access to land in Africa.

The descriptive result shows the existence of differences between beneficiaries and non-beneficiaries in term of age, land ownership, land size and modes of access to land

To test the study hypothesis 1, and to find the effect of *Fadama III* project on youth land ownership, size, the distribution of the data was checked. Data on land size and age was normally distributed, therefore t-test was applied, while the youth land ownership and modes of access to land were categorical and chi-square was conducted.

The result from t-test in Table 12 shows that, beneficiaries were not significantly different from non-beneficiaries on land size, but they were significantly different on age at 5% level of significant. Inspection of the two groups means indicates that the average land size of the beneficiaries 1.39 is not significantly higher than 1.26 for non-beneficiaries. The result suggests that *Fadama III* project has no significant effect on youth land size.

Table 12: T-test result. comparing beneficiaries and non-beneficiaries on land size and age

Variable		Beneficiaries		Non-beneficiaries		P-value
		SD (±)	Mean	SD (±)	Mean	
Age	Years	6.05	25.48	5.59	24.47	0.02**
Land size	Hectare	0.61	1.39	0.65	1.26	0.11

** = $p < 0.05$

Source: Author 2019

Therefore, the alternative hypothesis is rejected, and the null hypothesis which hypothesised that, there was no significant difference between *Fadama* beneficiaries and non-beneficiaries in term of land size is confirmed.

The result suggests that *Fadama III* project has no effect on youth land size despite from the descriptive results, the average land size possess by the beneficiaries is greater than that of the non-beneficiaries. But the results confirmed the descriptive finding on age, where beneficiaries were older than non-beneficiaries. This might be due to lack of accessible land in the study area to expand their farms, or due to lack of funds, or interest to cultivate large area of land.

The result from chi-square test confesses that, there was significant different at 1% level of alpha between beneficiaries and non-beneficiaries on land ownership while there was no significant different on youth modes of access to land because the p-value is greater than the alpha level (5%) as shown in Table 13.

Table 13: Chi-square test result comparing beneficiaries and non-beneficiaries on land ownership, mode of access to land, knowledge on Land Use Act. N=720

Variable	Coefficient	Degree freedom	P-value
Land ownership	63.709	1	0.000***
Mode of access to land	3.783	3	0.286
Knowledge on LUA	18.280	1	0.000***

Note: *** = $p < 0.01$. Source Author 2019

According to Obodoenchina (2015) and Adesiji et al. (2015) *Fadama III* beneficiaries has higher income than non-beneficiaries. The higher income could be due to financial, inputs, technical production and marketing support they receive from *Fadama III* project, which enable them to save and invest in new land.

Result on youth knowledge on Land Use Act discloses that, majority of the youth were not aware or lack knowledge on the existing land policy (Land Used Act 1978) in Nigeria as shown in the figure below, where only 46.6% of the beneficiaries and 31.4% of non-beneficiaries responded that, they have knowledge about the land Use Act. In addition, the result from chi-square test in Table 13 has confirmed significant difference between the beneficiaries and non-beneficiaries at 1% level of significant.

