

Implementation of Vision 20:2020 Agricultural Policy and Food Production in Nigeria, 2007-2015

Ofozoba Chinonso Anthony

Chukwuemeka Odumegwu Ojukwu University, Igbariam, Anambra State, Nigeria

Abstract:-The study set out to examine the implementation of the vision 20:2020 agricultural policy by the Federal Government and its effect on food production in Nigeria between 2007 and 2015. The qualitative method of data collection and analysis and the Marxian instrumentalist theory were adopted for the study. The study established that the implementation of the Vision 20:2020 did not effectively improve and modernize production systems in Nigeria between 2007 and 2015. Again, the implementation of Vision 20:2020 did not impact effectively on the production of tubers, grains and livestock in Nigeria between 2007 and 2015. The “improved seed projects”, Agricultural Credit Support Scheme (ACSS) as well as Commercial Agricultural Credit Scheme (CACs), and some stated subsidy packages (including that of acquisition of tractors, fast yielding crops, etc) could not be accessed by most farmers. Irrigation and efficient extension schemes, as well as use of highly disease resistant livestock campaign were not implemented. Adequate funds were not released for agricultural research institutes thus leading to low adaptability to modern farming techniques. Worse still, rural farmers lacked information on modern farming techniques, as monies meant for farmers’ enlightenment programmes were embezzled. Therefore, production of tubers, grains and livestock has either declined from 129947000 tons in 2006 (i.e. prior to implementation period) or recorded insignificant increases subsequently as against the policy goal of 100 percent increase in production. The study recommended that the government should match the Vision 20:2020 agricultural policy with commensurate funding and corrupt practices must also be checked at the level of policy implementation so as to achieve good result. The government should also advance workable strategy of attracting meaningful contribution from the private sector under the public-private partnership (PPP) framework.

I. INTRODUCTION

Nigeria has, in 2007, set an ambitious target to become one of the top 20 economies in the world by the year 2020. This target is known as “Nigeria Vision 20: 2020”. A major thrust of this goal is to accelerate the country’s economic growth and position it on a path of sustained and rapid socio-economic development. Abdulhamid (2008) traced the history of this target to a research conducted by economists at an American Investment Bank, a fall-out of which was a prediction that Nigeria would be in the league of 20 top economies by year 2025. This was based on assessment of its abundant human and material resources and on the assumption that the country’s resources would be properly managed and channeled to set economic goals (Onyekakeyah, 2008). As part of the Vision 20:2020, Nigeria seeks to consolidate its leadership role in Africa by being

economically self-reliant and establish itself as a significant player in the global economic scheme and political arena.

However, following poor performance of the agricultural sub-sectors, value added per capita in agriculture has merely risen by less than 1 percent annually over the past 20 years. Food production increase has not kept pace with population growth, resulting in rising food imports and declining levels of national food self-sufficiency. Nigeria recorded in the past, on average, 4 tons of agricultural product per hectare compared to 13-14 tons per hectare in other countries of similar climatic pattern. Thus, most Nigerian farmers operate at the subsistence level, with marketable surplus ranging between 0-25 percent depending on the household size. In this light therefore, several decisive strategies, most of which have had a marginal effect, have been employed over the years to set the records right and reposition agriculture in such a way as to ensure food sufficiency in the country (Report of the Vision 20:2020 National Technical Working Group on Agriculture and Food Security, 2009).

The vision 20:2020 agricultural policy is not the first agricultural strategy to be implemented in Nigeria. However, it is a robust attempt to particularly discover the inadequacies of previous agricultural policies in the country as well as emerging challenges, and critically address them in order to reposition agricultural production towards the path of food sufficiency by the year 2020. Among other things, by year 2020, Nigeria aims at having a modern technologically enabled agricultural sector that fully exploits the vast agricultural resources of the country, ensures national food security and contributes significantly to foreign exchange earnings (Nigeria Vision 20:2020 Economic Transformation Blueprint, 2009).

In a nutshell, the vision 20:2020 agricultural policy states that achieving an appreciable development of the nation’s agricultural sector, by adequately producing the needed inputs for agro-allied and agro-based industries requires the initiation and implementation of the following strategic initiatives:

- Rehabilitation and completion existing irrigation projects, establishing new ones across the nation and providing incentives for the development of new community-based and privately initiated irrigation projects.
- Facilitating the acquisition of farmlands and title holdings for agricultural production through an intensive review of the Land Use Act and

encouraging commercial agriculture through Public-Private Partnership (PPP).

- Significantly enhancing the level of production, adoption and utilization of appropriate technology and mechanization for small, medium and large scale farms.
- Making adequate provision for the utilization of home-grown technology, promoting greater use of biotechnology tools in the selection and breeding of crops, livestock, fisheries and forestry.
- Promoting the use of 'green' technology to ensure sustainable agricultural production; a safe and clean environment and adopting the use of natural rivers and/or stream flow; solar and wind to generate electricity to power agricultural equipment such as irrigation pumps.
- Creating a new generation of farmers, by incorporating modern technology, especially ICT (e.g. farmer information call service), incentives (scholarships, grants, soft loans), and professionalising agriculture to attract youths and new graduates into agricultural production, processing and marketing in order to sustain agricultural growth through the entire agriculture value chain (Nigeria Vision 20:2020 Economic Transformation Blueprint, 2009).

The total sum of N745.24billion has been proposed for investment in the sector during the plan Period (Nigeria Vision 20:2020 First National Implementation Plan, 2010). Therefore, the focus of this study is to examine the implementation of vision 20:2020 agricultural policy and its effects on food production in Nigeria, especially from 2007-2012.

Statement of the Problem

The general performance of the agricultural sector has been so uneven in the recent past. Its average annual growth rate ranged from about 3.3% in 1990s to an average of 6% between 2003 and 2007. Most of the current growth rate has been attributed more to expansion in cultivated farmland area rather than increase in productivity (kg/ha) (Federal Ministry of Agriculture and Rural development, 2010). This critically undermines the level of food reliance of the country. The crop subsector contributes about 85 percent to the agriculture GDP, whereas livestock contributes about 10 percent, fisheries about 4 percent, and forestry about 1 percent. This lackluster contribution of the livestock and fishery to agriculture GDP indicates that food production in these subsectors has remained minimal and unimpressive over the years. Mainly, livestock and fish production have been constantly impaired, as use of highly productive and disease resistant livestock and fish strains is very low. The crop subsector is not without debilitating limitations either. Of the crops subsector, roots (in particular, cassava and yam) dominate in tonnage, though cereals (maize, sorghum, rice, and millet) are becoming important for the domestic demand for food. The roots group

accounts for 9 percent of GDP, whereas cereals account for 8 percent (Ragasa et al, 2010).

The present level of food importation in Nigeria worth over \$3 billion per annum, and no way near the vision 20:2020 goal of reducing food importation by 50 percent in 2015 and by 90 percent in 2020. According to the Food and Agricultural Organization (FAO), Nigeria is currently the largest importer of rice in the world, a development it notes as adversely affecting its agricultural sector (*The Punch*, April 22, 2013).

Importantly, the level of self-sufficiency in cereals has been falling, resulting in rapid growth in the amounts of cereals imports, especially rice imports, which increased 130 percent in 2009 over the previous five year average (FAO, 2001). According to the Minister of Agriculture and Rural Development, Dr. Akinwunmi Adesina:

In 2010 alone, Nigeria spent N635 billion on import of wheat, N356 billion on import of rice, N217 billion on sugar importation and despite the huge marine resources, spent N97 billion importing fish. It is a shameful thing that Nigeria has become a net importer of food. Nigeria has become a dumping ground for cheap food, and it is killing our people and the economy. About N1billion is spent every day to import rice. We also spend N240billion to import sugar, and N1.2trillion annually on fish. With this, we are creating market for others...This is not fiscally, economically or politically sustainable. Nigeria is eating beyond its means. While we all smile as we eat rice every day, Nigerian rice farmers cry as the imports undermine domestic production. Our farmers sow in hope but reap in tears, as cheap food imports dash their hopes of better prices or incomes," the minister lamented. Nigeria's food imports are growing at an unsustainable rate of 11 per cent per annum. Relying on the import of expensive food on global markets fuels domestic inflation (*Thisday*, August 15, 2011:1).

Also, production of root and tuber crops have not fully met domestic need and are now less exported. Nigeria is the largest producer of cassava in the world and has a high potential to gain from exporting processed cassava (Nigeria Vision 20:2020 First Implementation Plan, 2010).

Generally, the level of budgetary allocations in the agro-sector has not fully encouraged greater agricultural production as to guarantee greater food production and food sufficiency in the country. The share of Agriculture in Federal Government's annual budget ranges between 1.3% and 7.4% from 2000 and 2007 and this has consistently fallen below the Maputo Declaration of 10% share of total country budget for agriculture, an indication of the low priority previous governments had placed on agriculture. It is critically established that:

Inadequate and untimely funding of agriculture by the public sector coupled with inefficient and/or ineffective application of such funds (budgetary or otherwise) also constitute bottlenecks to agricultural productivity and development...

Overall, Nigerian agricultural expenditure was far below international standards even when accounting for its level of income (Nigeria Vision 20:2020 First National Implementation Plan, 2010:55).

Again, despite the acclaimed impressive performance of the sector in recent times, productivity remains low when compared with the global average. Mainly, the low mechanization of agricultural production and technologies appropriate for small, medium and large scale farming remains an important challenge to greater productivity, especially in enhancing agricultural extension delivery system. There is low capacity building and poor enlightenment of farmers to achieve mass acceptance and adoption of modern technology in farming (Nigeria Vision 20:2020 First National Implementation Plan, 2010). Hence, over the last 20 years, value-added per capita in agriculture has risen by less than 1 percent annually, with the effect of rising food and raw materials import bills and declining levels of self-sufficiency in food production.

More importantly, scholars like Bigman (1982), Eicher and Staaz (1986), Brandt (1990), Okonjo-Iweala and Osafo-Kwaako (2007), Goshit (2008), Abubakar (2010), Eneh (2011), Adesina (2011) and Mabogunje (2012) made serious effort to underscore the realities of the persistent low agricultural productivity and output in Nigeria, especially in view of its declining contribution of the sector to the GDP, while some others stressed on the impact on the rising food shortages and high prices of food items in the country. However, little or no attention has been paid to the various ways in which the Nigerian farmers have been integrated, and empowered to benefit maximally, in the implementation plan of the ongoing vision 20:2020 agricultural policy, and the effects of same on the level of availability and accessibility of food items in Nigeria.

Research Questions

Therefore, in view of the overall challenges of the implementation of vision 20:2020 agricultural policy in Nigeria, the following questions have been posed:

1. Did the implementation of the Vision 20:2020 account for improved and modernized production systems in Nigeria between 2007 and 2015?
2. How does the implementation of Vision 20 has impacted on the production of staples and livestock in Nigeria between 2007 and 2015?

Objectives of the Study

The broad objective of this study is to examine the link between the implementation of Vision 20:2020 agricultural policy and the growth of food production in Nigeria, between 2007 and 2015. The following specific objectives are, therefore, pursued:

1. To examine whether the implementation of the Vision 20:2020 accounted for improved and

modernized production systems in Nigeria between 2007 and 2015.

2. To find the impact of the implementation of Vision 20:2020 on the production of tubers, grains and livestock in Nigeria between 2007 and 2015.

Significance of the Study

The significance of this study is twofold: theoretical and practical. At the theoretical level, a study of this kind, with specific interest on the implementation of Vision 20:2020 agricultural policy, properly aligns itself with the evolving patterns of various policy instruments enunciated so far in Nigeria to deal with the problem of low agricultural output which has impinged heavily on the level of food production and availability of same both for local consumption and for export. Therefore, by clarifying issues and facilitating academic understanding with respect to the link between the implementation of Vision 20:2020 agricultural policy and the growth of food production in Nigeria, between 2007 and 2011, the study picks up on the fundamental question of policy evaluation and analysis, this, logically leading to a theoretical inquest and critique of government performance in the agricultural sector over the years.

At the practical stage, the study will be of utmost importance to the Nigerian policy makers and agricultural experts. It will variously throw up essential challenges and policy implementation crisis which may have marred the blueprint and expected gains of the Vision 20:2020 agricultural policy in Nigeria. Remarkably, the study will be of immense contribution to the various agricultural research institutes in the country, as it will be an evaluation instrument to assess the impact of their research efforts and how same have been effectively utilized or integrated into the mainstream agricultural production system in Nigeria. More importantly, the study breaches the obvious abysmal gap between the Nigerian farmers/other non-agricultural experts and the prevailing modernization developments in the agricultural sector within the Nigerian Vision 20:2020 framework. Finally, the study intersects the existing inquiries in the area to form a dependable pool of literature for further studies.

II. LITERATURE REVIEW

This study examines the link between the implementation of Vision 20:2020 agricultural policy and food production in Nigeria, between 2007 and 2015. The aim of this review is to locate the gap in the literature with respect to the following themes.

