Perceptions of Farmers on Food Production and Sufficiency through Small and Medium Sized Agribusiness in Nigeria

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Abstract – Since food sufficiency in most developing nations is almost completely elusive due to grossly inadequate level of their food production, consequently, this research focused on investigating the perceptions of farmers on food production and sufficiency through small and medium sized agribusiness in Nigeria.

In order to arrive at a valid point, this research employed quantitative survey method whereby structured questionnaires were administered on two hundred and three respondents to which there was a 100% response.

This research found out that much is still needed to be done in order to make Nigeria self-sufficient in food production so as to enable each and everyone, at all times, to have physical and non-physical access to adequate protected and nutritious food that adequately meets dietary needs and nourishment inclinations for a dynamic and sound life for all.

It is however suggested that modernizing agriculture by rising beyond the primitive modes of farming hitherto practiced and commercializing same could be the emergence of 'miracle' Nigeria needs especially at this period of austerity.

Index Terms – Food Production Food Sufficiency, Modernizing Agriculture, Small and Medium Sized Agribusiness.

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1 INTRODUCTION

1.1 Background of the study

According to the Federal Ministry of Agriculture and Rural Development (2016), Nigeria is being faced with two key agricultural gaps today: the inability to meet local food requirements and the lack of capacity to export at quality levels required for market efficiency. The previous issue is an efficiency challenge aggravated by an input regime and farming model that is to a great extent inefficient. Thus, an alarming numbers of farmers do not have enough seeds, fertilizers, irrigation, crop protection and associated supports to be very successful. This was corroborated in a research by Falola and Haton (2008) that because of ill-developed agricultural sector in Nigeria, poverty is still on the increase as the sector still embraces the old-fashioned agricultural modes of operation in sustaining a rapidly increasing population without corresponding addition of values". The other challenge is equally aggravated by poor system for raising and enforcing food quality standards, coupled with inadequate knowledge of target markets. Inadequate food testing facilities, feeble and inactive inspectorate system in the Federal Ministry of Agriculture and Rural Development (FMARD), and poor coordination among relevant federal agencies service to compound early stage problems such as knowledge of permissible contaminant levels (Odetola and Etumnu, 2013).

Putting Nigeria's agricultural sector on a path of growth will require concerted efforts to solve these two gaps: produce enough fresh, top notch foods for the Nigerian market; and serve the export market effectively and earn foreign exchange. As productivity gets better locally and quality standards are improved on all foods produced in Nigeria, exportation will in no mean measure be the better for it, thus impacting positively on Nigeria's balance of payments (Federal Ministry of Agriculture and Rural Development, 2016).

2 LITERATURE REVIEW

Agriculture is as old as man and has always been a source of livelihood and a means of generating income to countless number of households and individuals around the globe. It is noted by an agriculture expert, Chris Brett (2016), that agriculture is the sole largest occupation the world over, giving livelihoods to 40% of the global population. It is also the largest source of income and jobs for poor rural households. Food sufficiency is the state of not requiring food-aid, support, or interaction, for survival (Arua, 1982). Arising from the foregoing, I can say that food sufficiency is a level of an obvious self-governance in accessibility of food and its production in any given society. Food production can in this way be connected to planting, growing, tendering and the various methods of handling same to the point that it can be securely consumed. Agribusiness is the art and business of agricultural production. The term was coined in 1957 by Goldberg and Davis. It includes agrochemicals, breeding, crop production (farming and contract farming), distribution channels, farm implements, processing, and seedling supplies, with marketing and retail sales. All the actors involved in the food and fiber value chain and the corporate bodies that propel it are important component of the agribusiness system (Goldberg and Davis, 1957).

According to the Food and Agriculture Organization of the United Nations (2016), agribusiness denotes the collective business activities that are performed from farm to fork, which covers the supply of agricultural inputs, the production and transportation of agricultural products and their distribution to final consumers. Nigeria's government all talk grandly about

the potential of large-scale agribusiness but the country still awaits its green revolution as of now (The Economist, 2013). According to the National Bureau of Statistics, some sixty percent (60%) of Nigeria's 167million people are farmers who are predominantly living in the rural areas. According to the Michigan State University (2016), agribusiness management is the application of business skills in areas like marketing, finance, economics and management to the benefit of agricultural industry. Agricultural markets, commercial agriculture and agribusiness are promoted as key drivers of change to lift small farmers out of poverty (Food and Agriculture Organization, 2016).

Within the agriculture industry, "agribusiness" is used simply as a portmanteau of agriculture and business, referring to the different kinds of activities and endeavors involved in the modern food production. There are academic degrees in and departments of agribusiness, agribusiness trade associations, agribusiness publications, and so forth, worldwide (Goldberg and Davis, 1957). Though the term "agribusiness" had not been used prior to 1956, agricultural economists had been making significant contributions on issues related to agribusiness for many years. As early as 1913, Charles J. Brand noted that the farmer needed suitable and convenient arrangements for securing credit and assistance in the establishment of a marketing system which will return him the true value of the particular qualities of the various crops that he produces, minus reasonable charges for handling, transportation and the legitimate profits of middlemen. These concerns led to significant work on farm credit and cooperative marketing in the 1920s, as well as articles on vertical integration, the organization and operation of marketing firms, and the role of business economics in our teaching program (King et al., 2010).

