

Constraints of the Nigerian Agricultural Sector: A Review

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Abstract

In Nigeria, agriculture is the principal source of food and livelihood making it a central component of programs that seek to reduce poverty and attain food security. Government huge investment in the agricultural sub-sector has suffered set-backs as the sector is still dwindling and unable to provide sufficient food for the increasing population. Food import and prices are rising, while poverty and hunger are deepening. This paper attempts to discuss some challenges responsible for the protracted dwindling and inability of the sector to provide the sufficient food and nutrition to the Nigerian populace. These constraints are policy related in which the fiscal, monetary, trade, exchange rate and income policies designed for economic stability invariably has adverse effect on the sector. Other constraints of the sector include land tenure, labour, capital and marketing constraints, poverty and women's limited access to resources, low and unstable investment in agriculture research, poor funding and co-ordination of agricultural extension. Infrastructural development particularly in rural areas, adequate funding and investment in research and social capital, increased labour productivity, continuity in macroeconomic policies by successive governments and provision of functional storage facilities as panacea for increased food production and poverty reduction. A more proactive and effective policy decision aimed at improving the service delivery of extension agents in Nigeria should be adopted.

Keywords: Constraints, Agricultural, Sector, Nigeria.

Introduction

Overview of the Economy

Nigeria is an oil producing country and exports over 80% of its crude petroleum. Crude oil export became the main source of oil export and the main source of foreign exchange in 1973. At present, about 80% of government revenue is realized from the oil sector. Meanwhile, production in all sector of the economy is heavily dependent, directly or indirectly, on imported inputs. At the same time, the consumption patterns of the affluent, the middle class and, to an increasing extent of the low income earners have a high important content. As oil is the main source of foreign exchange necessary to finance these import dependent production and consumption activities, the Nigerian socioeconomic system has become heavily dependent on oil (Shaib et al., 1997). With regard to the structure of the economy, evidence suggests that agriculture was the mainstay of the economy although its importance has been inversely proportional to the fluctuation on revenues. In the 1960s, Nigeria dependent mostly on foreign exchange earnings derived from agricultural exports. During the oil-boom era of 1973-77 when crude petroleum accounted for over 40% of the GDP, agriculture accounted for nearly 20% of GDP throughout the period. In 1993, crops, livestock, forestry and

fishers activities together accounted for over 38% of the gross domestic production (GDP), as compared to 24% and 38% for industry and the service sector, respectively (CBN, 1994).

Beside oil, the major strengths of the Nigerian economy are its rich agricultural resource base. Its human resource base and its huge market. However, these resources have to be effectively mobilized so as to diversify the economic base and reduce dependence on oil and on imports. Meanwhile, the economy remains vulnerable to external shocks emanating from fluctuation in the world prices of crude oil and the rising prices of petroleum imports. The resulting external and internal imbalances are manifest in the adverse balance of payment position, unemployment, low capacity utilization in virtually all sectors and the deteriorating purchasing power.

Agriculture employs nearly three-quarters of Nigeria's work force, as in the case of Sub-Saharan Africa and is the principal source of food and livelihood making it a critical component of programs that seek to reduce poverty and attain food security. The productivity estimates of agriculture for Nigeria showed a decline in productivity growth from the 1960s to the 1980s. Nigeria has witnessed strong economic growth in the past few years, averaging 8.8 percent real annual GDP growth from 2000 to 2007 (Philip et al 2009). However, the agricultural sector has lagged behind GDP growth, growing at 3.7 percent in 2007. Reviewing some constraints affecting the agricultural sub-sector in Nigeria is an important step in formulating policies to stimulate and reverse these trends in the future. This paper attempts to highlight some constraints impeding the increased productivity in the Nigerian agricultural sector.

An Overview of the Nigerian Agricultural Sector

Nigeria occupies a total area of 92.4 mil ha, consisting of 91.1 mil ha of land and 1.3 mil ha of water bodies. The agricultural area is 83.6 mil ha, which comprises arable land (33.8 percent), land permanently in crops (2.9 percent), forest or woods (13.0 percent), pasture (47.9 percent), and irrigable land or fadama³ (2.4 percent) (Adetunji 2006; Philip et al., 2009). Average rainfall ranges from 300 mm in the extreme north to about 2,500mm in the coastal areas. Nigeria's latest population estimate is 140 million, (World Bank, 2010), of which 65 percent live in rural areas. Agriculture's contribution to the non-oil gross domestic product (GDP) is stable at about 40 percent in recent years (FDA/FMARD 2005). More than 70 percent of the farming population in Nigeria consists of smallholder farmers, each of whom owns or cultivates less than 5 ha of farmland (NARP 1994). Thus, agriculture should be the focal point of national economic growth agenda and reforms.