1. Vision 20:2020 Agricultural Policy and modernized food production systems in Nigeria
2. Vision 20:2020 Policy and the production of livestock and fishery in Nigeria

The Vision 20:2020 Agricultural Policy and Modernized Food Production Systems in Nigeria

The Food and Agricultural Organization (2009) analysis acknowledges that the changing global trends pose food security threats to countries that are food import dependent. Nigeria is one of such food dependent countries. For instance, the FAO reports that Nigeria spends over \$3 billion annually on the importation of staple food such as wheat, rice, sugar and fish. The FAO report indicated that the Global Hunger Index published by the International Food Policy Research Institute (IFPRI) showed Nigeria at 20 in the range of 10-20 labeled as having a “serious” state of hunger among compared Sub-Saharan African countries. Furthermore, the Food and Agriculture Organization (FAO) in its State of Food Insecurity in the World, (2006) had indicated that Nigeria had about 12 million people reported as undernourished as at 2003. This undernourished proportion of the country’s population depicted by percentage was shown to have reduced from about 13% from 1990-1992 to about 9% from 2001-2003. This seeming proportional decline may, in fact, be nullified by population growth. It is therefore seen that despite the various agricultural policies which Nigeria has implemented over the years, the country has done little to optimize opportunities and use its vast natural and human resources to promote modern agricultural practices and boost agricultural production. To critically modernize its agricultural sector, the FAO maintains that Nigeria must align gainfully in veritable best practices which have received global acclaim in driving excellence and innovation in its agricultural value chain. These include: evidence-based technological innovations; business orientation of agricultural activities; ecological specialization and drive for comparative advantage; participatory policy formulation; ecosystem integrity and environmental sustainability (e.g. wetland reclamation, reforestation, polluted land remediation, erosion control); soil and water conservation; and waste utilization (“waste to wealth” or zero-waste practices).

Further, the report of the Federal Ministry of Agriculture and Rural Development (2012) stated that lack of modernization of agricultural system remains the bane of agricultural expansion and greater food production in Nigeria. The report has it that several policies in the country has been marred in one or the other by certain overwhelming impediments associated with the organizational deficiencies and policy ambiguities at all three levels of government. Again, the issue of limited access to improved technologies in the form of improved seeds, cuttings, breed, vaccines and agrochemicals, etc and the use of mainly hoes and cutlasses as the principal implement for crop agriculture at the small-holder level is seen as a persistent challenge which has defied government interventionist policies. Related to technological constraints are poor research and extension services as well as weak linkages with farmers for the uptake of innovations in areas such as seeds, pest and diseases controls. Also, infrastructure inadequacies, which include poor road network particularly feeder roads, markets and storage/processing facilities as well as inadequate irrigation facilities which limit agricultural production to only the wet season in many parts of the

country, all combine to frustrate the efforts of modernization and increased agricultural production in Nigeria.

Indeed, the issue of entrenching agricultural modernization efforts down to the farmers is highly imperative. Although, the government has long recognized that technology development is vital to the development of the agriculture sector, yet the national research system has enjoyed only limited success in generating new technologies which in any case are yet to be adopted by farmers. According to the agricultural Research Council of Nigeria (2010) the agricultural research system in Nigeria has been impaired by several factors which combine to water-down the efforts and contributions of various agricultural institutes in the country towards modernization. The disappointing impact of the research system can be attributed to three main factors: (i) public research organizations are poorly funded and financially unsustainable; (ii) coordination within the Nigerian agricultural research community is weak, resulting in unnecessary duplication of effort; and (iii) research tends to be supply-driven, with little accountability to end-users. This therefore shows that a close collaboration between the academic institutions and the agricultural ministry/institutes in training agricultural professionals is lacking and there is hardly any way manpower development for the sector can be enhanced.

More so, as World Bank (2004) report shows, it appears that agricultural extension services in Nigeria suffers from lack of coordination and duplication of efforts, financial unsustainability and poor accountability to farmers and processors. Hence, Key challenges, therefore, include improving coordination and reducing duplication of effort in the Agricultural Development Programs (ADPs), improving the financial sustainability of extension services, increasing the accountability of extension agents to farmers and agribusiness firms. The national extension strategy also needs to be diversified from its focus on crops to provide services that meet a broader range of needs of farmers and agribusiness firms.

More importantly, it is obvious that there is a correlation between agricultural modernization and increased food production. In this sense, the report of the Nigeria Vision 20:2020 First National Implementation Plan (2010) contends that low level of modernization of agricultural production system in Nigeria has resulted to extreme decline in food production in the country. The inefficient production system is characterized by poor input; weak inter-sectoral linkages; ageing operators and an informal production and marketing structure. This therefore makes Nigeria to compare so inferior against other countries in terms of food production. According to the report:

There is an inverse relationship between growth in the area of cultivated land and yields for virtually all crops. Crop yields in the country are lower than most other countries, both in food and cash crop and animal husbandry. A lot of factors are

responsible for the low productivity in the sector. These include, ineffective extension and advisory services, low adoption of improved seeds, poor quality inputs and inefficient weak input distribution system, low levels of mechanization and irrigation facilities poor access to credit, poorly managed soil fertility profile aging farm population as a result of rural-urban migration by the youths, high drudgery (physical effort per output), unattractive environment and poor morale among farmers... Nigeria presently spends about \$3 billion annually on the importation of a few food commodities including rice, sugar, milk and fish, despite favorable agricultural and ecological climatic conditions (Nigeria Vision 20:2020 First National Implementation Plan, 2010:54).

Nwanze (2010) looks at the issue of agricultural modernization in Nigeria from the prism of empowering the small holder farmers especially by providing them with relevant and adequate information on new productions systems. This is because the importance of small holder farmers in food production cannot be neglected. For instance, International Rice Research Institute (IRRI) said that 80% of imported rice production is grown by small holder farmers in developing countries. Hence, the rural farmers cannot achieve this without the commitment of many partners from NGOs, private sector individuals and government who can will keep them abreast with modern farming trends and strategies emanating from contemporary agricultural researches. Nwanze (2010) further maintains that librarians as information providers, who are in charge of public libraries and information centres have a great role to play in providing necessary information to the rural farmers. He campaigns that librarians can provide this information in different format like talks, posters, videos, pamphlets, news etc. Providing such information needed by the rural farmers could be according to their needs. Their needs could be how to control pest and diseases, environmental hazards, seedlings, preservation, finance and non access to loan. There is a saying that information is power. This means therefore, that if enough information needed by rural farmers are repackaged in the language they will understand and given to them at the appropriate time, Nigeria will be able to achieve greater production and food security in line with the Vision 20:2020.

In this regard, Attwood and Bavista (2002) further articulate ways in which rural farmers can improve their production and earn enough income is through forming farm cooperatives among themselves. They emphasize that some developmental goals in agriculture are best achieved by cooperatives and similar organizations, rather than private corporations or state bureaucrats. These cooperatives help people cope with economic, social and environmental problems. In other words, to be effective, they must adapt to local conditions, meet the needs of small producers and operate under their control. However, Attwood and Bavista (2002) made little effort to buttress on better ways to which the farmers' cooperative societies, which nevertheless have been existing in most places, can be made to work better. Moreover, it is improper

to have vitiated the valuable role of the government agencies in salvaging the agricultural sector, this is because if for nothing else, government policies and its implementation strategies can make or mar the aspirations of food security in the country.

Modernizing agricultural production system especially through information technology is also seen as an important strategy towards entrenching new agricultural practices and research development progress among the farming population in Nigeria. To do this, Mullen (2002) canvases for information flows, public awareness of citizen's rights, reinforcing capabilities train, erosion control and access to financial markets. He believes that one way to train the farmers is by using pictures to show them practical way of doing things. In fact, the *Sunday Independent*, October 2010, has it that the African Rice Centre (Africarice) has developed a simple solution to help farmers share the knowledge of improving the process of rice production. Farmer to farmer videos developed series of video to instruct farmers on seed sorting manually by floatation, seed drying and preservation in Bangladesh. Similarly, farmers in Guinea watched videos of Bangladeshi women creating solutions to improve the quality of farm-saved rice-seed. A survey of 160 women in central Benin comparing the use of video with conventional training workshop showed that videos reached 74% of women compared with 27% in conventional training. This means that information flowed more with video training and created public awareness of citizen rights, reinforcing capabilities training, and capacity resource. Also availability and access to financial market, control and use of agricultural chemical will help the rural farmer to produce more food.

Takeshima and Salau (2010) make a strong case that the implementation of several agricultural policies in Nigeria, including the ongoing Vision 20:2020 has not improved the productive capacity of farmers in Nigeria. This is mainly because of the inability to entrench modernization strategies on rural farming system. They seriously contend that Nigeria's farming land is still commonly consists of bush and grass fallow and that farmers merely obtain space by chopping, slashing, and burning bush or grasses. After obtaining the space, farmers improve the soil quality of the area by either changing the form of soil (tillage and harrowing for grains, ridging for cassava, and mounding for yam) primarily with hoes, or changing the material composition of soils such as adding fertilizer, manure, and/or water, and removing pests and weeds. This means that Nigerian farmers often harvest crops with manual labor using simple tools. After harvesting, the labour activities involve the separation of edible parts from other parts (such as threshing and winnowing for rice, dehulling for cowpea, and peeling of cassava and yam), preserving products (such as drying cassava), and further physical transformation of the products (milling, grinding, grating, and pounding) to increase shelf life. Human labour is further used to add more value to the products without physical transformation, such as

standardizing, sorting, grading, assembling, and transporting to buyers.

From the foregoing, as the scholars maintain, it is clear that most smallholder farm operations in Nigeria are accomplished through the use of hand tools. For smallholder farmers, modern tools even if rented or shared among users are too costly. Equally, sharing tools with other farmers often brings in risks of mismanagement and breakdown. Agricultural mechanization policies that promote modern tools are therefore not sufficient in Nigeria.

Consequently, very few Nigerian farmers own, share, or rent modern agricultural machinery. Hence, Takeshima and Salau (2010) view that Nigerian agricultural mechanization policy particularly needs to focus more on identifying the potential of improved hand tools in improving labor productivity for various farming activities, from pre-harvesting and harvesting to marketing.

Of course, the drive to achieve greater food production and food security objectives as espoused in the Vision 20:2020 agricultural blueprint makes the strengthening of Agricultural production, storage and marketing as well as research and development imperative. Amobi (2010) notes that national food security programme according to the Federal Ministry of Agriculture and Water Resources is to ensure sustainable access, availability and affordability of equality food to all Nigerians for the country to become a significant provider of food to the global community. In this light, he notes that almost all the president in Nigeria acknowledges the importance of agriculture and therefore proposes one policy to help boost agricultural product, yet most of them yield no effect including the current Vision 20:2020 agricultural problem being maintained by the President Jonathan's administration. Thus, Amobi (2010) enumerated the challenges for sustainable agricultural production as follows:

- Unfavourable economic policies
- Improper implementation of most agricultural policies
- Low rate of technology adoption
- Land tenurship
- Inadequacy in the supply and use of farm input
- Environmental hazards
- Poor processing and preservation technology
- Disease and pest infestation
- Non accessibility of Agricultural loans by farmers

Adeyinka and Vollrath (2013) maintain that the Nigerian Vision 20:2020 agricultural policy has not impacted meaningfully on food production in Nigeria. The scholars conducted an in-depth assessment of the food security situation within Nigeria to equip policymakers with timely and relevant information that will aid the targeting of interventions. Among other things contested, it their view that current low amount of food production in Nigeria has resulted to unacceptable food shortages across in the country, thus

deepening the incidence of poverty and malnutrition. Sakariyawo et al (2000) informs on better ways to increase food production in Nigeria. They uphold that the role of the crop research cannot be overemphasized namely: agronomy; plant breeding: plant physiology and biochemistry; plant protection; biotechnology etc. This emphasizes the need for more concerted research involving integrated efforts of soil scientists, biochemists, plant physiologists and entomologists.

Breeders in conjunction with plant protectionists should also include in their research, the development of crop resistant varieties to pests and diseases. Sakariyawo et al (2000) maintain that considering the relevance of food sufficiency, agricultural policy makers in Nigeria should adequately invest in funding researches in crop protection. Meanwhile, a framework should be provided to farmers to ensure the affectivity of plant protection methods at hand. For example, they should be enlightened on how to identify the actual pests and diseases, determine the level of infestation and the symptoms to describe the pathological conditions of crops, to be able to establish the economic injury level values for pests and diseases in order to derive a farm-level relevant methods in the context of effective plant protection. Again, they should be advised to include the critical use of right pesticides and other protective measures in order to satisfy the criteria of effective plant protection.

Information on the impact of increased ultraviolet radiation on ecosystem level processes such as nutrient recycling, production and distribution of secondary compounds, specie distribution and plant competition are also required to mitigate the effects of drought and ultra-violet radiation. Finally, the scholars call for urgent attention on crop biotechnology which is the latest revolution in agriculture especially as it comprises the following major areas of modern plant biology: Molecular Genetics and Plant cell and tissue culture.