Securing adequate food is one of the oldest problems confronting political institutions. Raymond Hopkins (1980) argued that historically, this intimate connection between food and politics has emerged in diverse forms. From the "minimal government" of nomadic herdsmen and hunting-gathering people and the complex despotisms found in societies relying on irrigation to the elaborate regulations for food growing and marketing in most contemporary states, the procuring of food has been a central factor shaping political patterns and, in most cases, encouraging substantial government intervention. It is small wonder then that as food systems have become increasingly global, with national markets linked together and technology diffusing rapidly, demands for solving food problems have shifted to the international arena. Unfortunately, in recent years the contemporary international system has been unable to deal effectively with global food problems (Hopkins and Puchala, 1978).

2.1 Food Insecurity and Malnutrition

Weather, war, terrorism, conflict, overpopulation, environmental degradation, corruption, and very defective policies have been recognized as causes of food insecurity (Foster, 1992). Barraclough connects food insecurity to anomalies and imbalances in the functioning of the world system. Notwithstanding, much of the problem is traceable to nation-states' defective policies or very poor implementation of a rather good policy (Barnes, 1999; Curry, 1988).

As a matter of fact, Nigeria is in no way immune to food insecurity. According to Salisu (2013), the vulnerability of our food security is significant because of the combination of highly variable and erratic rainfall and poor development of irrigation system.

2.2 Food Security

Food security may have different meanings to different people. The International Conference on Nutrition (ICN) held in 1992, defined food security as unrestricted access by all people at all times to quality food needed for a healthy life. According to Food and Agriculture Organization of the United Nations (1997), for food security to be achieved, a nation must achieve three basic aims. It must:

ensure qualitative and quantitative supply of various kinds of food moderately;

stabilize the flow of supplies in the most effective manner;

certainly maintain a balance of access to available supplies by those who need them.

FAO (1997) further stressed that sufficient food availability at the federal, state, local and household levels, gotten through markets and other means, is the foundation of a nutritious life. In the home-front, food security means both physical and non-physical access to adequate foods in terms of quantity, nutritional value, safety and general cultural acceptability that meet everyone's needs.

As much as I know, regardless of how pleasant Nigeria government's policies in the area of agriculture and food security may be, there are many alarming factors responsible for very poor policy implementation resulting in food shortage hitherto experienced in the country, among which are:

2.2.1 Corruption

In his research, Molnar (1999) posited that bribery, extortion, insider dealing, and cronyism are symptoms of a failed social organization and inhibit the functioning of policies intended to prevent food insecurity. Corroborating this, Omorogbe et al., (2014) declared that defects of social organization-anomie, weak social bonds, and a poorly functioning state-are conditions that foster corruption.

Corruption can undermine even the most insightful and forward-looking food and agricultural policies. Wide-spread corruption can create food insecurity by destroying the integrity and functioning of national institutions (Molnar, 1999). Market processes are eroded by corruption. Although bribes sometimes facilitate business transactions, on the whole, bribes and kickbacks are "taxes," diminishing incentives to produce. Property rights may also be compromised. Private firms may engage

in corrupt practices when a weak state offers little chance of prosecution. Private sector corruption may perpetuate wasteful practices, increase the cost and adulteration of food, and lower both the quantity and safety of food that reaches the poor (Manu, 1992). Public sector corruption in its many forms is often prevalent where the civil service is severely underpaid and legitimate means for securing income are not otherwise adequate (Barraclough, 1991). Pervasive expectations by public officials of extra payment for licenses and quality certification raise food costs and redistribute food away from those least able to pay for it. Bad public policies fuel the development of a black market, create price distortions, and divert public resources from supplying public goods and services such as pricing information and the infrastructure needed for an efficient private market (Molnar, 1999). What may appear to be public corruption may be the calculated behavior of public officials who recognize the need for political support from influential people (Pinstrup-Andersen, 1993). Bureaucrats and policy makers often weigh interests of family, caste, class, clan, and the moneyed elites above need in shaping policy. Public spending often is directed to those with power and not to the poor. Policy makers in developing countries (Nigeria not exempted) use many mechanisms to tax the surplus produced by peasant farmers. Policy assessments that merely estimate costs to the government and benefits to the malnourished are not sufficient to ensure food security (Adams, 1993).

2.2.2 Regulation and Markets

Tweeten and Zulauf (2008) noted that taxes, penalties, lax enforcement of contracts, and other disincentives may directly or indirectly inhibit the production and distribution of food to locale and population segments in need. Institutional arrangements may sometimes deny producers the right to use certain channels or methods of marketing. Although traders and middlemen are often viewed as the bane of the food producers, they play an important role in a nation's food distribution system. Public policies motivated by populist pressures to regulate middlemen sometimes increase food insecurity by narrowing food trading options and the channels of food supply between producers and consumers. In other cases, public regulations may prevent buyers from bypassing cooperatives or private middlemen whose services are redundant, or more often, who takes advantage by charging arbitrarily even more than the costs of the prohibited alternatives (Bauer and Yamey, 1993). However, as developing countries makes efforts aimed at bringing their economies to terms with those of the rest of the advanced world, they are faced with numerous difficult obstacles. One of these challenges is how to develop consumer trust among a customer base that has rarely experienced honesty in past regulatory systems (Grannis et al., 2003). It is believed that the agricultural and food sectors in Nigeria can develop a comparative advantage in the global marketplace once issues surrounding safety and trust are alleviated. In order to develop this comparative advantage, adaptation to the new trade environment will be necessary since global consumers demand food quality and safety assurance, among other standards (Thilmany and Barrett, 1997). This requires that trust be built among producers, processors, and any certification agency (be it public or private) if economic independence is to be achieved.