The emergence of the petroleum sector in the early 1970s resulted in significant structural changes in the Nigeria economy. In response to the oil boom, public expenditures grew, fostering many other economic activities, including infrastructural development, creation of new institutions and expansion of existing ones, and importation of all kinds of consumer goods. The appreciation in the value of the naira (Dutch disease) favored these developments, but tradable agricultural commodities did not experience similar growth.

The share of the oil sector in the total value of exports, which was under 60 percent in 1970, rose to over 90 percent after 1973. The non-oil exports declined from about 30 percent in 1970 to less than 10 percent by 1980 (Ojo 1992). The unprecedented increase in public expenditure placed the Nigerian economy under several inflationary pressures. The emergence of a dominant oil sector was accompanied by the gradual lessening of international competitiveness of the agricultural export subsector, arising from local currency appreciation, inadequate pricing policies (especially fixed producer prices relative to earnings from the world market), and the general neglect of the rural sector.

Oil export earnings collapsed in the early 1980s from a peak of \$24.9 billion in 1980 to \$5.2 billion in 1986 (Ojo 1992). The exchange-rate adjustments in many African Countries including Nigeria since the 1980s, were in response to widespread balance of payments problems and the consequent need to correct the seemingly intractable macroeconomic distortions. However, agriculture remained relevant to Nigeria's food and raw materials supplies, rural employment, and general price stability (Philip 1996).

Agricultural Sector Policies in Nigeria

The roles of the Nigerian agricultural sector, according to the Nigerian Agricultural Policy document (FDA/MANR 1988), include provision of food for the growing population, foreign exchange earnings, employing a significant part of the labor force, and providing income for farming households. To attain agricultural-sector goals, several policies were formulated and implemented during the post-independence years. Some key policies are summarized to better understand their linkages to the productivity constraints identified later in this paper.

From 1970-85, capital for agricultural production and post-harvest activities came mainly from the government's budgetary allocations and secondarily from existing lending institutions. However, as observed by Ojo and Akanji (1996), "from the first through the fourth National Development Plans, government spent less than 10 percent of its total capital expenditures on agriculture, which contributed more than 60 percent of the GDP". And, with the poorly developed capital markets, farmers' credit during the period came mostly from informal sources at prohibitive interest rates. Agricultural production, productivity, and post-harvest operations were low and little affected by improved technologies.

The main monetary policy instrument used before 1985 include selective credit controls, credit ceilings, and interest rate controls. Beginning in 1972, commercial and merchant banks were mandated to provide a prescribed minimum percentage of their total loans to agriculture. These mandatory credit allocations to agriculture have received mixed reviews. Babalola and Odoko (1996) noted that mandatory credit allocation was effective only to the extent that it provided some alternative to scarce and poorly developed sources of agricultural funds. The authors also argued that mandatory credit allocation is inconsistent with financial-sector reform and tends to promote credit misallocation. In their study, Balogun and Otu (1991) further noted that "both commercial and merchant banks consistently lent short of the prescribed limits under the credit allocation policy." This policy was abolished in late 1996. Before the introduction of the Structural Adjustment Programme (SAP) in 1986, agricultural lending rates were largely concessional or subsidized. The 1970s witnessed very low interest rates that could not encourage the development of money or capital markets. No lender was willing to raise money from existing capital market and lend under the prevailing low lending rates. Inflation rates during those years were mostly in double digits per annum. Although lending rates for agricultural purposes were deregulated in 1987, the high rates of inflation that accompanied the macroeconomic reforms, in excess of 40 percent per year in the early-to mid-1990s (CBN 1998a), contributed to negative real agricultural lending rates. In short, the concessional lending rates to agriculture before the introduction of SAP and the prevailing high domestic inflation resulting from SAP sent mixed market signals to creditors during this period (CBN 1998b). Most of Nigeria's non-oil exports historically come from agriculture. Thus, it was necessary to formulate specific policies that would ensure that the sector derived maximum benefit from SAP implementation. Under the rural credit scheme introduced in 1977 by the Central Bank of Nigeria (CBN), commercial banks were required to open rural branches. According to Usman (2000), virtually all the rural branches identified as viable were fully established by commercial banks by 1992.

Under the monetary policy of the 1990s, other guidelines included a loan repayment moratorium, smallholder loan guarantees, uncollateralized smallholder loan schemes, extension of repayment periods for certain export crops, and an increase in both minimum rural deposits and minimum rural credit (FMANR 1997). The fiscal policy guidelines allowed a five-year tax exemption on private-sector profits earned in any agricultural business (production, processing, or marketing). The exchange-rate policy guidelines allowed all voluntarily repatriated foreign-exchange earnings in the agricultural sector to be tariff exempted (FMANR 1997). Under the trade policy, some agriculture-specific guidelines included the abolition of export prohibition, a ban on importing several agroindustrial raw materials to stimulate local production, and abolition of commodity boards to achieve more competitive pricing and higher farm incomes (FMANR 1997).