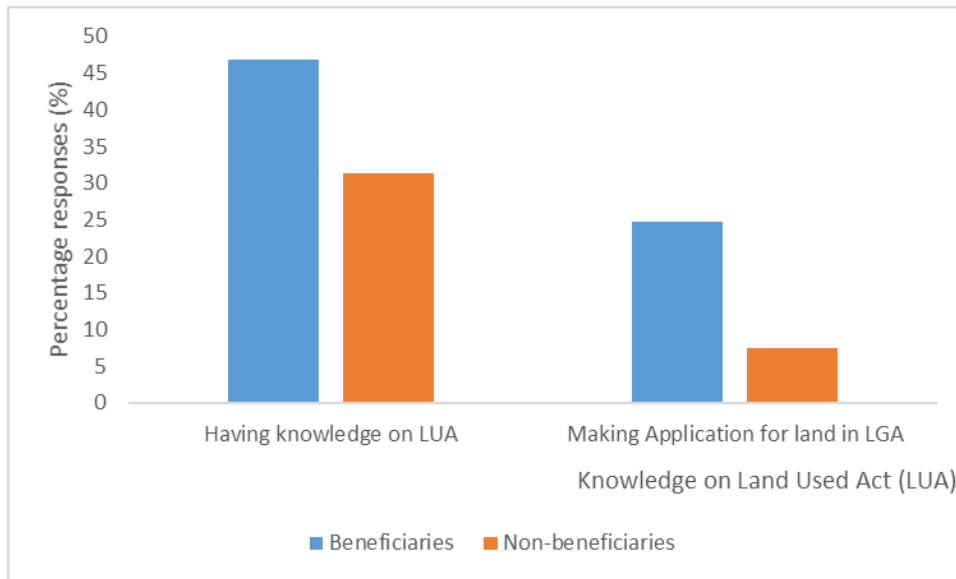


Figure 7: Youth knowledge on Land Use Act. N=720.Source: Author 2019

In respect to making land requires from the Local Government Authority, only 24.8% of the beneficiary and 7.5% of non-beneficiaries made application for land in their local government areas as indicated in Figure 7.

The result indicated that most of the youth particularly non-beneficiary are not aware about the land policy and few had made the request of land from their respective local government areas. The land policy allows individual to locate unoccupied land and write an application to the local authority through the traditional leaders to request the use of land for agricultural purposes. The result from the personal interview indicated that, there are unoccupied land in many communities, which can be proved from the statement of director of land and survey in Giade local government area: *‘The local government has land not only sufficient but excess in some corners of the local governments. Majority of the applicant get require size of land, but the land is given temporarily due to restriction by the local government. ‘*

This could be as a result of lack of youth awareness about the land policy and the mode of applying for the land in rural areas. According to Okafore & Nwike (2016) people in rural areas are not aware about land used policy in Nigeria. This might have negative effect on youth land accessibility.

4.4. Constraints to Land Accessibility

The perceived constraints to youth land accessibility was captured using Likert scale but only the mean and standard deviation were reported, they were ranked in order of the respondents perceived severity of each constraints to youth land accessibility as can be seen in Table 14.

The result indicated that lack of fund by youth, high cost of purchasing land, youth reliant on inheritance, high cost of renting land, non-availability purchasing land and unwillingness of parents to share or hand over the land to youth during their life time were the most severe constraints for youth to access land in the study area.

To compare the beneficiaries and non-beneficiary perceptions on the level of severity of each constraint to youth land accessibility, normality distribution of the data was tested using SPSS, and the result indicated the fitness of the data for independent t-test.

Therefore, t-test was conducted, and the result shows significant differences at alpha level of 1% and 5% between beneficiaries and non-beneficiary perceptions on severity level of some constraints as shown in Table 14.

The beneficiaries' perception on the severity of the following constraints for youth land accessibility was higher the non-beneficiaries perception on the severity of them in constraining youth land accessibility: reliant of youth on inheritance, high cost of renting land, unwillingness of parent to give land to youth in their lifetimes, non-availability and high cost of leasing land while the perceptions' of non-beneficiaries was higher than the beneficiaries perceptions on high cost of renting land and non-availability of leasing land constraining youth from access to land.

Table 14. Comparison of perceived constraints of youth beneficiaries and non-beneficiaries to land accessibility (N=720)

Variable	Beneficiaries			Non-beneficiaries			P- value
	Rank	SD (±)	Mean	Rank	SD (±)	Mean	
Lack of fund by youth to access land	1	0.68	4.57	1	0.80	4.55	0.763
High cost of Purchasing land	2	0.66	4.28	2	0.92	4.36	0.151
Reliant of youth on inheritance	3	1.02	3.89	5	1.18	3.63	0.001***
High cost of renting land	4	0.96	3.85	3	0.84	4.05	0.002***
Unwillingness of parent to share land with youth	5	0.98	3.84	6	1.18	3.59	0.002***
High cost of leasing land	6	1.09	3.34	8	1.07	3.11	0.005***
Non-availability of leasing land	7	1.07	3.28	9	1.12	3.05	0.007***
Non-availability of purchasing	8	1.31	3.25	4	1.31	3.74	0.000***
Non-availability of renting land	9	1.14	3.21	7	1.20	3.30	0.292
Difficulties in land transfer	10	1.34	2.90	10	1.30	2.93	0.777

Note: *** = p<0.01 Source: Author 2019

The access of information and financial support from *Fadama III* project might help them to access land at low cost when compare to non-beneficiaries. This might make the non-beneficiaries to perceive high cost of renting land and non-availability of leasing land to have higher severity level to youth land accessibility.