The Vision 20:2020 Policy and the Production of Livestock and Fishery in Nigeria

Essentially, Wanmali and Isiam (2002) see agricultural modernization as the engine of economic growth in Nigeria. The scholars opted that massive turnaround investment in agricultural sector will correspondingly lead to a sustainable increase in food production and household incomes and also strengthen linkages between agricultural and non-agricultural sectors, as well as rural economy. All these are seen as an integral component of any future strategy for achieving food security. Aremu (2009) then observe that the Nigeria government has tried to improve on some agricultural policies such as the new strategies enunciated in the Vision 20:2020 agricultural programme but that there are still so much challenge inherent in the implementation efforts which must be timely addressed in other to avoid mistakes of the past agricultural policies which did not result to any significant improvement in agricultural production in the country leading to their sudden abrogation. Aremu (2009) reports that the following could strengthen agricultural business through

profitable price support mechanism such as technological empowerment of agricultural sector, increase in access to credit finance, improvement in rural access infrastructure, improvement on available silos and provide additional ones in the country to cater for food production, and translations or repackaging of research results in agriculture.

The report of the Vision 20:2020 National Technical Working Committee on Agriculture and Food Security (2009) contends that incessant conflicts exist between crop and livestock farmers, pastoralists (mainly Fulani nomads) and arable crop farmers, fadama users and non-fadama users, female farmers (especially female-household heads/widows) and their male relatives and neighbours. Such conflicts disrupt livestock production and could also endanger their lives as well as expose them to numerous diseases. There should be effective development of the grazing reserves and stock routes to ensure availability of forage and opportunities to transform pastoralists to livestock ranchers. This should greatly reduce the pastoralist – crop farmer conflicts.

According to the Federal Ministry of Agriculture and Rural Development (2012), in its report acknowledges that climate conditions in different pastoral settings in Nigeria affect the ability of livestock to resist disease. The impact of climate change, including desert encroachment, water poisoning etc, can neutralize the ability of animals to resist disease. It is seen livestock production has been reduced more in humid middle and southern parts of Nigeria. The report has it that except for the poultry, the livestock production system has not achieved any level of transformation.

Again, the report of the Nigeria Vision 20:2020 First National Implementation Plan (2010) emphasize that the fisheries sub-sector plays an important role in Nigeria. As noted, in a bid to reduce the need for costly imports, efforts to increase fish supply are focused on increasing production through the use of highly disease resistant livestock and fish strains. The report maintains that with the ongoing research in this direction that domestic production potential can be estimated at 3.2 million tons creating more rooms for further expansion. The report however feared that with the offshore marine fishery already under pressure from piracy, and with dangerous pollution in estuaries and brackish waters reducing their productivity and disease resistant abilities, future production increases will almost certainly have to be achieved through aquaculture and enhancement of inland fisheries.

Fagbenro and Adebayo (2005) maintain that livestock production systems are largely pastoral, with the vast majority of cattle, goats and sheep being maintained in transhumance and agropastoralist systems. They state that most of the other livestock resources are reared under the traditional extensive systems with less protective measures against disease. They argued that a major constraint to its expansion is an inadequate feed supply. The poor quality of the feeds currently available to the industry generates high mortalities, stimulates low productivity and as a consequence, produces a

low rate of return on investment. The scholars thus suggest that an efficient feed mill industry is therefore crucial to the sustainability of viable livestock and poultry production enterprises in Nigeria. However, little or no effort was made by the scholars to buttress on the promotion of use of highly disease resistant livestock and fish strains by the government towards achieving more livestock and poultry expansion in Nigeria.

On the other hand, Tewe and Bakanga (2001) draw attention that the task of producing highly disease resistant livestock and fishery is mostly determined by the techniques adopted for processing of their feeds. They state that compound animal feed is usually made up of energy, filter materials, proteins, minerals and micro ingredients, while other components can be made up from byproducts of food crops, marine, terrestrial and arian protein sources, minerals and other synthetic materials. Processing technologies available for feedstuffs in Nigeria include - drying, smoking, roasting, boiling, chopping/chipping/slicing, shredding, grinding, grating, fermenting, extrusion, ensiling, chemical treatment and compacting. However, they note that most of these processing equipment that are potentially available for medium scale operation are located in research institutions and some universities. They have, therefore, not been popularized. Indeed, the processes that are usually adopted in producing disease resistant livestock in most institutions in the country are still the traditional or sophisticated and imported ones, thus indicating a yawning gap in local fabrication and dissemination of such equipment in the country.

Similarly, Fetuga and Tewe (1980) contend that several of the available feeds that produce disease resistant livestock and fishery are mostly fibrous materials which have limited value for non ruminant animals. Enzymatic supplementations and palletized feeds allow increased usage of fibrous residues in the non-ruminant feeding. Hence, for feeding livestock they need to be processed to maximize the utilization of annotated nutrients as most of these residues have high lingo cellulolytic contents apart from other anti nutrients. There is also considerable variation in the composition of the feed ingredients due to rental differences and inadequate post harvest processing techniques and poor quality control. Processes that readily come to mind include: - grinding, briquette, pelletizing, alkali treatment, ensiling, heat treatment with standard regulations to meet minimum criteria of standards for optimal productivity of stock.

In fact, the rapid development of aquaculture in the last twenty years and the concomitant increase in fish and shell fish diseases have led to the increase in the use of veterinary drugs, biologicals and other chemicals in aquaculture industry. Akolisa and Okonji (2005) reported huge economic losses and failures of aquaculture thus necessitating increased used of veterinary drugs, biological and chemicals to combat diseases in farmed fish. The increased usage coupled with increase cost of these drugs, biological and chemicals and high cost of veterinary care have led to increase cost of production and

reduction in profit. Abuse of veterinary drugs, biological and chemicals are other problems encountered in the industry. Lack of adequate knowledge about prevention, treatment and control of fish diseases which is also compounded by absence of diagnostic laboratory for fish diseases is another problem that have limited the growth of the industry in Nigeria.

Ogbeibu (2011) argues that the government should quickly set up standard fish diseases investigation laboratories in all the state capital in Nigeria in order to assist the veterinarians in providing adequate service thereby increase productivity. This is because there is poor level of awareness of the impact of disease to aquaculture in Nigeria. According to him, diseases in aquaculture tend to spread relatively easily because of high density of stocking and intensity of feeding in limited water area, the proliferation of disease causing agents through the common water source between ponds, farms and the stocking of fish, fry, fingerlings and broodstock transported from other fish farms without adequate precaution. It is reported that disease problems could result in financial losses under extensive culture and the risk of complete loss of crop tends to be higher than in other agricultural activities.

However, many technical problems arise in the production of fish seed either in the pond or hatchery system. Principal among these are: the lack of and poor management of broodstock, especially feeding and handling; and the poor record keeping of all activities regarding induced spawning, care of eggs, fry, feeding, and general management of fingerlings (Atanda, 2006).

More importantly, it should be noted that in fish farming or aquaculture, some parasites may be highly pathogenic and contribute to high fish mortalities and economic loss, while in natural systems they may threaten the abundance and diversity of indigenous fish species (Mashego, 2001). However, Dankishiya and Zakari (2007) found that *Clarias gariepinus* is one of the most resistant and widely accepted and highly valued fish that could be cultivated in Nigeria, therefore the need for documented research on parasites which might constitute serious problems on this fish cannot be over emphasized.

Therefore, a high-level of management involving the maintenance of adequate hygiene practices, use of good water quality and disease resistant species and the employment of services of qualified aquatic/fish veterinarian will help prevent or reduce the incidence of diseases as highlighted by Agbede et al (2003) that lack of skilled and experience Aquatic Veterinarian with adequate knowledge of principle of disease prevention and control in the aquaculture industry is a major factor affecting fish culture in Nigeria. This has resulted from the non inclusion or little time allocated to the teaching of Fish and Wildlife Medicine to Veterinary student in the Veterinary curriculum in Nigerian Universities.

The Gaps in Literature

The efforts of writers to articulate the linkage between the implementation of Vision 20:2020 agricultural policy in Nigeria, as presented above, fall neatly into two discernible clusters of views. Nwanze (2010), Attwood and Bavista (2002), Mullen (2002), Takeshima and Salau (2010), Amobi (2010), Sudhir and Yassir (2000), Adeyinka and Vollrath (2013), Sakariyawo et al (2000), as well as the reports of the Federal Ministry of Agriculture and Rural Development (2012), Food and Agricultural Organization (2009), World Bank (2004) and the Nigeria Vision 20:2020 First National Implementation Plan (2010) essentially focus their analyses on the challenges of agricultural modernization in Nigeria as well as the lackluster commitments of the Nigerian government towards addressing same. Specific efforts of the government to boost crop production and agricultural research were also highlighted.

On the other spectrum, scholars such as Wanmali and Isiam (2002), Aremu (2009), Fagbenro and Adebayo (2005), Tewe and Bakanga (2001), Fetuga and Tewe (1980), Akolisa and Okonji (2005), Adedeji and Okocha (2011), Mashego (2001), Dankishiya and Zakari (2007), Agbede et al (2003) and Atanda (2006) stressed on prevalence of livestock diseases in Nigeria and the low adaptability of research on modern techniques of preventing livestock and fishery diseases in Nigeria. Altogether, these writers fail to advance the linkages between the Nigerian government implementation of the Vision 20:2020 provision on modernized production systems and the level of production of tubers, grains and livestock between 2007 and 2015. This study attempts to fill this gap.

III. THEORETICAL FRAMEWORK OF ANALYSIS

This study adopts the Marxist instrumentalist theory derived from the radical models of economic policy formation. The Marxist instrumentalist theory was popularized by Ralph Miliband and William Domhoff (cited in McGowan & Walker, 1984). The main proposition of the Marxian instrumentalist theory is that the state pursues the interest of the capitalist class simply because the state is overwhelmingly controlled by this class. In other words, as against the general assumption that the state is an unbiased and neutral power broker in relation to the interest of capital and labour, the state in a capitalist society basically functions to foster, advance and defend capitalist accumulation and profit (Asobie, 1990).

Essentially, William Domhoff who examined policy formation from an instrumentalist paradigm was able to establish certain distinctive processes through which the capitalist class is able to use the state as an instrument at its will to shape policy in its own interest. These processes include the special-interest process, the policy-planning process, among others. In this light, McGowan and Walker (1984) maintain that the special interest process has to do with lobbying the decision-makers by interest groups, especially the powerful capitalist class to adopt specific policies and general development blueprint that broaden their interest or to

circumvent policies and development plans that compromises their interest. McGowan and Walker (1984) further establish that the policy planning permits the capitalist class to promote, protect and rationalize a particular way of examining reality through the introduction and identification of specific personnel and ideas. The fulcrum of Marxian instrumentalist analysis rests on the production and distribution process in the society. In essence, the theorists believe that the capitalist class necessarily employs the apparatuses of the state to advance its collective interest. Hence, the central argument of Marxist instrumentalist theory is that the state pursues the interest of the ruling class in a capitalist society rather than the interest of the entire populace due to the direct involvement of members of the ruling class in the state machineries and economic processes. Marxist instrumentalist theory, therefore, draws attention to the connections between members of the ruling class and the key actors in the policy-making institutions of government in order to highlight that the state lacks independence or initiatory role since its power is entirely rooted in the economy dominated and controlled by the ruling class.

Theory Application

With specific analysis of the nature of the capitalist class, the channels of its control over governmental institutions, and how it promotes class interest through direct involvement and participation in state activities and policy formulation, the Marxist instrumentalist theory demonstrates that the Vision 20:2020 agricultural policy as enunciated by President Yar'Adua, was particularly formulated and influenced directly by members of the ruling class simply to promote their vested interest. Put differently, it is the ulterior motive of the ruling class to propagate the issue of "agricultural modernization" in order to directly benefit from award of contracts and procurements of 'modern' farm implements ostensibly to achieve the goals set out in the Vision 20:2020 agricultural policy.

Importantly, the Marxian instrumentalist theory is an explanatory tool in appreciating the reason why the ruling class has introduced several agricultural policies over the years, including green revolution, operation feed the nation etc, without any of them yielding tangible results. The problem has always been the protection of vested interest when it comes to policy implementation, this, leading to haphazard results. In fact, the problem of inflated contracts, non-completion of contracts, reselling of purchased materials through the back door, embezzlement of contracted funds, etc, have led to excessive funding gaps on . Resultantly, between 2009 and 2012, conspicuous funding gaps on Vision 20:2020 agricultural policies were recorded as follows: Agricultural Productivity Enhancement – N29362.2 billion; Support to Commercial Agriculture – N22679 billion; Land and Water Management – N97240 billion; Linkages and Support to Inputs and Products Markets – N29362.2 billion; Programme Coordination, Monitoring and Evaluation – N2250 billion.