Constraints of the Nigerian Agricultural Sector

Many of the challenges facing Nigeria's agricultural sector stems from a few root causes. One of the major factors leading to failure in the Nigerian agricultural sector is poor political and economic governance, inadequate funding and misuse of funds for the agricultural sector. Aside from these, the neglect of research and development and its funding has also impeded the growth of the sector. However, some problems of the sector are enunciated

a) Policy Related Constraints

The design of macroeconomic policies in Nigeria over the years has focused on ensuring stability in the macro-aggregates, namely, employment, prices and income. Little attention was paid to the plight of agriculture under such policy regimes. Thus, the fiscal, monetary, trade, exchange rate and income policies designed for economic stability invariably had adverse effects on agriculture, leading to the weakening of the much desired linkages between agriculture and industry. These policies, especially those of the oil boom era of the 1970s, tended to reorient the household demand for agricultural food items toward imported substitutes. This discouraged agricultural production beyond subsistence level. Furthermore, the liberalization policies embarked upon from the late 1980s which were designed to restore macroeconomic stability and growth resulted in the high cost of major agricultural inputs, especially the imported inputs, leading to a reduced profitability of agricultural enterprises. On the other hand, the falling real income of consumers weakened the effective demand for all goods and services, including agricultural products. As a result, the plight of the agricultural sector has not changed fundamentally under the liberal economic policy regime. At the sectoral level, the lack of specialization by the various level of government has complicated the situation. Specifically, there has been an unnecessary duplication of effort, as all levels of government have tended to concentrate on similar rural development programmes. This situation has encouraged the misallocation of resources, as lower levels of government continuously orientate their local policies and programme to suit the pan-territorial federal agricultural programmes, regardless of the dictates of their ecological zones. Poor data quality for agricultural sector planning as well as the poor implementation, inconsistencies and lack of continuity of agricultural policies and programmes have also adversely affected the performance of the sector.

b) Land Tenure Constraints

Land is a critical asset for the rural poor and lacking means to appropriately intensify agriculture which compels the poor to either overuse or misuse this natural resource base to meet basic needs (Etim et al., 2013). In Nigeria, land is relatively abundant but there are limitations to gaining access to land for productive use. The key factor is the land tenure system prevailing in different parts of the country. The land tenure system is the body of laws, contracts and arrangements by which people gain access to land for agriculture and other uses. The land tenure system in Nigeria varies from one place to another. The prevalent land tenure system has a number of demerits for moving agriculture from the subsistence level to market-oriented production. The severity of the land tenure problem is more pronounced in the South where land is usually owned by the family and the system of inheritance tends to perpetuate fragmentation of holdings among male heirs of land owning families. Population pressure in the South has added to the restrictions imposed by the land ownership pattern and has led to reduced land/person ratio, shortened fallow periods, reduced soil productivity and increasing environmental problems (NEST, 1991). Inheritance leads to land fragmentation among heirs and subsequent uneconomic farm sizes per household member (Onyebinanma, 2004; NARP, 1994). This implies that in the region, hectareage of farmland per capita is low and declining in the face of land fragmentation along family lines. However, the size of land per capita in the area depends ultimately on population pressure, the amount of land available to each household and the specifics of the inheritance law in each community. In the North, the lack of ownership rights (land belongs to the community) creates a

disincentive for long-term investment. The rapid rate of urbanization and the associated encroachment on arable land by the urban dwellers for settlement, infrastructure and industrial development is gradually reducing the total area of land suitable for agricultural production.

c) Labour Constraints

Nigeria's agricultural production is highly labour intensive. Over 90% of all tasks in non mechanized production systems depend on human labour, and for mechanized production systems between 50 and 60% of the tasks depend on human labour (Shaib et al., 1997). According to Olayemi (1980), family labour constitutes over 76% of farm labour. Generally, males are responsible for land clearing, ridging and weeding, while women undertake the processing and marketing of farm produce and the children may also help in weeding, harvesting, bird scaring and the tending of cattle, sheep and goats. Hired labour has become important in farm operations especially during the peak periods of the various farming activities. Nevertheless, rapid rural-urban migration of the youths and the resultant dwindling of an active farm labour force has become a major constraint to expanding agricultural production. From the historical perspective, however, the movement of labour away from agriculture as a result of rural-urban migration was relatively gradual between 1960 and 1970. During this period, young school leavers went into public and industrial sector employment, which was concentrated in the urban centres. In the 1970s, the deployment of earnings from petroleum export in urban construction industries created employment for unskilled labour. The resulting massive rural-urban irrigation depleted rural areas of agricultural labour.