The youth might lack fund to access land because many youths in rural areas dedicate themselves in provision of labour to family farming and other domestic work that earn little or no financial reward at all rather the gain of necessity goods such as food, cloth and shelter. Moreover, credit mostly is not available in rural areas for youth to access. According to Andrianaivo & Yertey (2009), youth in developing countries cannot access credit from formal institutions due to lack collateral security and underdeveloped credit markets.

Land in rural areas of Nigeria is available but its' accessibility through purchase is limited, because the land policy in the country prohibits sales of land by private

bodies. The availability of land and limited accessibility can be confirmed from the statement of an elder interviewed in Zwal community Dass L.G.A, he said *'They government should provide the youth with farm input and credit and allow us to allocate some part of the forest to them to farm'*

Also, land in rural areas apart from economic values it possesses, it has social values which deter people from offering land in to market and finally resulted in non-availability and high cost of purchasing. According to Alain & Elisabeth (2001) agricultural land is expensive in rural areas because land serve as a store of wealth against inflation; its servers as a source of self-employment in case of labour market failure; it has a speculative value, it serves as collateral security for accessing credit and a tool for joining some cooperative in some in some communities. The finding agreed with the finding of (Odudu 2016; Nwuba 2017).

Also, the government policy which banned the importation of major food items in to Nigeria, besides the crashed of oil price in the international market, general inflation in price of goods including food products, forced many people to venture in to agriculture, theses rises the demand for land and result in high cost of selling and renting land in the country. According to Crush et al (2011) rent as an alternative mode of access to land is also not effective due to high demand of land and less available rental land in the market.

Inheritance as a main mode of youth land accessibility is now ineffective, because most families in Nigeria are faced with shortage of land and large household size which led youth to inherit fragmented and unviable land parcels (Jayne et al. 2014). Moreover, life expectancy has increased in most developing countries, this necessitates youth to wait longer before to inherits share of family land.

The youth also perceived the unwillingness of parents to share or give land to youth constraints them from accessing land. According to FOA (2018), the average household size is 5 persons while 1.8 ha per household is the average farm size in Nigeria, therefore, it is unviable to share the family land with youth family members and hence the parents oppose it. In the personal interview, one elder from Jarmari community said, *'How can I share one hectare of land between myself and three children?'*

Similarly, Joseph (2005) in Ghana and Bezu & Stein (2016) in Ethiopia found also Elder farmers in rural areas opposed giving out land to youths.

The beneficiaries might have better access to less expensive land in term of purchase, rent, or user right from government authorities' due information, financial support and extension services they received from *Fadama III project*.

4.5. Determinant of Youth Choice of Farming occupation

To check the fitness of the data for binary logistic regression, variance inflation factor test, Hosmer-Lemeshow test were conducted. The variance inflation factor test result shows that, all the variables included in the model have values less than 10 which means there was no serious multicollinearity between them as shown in Table 15. The Hosmer-Lemeshow test results was also not significant, and but the mode was significant at 1%. Conclusively from the result of these two tests the data was fit for logistic regression.

Table 15. Result of variance inflating factor test (VIF)

Variable	VIF estimate
Gender	1.08
Age	2.88
Marital status	1.70
Household size	3.34
Education	1.11
Father's occupation	1.11
Family land ownership	1.02
Youth land ownership	1.35
Access to <i>Fadama III</i> project benefits	1.20

The outcome from the binary logistic test discloses gender, age, years of education, fathers' occupation, family ownership of land, youth ownership of land had significant effect on youth choice of farming occupation at 1% alpha level, while marital status has significant effect at 10% alpha level as shown in Table 16.

**Table 16. Estimate of logit regression result on determinants of choice occupation
N=720**

Variables	Standard error	Marginal effect	P-value
Gender	0.39	0.276	0.000***
Age	0.006	0.013	0.029***
Years of education	0.004	-0.026	0.000***
Marital status	0.056	0.077	0.166
Household size	0.022	0.043	0.051*
Father	0.040	0.288	0.000***
Family land ownership	0.062	0.076	0.220
Youth land ownership	0.049	0.134	0.006***
Benefit from Fadama III	0.046	0.124	0.007***

Note: $R^2 = 0.263$, $\text{Prob} > \chi^2 = 0.000$, * = $p < 0.10$ and *** = $p < 0.01$

Source: Author 2019

Gender has significant effect on youth choice of farming occupation at 1% level of significant, from the research design and descriptive results, the gender is categorised in to a ratio of 75% male and 25% female. This implies that male has 27.6% higher probability of choosing farming occupation than female. This can be attributed to gender disparity in access to production resources particularly land. Another factor might be due to physical labour require in farming. As male can do tedious work more than female (Muhammad et al. 2009). The finding agrees with the result of Prosper et al (2015).