More so, the implementation of the vision 20:2020 is so much marred by endemic state corruption to the point that the majority of smallholder farmers much of whom are settled in the rural areas have been profoundly skewed out from benefiting from most of the said modernization projects and programmes. For instance, the "improved seed projects", Agricultural Credit Support Scheme (ACSS) as well as Commercial Agricultural Credit Scheme (CACS), and some stated subsidy packages (including that of acquisition of tractors, fast yielding crops, etc) could not be accessed by most farmers. Irrigation and efficient extension schemes, as well as use of highly disease resistant livestock campaign were not implemented. Adequate funds were not released for agricultural research institutes thus leading to low adaptability to modern farming techniques. Worse still, rural farmers lacked information on modern farming techniques, as monies meant for farmers' enlightenment programmes were embezzled. Hence, the implementation of Nigerian Vision 20:2020 agricultural policy has not significantly increased production of tubers, grains, livestock and fishery in Nigeria. Production of tubers and grains which stood at 116028373 tons in 2007 (a drastic decline from the production level of 129947000 tons in 2006 prior to the implementation of Vision 20:2020) merely increased to 125472740 in 2008. In 2009 it toddled at 100292960 only to settle at 115028730 in 2010. A lackluster increase to 125061026 tons occurred in 2011, with an unnoticeable rise to 127227512 tons in 2012. This therefore explains that the special interest of the ruling class, who determines and influences the will and actions of the state, will necessarily interfere with policy implementation in a capitalist society.

It is within this context, therefore, that one can understand why the efforts of the Nigerian government to increase agricultural productions as contained in the Vision 20:2020 agricultural policy have not significantly increased the production of tubers, grains, livestock and fishery in Nigeria between 2007 and 2012.

Hypotheses

The understated hypothesis guided this study:

1. The implementation of the Vision 20:2020 did not effectively improve and modernize production systems in Nigeria between 2007 and 2015.
2. The implementation of Vision 20:2020 did not impact effectively on the production of tubers, grains and livestock in Nigeria between 2007 and 2015.

Methods of Data Collection

The method of data collection adopted for this study is the qualitative method. Qualitative method of data collection is a philosophy or orientation of qualitative research whereby some data collecting techniques such as "interview, observation, field notes and documentation" are employed in gathering of research materials (McQueen and Knussen, 2003:196). Qualitative method which involves extracting

valuable information from the available evidence so as to reach a conclusion (Sun, 2009) was used to source information from secondary sources of data such as textbooks, journal articles, internet materials, and national dailies as well as official documents and government publications such as National Bureau of Statistics Annual Reports, Central Bank of Nigeria reports, Federal Ministry of Agriculture and Rural Development (FMARD) reports, United Nations Food and Agricultural Organization (FAO) statistical documents, Agricultural Research Council of Nigeria (ARCN) reports, Nigeria Vision 20:2020 First National Implementation Plan. Volume II and III reports, Report of the Vision 2020 National Technical Working Group on Agriculture & Food Security, Nigeria Vision 20:2020 Economic Transformation Blueprint, and National Planning Commission reports.

Research Design

In this study, we adopted One Group Pre-test Post-test Design. In this type of design, a single group is compared with

itself. This requires a measurement to be taken before an independent variable or causal event occurs and then after the causal event has occurred. The difference between the first and second observations is attributed to the independent variable; while a test of significance is commonly used to see whether the observed difference is beyond what might be obtained by chance (Leege and Francis, 1974).

One group pre-test-post-test design is represented in this form:

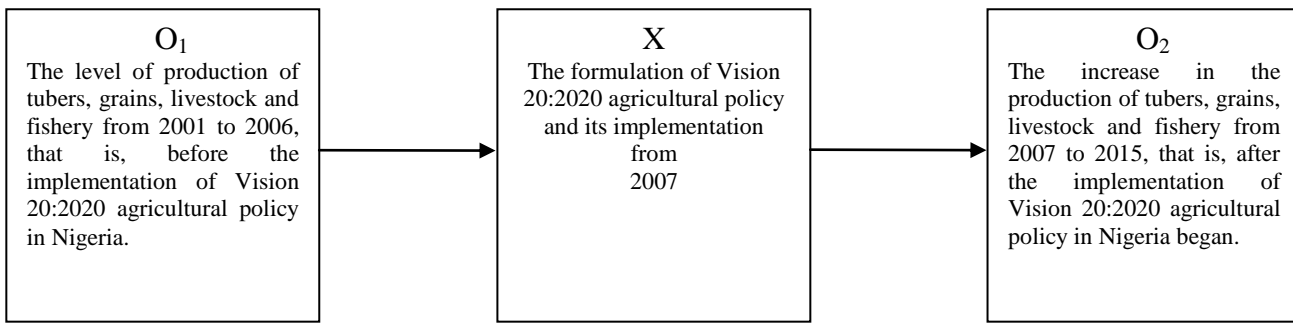
$O_1 X O_2$, Where--

O_1 – First observation

X – Independent variable

O_2 – Second observation

In applying on group pre-test-post-test to our study, we further diagrammatically demonstrate the design as follows:



In further applying one group pre-test-post-test design to our study, the test of hypotheses involves observing X, that is, the independent variable (implementation of Vision 20:2020 agricultural policy), and Y, that is, dependent variable (increase in the production of tubers, grains, livestock and fishery in Nigeria, between 2007 and 2015) simultaneously and in retrospect because the effects of the independent variable on the dependent variable had already taken place before the study. Hence, an observation of the increase in the production of tubers, grains, livestock and fish strains in Nigeria, between 2007 and 2015 “before” and “after” the implementation of Vision 20:2020 agricultural policy was used to test our hypotheses. In conducting our investigation, therefore, our first observation is on the increase in the production of tubers and grains in Nigeria between 2001 and 2006, before the implementation of Vision 20:2020 agricultural policy in 2007, while our second observation deals with the production of livestock and fish strains in Nigeria, between 2007 and 2015. It was observed that there is

no significant increase in the production of tubers, grains, livestock and fishery in Nigeria notwithstanding the introduction and implementation of Vision 20:2020 agricultural policy. The indicators of dependent and independent variables are contained in the logical data framework table 2 below.

Method of Data Analysis

The quantum of data generated in the course of this study shall be analyzed using qualitative descriptive analysis. As articulated by Asika (2006) quantitative descriptive analysis is used to summarize a mass of information generated in a study, so that appropriate analytical methods could be used to further discover relationships among the variable. For the quantitative descriptive analysis, we used tables and student t-test. The sole reliance on secondary sources of data for this study makes the adoption of this analytical method imperative. (For summary see logical data framework below).

Logical Data Framework (LDF)

| S/N | Questions | Hypothesis | Variables | Main indicators | Data/Sources | Methods of data collection | Methods of Analysis |
|-----|---|---|--|--|---|----------------------------|---|
| 1. | Did the implementation of the Vision 20:2020 account for improved and modernized production systems in Nigeria between 2007 and 2015? | The implementation of the Vision 20:2020 did not effectively improve and modernize production systems in Nigeria between 2007 and 2015. | (X) The implementation of the Vision 20:2020 in Nigeria | <ul style="list-style-type: none"> Government giving out of loans for the Purchase of modern crop and tuber farm implements. Subsidizing the acquisition of fast yielding crops and tubers (“improved seed projects”) Invention of new agro-production technologies through funding of various Research Institutes. Promotion of Agricultural Credit Support Scheme (ACSS) -N50 billion; and Commercial Agriculture Credit Scheme (CACS) - N100 billion. Plan for 25%, 40% and 60% categories of govt. subsidy of modern tractors to farmers Funds budgeted for Improved irrigation scheme and efficient extension schemes. | Secondary: textbooks, journals, official documents, conference papers, internet materials and official documents from Central Bank of Nigeria, National Bureau of Statistics, Vision 20:2020 National Working Group, Federal Ministry of Agriculture and Rural Development, Agricultural Research Council of Nigeria, Food and Agricultural Organization (FAO), and National Planning Commission. | -Qualitative method | - Qualitative descriptive method -Marxian instrumentalist theory |
| | | | (Y) The effect of the implementation of the Vision 20:2020 on improved and modernized production systems in Nigeria between 2007 and 2015. | <ul style="list-style-type: none"> The “improved seed projects”, Agricultural Credit Support Scheme (ACSS) as well as Commercial Agricultural Credit Scheme (CACS), and other subsidy packages (including that of acquisition of tractors, fast yielding crops, etc) could not be accessed by most farmers. Irrigation and efficient extension schemes, as well as use of highly disease resistant livestock campaign were not implemented. Adequate funds were not released for agricultural research institutes thus leading to low adaptability to modern farming techniques. Rural farmers lacked information on modern farming techniques, as monies meant for farmers’ enlightenment programmes were embezzled. Inflated contracts, non-completion of contracts, reselling of purchased materials through the back door, embezzlement of contracted funds, etc, | Secondary: textbooks, journals, official documents, conference papers, internet materials and official documents from Central Bank of Nigeria, National Bureau of Statistics, Vision 20:2020 National Working Group, Federal Ministry of Agriculture and Rural Development, Agricultural Research Council of Nigeria, Food and Agricultural Organization (FAO), and National Planning Commission. | - Qualitative method | - Qualitative descriptive method -Marxian instrumentalist theory |
| 2. | How has the implementation of Vision 20:2020 impacted on the production of tubers, grains and | The implementation of Vision 20:2020 did not impact effectively on the production of tubers, grains and livestock | (X) The implementation of the Vision 20:2020 towards improved and | <ul style="list-style-type: none"> Government giving out of loans for the Purchase of modern crop and tuber farm implements. Subsidizing the acquisition of fast yielding crops and | Secondary: textbooks, journals, official documents, conference papers, internet materials and official documents | Qualitative method | - Qualitative descriptive method -Marxian instrumentalist theory |

| | | | | | | |
|---|-----------------------------------|---|--|---|---------------------|---|
| livestock in Nigeria between 2007 and 2015? | in Nigeria between 2007 and 2015. | modernized production systems in Nigeria | tubers (“improved seed projects”) <ul style="list-style-type: none"> • Invention of new agro-production technologies through funding of various Research Institutes. • Promotion of Agricultural Credit Support Scheme (ACSS) -N50 billion; and Commercial Agriculture Credit Scheme (CACS) - N100 billion. • Plan for 25%, 40% and 60% categories of govt. subsidy of modern tractors to farmers. • Funds budgeted for Improved irrigation scheme and efficient extension schemes. | from Central Bank of Nigeria, National Bureau of Statistics, Vision 20:2020 National Working Group, Federal Ministry of Agriculture and Rural Development, Agricultural Research Council of Nigeria, Food and Agricultural Organization (FAO), and National Planning Commission. | | |
| | | (Y) The effect of the implementation of Vision 20:2020 the production of tubers, grains and livestock in Nigeria between 2007 and 2015 | <ul style="list-style-type: none"> • Insignificant increase in annual output from 116028373 tons in 2007 to 125472740 tons in 2008; from 100292960 tons in 2009 to 115028730 tons in 2010; from 125061026 tons in 2011 to 127227512 tons in 2012. Also, from 127227512 tons in 2012- 1339244 in 2013 and 1339244 tons to 2244578 in 2014. | Secondary: textbooks, journals, official documents, conference papers, internet materials and official documents from Central Bank of Nigeria, National Bureau of Statistics, Vision 20:2020 National Working Group, Federal Ministry of Agriculture and Rural Development, Agricultural Research Council of Nigeria, Food and Agricultural Organization (FAO), and National Planning Commission. | -Qualitative method | - Qualitative descriptive method -Marxian instrumentalist theory |

IV. EMPIRICAL VERIFICATION

Hypothesis 1: The implementation of the Vision 20:2020 did not effectively improve and modernize production systems in Nigeria between 2007 and 2015.

Nigerian Government Strategies Towards Modernization of Production Systems for Crops Under the Vision 20:2020 and the Production of Tubers and Grains in Nigeria

Basically, the agricultural Vision 20:2020 implementation plan recognizes both the effort of the government at various levels as well as that of private partnership for the attainment of the goals therein. Hence, the National Agricultural Investment Programme (NAIP) serves as the blueprint for harnessing the various sectors' contribution, especially that of public-private partnership (PPP) framework, towards the implementation of Vision 20:2020 agricultural policy. The Federal Government (through its MDAs) sets the direction, while the organized private sector as well as the State and Local Governments drive execution. The Federal Ministry of Agriculture and Rural Development (FMARD) is the national agency responsible for programme implementation. The

primary function of FMARD is funding, supporting implementation and coordinating the role of federal agencies involved in the programme. The Ministry is also to ensure that the level of annual funding for the project agreed in approved budgets is available and that these funds are released in a timely manner on a semi-annual basis. There is a national management team under the National Programme Coordinator (NPCo) to cater for all technical, financial and administrative matters. The management team provides supporting institutions with the necessary technical, financial and monitoring support to implement the proposed interventions. Support and organization of the programme is provided through this team made up of four national component heads, a chief technical Adviser (CTA) and M&E specialist internationally recruited by FAO and other relevant staff.