2.2.3 Infrastructure

According to Peterson (1989), food security has a part of domestic association or small group bolster. The capacity and readiness of neighbors to help each other take care of mutual issues, and keep up shared structures is an essential part of food security. Such small scale level procedures are central systems for changing individual innovative ideas and resources into food security. Peterson (1989) further argued that irrigation is probably the most promising means of reducing poverty and food insecurity. About 18% of the world's land is irrigated, but it produces 33% of the world's food supply. The sustained benefit of such systems depends on adequate maintenance. Irrigation systems strongly depend on local cooperation for routine monitoring and maintenance of structures. When the human systems fail, repair costs are much greater, and the ability of a reliable source of water to realize its promise for food security is greatly impaired. Social organization is the central ingredient necessary for realizing the promise of irrigation investments (Freeman and Lowdermilk, 1991).

2.3   THE NIGERIAN EXPERIENCE

Nigeria suffers from the resource curse (Aluko, 2004; Otaha, 2012). Given the numerous resource endowment both in human capital and natural resources in Nigeria, the economic performance has been, and still far below imagination. The largest country in Africa, with a population figure of over 150 million people, and a labor force of about 53.83 million (CIA, 2012), Nigeria is endowed with great source of labor to drive economic prosperity of the nation. Notwithstanding being Africa's biggest oil producer, Nigeria's gas reserves is ranked 6th the world over and it has the 8th biggest crude oil reserves globally (Sanusi, 2010). About 31 million hectares of the land is under cultivation and the diverse climate makes production of a variety of products, from tropical and semitropical areas of the world possible (Chauvin, et al. 2012). Despite these endowments, the nation ranks among the world's poorest economies. Sekunmade (as cited in Odetola and Etumnu, 2013) argued that agricultural sector has been the backbone of the economy since independence and in the face of numerous challenges; it remains unrelenting sustainer of most of the populace. In the 1960s, Nigeria was the world's biggest exporter of groundnut, the second biggest exporter of cocoa and palm produce and a crucial exporter of rubber and cotton. More recently, agriculture employed about sixty-seven per cent of the Nigeria's labor force and it contributes very significantly to the GDP and provides a large proportion of the non-oil earnings (CIA 2013; Sekunmade 2009). The sector has several unutilized yet latent possibilities for growth and development in the availability of land, water, labor and its large local markets. It is estimated that about 84million hectares of Nigeria's total land area has potential for agriculture; however, only about 40% of this is actually under cultivation (Federal

Ministry of Agriculture and Rural Development, 2012). Agricultural productions in the cultivated lands are also very low as a result of small farm holdings and outdated farming methods. Nigeria has therefore become seriously dependent on food importations (Odetola and Etumnu, 2013). In addition to different, unique and rich vegetation that can enhance large livestock population, it also has potentials for irrigation system with a surface and underground water of about 267.7billion cubic meters and 57.9billion cubic meters respectively (Chauvin et al., 2012; Lipton 2012). Nigeria's large and ever growing population provides a potential for a vibrant local market for increased agricultural productivity. Furthermore, various programmes and policies had been introduced and vigorously pursued by successive governments ranging from military to the present-day civilian administration, but regrettably, little had been achieved in sharp contrast to the efforts and huge resources committed to the project.

In 1976 when Musa Yar'Adua became the Chief of Staff, Supreme Headquarters just after the assassination of General Murtala Mohammed in an abortive coup, his office was saddled with the responsibility of managing the operations of Operation Feed the Nation, a self-reliant agricultural policy of new Obasanjo regime (Falola and Genova, 2009). Falola and Genova (2009) argued further that "Operation Feed the Nation known as OFN, was a step to improve local production of agricultural produce most especially staple crops like Rice and Wheat in order to enhance self-sufficiency of food crops and reduce the rapidly increasing food shortfalls". The method employed to promote the objective includes the disbursement of greatly subsidized fertilizers and seedlings to farmers (Iliffe, 2011), soft loans to small scale farmers to enable the farmers purchase tools and equipment and an educational orientation outreach program presided over by Corps Members to teach peasant farmers on how to use modern agricultural equipment. However, by 1979, the policy did not achieve its primary goal of self-reliance and self-sufficiency (Arua, 1982).

2.4   AGRICULTURE SECTOR AND ECONOMIC GROWTH

Gollin et al., and Thirtle et al., (as cited in Odetola and Etumnu, 2013) posited that several previous studies have tried to understand the linkage between agriculture and economic growth, yet there are some disagreements. While some researchers have argued that agriculture should be the foundation of economic growth, others claimed that the linkage agriculture has with other sectors are very weak and its innovative framework are grossly insufficient for enhancing economic growth (Rains and Fei, 1961; Jorgenson, 1961). However, the linkage between the agricultural sector and other sectors ought not be viewed as a competition but rather be seen as inter-dependent where supply and demand in different sectors can be accommodated through strengthened relationships (Adelman, 1984; Sabry, 2009). For instance, industry is a crucial sector and every economy that aspires to develop should work toward enhancing its industries (Lewis, 1954). Nonetheless, the position of agriculture in the drive for industrialization should not be ignored as the case has been in Nigeria. As argued by advocates of agriculture-led growth (ALG) development of the agriculture sector is a common ground for industrialization through rapid increase in rural incomes and provision of raw materials for industrial use, provision of a domestic market for local industries and finally, the release of resources to support the industries (Schultz, 1964; Timmer, 2004). Disregard for the agricultural sector in favor of the industrial sector would ultimately lead to slow economic advancement and income distribution inequality. Therefore, as earnings from agriculture alone may be unable to transform an economy; it is a necessary and sufficient condition to kick-start industrialization in the very early stages of development (Byerlee et al., 2005).