Regarding the effect of youth age, the result shows a year increase in the youth age, results in 1.3% higher probability of choosing farming occupation. The argument is that increase in age, increases the consciousness of an individual and realization the importance of farming. Nnadi & Akwiwu (2008) found age has positive influence on rural youth participation in agricultural activities in Nigeria.

Concerning the effect of education, from the result, a year increase in youth years of education lower the probability of choosing farming occupation by 2.6%. The explanation is that increase in youth education increases the chance of getting non-farming job. Majority of farmers are poor, and the farming is done at subsistence level without the use of modern farm equipment and machinery in developing countries, these gives farmers low social status in the community and make the youth to consider

farming as a job for illiterate, poor and older population in the community. In the results of personal interview, an elder from Nasaru in Ningi LGA said:

‘education is responsible for youth running away from farming, all the educated youth want to be civil servants than farming after accomplishing their studies’.

Considering this, Bauchi state might continue face with uneducated farmers that cannot adopt and implement agricultural innovation efficiently and effectively. According to National Bureau of statistics (2018) approximately, tertiary institutions in Nigeria produce about 500 000 graduate each year that goes in to labour market. Gemma et al. (2013) also found education has negative influence on youth participation in agricultural activities in Uganda. Nevertheless, Panny & Dengle (2017) found education has positive effect on youth participation in food crop production in Adamawa, Nigeria.

In respect to effect of household size, one person increases in the household, increase the probability of choosing farming occupation by 4.3%. The explanation is that, youth with large number of household members is expected to have higher responsibilities of providing necessity good for the family, this will make him to choose farming occupation in order to provide food for the family. The result is consistent with result of Panny & Dengel (2017), that found household size has positive effect on participation in food crop production.

To determine the effect of parent occupation, only the effect of youth fathers’ occupation was tested because most of the youth mothers were housewife from the descriptive result of the survey. A youth whose fathers’ occupation is farming has 28.8% higher probability of choosing farming occupation than youth whose fathers’ occupation is not farming. The argument is that, farmers in rural areas engages their children in farming activities as early as possible, this provides the children with necessary experience and motivation to become farmer in the future. According to Nnadi & Akwiwu (2008) background and orientation of the youth’s virtue of their parents’ occupation would influence their desires, interests and engagements.

To determine the effect of land access on the choice of farming occupation two variables were tested; family ownership of land and youth ownership of land. Family ownership of land was found to have no significant effect while youth ownership of land has significant effect on choice of farming occupation. Youth that own an area of

land have 13.4% higher probability of choosing farming occupation than youth who do not own land.

Youth that owns a land could find it easily to start farming, the land may help the youth to participate in some farmers cooperation and can even use the land to access credit both from formal and informal sources to invest in farming, while youth that do not own a land may opt to do other occupation that do not require to land ownership, and possible migrate to the city and look for non-farming occupation.

Access to land is extremely important for young people trying to earn a livelihood in agriculture and in rural areas. Land access is not only the number one requirement for starting farming, but it can also contribute to household food security and is a means for employment creation and income generation. Youth participating in the joint MIJARC/IFAD/FAO project reported that access to land serves as security and collateral for accessing credit, marks youth' identity, upgrades their status, and often enables participation in community decision-making organs and producers' organizations FAO (2014).

Pertaining the effect of *Fadama III* project on choice of farming occupation, access to *Fadama III* project benefit was tested, the result shows that youth benefit from *Fadama III* project have 12.4% higher probability of choosing farming occupation than non-beneficiary of the project. The *Fadama III* project provide members with financial support, extension service, inputs such as seed, fertilizer, herbicides and insecticides. These might motivate the youth to choose farming occupation. According to Victor (2013) access to financial credit from development project influence youth participation in agriculture.