The approach adopted by the agricultural Vision 20:2020 implementation plan addresses every component of the entire agriculture value chain for crops, livestock (including poultry) and fisheries. The agricultural value chain is defined as the full sequence of activities or functions required to bring a product from conception, through the intermediary steps of

production, storage, processing, marketing, and delivery to the final consumers. The implementation plan through the vehicle of NAIP concentrates on essentially three commodity programme groups: crops, livestock (including poultry) and fisheries. The support by the Federal, State and Local Government for the production of the commodities under the three programme groups is supplemented by five critical services: input support (fertilizer and seeds), quarantine services, irrigation infrastructure, farmer associations (including cooperatives), and research and development. Processing and marketing infrastructure support are also provided in conjunction with other ministries of government (notably the Ministry of Industry and Commerce and the Ministry of Transport). Environmental mitigation services are built into the Vision 20:2020 programmes and are executed

and monitored in conjunction with Federal Ministry of Environment.

Generally, based on available data, the ratio for the federal/state and local government expenditures within the Vision 20:2020 agricultural policy is of the order of: 4:5:1. The results, assembled in the table below refer to aggregate government investment requirements by federal, state and local governments. It suggests that for 2010, a total of N442 billion was required as the total capital investment in agriculture for the three tiers of government. However, the federal government capital budget allocation of N149.9 billion fell slightly short of the estimated requirement for 2010, yielding a financing gap of N 27 billion (Federal Ministry of Agriculture and Rural Development, 2012).

Table 1: National Funding Requirements for NAIP

| Year | Capital Requirements for the agricultural sector (Billions of Naira, 2010 prices) | | | |
|------|---|---------|-------|------------|
| | National | Federal | State | Local Govt |
| 2010 | 442 | 177 | 221 | 44 |
| 2011 | 500 | 200 | 250 | 50 |
| 2012 | 566 | 226 | 283 | 57 |
| 2013 | 641 | 256 | 320 | 64 |

Source: Federal Ministry of Agriculture and Rural Development (2010) "ECOWAP/CAADP Process National Agricultural Investment Plan (NAIP)," Federal Republic of Nigeria.

In fact, since some of the projects are ongoing and contains elements of a transition, the framework of implementation adopts some of the approaches in use and proposes additional strategies for pursuing the goals of the plan. The Federal Government is responsible for the effective management and delivery of results for the projects articulated. The projects are implemented by the Ministries, Departments and Agencies (MDAs), and where appropriate would be undertaken by contract with the private sector using country systems (guidelines for procurement, accounting, reporting, etc.). Many of the projects (especially those supporting the crop sector) provides support and capacity building in group development, marketing, rural finance, rural infrastructure and off-farm income generating activities. Group development encompasses group formation and strengthening by providing the community development agents at the state and LG levels with additional training and re-orientation, transport and supervision. At site level, there would be consultation with the villagers and traditional leadership to mobilize all segments of the rural community to effectively participate in the activities of the programme. There is also provision for an extensive publicity campaign to popularize the projects and stimulate participation. The use of Information-Communication-Technology (ICT) mechanism is being developed to support the process. Again, the Medium Term Sector Strategy

(MTSS): The Medium-Term Sector Strategy is built on a three-year rolling plan framework, currently covering 2010-2012 (with the updating for 2011-2013 underway). The drafting of the MTSS passes through 15 steps which include the formulation of sector planning teams (SPTs) to review existing policies and projects and to establish new projects. The SPTs have the responsibility of drafting the MTSS and it is made up of 10-20 members (including the Minister, Permanent Secretary, heads of core public enterprises, senior planning officers and senior budgeting officers). The team is also expected to include two members of the Senate and two members of the House of Representatives who have oversight functions for FMARD, one or two members from the civil society (representing the NGOs or the CBOs), four Budget Office of the Federation (BOF) officials, one NPC official, one Bureau of Public Procurement (BPP) official, one Office of Senior Special Assistant to the President on the MDG (OSSAP-MDG) official, and one senior expert. The 2010 MTSS contains 1336 projects (programmes), and tasks, 6 of which 1055 are ongoing (that is, initiated in previous years) and 281 new projects (to be initiated in 2010). Some 258 projects in the MTSS are under suspension, pending review on grounds varying from contract problems, cost overrun and poor performance in execution. Table 2 summarizes the cost of the MTSS (2010-12) by 15 programme groups.

Table 2: Medium-Term Sector Strategy (2010-12) Cost (N million)

| S/N | Programme | 2010 | 2011 | 2012 |
|-----|--|---------|---------|---------|
| 1. | Policy planning & database management | 3,250 | 10,748 | 8,685 |
| 2. | Capacity building, appropriate technology development & private sector participation | 2,974 | 42,559 | 37,659 |
| 3. | International cooperation, collaboration & partnership | 10,082 | 3,987 | 3,718 |
| 4. | Hydrological & Hydro-geological | 617 | 4,510 | 3,733 |
| 5. | Dams & Irrigation | 47,851 | 165,689 | 133,366 |
| 6. | Sustainable Integrated Water Resources Management (IWRM) | 1,248 | 8,074 | 5,887 |
| 7. | Trans boundary Water Resources Management | 113 | 766 | 765 |
| 8. | Sustainable integrated agricultural production growth | 2,872 | 41,072 | 42,611 |
| 9. | Research & extension services | 1,289 | 14,251 | 15,207 |
| 10. | Agricultural credit, farmers cooperatives, rural infrastructure, youth & women involvement | 23,094 | 65,602 | 79,644 |
| 11. | Agricultural Processing & Storage | 157 | 4,593 | 5,525 |
| 12. | Agricultural input & commodity marketing development | 11,648 | 40,150 | 40,488 |
| 13. | Guaranteed Minimum Price (GMP) | 9,000 | 10,108 | 10,881 |
| 14. | Sustainable agricultural land management | 4,709 | 36,906 | 36,077 |
| 15. | Agricultural land accessibility, ownership and Land Use Act | 1,510 | 830 | 640 |
| 16. | Total Cost | 120,419 | 449,851 | 424,893 |
| 17. | MTBF Indicative Ceiling | 120,000 | 108,500 | 117,700 |
| | Resource Gap | 419 | 341,351 | 307,193 |

Source: FMAWR, MTSS (2010).

However, budgetary resources allocated to many of the projects are grossly inadequate; in some cases, the amount allocated is less than half of what was requested or none at all, thereby halting project implementation. Releases during the first two quarters are generally very low or none at all, thus hampering the ability of the implementing agencies to executive projects according to schedule. Despite the resource constraints, a significant number of un-programmed projects are supported in the capital budget. For instance, of the N150 billion appropriated for the 2010 capital budget, only N13 billion is accounted for by projects not in the MTSS. However, it is imperative that we critically examine general commitment of the government towards the implementation of Vision 20:2020 agricultural policy within the ambits of specific programmes and projects as articulated in the implementation plan.

Dams and Irrigation Projects

Dams and irrigation schemes are strategic for increased productivity by encouraging a shift from seasonal to all year farming. Irrigation supports higher production for the enhancement of farm income, food security and reduction in poverty and improved safety nets. The projects proposed for financing seek to ensure that all existing dams and irrigation

facilities are exploited and managed through Public-Private-Partnership (PPP) arrangement. Particularly, the River Basin Development Authorities (RBDAs) are to be restructured and managed in a more efficient manner with a view to making them centres for improved seed for crops, livestock and fishery multiplication, for the construction and maintenance (not management) of dams and primary channels, promotion of a strong extension system for the States of coverage, and more importantly, for the farms in their irrigated lands. The projects will support the provision of processing facilities for the major crops and livestock of the RBDAs farm system; provision of potable water supply, roads and basic infrastructure for rural communities to facilitate access and product evacuation as well as to improve the environment to attract young farmers to the rural areas. Therefore, about fifteen projects are identified for additional support to enable their completion on a timely basis. While table 3 presents the specific government expenditures on dams and irrigation projects between 2010 and 2013, table 4 shows the overall funding for land and water management component between 2011 and 2014. However, the critical funding gaps identified remain unacceptable and tend to becloud the goal of the projects.

Table 3: Dams and Irrigation Projects (Billion Naira)

| S/N | | Cost | 2010 | 2011 | 2012 | 2013 |
|------|---|-------|------|-------|-------|------|
| 1 | Zauro polder Irrigation project | 18.58 | - | 8.02 | 5.02 | 2.02 |
| 2 | Middle Ogun Irrigation project | 3.32 | - | 1.32 | 1.00 | 1.00 |
| 3 | Capacity Building of professionals/performance Assessment of Dams/ Irrigation project | 0.20 | - | 0.08 | 0.07 | 0.05 |
| 4 | Ukwa Land Reclamation and Irrigation scheme | 0.75 | - | 0.20 | 0.35 | 0.20 |
| 5 | South Chad Irrigation project | 2.20 | - | 1.20 | 0.80 | 0.80 |
| 6 | Girinyan Irrigation project | 1.70 | 0.60 | 0.60 | 0.50 | - |
| 7 | Construction of weir and Irrigation Scheme | 0.90 | 0.10 | 0.20 | 0.20 | 0.30 |
| 8 | Tunga-Kawo Dam and Irrigation project | 1.10 | 0.20 | 0.20 | 0.60 | - |
| 9 | Illa-Ebu Irrigation Project | 1.30 | 0.50 | 0.30 | 0.50 | - |
| 10 | Dadin Kowa Dam and Irrigation project | 1.30 | 0.40 | 0.40 | 0.10 | 0.20 |
| 11 | Challawa Karaye Irrigation project | 1.10 | 0.50 | 0.30 | 0.30 | - |
| 1213 | Small Scale Irrigation project Delta | 3.00 | 0.90 | 0.80 | 0.70 | 0.60 |
| 4 | Itu Irrigation/Drainage/ flood control project | 0.88 | 0.15 | 0.46 | 0.26 | - |
| 15 | Ofu-Imabolo Irrigation project | 1.12 | 0.06 | 0.47 | 0.59 | - |
| 16 | Small Scale Irrigation Scheme Goronyo | 1.10 | 0.20 | 0.40 | 0.40 | - |
| | Total | 39.53 | 7.87 | 15.23 | 11.64 | 5.28 |

Source: Federal Ministry of Agriculture and Rural Development (2012) "ECOWAP/CAADP Process National Agricultural Investment Plan (NAIP)," Federal Republic of Nigeria.

Table 4: Funding for Land and Water Management Component

| S/N | COMPONENTS / SUBCOMPONENTS | Cost | 2012 | 2013 | 2014 | Total |
|-----|--|-------|-------|-------|-------|-------|
| 1 | Land and Water Management | - | - | - | - | - |
| 2 | Land Cadastre Initiatives | 13000 | 12700 | 15200 | 14900 | 55800 |
| 3 | Soil Fertility Management (Soil Testing) | 850 | 1300 | 1570 | 1570 | 5290 |
| 4 | Promotion of Conservation Agriculture & reclamation of problem soils | 250 | 260 | 260 | 260 | 1030 |
| 5 | Zauro polder Irrigation project | - | 8020 | 5020 | 2020 | 15060 |
| 6 | Middle Ogun Irrigation project | - | 1320 | 1000 | 1000 | 3320 |
| 7 | Capacity Building of professionals/ performance Assessment of Dams/ Irrigation project | - | 80 | 70 | 50 | 200 |
| 8 | Ukwa Land Reclamation and Irrigation scheme | - | 200 | 350 | 200 | 750 |
| 9 | South Chad Irrigation project | - | 1200 | 800 | 800 | 2800 |
| 10 | Girinyan Irrigation project | 600 | 600 | 500 | 0 | 1700 |
| 11 | Construction of weir and Irrigation Scheme | 100 | 200 | 200 | 300 | 800 |
| 12 | Tunga-Kawo Dam and Irrigation project | 200 | 200 | 600 | 0 | 1000 |
| 13 | Illa-Ebu Irrigation Project | 500 | 300 | 500 | 0 | 1300 |
| 14 | Dadin Kowa Dam and Irrigation project | 400 | 400 | 100 | 200 | 1100 |
| 15 | Challawa Karaye Irrigation project | 500 | 300 | 300 | 0 | 1100 |
| 16 | Small Scale Irrigation project Delta | 900 | 800 | 700 | 600 | 3000 |
| 17 | Itu Irrigation/Drainage/ flood control project | 150 | 460 | 260 | 0 | 870 |
| 18 | Ofu-Imabolo Irrigation project | 600 | 470 | 590 | 0 | 1120 |
| 19 | Small Scale Irrigation Scheme Goronyo | 200 | 400 | 400 | 0 | 1000 |
| | Total | 17710 | 29210 | 28420 | 21900 | 97240 |

Source: Federal Ministry of Agriculture and Rural Development (2012) "ECOWAP/CAADP Process National Agricultural Investment Plan (NAIP)," Federal Republic of Nigeria.