2.5   AGRICULTURAL 'STRATEGY' FOR INCREASED PRODUCTIVITY

The food self-sufficiency goal can only be realized, in the long-run, through rapid and consistent improvement in physical and non-physical infrastructures such as irrigation, research and extension systems, which is actually capable of forcing the functions of production to move. However, because such programs require very large initial capital outlay and long gestation periods, there is always contemplation on the part of government to adopt shorter run policies, such as supporting product prices and subsidizing inputs, thereby helping farm producers to double food output along current production functions (Barker and Hayami, 1976).

The relationship between increased productivity in agricultural outputs and strategy according to previous research findings is positive, hence, the need to put adequate strategic plans in place as a horse-ride for an increased agricultural productivity.

The 'strategy' for increased agricultural productivity must be a technical change (that is, scientific knowledge-based farming) that is both seed and 'complementary' farm inputs and resources-based rather than only seed or only resource-based. Such a 'strategy' follows from three factors, namely, (a) higher yields per hectare are achieved by the farmers who practice scientific agronomic practices, besides using new inputs and 'complementary' resources in which new technology is embodied; (b) growth in per hectare yield is constrained due to gap in farmers' and scientists' knowledge about new technology; and (c) this yield-based growth is also constrained when access to 'complementary' farm resources is limited. This 'strategy' is consistent with the farming systems approach that emphasizes farmers' all resources and all enterprises such as crops and livestock-farming (Desai et al., 2015).

2.5.1 Agricultural Research and Extension System Policy

According to (Desai et al., 2015) Government investment/expenditure, reorganization of this system, and manpower underlying it. While government expenditure on both agricultural research (Research and Development) and extension must be

significantly stepped up, priority be accorded to the latter in the short-run to bridge the gap in the knowledge of farmers and scientists. But both agricultural research and extension must proactively become farmer- friendly and farmer-partnership-oriented.

2.5.2 Government Budget Policy for Agriculture

Consequent upon the aforementioned, government budget for agriculture must be aggressively stepped up. The departments/agencies identified for this are: (a) Agricultural research and extension, (b) seeds industry, (c) irrigation and water-sheds, (d) farm electricity, (e) rural roads, (f) selective farm input subsidies such as: fertilizers and micro-irrigation, and (g) equity support for co-operative credit institutions. Government expenditure on agriculture is presently used more on paying salaries with very little budget for research. This must be corrected possibly by both rationalization and increases in the budget (Bhupat et al., 1999).

2.5.3 Physical Resources

Consistent with the resource-based viewpoint, previous exporting and international business studies (e.g. Reid, 1983; Meisenbock, 1988; Zou and Stan, 1998), including those undertaken within the agribusiness sector, have also suggested the importance of firm's ownership of physical assets – finance, plant and equipment, and favorable location – for achieving superior economic results. For example, Grisprud (1990), Byford and Henneberry (1996), and Carter and Rosa's (1998) respective studies of Norwegian, US and British agribusinesses, reported positive associations between firms' physical resource profiles and export performance levels.

2.5.4 Organizational Resources

Similar positive associations between international performance and organization-level resources, including product/service capabilities, planning, knowledge and customer relationship management capabilities, have as well been reported by most strategic management and international business scholars (Cavusgil and Nevin, 1981; Sexton and Van, 1982; Aaby and Slater, 1989; Bell, 1995; Zou and Stan, 1998; Etermad and Lee, 2003). With particular reference to the agribusiness sector, Crick and Chaudhry (2000) and Leake (2000) have highlighted information utilization and planning capabilities as key attributes of better performing exporters from the UK and USA respectively.

2.6   THE NEW NIGERIAN AGRICULTURAL POLICY (NNAP)

According to the New Nigerian Agriculture Policy (NNAP) issued by the Federal Ministry of Agriculture and Rural Development (2016), the previous – now staled agricultural policy document was concluded in 1988 and was designed to be operative until the year 2000. Therefore, in year 2001, a new policy document was launched. This new policy document still bears most of the major features of the old one, but with more specifically focused direction and better coherence. The policy will serve as a lunch pad that will enhance the realization of the country's lofty goal of being a food sufficient nation in no distant future based on the contents of the policy document if vigorously pursued and implemented to the letter. In achieving the above lofty goals, there should be conscious and deliberate action plans strategically knitted together to ensure that self-sufficiency and reasonable improvement in technical and economic efficiency in food production is realized, NNAP (2016). It then follows that improved seeds and seed stocks need be introduced and adopted nationwide. Similar to the view of Salisu (2013), appropriate modern machinery and equipment suitable for contemporary husbandry is desirous and should be given high premium while the roles and potentials of small-scale farmers as the major producers of food in the country be recognized. Since there is no business or worthwhile venture without risks, then risks in agricultural production and value chain should equally be adequately covered by introducing a significantly comprehensive agricultural insurance scheme to mitigate the natural hazard factors confronting and hindering agricultural production and security of investment (Federal Ministry of Agriculture and Rural Development, 2016). Lastly, Provision of such facilities and incentives such as aggressive rural infrastructure, rural banking, primary health care, security posts, safe and drinkable water, et cetera, to serve as a catalyst for an unprecedented agricultural and rural development and attract youths (high school leavers inclusive) to braze up and go back to the land should be given priority (New Nigerian Agricultural Policy, 2016).