In respect to hypothesis (2), which hypothesised that access to *Fadama III project* benefit and access to land have no significant effect on youth choice of farming occupation is rejected based on the finding from the binary logistics regression, therefore the alternative hypothesis (*Fadama III* project, access to land has significant effect on youth choice of farming occupation) is now accepted.

5. Conclusion

Withdrawal of youth from agricultural sector is a big challenge for achieving second goal of Sustainable Development Goal (zero hunger) in 2030. This study focuses on the impacts of the *Fadama III* project on youth access to land and factors that affect choice of farming occupation. Data from 720 questionnaires and 54 personal interviews were analysed using t-test, chi-square and logit regression model to test the effect of the project on youth access to land and choice of farming occupation.

The respondents originated from agriculturally base rural areas, which are characterised by high unemployment rate, high poverty rate, insufficient social amenities and infrastructure. Therefore, any attempt to revitalize agricultural sector is a direct effort to improve well-being of people in rural areas of Bauchi state.

The fact that 50.3% of the *Fadama III* project beneficiaries choose farming occupation indicated that there was some motivation toward farming from the project when compared to only 33.3% of the non-beneficiaries that chooses farming occupation in the study area. Therefore, the study suggests that the scope of the project should be expanded to cover large number of youths with emphasis of motivation them to adopt farming as a source of livelihood.

In respect to youth land accessibility, the *Fadama* beneficiaries have access to land more than the non-beneficiaries, considering 54.6% possess farming land in comparison with 25.6% of the non-beneficiaries. The inferential finding confirmed that, *Fadama III* project has effect on youth ownership of land but has not significant effect on land size. Besides ineffectiveness of inheritance as a means for youth access to land, still is dominant mode for accessing land by both beneficiaries and non-beneficiaries without any significant differences.

On the content of constraints to youth land accessibility, most of the youth, particularly, non-beneficiaries lack knowledge about the land policy (Land Use Act) which prohibits sales of land but allows every member of each local government to identify vacant land and make application to get user right on the land for agricultural purposes. Further both the beneficiaries and non-beneficiaries perceived lack of funds, high cost of purchasing land, reliant on inheritance, high cost of renting land, non-

availability of purchasing land are the most severe constraints to youth land accessibility. Moreover, non-beneficiaries perceived the severity of high cost of purchasing land, non-availability of purchasing land higher than the severity perception of the beneficiaries.

Finding from the personal interview shows that, there is available land in most of the local governments, but the land is not accessible due to either lack of knowledge on the Land Use Act, bureaucratic difficulties in land application, or due to lack transportation network around the areas, or some other government legislations on land.

Regarding the issue of access to land, the study suggests the Bauchi state government through *Fadama III* project should sensitise youth in rural areas on the provision of Land Use Act, also the youth should be shown some of the vacant land which can be allocated for agricultural purposes when they make application for land. The policy makers in the state should make a policy to simplify the process for land application. This will reduce the youth dependency on inheritance, cause drastic falls in the cost of renting and purchasing land as the demand of land in the market will go down.

The empirical study on factors that affect choice of occupation, discovered gender, age, years of education, household size, father's occupation, youth ownership of land, access to *Fadama III* project benefit influence choice of farming occupation.

The results shows strong relationship between gender and choice of farming occupation where male of high probability of choosing farming occupation than female and it has attributed to gender disparity on access to production resources, such as land and inputs, it is an opportunity for Bauchi state government to create an avenue for women to have access to land and other resources that will encourage them to venture in to agriculture. The results also indicated that older youth choose to be farmers than younger ones, the government should make a policy that prevent disenfranchisement of younger generation in accessing land, input and financial support that, so that they can be motivated to contribute in food production.

Considering the empirical findings where less educated youth opted be farmers than highly educated youth, farming will continue to be in the hand of illiterate, less educated youth, and older population in the state, unless the problem is being addressed. There is need for policy makers in the state to make policies and programmes that will

motivate youth to take farming as a means of livelihood. Further, practical agriculture should be integrated in school curriculum, so that, the youth will be practically oriented on farming. This will motivate them to put it in to practice after graduation instead of waiting jobs in the saturated labour market.

Household size of the youth and father's occupation also influence choice of farming occupation positively, therefore programmes should be made to target youth with small hold size and youth from non-farming families to encourage them to get in to farming business.