Improved Seeds

Untimely access to and low uptake of high quality seed resulting in the continued use of own “saved seed” instead of improved seed by farmers has led to low productivity and production. This in turn has accounted for low income of farmers and serves as a disincentive for increased private sector investment in the Nigerian seed industry. It has therefore become imperative that effective demand for quality seeds match potential demand by ensuring increased accessibility of farmers to quality and improved seeds and subsequent reduction of the dependence of farmers on “saved seed”. The projects proposed cover seed industry development; foundation seed multiplication programme; seed certification quality control, crop registration and inspectorate services; and information dissemination. The Federal Government also intervened by setting up a number of special research institutes like International Institute for Tropical Agriculture (IITA), National Root Crops Research Institute, Umudike and others; and donor driven programs such as the Root and Tuber Expansion Program (RTEP) of the United Nations Organization’s International Fund for Agricultural Development (IFAD) which has focused on root crops productivity enhancement through improved variety adoption (Azih, 2008; Asoegwu and Asoegwu, 2009). The immediate objective of these projects is the release of top quality foundation seeds to certified seed producers, while the medium and long-term goal is to make available to farmers

improved genetically high quality seeds to enhance productivity, create wealth and employment and reduce poverty. More importantly, the National Seed Laboratory Development project will entail the:

- Construction of two new Seed Testing Laboratories in the two new zones of NASC (Asaba & Gombe);
- Construction of two new Seed testing laboratories, (Zaria & Jos), to bring them out of the Administrative building;
- Up grading the infrastructural facilities, (furniture, fittings, plumbing, electrical, painting etc) in the Seed testing Laboratories at Ibadan, Umudike, & Ilorin;
- Purchase of modern state of the art, ISTA specified seed testing equipment for the six zonal Seed Testing Laboratories, (North West, Zaria; North East, Gombe; Central Zone, Jos; South West, Ibadan; South South, Asaba; & South East, Umudike) and the Central Seed Testing Laboratory at Sheda..
- Development of capacity of staff through appropriate technical and vocational training overseas in modern seed testing techniques and seed technology.
- Equipment maintenance and infrastructural supports

However, the full implementation of the “improved seed” projects has met some critical challenges especially regarding adequate funding. Table 5 below establishes the funding for seed development.

Table 5: Funding for the Seed Sector (Billion Naira)

| Projects | 2010 | 2011 | 2012 | 2013 |
|--|-------|-------|-------|-------|
| Seed Industry Development | 2.507 | 2.537 | 2.875 | 2.904 |
| Seed Certification and Quality Control | 0.280 | 0.879 | 0.650 | - |
| National Seed Laboratory Development | 0.579 | 0.580 | 0.320 | - |
| Foundation Seed Multiplication | 0.886 | 1.077 | 1.109 | - |
| Tree and Horticultural Seed | - | 0.200 | 0.250 | .0300 |
| National Programme of Pasture Seeds | - | 0.200 | 0.300 | - |
| Provision of Tools and Material | 0.064 | 0.254 | 0.254 | 0.256 |
| Seed Research and Studies | - | 0.060 | 0.025 | 0.030 |
| Total | 4.316 | 5.587 | 5.783 | 3.490 |

Federal Ministry of Agriculture and Rural Development (2012) “ECOWAP/CAADP Process National Agricultural Investment Plan (NAIP),” Federal Republic of Nigeria.

Subsidization of Modern Tractors

Credit Loans to Farmers

The federal government directly supports the farmers in upgrading and expanding their productive capacity by providing them with credit schemes to access. Basically, there are two credit schemes available to Nigerian farmers namely: Agricultural Credit Support Scheme (ACSS) and Commercial Agricultural Credit Scheme (CACS). However, loans accessed by farmers have characteristically been dropping and unsteady. Table 6 below has more information.

Table 6: Sectoral Analysis of Deposit Money Bank’s Credit (N’ Million)/Loans to Farmers

| Period of Disbursement | Amounts Disbursed |
|------------------------|-------------------|
| Jan 2007 | 44,542.97 |
| Feb 2007 | 47,797.65 |
| Mar 2007 | 57,177.89 |
| Apr 2007 | 61,216.76 |
| May 2007 | 61,394.54 |
| Jun 2007 | 62,339.10 |

| | |
|----------|------------|
| Jul 2007 | 88,537.10 |
| Aug 2007 | 65,461.80 |
| Sep 2007 | 66,403.44 |
| Oct 2007 | 127,481.10 |
| Nov 2007 | 134,476.26 |
| Dec 2007 | 149,578.92 |
| Jan 2008 | 65,134.39 |
| Feb 2008 | 106,927.70 |
| Mar 2008 | 134,814.65 |
| Apr 2008 | 139,227.20 |
| May 2008 | 187,098.57 |
| Jun 2008 | 171,665.89 |
| Jul 2008 | 165,145.32 |
| Aug 2008 | 166,688.40 |
| Sep 2008 | 117,918.04 |
| Oct 2008 | 116,401.42 |
| Nov 2008 | 99,343.46 |
| Dec 2008 | 106,353.85 |
| Jan 2009 | 107,557.49 |
| Feb 2009 | 91,163.78 |
| Mar 2009 | 114,296.55 |
| Apr 2009 | 98,133.40 |
| May 2009 | 103,100.25 |
| Jun 2009 | 88,635.09 |
| Jul 2009 | 108,275.37 |
| Aug 2009 | 108,489.60 |
| Sep 2009 | 110,842.10 |
| Oct 2009 | 136,891.64 |
| Nov 2009 | 138,904.90 |
| Dec 2009 | 135,701.30 |
| Jan 2010 | 112,826.84 |
| Feb 2010 | 128,181.07 |
| Mar 2010 | 136,591.13 |
| Apr 2010 | 155,046.96 |
| May 2010 | 152,450.48 |
| Jun 2010 | 150,297.29 |
| Jul 2010 | 151,768.03 |
| Aug 2010 | 158,384.51 |
| Sep 2010 | 176,688.30 |
| Oct 2010 | 153,258.00 |
| Nov 2010 | 168,897.24 |
| Dec 2010 | 128,405.95 |
| Jan 2011 | 131,707.87 |
| Feb 2011 | 142,984.23 |

| | |
|------------|------------|
| Mar 2011 | 146,862.92 |
| Apr 2011 | 148,273.07 |
| May 2011 | 169,598.85 |
| Jun 2011 | 155,101.81 |
| Jul 2011 | 219,080.98 |
| Aug 2011 | 223,646.14 |
| Sep 2011 | 234,121.71 |
| Oct 2011 | 236,135.97 |
| Nov 2011 | 248,290.74 |
| Dec 2011 | 255,205.29 |
| Jan 2012 | 281,942.61 |
| Feb. 2012 | 258,262.07 |
| March 2012 | 264,651.35 |
| April 2012 | 274,821.01 |

Source: Central Bank of Nigeria (2014) "Domestic Production, Consumption and Prices," CBN Statistical Bulletin, Vol. 3, October 30.

From the data supplied above, however, it should be noted that the trend in loans accessed by the farmers over the stated period have remained unsteady and staggering. For instance, while there was a sustainable record of accessible loans in 2007 climaxing to N149,578.92 in Dec. 2007, the hopeless score of 2008, rather became too distressing as the amounts crumbled from a pitiable N65,134.39 in Jan. to N99,343.46 in November same year. However, two important points remain significant. First, the credit loans earmarked by the government are still not fully accessed by the farmers, thus defeating the general purpose of the scheme. Second and more remarkably, the low accessibility of these loans will definitely limit farmers' prospects of business expansion and productivity. Perhaps, there is critical need for the government to further assist farmers in managing and applying these loans to the right channels so as to achieve its purpose in boosting agricultural produce.

Hypothesis 2: The implementation of Vision 20:2020 did not impact effectively on the production of tubers, grains and livestock in Nigeria between 2007 and 2015.

Vision 20:2020 And the Production of Tubers, Grains, and Livestock Between 2007 And 2012

Agricultural productivity remains a key factor for growth and competitiveness. Regrettably, however, despite the considerable efforts and commitment of the government towards the implementation of Vision 20:2020 agricultural policy, it beats ones imagination to realize that agricultural production in Nigeria has not been generally satisfactory or at least kept pace with the goals of Vision 20:2020. For instance, the rate of production of roots, tuber crops as well as grains has been unimpressive and dismaying. For clear empirical records, table 7 establishes the same fact with specific analysis of quantities of crop production recorded within the said period.

Table 7: Crop Production in Nigeria, 1981-2011

| Year | ('000 metric tons) |
|------|--------------------|
| 1981 | 10,088.00 |
| 1982 | 11,274.00 |
| 1983 | 12,870.00 |
| 1984 | 16,920.00 |
| 1985 | 19,729.00 |
| 1986 | 20,442.00 |
| 1987 | 31,214.00 |
| 1988 | 48,679.00 |
| 1989 | 56,577.43 |
| 1990 | 68,416.71 |
| 1991 | 80,002.02 |
| 1992 | 120,720.11 |
| 1993 | 196,133.79 |
| 1994 | 296,966.75 |
| 1995 | 527,474.39 |
| 1996 | 713,786.10 |
| 1997 | 807,759.75 |
| 1998 | 892,052.66 |
| 1999 | 948,183.00 |
| 2000 | 1,000,069.45 |
| 2001 | 1,337,766.57 |
| 2002 | 3,050,243.47 |
| 2003 | 3,275,429.22 |
| 2004 | 3,478,096.41 |
| 2005 | 4,228,282.24 |
| 2006 | 5,291,619.08 |
| 2007 | 6,024,381.00 |
| 2008 | 7,114,793.96 |

| | |
|------|---------------|
| 2009 | 8,200,921.69 |
| 2010 | 9,196,004.53 |
| 2011 | 10,323,648.69 |
| 2012 | 7,323,648.69 |
| 2013 | 11,343,668.63 |

Source: Central Bank of Nigeria (20014) "Domestic Production, Consumption and Prices," CBN Statistical Bulletin, Vol. 3, October 30.

From table 7 above, it can be seen that the general rate of crop production especially within the period of the implementation of Vision 20:2020 agenda was very minimal and insignificant. In fact, looking at the overall percentages, one can intelligently observe that the percentage increases in crop production rather dwindled foolishly all through the implementation period, i.e. 2007-2011, as against a perceived sustainable increase pedestrian prior to the said implementation period. For instance, crop production rate which recorded a seeming high point of 28 percent increase in 2005 went down flat to a dissatisfying 24 percent increase in 2006. The unfortunate trend continued into 2007 notwithstanding the implementation kickoff of the Vision 20:2020 agricultural policy. In fact, the trend became more gloomy and challenging. Merely 19 percent increase was achieved in the said 2007, thus, marking a sharp retrogression and 5 points off from the percentage record of the preceding year. This bad trend continued as the percentage record finally crashed at an unacceptable 12 percent in 2011. However, 33 most important food and agricultural commodities in Nigeria are accessed for the year indicated to ascertain the performance and trend of increases in the production of selected crops prior and during the period of implementation of the Vision 20:2020 agricultural policy. Ttable 8 provides data on the increases recorded in the production of selected crops (i.e. tubers and grains) prior to the Vision 20:2020 implementation period, i.e. between and 2001 and 2006, while table 9 gives information on same during the Vision 20:2020 implementation period, i.e. between 2007 and 2014.

Table 8: Production of Tubers and Grains in Nigeria, 2007-2012 (in metric tons)

| S/N | Tubers and Grains | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|-----|------------------------|----------|----------|----------|----------|----------|----------|
| 1 | Cassava | 32068000 | 34120000 | 36304000 | 38845000 | 41565000 | 45721000 |
| 2 | Yams | 26232000 | 27911000 | 29697000 | 31776000 | 34000000 | 36720000 |
| 3 | Taro (cocoyam) | 4596000 | 4890000 | 5203000 | 5567000 | 5957000 | 7100000 |
| 4 | Sweet potatoes | 2473000 | 2631000 | 2800000 | 2996000 | 3205000 | 3462000 |
| 5 | Rice | 2752000 | 2928000 | 3116000 | 3334000 | 3567000 | 4042000 |
| 6 | Maize | 4596000 | 4890000 | 5203000 | 5567000 | 5957000 | 7100000 |
| 7 | Millet | 5530000 | 5884000 | 6260000 | 6699000 | 7168000 | 7705000 |
| 8 | Sorghum | 7081000 | 7534000 | 8016000 | 8578000 | 9178000 | 9866000 |
| 9 | Groundnuts, with shell | 2683000 | 2855000 | 3037000 | 3250000 | 3478000 | 3825000 |
| 10 | Groundnut, unshelled | 2200000 | 2500000 | 2400000 | 3300000 | 3400000 | 3000000 |

| | | | | | | | |
|----|--------------|-----------------|-----------------|------------------|------------------|------------------|------------------|
| 11 | Mellon seed | 348000 | 370000 | 394000 | 422000 | 451000 | 483000 |
| 12 | Wheat | 41000 | 42000 | 46000 | 44000 | 53000 | 51000 |
| 15 | Soya Beans | 436000 | 464000 | 494000 | 528000 | 565000 | 605000 |
| 16 | Bambara Nut | 166000 | 176000 | 164000 | 169000 | 158000 | 162000 |
| 17 | Beni Seed | 93000 | 89000 | 91000 | 91000 | 100000 | 105000 |
| | Total | 91295000 | 97284000 | 103225000 | 111166000 | 118802000 | 129947000 |

Source: FAOSTAT (2011) "Commodities by Country: Nigeria," <http://faostat.fao.org/DesktopDefault.aspx?PageID=339&lang=en&country=159>

See also: http://www.npc.gov.ng/vault/files/NV2020-NIP-Volume-II-Original-document_edited_version3_10_06_2010.pdf (accessed on 2/9/2013).