2.7   BUILDING ON THE AGRICULTURAL TRANSFORMATION AGENDA (ATA) LEGACY

Starting in 2010 – 2011, the Federal Government of Nigeria, after years of harmless neglect, began to reform the agricultural sector. To refocus the sector, the Government implemented a new strategy christened "the Agricultural Transformation Agenda, ATA". This agenda was built on the concept that agriculture is a business and therefore policy should be developed to support it. The main priority of the policy was to "restart the clock" and reintroduce the Nigerian economy to a sustainable agricultural practice built on business-like attitude and driven by the private sector (Agricultural Promotion Policy, 2016). On a balance, the ATA was a crucial first step aimed at rediscovering agriculture. As a result, corporate bodies, individuals and donors are now willing and ready to invest in Nigerian agriculture once again. Agriculture is popularly believed to be a business that is capable of providing a reasonable basis for further wealth and job creation in Nigeria (Federal Ministry of Agriculture and Rural Development, 2016). With that in mind, the policy and strategic focus is now on how to build on the initial progress made, and reposition Nigeria to a new plane in terms of agribusiness performance. The new policy's main focus will be on closing the

demand-supply gaps in agricultural production especially between crop and livestock production. Gap closing will also include tackling related input, financing, storage, transport and market access issues as presently being experienced in key value chains.

2.8 UNLOCKING NIGERIA'S FULL AGRICULTURAL POTENTIAL

Unlocking Nigeria's full agricultural potential requires that Nigeria solve the underlying challenges in its agricultural system, which includes the following:

Policy Framework: According to the National Bureau of Statistics (2012), Nigeria suffers from policy instability driven by high rate of turnover of programs and personnel, which consequently has made the application of various policy instruments unstable. The outcome is a varying development pathway for agriculture; absence of policy accountability, transparency and due process of law, resulting to willful and gross violation of the constitution and other legislations governing the agricultural sector. Consequent upon these, business environment has become unpredictable and investors discouraged.

To address this challenge, the NBS (2012) submitted that Nigeria needs to create a policy regime that integrates evidence-driven coordination among decision-making authorities with common and general goals for an agricultural transformation and prosperity of the Nigerian-state. Building that evidence base requires that Nigeria adopt a coherent fact base to drive decision making as well as build on prior successes, for instance, the Agricultural Transformation Agenda (ATA).

Political Commitment: This relates to the non-implementation of international protocols, treaties or conventions to which Nigeria is signatory with other members of the comity of nations. For instance, Nigeria has failed to meet the targets in the Maputo Declaration that stipulates a minimum of 10% budgetary allocation to the agricultural sector. Political commitment at Federal, State and local levels will be required to enforce reforms.

Agricultural Technology: Incessant shortcomings of the National Agricultural Research System (NARS) to develop and commercialize new agricultural technologies that suitably meet local market demands and needs. NARS's challenges have been relatively acute particularly around improved varieties of seedlings or other planting materials and breeds of livestock and aquatic species. The inability to also ensure delivery of already proven technologies available on the shelf to farmers' fields where they are needed is a big challenge. Addressing these will require an excellent coordination among various extension delivery systems, the national agricultural research system, as well as public and private sector suppliers of agricultural inputs (Federal Ministry of Agriculture and Rural Development, 2016).

Infrastructure Deficit: Nigeria's agricultural sector suffers from an infrastructure challenge. Infrastructure such as motor-able roads, railroads or irrigation dams are either non-existent, insufficient, or when available, not cost effective. They are thus unable to operate to support scale-driven agriculture. That imposes an additional cost of up to 50 per cent to 100 per cent on the delivered price of agricultural produce in Nigeria, making it uncompetitive compared to global peers (Omorogbe et al., 2014). In order to boost food production and other farm produce, increase the level of marketable surplus and expand value chain participants' access to reasonably low cost infrastructure, Nigeria really need to redesign the business and operating model for agricultural infrastructure.

Finance and Risk Management: Nigeria's agricultural sector continues to have very poor access to financial services that can enable farmers and other agricultural producers to opt for new technologies, enhance market linkages, and improve their speedy recovery from economic shocks. Omorogbo et al., (2014) opined that poor gaining access to financial services that enable input suppliers, processors, traders and others in agribusiness to address liquidity and encourage targeted private sector engagement in agriculture remains a big challenge.

3 RESEARCH METHODOLOGY

This section is concerned with the techniques and process used in data and information gathering and methods used in the analysis of the data so gathered.

It is important to state here that for the purpose of this research, quantitative survey method of research which implies a method whereby structured questions were administered on participants through the use of questionnaires were used. The questionnaires were administered on farmers in Nigeria through the Ekiti State wing of the Cassava Growers Association of Nigeria.