Youth ownership of land was also found to affect choice of farming occupation, land is a key factor in determine youth to choice to be a farmer, policy makers particularly in a Bauchi should make policies and programmes that will enable large number of youth in rural areas where farming is the main occupation to have access to land, this will make the youth to stay in rural areas and farm, indirectly this will reduce rural-urban migration, and reduces the burden of unemployment in cities and contribute to food security of the state.

Access to *Fadama III* project benefits affect choice of farming occupation positively, the youth benefited from the project tent to be farmers more than non-beneficiary youth. The government should improve the the project in order to increase its scope to cover additional youth or provides the youth with similar support provided by the project such as finance, farming equipment, seeds, fertilizer to non-beneficiary youth. These will motivate them to engage in farming which in turn will positively affect the economy and food security of the state.

The study unveils the impact of *Fadama III* project on youth access to land, identifies constraints for youth to access land and the factors including *Fadama III* project that affect youth choice of farming occupation in rural areas of Bauchi state, Nigeria. In-depth study is needed to explore why youth are not aware about Land Use Act, and why few of them ever made application to requires land in their local government area, and other factors constraining youth access to land and choice of farming occupation in the study area.

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7. Appendices

7.1. List of Appendices

Appendix 1. Questionnaire survey for the youth respondent

Appendix 2. Personal Interview with elders and traditional leaders

Appendix 3. Interviewed with Fadama III and Land officials

Appendix 4. Result of logit regression model

Appendix 5. Photo in data collection for documentation

Appendix 1: Questionnaire survey for the youth respondent

Section A: Socio-economic Characteristics

Name of your village.....

1. Name (optional)
2. Gender Male () Female ()
3. Age (Years).....
4. Highest educational qualification
Primary Certificate () Secondary Certificate () Tertiary Education () Never attend School ()
5. Marital status Single () Married () Divorced () Widow ()
6. What is the size of your household (Number).....
7. What is your primary occupation?
Farming() Business () Civil servant () Technician() Student () Other() specify.....
8. Do you belong to any Co-operative in your community? Yes () No ()
9. What type of Co-operative? Profit making () Non-Profit making ()
10. What is your present Father's occupation
Farming () Farming and other () Business () Civil Servant () P Technician () Other () Specify.....
11. What is your present Mother's occupation
Farming () Farming and other () Business () Civil Servant () Private Technician Other () Specify.....
12. Does your family possess a land for farming? Yes () No ()
13. If yes, what is the size of your family land in hectares?
14. When your family's land will be hand over or shared with you?
When you are married () when parent cannot farm it because of their age () After his death () Other () Specify.....

Section B: Choice of Farming Occupation

15. Do you practice or willing to practice farming as a primary occupation?
Yes, I do and I will continue doing it ()
Yes, I do for now but later I will move to the city to get another job ()
No, I do not but I will do later ()
No, I do not, and I will further my education and get non farming job ()

- OtherSpecify.....
16. What give you courage to practice farming occupation or planned to become a farmer in the future?
- Because my parent are farmers and want me to continue with their farm ()
 - Because I have land or I can get it easily to farm ()
 - Because of the benefit I received from Fadama III project()
 - Because there is no alternative job to do here in our village ()
 - Because of the Profit involves in farming
 - Other () Specify.....
17. You are in a community where almost everyone is a farmer why you do not practice and not willing to become a farmer in the future?
- Because my parent want me to further my study and get a non-farming job ()
 - Because I want to live in the city and do non-farming job ()
 - Because farming is not profitable and farmers are poor in our village ()
 - Because there is no any support in term of finance, farm inputs from government or any organisation ()
 - Because My parents do not have land and I have not access to land to farm ()
 - OtherSpecify
18. You are practicing farming and you have a planned to change to another occupation where possibly will take you away from your village to city, why?
- Because I encounter a lot of difficulties at each farming season before I get the land to farm ()
 - Because I have no certainty whether the land I do farm will be revoked and give to another person ()
 - Because the rain always seizes before the fully mature of our crops ()
 - The yield is always poor and not profitable ()
 - The cost of input is high and the good seed varieties and fertilizer are not always readily available to get ()
 - Because the profit from farming is very low ()
 - Other () Specify.....
19. Mention any factor which you think constraints youth to engage in farming as occupation.
- I.
 -
 - II.
 -

III.