Table 9: Production of Tubers and Grains in Nigeria, 2007-2012 (in metric tons)

| S/N | Tubers and Grains | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|-----|------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| 1 | Cassava | 43410000 | 44582000 | 36822250 | 42533180 | 52403455 | 54000000 |
| 2 | Yams | 31136000 | 35017000 | 29091980 | 34162060 | 37115510 | 37115512 |
| 3 | Taro (cocoyam) | 4996000 | 5387000 | 3033340 | 2957090 | 3265740 | 3450000 |
| 4 | Sweet potatoes | 2432000 | 3318000 | 3300000 | 3300000 | 3300000 | 3400000 |
| 5 | Rice, paddy | 3186000 | 4179000 | 3546250 | 4472520 | 4567320 | 4833000 |
| 6 | Maize | 6724000 | 7525000 | 7358260 | 7676850 | 9180270 | 9410000 |
| 7 | Millet | 8090000 | 9064000 | 4929950 | 5170430 | 1271100 | 1000000 |
| 8 | Sorghum | 9058000 | 9318000 | 5279170 | 7140970 | 6897060 | 6900000 |
| 9 | Groundnuts, with shell | 2847373 | 2872740 | 2977620 | 3799240 | 2962761 | 3070000 |
| 10 | Groundnut, unshelled | 2800000 | 2800000 | 2800000 | 2700000 | 2700000 | 2700000 |
| 11 | Mellon seed | 490000 | 493000 | 402550 | 507340 | 510000 | 510000 |
| 12 | Wheat | 31000 | 37000 | 36000 | 35000 | 35000 | 100000 |
| 15 | Soya Beans | 580000 | 591000 | 426590 | 285050 | 563810 | 450000 |
| 16 | Bambara Nut | 156000 | 158000 | 157000 | 158000 | 158000 | 158000 |
| 17 | Beni Seed | 92000 | 131000 | 132000 | 131000 | 131000 | 131000 |
| | Total | 116028373 | 125472740 | 100292960 | 115028730 | 125061026 | 127227512 |

Source: FAOSTAT (2011) "Commodities by Country: Nigeria," <http://faostat.fao.org/DesktopDefault.aspx?PageID=339&lang=en&country=159>

See also: http://www.npc.gov.ng/vault/files/NV2020-NIP-Volume-II-Original-document_edited_version3_10_06_2010.pdf (accessed on 2/9/2013).

Generally, tables 10 and 11 above clearly suggest that the performance increases in the rate of production of selected crops (i.e. tubers and grains) for the years indicated have remained so microscopic and unfavourably infinitesimal. Comparative evaluation of performance of selected crops establishes that the period of implementation of Vision 20:2020 agricultural agenda has not recorded any substantial increase whatsoever in the said crop subsector. For example, staple crops like, cassava, cocoyam, yam tubers and maize for a period of seven years, only recorded shabby production increase of 0.7, 0.4, 8.6 and 1.9 respectively between 2000 and 2006. However, the introduction of Vision 20:2020 did not rescue the crop subsector from the numerous woes betiding it. Particularly, with a mere 0.7 percent increase, cassava crop which ranked highest in value/production output recorded can be said to have achieved no growth at all between 2000 and 2004. However, a surprising 12 percent increase in 2006 with output of 45721000 metric tons (shortly before the Vision 20:2020 programme), became unsustainably ridiculed and cut down by a shortfall of less 14 percent

maintaining an abysmally interrupted growth of 36822250 metric tons in 2009. Mere 10 percent increase was achieved later between 2010 and 2011 which nonetheless showed no significant improvement from the records of preceding years. Other stable crops like cocoyam, yam tubers and maize did not perform beyond the obvious insignificant production successes in the tune of 0.4, 0.2 and 1.3 increases respectively between 2007 and 2011. This ugly trend in root crop production also characterized other commodity classes such as grains. These results are unsatisfactory and disappointingly short of the anticipated 100 percent increase in crop production levels as contained in the Vision 20:2020 agricultural policy.

However, it is quite unfortunate that the government has not shown consumerate commitment in the implementation of these articulated agendas. The table below shows the financial commitment of government towards upgrading of the livestock subsector, though, but with conspicuous funding gaps.

Table 10: Livestock Subsector –Projects with Funding Gaps (Billion Naira)

| Projects | Total Budgeted | Total Cost of Projects | Funding Gap |
|--|----------------|------------------------|---------------|
| National Abattoir Management and Development Programme | 0.310 | 6.017 | 5.707 |
| National Livestock Products and Market Development Programme | 0-300 | 2.815 | 2.515 |
| Intensive Commercial Livestock Development Programme | 0.300 | 3.419 | 3.119 |
| National Dairy Development Programme | 0.100 | 2.103 | 2.003 |
| National Breed Improvement and Conservation Programme | - | 3.319 | 3.319 |
| Total | 1.010 | 17.673 | 16.663 |

Source: Federal Ministry of Agriculture and Rural Development (2012) “ECOWAP/CAADP Process National Agricultural Investment Plan (NAIP),” Federal Republic of Nigeria.

Hence, despite the unimpressive efforts of the Federal Government, as demonstrated in the table above, to increase the production of livestock and fishery production, the Nigeria’s livestock and fishery sub-sectors’ have not been

robust. This trend is indicated in their low rate of production, their meager contribution to National Gross Domestic Product (GNP) as well as the agriculture sector growth indicator (See table 11 below).

Table 11: Livestock and Fishery Production in Nigeria

| Index ('000) | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Livestock Products | 2724.4 | 2940.4 | 3102.9 | 3260.3 | 3455.5 | 3647.3 | 3647.5 | 3647.6 | 3648.0 | 3653.2 |
| Poultry | 82.3 | 83.1 | 91.4 | 110.9 | 115.5 | 122.9 | 122.9 | 122.9 | 1223 | 285.0 |
| Goat meat | 442.1 | 490.6 | 511.6 | 524.4 | 559.2 | 597.0 | 557.0 | 557.0 | 557.1 | 292100 |
| Mutton | 419.9 | 472.5 | 486.5 | 486.1 | 531.4 | 556.3 | 556.3 | 556.3 | 556.3 | 456.9 |
| Beef | 185.6 | 232.5 | 239.8 | 235.1 | 262.2 | 275.8 | 285.9 | 274.8 | 275.8 | 357.5 |
| Pork | 56.1 | 58.5 | 62.3 | 66.5 | 69.6 | 73.1 | 73.1 | 72.1 | 74.2 | 76.4 |
| Milk | 1049.9 | 1093.7 | 1185.9 | 1245.2 | 1313.3 | 1390.2 | 1390.2 | 1391.1 | 1390.1 | 563000 |
| Eggs | 488.9 | 509.5 | 525.4 | 589.0 | 604.3 | 632.0 | 632.1 | 623.0 | 623.1 | 636.0 |
| Fishing | 498.1 | 505.6 | 542.0 | 573.7 | 600.6 | 635.2 | 635.3 | 625.3 | 625.2 | 634.1 |
| Catches: Artisanal Coastal and Brackish water | 210.2 | 213.3 | 230.7 | 240.6 | 250.9 | 262.7 | 262.7 | 262.8 | 262.7 | 273.1 |
| Catches: Artesanal inland rivers/lakes | 1955.4 | 198.4 | 211.3 | 224.8 | 232.7 | 244.8 | 244.8 | 244.8 | 244.7 | 245.4 |
| Fish Farming | 51.6 | 52.4 | 55.8 | 62.2 | 68.3 | 76.3 | 77.1 | 77.2 | 75.6 | 76.6 |
| Industrial trawling (coastal fish & shrimps) | 40.9 | 41.5 | 44.2 | 46.1 | 48.8 | 51.4 | 51.5 | 51.2 | 50.7 | 52.4 |

Source: CBN Annual Report Cited in Azih, N (2008) “A Background Analysis of the Nigerian Agricultural Sector” Accessed on August 13, 2013, from: <http://www.oxfamnocib.org.on>. See also: FAOSTAT (2013) “Country Statistics,” FAO Statistics Division, accessed on September 1, 2013, <http://faostat.fao.org/site/573/DesktopDefault.aspx?PageID=573#ancor>

The table presented depicts that less than 1 percent increase occurred in livestock production for the preceding years of Vision 20:2020, i.e. between 2002 and 2006. However, the trend became more threatening with a despicable record of less than 0.5 percent increase in livestock production within the period of Vision 20:2020 implementation. Generally, there were but perceived insignificant increases in all the classes indicted. Although there was relative rapid increase in poultry sub-sector which has, over the years, been consistent because it benefits from the ban on import of poultry products. Its growth was, however, dampened in 2006 by the outbreak of Avian Influenza which still affected its immediate output at the introduction of the Vision 20:2020 scheme. On the other hand, sheep and goat products provide the highest livestock

produce followed by beef products. In the fishery sector, artisanal fish catch is the main activity, while aquaculture (fish farming) is just gaining some investment prominence, especially in the southern part of the country. Generally national fish production index rose at an abysmal 4.5% between 2004 and 2005, compared to 3.8% in 2000 production years while it grew 6% in 2006 over 2005. However, within the implementation period of Vision 20:2020 the general output has grown in less than 1 percent.

V. SUMMARY

The study set out to examine the implementation of the vision 20:2020 agricultural policy by the Federal Government between 2007 and 2015 and its effect on food production in

Nigeria. Being essentially a qualitative research, the study made use of secondary documents which included government publications, books, journal articles and other related materials. The Marxian instrumentalist theory was also adopted to provide a clear analytical bias and strengthen the tilt of the study. The study was driven by the quest to find out the answers to the research questions which are also in connection with the stated objectives and hypotheses especially to confirm whether the implementation of the Vision 20:2020 accounted for improved and modernized production systems in Nigeria between 2007 and 2015, and to establish the impact of the implementation of Vision 20:2020 on the production of tubers, grains and livestock in Nigeria between 2007 and 2015. Relevant literature were reviewed and empirical evidence supplied accordingly to adequately verify and confirm the stated hypotheses.

VI. CONCLUSION

To this end, the study established that the efforts of the Nigerian government to increase agricultural productions, especially regarding to tubers and grains as well as livestock and fishery, as contained in the Vision 20:2020 agricultural policy have not been achieved within the said period of implementation. The Nigerian government's large-scale modernization of the production systems for crops as enunciated in the Vision 20:2020 has not resulted to significant increase in the production of tubers and grains within the implementation period of the Vision 20:2020. The problem has always been the protection of vested interest when it comes to policy implementation, this, leading to haphazard results. In fact, the problem of inflated contracts, non-completion of contracts, reselling of purchased materials through the back door, embezzlement of contracted funds, etc, have led to excessive funding gaps on . Resultantly, between 2009 and 2012, conspicuous funding gaps on Vision 20:2020 agricultural policies were recorded as follows: Agricultural Productivity Enhancement – N29362.2 billion; Support to Commercial Agriculture – N22679 billion; Land and Water Management – N97240 billion; Linkages and Support to Inputs and Products Markets – N29362.2 billion; Programme Coordination, Monitoring and Evaluation – N2250 billion.

More so, the implementation of the vision 20:2020 is so much marred by endemic state corruption to the point that the majority of smallholder farmers much of whom are settled in the rural areas have been profoundly skewed out from benefiting from most of the said modernization projects and programmes. For instance, the "improved seed projects", Agricultural Credit Support Scheme (ACSS) as well as Commercial Agricultural Credit Scheme (CACS), and some stated subsidy packages (including that of acquisition of tractors, fast yielding crops, etc) could not be accessed by most farmers. Irrigation and efficient extension schemes, as well as use of highly disease resistant livestock campaign were not pursued implemented. Adequate funds were not released for agricultural research institutes thus leading to low adaptability to modern farming techniques. Worse still, rural

farmers lacked information on modern farming techniques, as monies meant for farmers' enlightenment programmes were embezzled. Hence, the implementation of Nigerian Vision 20:2020 agricultural policy has not significantly increased production of tubers, grains, livestock and fishery in Nigeria. Production of tubers and grains which stood at 116028373 tons in 2007 (a drastic decline from the production level of 129947000 tons in 2006 prior to the implementation of Vision 20:2020) merely increased to 125472740 tons in 2008. In 2009 it toddled at 100292960 tons only to settle at 115028730 tons in 2010. A lackluster increase to 125061026 tons occurred in 2011, with an unnoticeable rise to 127227512 tons in 2012. Livestock products steadied between 3647.3 tons in 2007 to 3647.5 tons in 2008. It staggered from 3647.6 tons in 2009 to 3648.0 tons in 2010, only to quench at 3653.2 tons in 2011. Ironically, radical transformation of Nigeria's largely traditional farming system to a modern one has not been achieved, the same thing with the much touted injection of substantial engineering and technological inputs into the system. This critically defeats the Vision 20:2020 goal of increasing crops production by 100 percent within the implementation period.