3.1 Brief Description of Nigeria

Nigeria has over 173 million population, located in the Western Africa region and the largest country in Africa (World Bank, 2015). Its borders are contiguous with the Federal Republic of Cameroon on the east, Niger Republic to the north and Benin Republic to the east. Today, Nigeria is administratively made up of thirty-six states and the Federal Capital Territory of Abuja (CIA World Factbook, 2001). Nigeria is physically, ethnically and culturally diverse with about 250 tribal groups speaking over four hundred languages. Christians and Muslims comprise more than 80 percent of the population while the rest identified with indigenous religions (Tripod, 2002). The country has some 8 million farmers; though not all of them are active farmers (Salisu, 2013) while a great portion of them is practicing farming on a subsistent level.

3.2 Research Questions

How do Small and Medium Sized Agribusiness impart the economy of Nigeria?
What are the impacts of Agribusiness on food production and sufficiency in Nigeria?
What are the impacts of food production and sufficiency on Nigerian economy?

3.3   Population and Sample Sizes

Sampling is the process of selecting units (e.g., people, organizations) from a population of interest so that by studying the sample we may fairly generalize our results back to the population from which they were chosen (Trochim, 2001).

The population size is about 8 million farmers in Nigeria out of which some fractions were taken out as a sample upon which generalizations could be made for this research work.

For the purpose of this research, a total number of 203 questionnaires were distributed in order to gather a fairly reasonable data and thus arrive at a valid outcome that represented the true and fair real-life situation in enhancing Nigerian food production and sufficiency through small and medium sized agribusiness.

The number of questionnaires administered (203) was arrived at after a careful computation of the sample size needed as follows:

Using Cochran's Sample Size Formula

$n_0 = (t)^2 \times (p)(q)/(d)^2$

where:

population	=	8,000,000
n_0	=	sample size
t	=	Confidence Level at 93.07% (i.e. 1.96 z-score)
p	=	Standard deviation at 0.5
q	=	1-p
d	=	acceptable margin of error (confidence interval at 6.93%)

$(1.96)^2 \times 0.5(1-0.5)/(0.0693)^2$

$= (3.8416 \times 0.25)/0.00480249$

$= 0.9604/0.00480249$

$= 203$

Therefore, 203 respondents are needed as the sample size.

3.4   Data Collection Method

3.4.1   Questionnaire

Primary data were collected to study how agribusiness can enhance food production and sufficiency in Nigeria. 25 structured questions were developed in the questionnaires adopted from the reviewed literatures to collect data. Since the quality of any research work cannot be higher than the quality of its questionnaire, the outcome of any survey depends significantly on the questionnaire and the way it has been designed regardless of how the conversation has taken place (Krosnick and Presser, 2010).

3.4.2   Structure of the Questionnaire

The questionnaire was organized in four broad sections to gather primary data from farmers in Nigeria using a scale ranging from strongly agreed (SA) to strongly disagree (SD). Section one comprised of questions bordering on demography: age, gender, marital status, level of education and employment status. Questions 1 – 6 were designed to collect data from respondents on the economics of agriculture in Nigeria as adapted from a study by Agribusiness Panel Survey (2009). Questions 7 – 17 were based on previous studies by Jules et al. (2010) and Agribusiness Panel Survey (2009) which probed much deeper into the agricultural products marketing opportunities in Nigeria, while questions 18 – 25 were designed to collect data in relation to agricultural infrastructure in Nigeria also as adapted from previous studies by Jules et al. (2010) and Agribusiness Panel Survey (2009). Some seventeen questions were raised in the questionnaire in relation to the contributions of agribusiness to the Nigerian economy and opportunities available in the country as regards agricultural produce and value chain. The remaining eight questions sought to know the physical agricultural infrastructures put in place to encourage and enhance agricultural productivity resulting to food sufficiency as adapted from previous studies by Jules et al. (2010) and Agribusiness Panel Survey (2009).
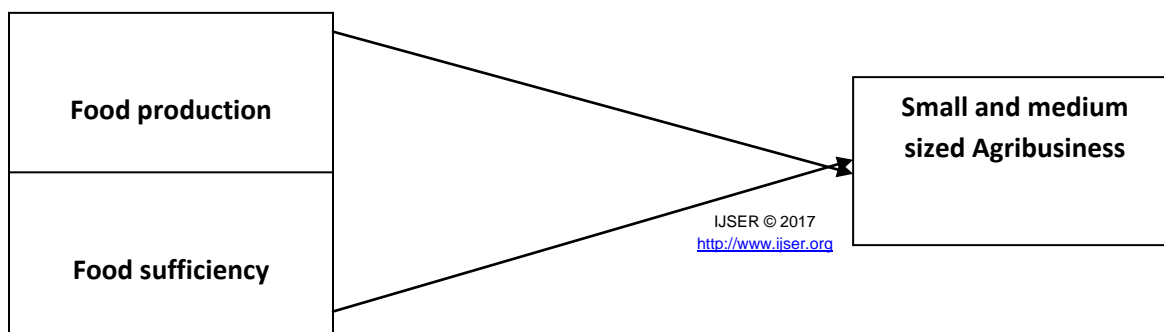
3.5   Research Model

Figure 1: Enhancing Nigerian food production and sufficiency through small and medium sized agribusiness.

3.6   Methods of Data Analysis

The data collected were analyzed using simple descriptive statistical tools including tables showing frequencies and percentages. Following each table is the descriptive analysis of the findings. Data gathered from the questionnaires were analyzed using frequency distribution, correlation, regression and analysis of variance (ANOVA).