Section C: Access to Land

- 20. Do you possess your own farming land? Yes () No ()
- 21. How did you obtain the land?
Inheritance() Purchased () Gift () Local Authority ()Other ()
Specify.....
- 22. What is the size of the land in hectare?
- 23. If you have own a land, who possess the certificate your land?
It is me () my father () the elder brother of our family()the land is not registered ()
Others() Specify.....
- 24. Who have the power over the land on your possession?
I have absolute power over my land () My father () Our elder brother () our village
head ()Others () Specify.....
- 25. There is a policy called Land Use Act which right you to land in your area through the
local government area, do you aware with the policy? Yes () No ()
- 26. Have you ever applied for the land from local government? Yes () No ()
- 27. Did you get the request size of land you applied for?
Yes, I get () Yes, but less than the size applied for () No, I did not get at all () I have
never applied ()
- 28. If you do not possess a land, how do you obtain the land for farming at each farming
season?
Hired from private individuals () my father shares some portion of his land to me ()
Hired from local authority () leased the land () Others ()
Specify.....

Perceived constraints for youth access to land in the study area.

- 29. Non-availability of purchasing land constraints access of land to youth
Strongly Agree (5) Agree (4) Undecided (3) Disagree (2) Strongly Disagree (1)
- 30. High cost of purchasing land constraints access of land to youth
Strongly Agree (5) Agree (4) Undecided (3) Disagree (2) Strongly Disagree (1)
- 31. Lack of fund by the youth constraints access of land to youth
Strongly Agree (5) Agree (4) Undecided (3) Disagree (2) Strongly Disagree (1)
- 32. Reliant to inherit land from parent constraints access of land to youth
Strongly Agree (5) Agree (4) Undecided (3) Disagree (2) Strongly Disagree (1)
- 33. Unwillingness of parents to handover their land to their children while alive constraints
access of land to youth

- Strongly Agree (5) Agree (4) Undecided (3) Disagree (2) Strongly Disagree (1)
34. Non-availability of renting land, constraints access of land to youth
Strongly Agree (5) Agree (4) Undecided (3) Disagree (2) Strongly Disagree (1)
35. High cost of renting land, constraint access of land to youth
Strongly Agree (5) Agree (4) Undecided (3) Disagree (2) Strongly Disagree (1)
36. Non-availability of leasing land constraint access of land to youth
Strongly Agree (5) Agree (4) Undecided (3) Disagree (2) Strongly Disagree (1)
37. High cost of leasing land constraints access of land to youth
Strongly Agree (5) Agree (4) Undecided (3) Disagree (2) Strongly Disagree (1)
38. Transactional difficulties in land transfer constraint access of land to youth
Strongly Agree (5) Agree (4) Undecided (3) Disagree (2) Strongly Disagree (1)

Section D: Access to Support programme

39. Which support programme did you benefit?
Fadama III Project () Achor borrowers programme () Npower () I am not benefiting from any support programme () Other () Specify.....
40. What kind of support did you get from the programme?
Financial support () Seed () Fertilizer () Training () herbicide () insecticide () Other () specify.....
41. How did you get or planning to get your start of capital for farming?
Parent and relative () Personal saving () Government support Programme/NGOs () Borrower from local lenders () Borrows from formal financial institution() Other () Specify.....

Appendices 2: Personal Interview with elders and traditional leaders

Introduction

I 'am a student of Sustainable Rural Development of faculty of Tropical AgriSciences, Czech University of Life Sciences Prague, conducting a research on Occupational Choice of Rural Youth. Please, we will like to have your view regarding to access of youth to land under the land tenure system in your community and other factors that affect the decision of the youth in choice of farming occupation through this personal interview which your response will be noted and if you agree your voice will also be recorded. The information collected will be Used strictly for the academic purpose.

I will like to express my appreciation for willing to take part in our survey.