We strongly maintain that the unnecessary interference of the ruling class, who determines and influences the will and actions of the state in pursuant of their vested interest, with the implementation of Vision 20:2020 agricultural policy accounts for the abysmal failure of the policy especially as it deals with production of crops and livestock between 2007 and 2015.

VII. RECOMMENDATIONS

Following the above results, we make the following recommendations:

- First, the government should match the Vision 20:2020 policy with commensurate funding as adequate funding is key to the success of the programme.
- There is need to advance workable strategy of attracting the contribution of the private sector under the public-private partnership (PPP) framework as anticipated and articulated within National Agricultural Investment Programme (NAIP).
- Corrupt practices must also be checked at the level of policy implementation so as to achieve good result.
- The management of the national policy on agriculture cannot be left to the federal ministry of agriculture alone. There is prevailing need for the harmonization of inter-ministerial/sectoral strategy in other to achieve the goals of the policy as important policies affecting agriculture originate from outside the domain of the agro-sector and as such requires cooperation of related sectors to get the problems solved.
- The government should advance more workable strategies to achieve the goals of its agricultural

credit schemes so that the loan facilities would become more accessible to larger number of small and medium-scale farmers. This would empower them to expand their production scale and boost output.

REFERENCES

Books

- [1]. Asika, N (2006). *Research Methodology in the Behavioural Sciences*. Nigeria: Longman Nigerian Plc.
- [2]. Bigman, D. (1982) *Coping with Hunger: Towards a System of Food Security and Price Stabilization*. Massachusetts. Ballinger Publishing Company.
- [3]. Leege, D.C and W.L Francis (1974). *Political Research, Design, Measurement and Analysis*. New York: New York: Basic Books Inc. Publishers.
- [4]. Mashego, S.N. (2001) *Redistribution of Proteocephalus Glanduligar*. Annals of the Transvaal museum 38: 13-17.
- [5]. Mullen J. 2002. Rural Poverty. In: Desai V. and Potter, RB. eds. *The Companion to Development Studies*. London: Holder Arnold.
- [6]. McQueen, R. and Knussen, C. (2002) *Research Methods for Social Science: An Introduction*. Harlow: Pearson.
- [7]. Okigbo, P. (1989) *National Development Planning in Nigeria 1900-92*. Fourth Dimension Publishing Company Ltd., Enugu.
- [8]. Shimada S. (1999) A Study of Increased Food Production in Nigeria” The effect of the Structural Adjustment program on the local level.” Graduate School of Asian and African Area Studies, Kyoto University.

Book Chapters

- [9]. Asobie, H. A (1990). “Decision Making models Revisited: An Analysis of the Application of theories and models of Foreign Policy Decision-making to the study of Nigerian foreign Policy” In G. O. Olusanya and Akindele (eds) *The structure and Processes of Foreign policy making and implementation in Nigeria, 1960 – 1990*. Lagos: NIIA.
- [10]. Atanda, A.N., 2007. Freshwater fish seed resources in Nigeria, pp. 361-380. In: M.G. Bondad-Reantaso (ed.). *Assessment of freshwater fish seed resources for sustainable aquaculture*. FAO Fisheries Technical., 501.Rome, FAO. pp: 628.
- [11]. Attwood, DW. and Baviskar, BS. 2002. Rural Cooperatives. In: Desai V. and Potter, RB. eds. *The Companion to Development Studies*. 165-169 London: Holder Arnold.
- [12]. Brandt, H. (1990) “Food Security Aspects in Price and Market Policies for Grain-Based Food Systems of Sub-Saharan Africa” in E.Chole (eds) *Food Crisis in Africa: Policy and Management*. New Delhi: Vikus Publishing House PVT Ltd.
- [13]. Eicher, C.K. and Staaz, J.M. (1986) “Food Security Policy in Sub-Saharan Africa” in A.Maunders (ed.) *Agriculture in a Turbulent World Economy*. Baltimore: Gower Aldershot.
- [14]. Okuneye, P.A. (1992) “The Problem of Declining Food Production,” in Olanrewaju S.A and Folola, T. (eds) *Rural Development Problems in Nigeria*. Avebury, Aldershot.

Journal Articles

- [15]. Adedeji, O.B. and Okocha, R.C. (2011) “Constraint to Aquaculture Development in Nigeria and Way Forward,” *Journal of Applied Sciences Research*, 7(7): 1133-1140.
- [16]. Agbede, S.A., O.K. Adeyemo, O.B. Adedeji, A.O. Olaniyani and G.O. Esuruoso (2003) “Teaching of Fish and Wildlife Medicine to D. V. M. Students: The Scope, Opportunities and Applications in Practice,” *Nig. Vet. Journal*, 24(3): 172-178.
- [17]. Asoegwu, S and Asoegwu, A (2007) “An Overview of Agricultural Mechanization and its Environmental Management in Nigeria” *Agricultural Engineering International: the CIGR Ejournal* Vol.1X N0.6.

- [18]. Dankishiya, A.S. and M. Zakari (2007) “Study on the Gastrointestinal Helminth Parasites of Clarias Gariepinus(Tuegels)” *BEST Journal*, 4(2): 79-81.
- [19]. Eneh, O.C. (2011) “Nigeria’s Vision 20:2020-Issues, Challenges and Implications for Development Management,” *Asian Journal of Rural Development*, Vol. 1 (1): 21-40.
- [20]. Fetuga B. L. and Tewe O.O. (1985) “Potentials of Agro Industrial By-products and Crop Residues as Animal Feeds”, *Nigeria Food Journal* 2 (2): 136 –141.
- [21]. Goshit, Z.D. (2008) “Alleviating Poverty and Hunger in Nigeria: Lessons from the United States of America” in *LWATI Journal of Contemporary Research*, Vol.1 (1): 23-40.
- [22]. McGowan, P. and G. Worker (1981). “Radical Policy Making” *World Politics*, xxxiii (3).
- [23]. Takeshima, H. and Salau, S. (2010) “Agricultural Mechanization and the Smallholder Farmers in Nigeria,” *International Food Policy Research Institute*, Policy Note, No. 22.

Official Documents

- [24]. Central Bank of Nigeria (2009) “Domestic Production, Consumption and Prices,” CBN Statistical Bulletin, Vol. sec. 3, October 30.
- [25]. Central Bank of Nigeria (2013) “Quarterly Statistical Bulletin Quarter One 2013,” Volume 2, Number 1, March.
- [26]. FAO (2002) *The State and Food Insecurity in the World 2002*.
- [27]. FAO (2008) *Crops Prospects and Food Situation in Nigeria*. Abuja: FAO.
- [28]. FAO (2011) “Nigeria Food Security Report 2011”, Accessed online via www.fao.org on 21 May, 2013.
- [29]. FAOSTAT (2013) “Commodities by Country: Nigeria,” FAO Statistics Division, accessed on September 1, 2013, from: <http://faostat.fao.org/DesktopDefault.aspx?PageID=339&lang=en&country=159>
- [30]. FAOSTAT (2013) “Country Statistics,” FAO Statistics Division, accessed on September 1, 2013, <http://faostat.fao.org/site/573/DesktopDefault.aspx?PageID=573#ancor>
- [31]. Federal Ministry of Economic Development, Nigeria 1983 National Development Plan 1962-68 Lagos.
- [32]. Federal Ministry of Agriculture and Rural Development (2012) “ECOWAP/CAADP Process National Agricultural Investment Plan (NAIP),” Federal Republic of Nigeria.
- [33]. Mabogunje, A.L. (2012) “Land Reform In Nigeria: Progress, Problems & Prospects,” A Report by the Chairman, Presidential Technical Committee For Land Reform.
- [34]. National Planning Commission, 2008.
- [35]. Nigeria Vision 20:2020 First National Implementation Plan. Volume II: Sectoral Plans and Programmes,” Federal Republic of Nigeria, May, 2010.
- [36]. Nigeria Vision 20:2020 Economic Transformation Blueprint, October, 2009.
- [37]. Report of the Vision 20:2020 National Technical Working Group on Agriculture and Food Security, July, 2009.
- [38]. Report of the Vision 2020 National Technical Working Group on Agriculture & Food Security, July 2009
- [39]. ARC (Agricultural Research Council of Nigeria). 2010. *Technologies Generated by the National Agricultural Research Institutes between 1997 and 2008*. Abuja, Nigeria: ARC.
- [40]. ReSAKSS WA (Regional Strategic Analysis and Knowledge Support System, Western Africa). 2009. *Review of Potential crop yields in Nigeria*. Ibadan, Nigeria: ReSAKSS WA and International Institute of Tropical Agriculture (IITA). Photocopy.
- [41]. World Bank Report, 2009.

Conference Papers

- [42]. Abubakar, B.Y. (2010) “The Role of Research and Development in Attainment of Food Security in Nigeria,” Paper Presented at the 2010 National Agricultural Show, Held at National Agricultural Foundation of Nigeria Conference Hall, Nasarawa State, Nigeria, 13th - 14th October.

- [43]. Akolisa, O. and V.A. Okonji, 2005. A Review of Environmental implication of Aquaculture development in Nigeria. In 2005 FISON Conference Proceedings 14-18 Nov 2005 Port Harcourt, Nigeria. pp: 225-229.
- [44]. Amobi, BO. 2010. Solving Unemployment Problems through Sustainable Agricultural Production. President's address delivered at 34th Annual Conference of Nigeria Statistical Association held in Owerri from 22nd-24th Sept, 2010.
- [45]. Aremn, AA. 2009. The Role of Planning Research and Statistics (PRS) in the implementation of the Seven Point Agenda. In Nigeria Statistical Association annual Conference Proceedings 12-14th August 2009, Gusau, Zamfara State.
- [46]. Ragasa, C., Babu, S., Abdullahi, A.S. and Abubakar, B.Y. (2010) "Strengthening Innovation Capacity of Nigerian Agricultural Research Organizations," *IFPRI Discussion Paper 01050*, December, International Food Policy Research Institute.
- [47]. Sakariyawo O. S., Bugaje S. M., Kuta D. D., Magashi A. I., Ubale A. S. (2000) "Food security in Nigeria", Paper presented at the conference of young agricultural specialists: which took place between 22nd July - 5th August at the People's Friendship University of Russia, Moscow.
- [48]. Tewe, O.T. And Bakanga, M. (2001) "Post-Harvest Technologies in Nigeria's Livestock Industry: Status, Challenges And Capacities," A Presentation At The Gfar – Gipt Workshop, 17 – 21 September, Entebbe Uganda.
- [51]. Okonjo-Iweala, N. and P. Osafo-Kwaako, 2007. Nigeria's economic reforms: Progress and challenges. http://www.brookings.edu/papers/2007/0323globaleconomics_okonjo-iweala.aspx.
- [52]. Onyekakeyah, L., 2008. Vision 2020 and seven-point agenda: Any connection *Guardian*. <http://www.nigerianmuse.com/20080819051159zg/nigeria-watch/vision-2020-and-seven-point-agenda-any-connection-by-luke-onyekakeyah/>
- [53]. Fagbenro, O.A. and Adebayo, O.T. (2005) "A review of the Animal and Aquafeed Industries in Nigeria, FAO Corporate Document Depository, accessed on August 25, 2013, from: <http://www.fao.org/docrep/008/a0042e/a0042e05.htm#TopOfPage>
- [54]. Nwanze, KF. 2010. Smallholder Farmers can Feed the World. *Sunday Independent* pIV Oct. 24.
- [55]. Obi, T.U. (2004) "Symposium: Emerging And Re-Emerging Livestock Diseases," National Veterinary Research Institute, Vom, 80th Anniversary Proceedings. Accessed online on September 1, 2013, from: <http://www.nvri.gov.ng/Images/Proceedings%20of%20the%20NVR%2020th%20Anniversary.pdf>
- [56]. Sun, Y. (2009). "Research Method Week 6: Qualitative Research" Retrieved from <https://www.msu.edu/~sunyayen/document/method/Method-week6.pdf> 3/07/2012.

Internet Materials

- [49]. Adeyinka, S.S. and Vollrath, D. (2013) "Comprehensive Food Security And Vulnerability Analysis: Nigeria," NSSP Working Paper 24, August. Accessed on September 2, from: <http://www.agrodep.org/aggregator/sources/10>
- [50]. Azih, N (2008) "A Background Analysis of the Nigerian Agricultural Sector" Accessed on 13/08/2013, from: <http://www.oxfamnicib.org>

Magazines and Newspapers

- [57]. Abdulhamid, Y., 2008. Nigeria: Vision 2020 and NPC. Daily Trust, a Nigeria Daily Newspaper, August 5. <http://allafrica.com/stories/200808050705.html>
- [58]. Adesina, A. (2011) "Nigeria's Agriculture and Food Security in Nigeria," *Thisday*, August 15