4   DATA ANALYSIS AND RESULTS

This research work was carried out to determine the effects of small and medium sized agribusiness on food production and sufficiency in Nigeria.

In this section, analysis of the results of data collected for this research work were presented and it shows the information that is most relevant for the adequacy and determination of the enhancing roles of small and medium sized agribusiness on food production and sufficiency in Nigeria. The respondents were classified according to gender, educational level, marital status, employment status and age. A total of two hundred and three (203) questionnaires were distributed to the respondents and there was a 100 per cent response to the questionnaires administered. Therefore, for data collected, simple percentages and regression analysis were used to validate the proposed hypotheses. Data from the questionnaires are presented in tables and interpretations of results discussed under each table exhaustively.

4.1   RELIABILITY TEST
Table 1
Reliability Statistics

Cronbach's Alpha	N of Items
.864	25

Based on the result in table 1 above, the reliability test of the scale used for measuring the variables rated highly with a Cronbach's alpha of 0.864 which indicates a high reliability of the items used for this research work.

Table 2   Correlations

		FOOD PRODUCTION	FOOD SUFFICIENCY	SME AGRIBUSINESS
FOODPRODUCTION	Pearson Correlation	1	.476**	.590**
	Sig. (2-tailed)		.000	.000
	N	203	203	203
FOODSUFFICIENCY	Pearson Correlation	.476**	1	.580**
	Sig. (2-tailed)	.000		.000
	N	203	203	203
SMEAGRIBUSINESS	Pearson Correlation	.590**	.580**	1
	Sig. (2-tailed)	.000	.000	
	N	203	203	203

**. Correlation is significant at the 0.01 level (2-tailed).

According to the result shown in table 2 above, it can be seen that the correlation coefficient (r) equals 0.590 and 0.580

indicates a moderate relationship. P<0.01, and this indicate that the coefficient is significantly different from zero.

The variables have statistically significant correlation with each other. From the foregoing therefore, there is a positive and very significant relationship between the level of food production & sufficiency and agribusiness.

4.2 REGRESSION ANALYSIS OF VARIABLES
Table 3   ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	53.808	2	26.904	86.478	.000b
	Residual	62.222	200	.311		
	Total	116.030	202			

a. Dependent Variable: SMEAGRIBUSINESS
b. Predictors: (Constant), FOODSUFFICIENCY, FOODPRODUCTION

The table 3 above is the F-test. The linear regression's F-test has the null hypothesis that there is no linear relationship between the variables, that is, R2 = 0. Thus, the predicting variables for this hypothesis is food production & food sufficiency which is significant p <0.01 but is significantly different from zero. Therefore, it is clear that the predicting variables make our model highly statistically significant for this test.

Table 4   Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.450	.161		8.999	.000
	FOODPRODUCTION	.353	.051	.406	6.899	.000
	FOODSUFFICIENCY	.325	.050	.386	6.562	.000

a. Dependent Variable: SMEAGRIBUSINESS
Above table 4 shows the multiple linear regression estimates including the intercept and the significance levels.

Beta expresses the relative importance of each independent variable in standardized terms. We find that food production has a higher impact than food sufficiency does on SME agribusiness (beta = .406 and beta = .386).

Table 5   Model Summaryb

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.681a	.464	.458	.55777	.590

a. Predictors: (Constant), FOOD SUFFICIENCY, FOOD PRODUCTION
b. Dependent Variable: SME AGRIBUSINESS

The table 5 above shows the multiple linear regression model summary and overall fit statistics. The coefficient of .681 suggests that there is a moderately positive relationship between food production and food sufficiency and agribusiness while R2 = .464 suggests that 46% of the variance in the SME agribusiness can be explained by food production and food sufficiency. This means that the success of SME agribusiness is moderately predicted by how successful food production and food sufficiency is. Hence, since the p-value < 0.01: the level of significance, we reject null hypothesis (H0) in favor of alternative hypothesis (H1). The results of this research work therefore evidently revealed that small and medium sized agribusiness will greatly enhance Nigerian food production and sufficiency.

Therefore, based on facts and figures as presented in the tables above, and given the level of confidence obtained through the various statistical methods employed in analyzing the data gathered in the course of this research work, I want to conclude by re-emphasizing the findings of this research work in relation to the research hypothesis thus:

Research Hypothesis

H1:   Small and medium sized agribusiness will greatly enhance Nigerian food production and sufficiency.

H0:   Small and medium sized agribusiness will not enhance Nigerian food production and sufficiency.

The variables presented in table 6 above did have statistically significant correlation with each other. From the foregoing therefore, there is a positive and very significant relationship between the level of food production & food sufficiency and

agribusiness.