- 1.Name of the community
- 2.Name of the Interviewee (Optional)
3. Gender
4. Age.....
5. What is your position in the community?
6. How many male and female children do you have?
7. Can you tell us the number of the children that leave with you and their ages?
- 8.Are you a full-time farmer?
- 9.For how long have you being involve in farming?
- 10.Do you like your children to become farmers like you?
11. If you like or you do not like them to become farmers can you tell us the reasons?
12. Do you possess your own land that you farm?
13. What is the size of your land?
14. How did you obtain the land?
15. At which age did you obtain the land?
16. There is policy that right land to everybody in his community through the local authority, are you are aware of it, and how it works in this your community?
17. As a leader in a community can you tell us in brief how an individual get land in your community if possible right before the enforcement of the land policy of 1978 to now?
18. What categories of people can own a land in your community?
19. You, specifically how did you obtain your land and at which age did you obtain the land?
20. If you have a plan to share the land with your children, can you tell us the size of the land you are going to share with them, when and why?
21. Can you tell us who among your children would you share the land with, and why?
22. There is a problem of youth unemployment especially in rural areas can you tell us where the youth in your community are facing the problem and what do you think are responsible for it?
23. Farming is the major economic activities in rural areas, but youth now in rural areas are running from it, can you tell us what do you think is responsible for that about the situation in your community?

24. Can you tell us any project or program which cover your community related to support for the youth in terms of education, employment or any other by either government or any organisation?

25. Can you tell us your suggestion, what should be done to motivate the youth to turn their attention back to farming

Appendix 3: Interviewed with Fadama III and Land officials

1. . Name of the local government
2. . Gender
3. Age
4. Rank in the department
5. The land policy of Nigeria vested the responsibility of land allocation in this local government in your office, can you tell us in brief how land I given to individual in this community?
6. People in rural areas till today maintain their traditional land tenure system despite the existing land policy, how an individual obtain the land in rural areas of this local government?
7. Can you tell us whether the office have sufficient land that every applicant is able to get the size of the land he applied or how to manage the situation especially now that everybody is turning to farm in Bauchi state?
8. Can you tell us the categories of people that can get the land through your office?
9. Youth and woman faced or have limited access to land what your office is doing to ensure youth in rural areas of this local government get land to farm?
10. Mention any suggestion that should be done to ensure youth in rural areas to have access to land to farm in their communities.
11. Thank you for giving us your time to share this great information with us.

Interview with FADAMA III desk officer

Name of the local government.

1. Gender of the officer.
2. Age of the officer.
3. Rank in the organisation.
4. In brief can you tell us what role your organisation is doing in the local government?
5. Who are the target beneficiaries of your program?
6. As you are more in programmes related to agriculture, what are the programme you are doing specifically to youth in rural areas of this local government?
7. Can you tell us some of your success on programmes targeted to rural youths in this local government?
8. What are the challenges you are facing in terms of programmes targeted to youth in rural areas?

Appendix4: result of logit regression model

PO	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
SEX	1.352869	.2302143	5.88	0.000	.9016572	1.804081
AGE	.0552322	.0252535	2.19	0.029	.0057363	.1047281
EDU	-.1097396	.0165147	-6.64	0.000	-.1421078	-.0773713
MS	.3312836	.2391393	1.39	0.166	-.1374208	.7999879
HHS	.1850442	.0948399	1.95	0.051	-.0008386	.370927
FOC	1.356441	.2172704	6.24	0.000	.9305983	1.782283
FLP	.3272137	.2665112	1.23	0.220	-.1951386	.849566
PFl	.5696243	.2080379	2.74	0.006	.1618776	.977371
TREATMENT	.5356326	.1992281	2.69	0.007	.1451527	.9261125
_cons	-4.439796	.6570073	-6.76	0.000	-5.727507	-3.152086

. mfx

Marginal effects after logit
y = Pr(PO) (predict)
= .37019443

variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]	X
SEX*	.2763927	.03944	7.01	0.000	.199098 .353688	.748603
AGE	.0128774	.00589	2.19	0.029	.001343 .024412	25.0126
EDU	-.0255858	.00383	-6.69	0.000	-.033084 -.018088	6.09358
MS	.0772389	.05567	1.39	0.165	-.031872 .18635	.587989
HHS	.0431431	.02211	1.95	0.051	-.000201 .086487	1.70391
FOC*	.2876873	.03961	7.26	0.000	.210052 .365323	.668994
FLP	.07629	.06212	1.23	0.219	-.045458 .198038	.822626
PFl*	.1339119	.04903	2.73	0.006	.037808 .230016	.400838
TREATM~T*	.1242903	.04567	2.72	0.007	.034774 .213806	.5

(*) dy/dx is for discrete change of dummy variable from 0 to 1

Appendix 5. Photo documentation of shoot in Rigar Rafi communit