Conclusion based on decision rule:

Since the p-value < 0.01: the level of significance, we reject null hypothesis (H0) in favor of alternative hypothesis (H1). Therefore, small and medium sized agribusiness will greatly enhance Nigerian food production and sufficiency.
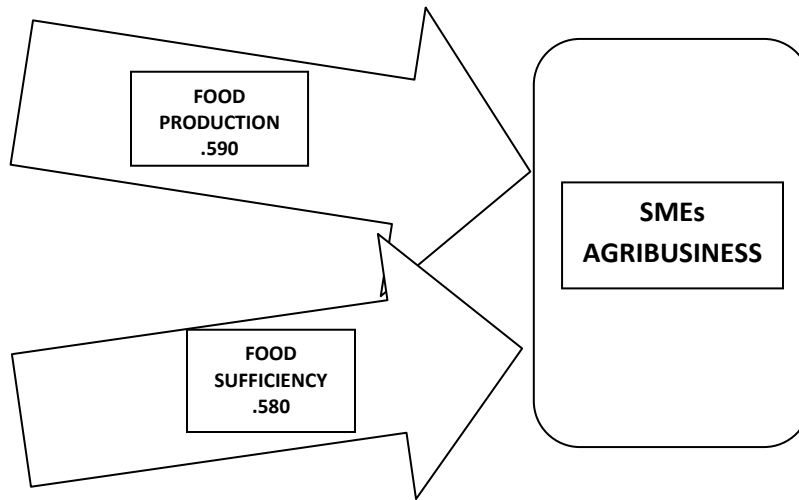
4.3   MODEL SUMMARY

Figure 2: Enhancing Nigerian food production and sufficiency through small and medium sized agribusiness.

The model above shows that there is a positively significant correlated relationship between food production at (.590) with small and medium sized agribusiness and equally, there is a positively significant correlated relationship between food sufficiency at (.580) with small and medium sized agribusiness.

Therefore, both food production and food sufficiency has significantly positive relationship and greatly enhance small and medium sized agribusiness in Nigeria.

5   SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1   Summary and Conclusion

The major focus of this research was to carry out a critical appraisal of how food production and sufficiency could be enhanced through small and medium sized agribusiness in Nigeria. Consistent with findings of Foster (1992), unfavorable climatic conditions, war, terrorism, conflict, overpopulation, environmental degradation, corruption, and faulty policies have been identified as causes of food insecurity. The study also examined the various programs and policies of successive governments in Nigeria in the area of food production and sufficiency in relation to agribusiness and related these to the results of data collected thus, arrived at the following conclusion. Most small and medium sized agribusinesses are thriving and do have a good future prospect in Nigeria. This could partly be attributable to the very large population in Nigeria and her economic and political significance particularly in West Africa sub region and in Africa by extension. Profits and returns on investment by farmers are equally very high which make the country an investment destination of choice for foreign agribusiness investors and assures local farmers of timely and commensurate returns on their physical efforts and investments. Owing to the large population in Nigeria, innovative agricultural productions are finding good markets in Nigeria. However, the potential contribution of localized food production to the overall sustainability of food systems in Nigeria is still very low. This shows that the country is yet to optimize her food production capacity and potentials as of now. Worthy of note is the inability of government to put in place best institutional mechanisms to manage food stocks, storage and distribution systems to ensure continued and sustainable supplies of food in Nigeria. This has serious implication for food sufficiency in the country as most food produced would waste away during harvest due to lack of adequate storage facilities to mitigate wastages. Timely and reliable information needed by farmers to run their farms efficiently are reasonably available to them from Extension and other services in Nigeria. However, this could still be improved upon as the country is expected to be ready for more entrants into the agribusiness now that she is adversely affected by the dwindling oil production locally and oil prices at the world market. Infrastructural facilities like adequate and functional irrigation systems, accessible road network, high-yield seedlings and associated inputs to enhance farmers' effectiveness and efficiency in their farms and agricultural value-chain process is grossly inadequate.

5.2   RECOMMENDATIONS

Consequent on the reviewed literature and responses from the gathered data, this research would recommend as follows:

Eradication of corruption and corrupt tendencies: Corruption can undermine even the most insightful and forward-looking food and agricultural policies (Molnar, 1999). Bribery, kick-backs, extortion, insider dealing, and cronyism are all precursory to corruption and corrupt tendencies and the list is inexhaustible. Corruption in all its forms and magnitude should, as a matter of duty, be dealt with a serious blow, and this must be done on everyone's part. Policy makers and public servants should not serve the interests of family members, clan, caste and political office holders above the need in shaping policies and programs.

Regulation and Markets Reform: One of the many challenges Nigeria must proffer solution to which is consistent with findings by Grannis et al. (2003) is how to develop consumer trust among a customer base that has rarely experienced honesty in past regulatory systems. I believe that the agricultural and food sectors in Nigeria can develop a comparative advantage in the global marketplace once issues surrounding safety and trust are alleviated.

Aggressive Infrastructural Provision: Peterson (1989) submitted that irrigation is probably the most promising means of reducing poverty and food insecurity; this coupled with accessible road network, rural telephony, access to internet regardless of the farm's location, uninterrupted source of power, and state-of-the-art storage facility must be provided in order to ensure that Nigeria's full potentials in food production and sufficiency is actualized not only to serve as a medium of foreign exchange earnings for government, but to equally provide employment for the teeming unemployed youths.

Increased Government Budget Policy for Agriculture: Government budget for agriculture must be aggressively stepped up in order to meet the growing challenge in high-yield seedlings, machinery and equipment needed to commercialize and modernize agriculture in Nigeria.

Provision of more Physical Resources: This research would also corroboratively recommend findings from previous exporting and international business studies (e.g. Reid, 1983 and Meisenbock, 1988) have suggested the importance of firm's ownership of physical assets – finance, plant and equipment, and favorable location – for achieving superior economic results.

Comprehensive Agricultural Insurance: Since there is no business or worthwhile venture without risks, then risks in agricultural production and value chain should equally be adequately covered through comprehensive agricultural insurance scheme to reduce the natural hazard factor militating against agricultural production and security of investment.

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