Etim et al. (2011) reported that rural-urban drift and the movement of young people away from agriculture are making labour increasingly scarce. In the 1980s when there were reverses in petroleum and construction activities, urban employment dropped. While some of the migrants returned to rural areas, many of them did not, and as a result labour shortages in the village have remained endemic. Consequently, farming sector wage rates have been on the increase, rising from a mere N0.45 per manday in the 1970-1975 period to nearly N65.00 per manday in the 1991-1994 period, making hired labour increasingly unaffordable to the small scale farmer. Most recently in the 1990's and 2005 these wage rate have increased further to between N2,500 – N3,500 per manday. Meanwhile, agricultural labour productivity has become increasingly low because farm households are largely comprised fairly old people and very young children and the farmers lack improved hand tools and implements which would enable them to raise their yields. In some regions, the farmers are unable to cultivate all the land. In this regard, it is important to note that although researchers have developed a number of prototype hand tools and multipurpose implements suitable for animal traction, these have not been commercialized, and are not available. At the same time, family labour continues to dwindle, as farmers wives take to mere lucrative occupations, such as trading while the children spend more time in school and apprenticed vocational training.

d) Capital Constraints

In the 1960s, with relatively low inflation, and with agricultural based mainly on indigenous production systems, capital constraints was not severe and was met largely through informal borrowing. The relatively small amounts of credit that these sources could provide were secured at usurious interest rates, but they were timely and required no collateral. With the rising cost of production, the need for formal credit has become imperative. This has become increasingly important for agricultural enterprises where higher farm output is anticipated. Small scale farmers, however, are unable to secure credit from formal sources largely due to lengthy administrative procedures and bottlenecks, high cost of debt funds (interest, commissions, administrative fees and other bank charges) and stringent conditions which are very difficult for the small scale farmers to meet. The establishment of Micro Finance Banks has not significantly solved the problem of

protracted administrative procedures, stringent conditions and the high cost of capital. This situation has deprived the small scale farmers of access to formal credit.

e) Marketing Constraints

In Nigeria, the crop marketing process takes place primarily at the farm gate or in periodic rural markets (Akande, 1993). Women are mostly involved in food crop and fish marketing, but they mainly sell their products in nearby markets. The prices of product sold at the farm gate, or in the periodic markets are determined through haggling. Small holder farmers usually lack authentic information about prevailing market prices, which puts them at a great disadvantage in the haggling process. Generally, prices are low at harvest time, rising as the season advances, peaking at planting time when demand for seed is added on the regular demand for consumption purposes. However, farmers are unable to take advantage of the higher prices as they are usually compelled to sell most of their produce at harvest time due to lack of storage facilities, poor road from the rural areas and the need for cash income. As a result the advantage of higher profit margins available in distant urban markets generally accrues to the middlemen (Shaib et al., 2007). Livestock and fish marketing follow a similar pattern as cattle, goats and sheep are brought by middlemen from their owners in rural markets and disposed of in large city markets. The artisanal fishermen sell their fresh fish immediately after landing, while smoked fish is sold in the periodic rural markets. Fishermen also suffer from the same marketing constraints as the crop farmers. From the foregoing, it is clear that inadequate physical infrastructural and storage facilities, as well as low returns on investment to farmers from agricultural enterprises, are the major marketing constraints confronting the farmers in Nigeria, even though the prevailing prices of agricultural products in urban areas may be high. With specific reference to physical infrastructure, the most important constraints are poor feeder and rural road, and insufficient boat and ferry services. Rural feeder roads are only seasonally motorable, hindering movement of inputs to the rural areas and outward movement of farm produce to the markets. The resulting high transport cost, which are added to the cost of resource inputs make them more expensive, while the middlemen pass on the higher transport costs to the farmers by offering lower farm-gate prices to them. Poor transport facilities also increase the losses of perishable crops. All these factors combine to depress farm income. Farmers cannot usually take advantage of prevailing high prices for their produce due to the collusive behaviour and discriminating pricing practices by traders and middlemen. This situation is made worse by the lack of marketing information from extension agents, and the lack of farmer organizations and cooperatives which could collectively bargain for better commodity prices. According to Adekanye (1988) and Shaib et al. (1997), nearly 85% of the profit margin is taken by the middlemen, which is far above the cost incurred by them on transport and sales operations.

f) Poverty and Women's Limited Input Access

Women have lower access to purchased inputs and natural resources in Nigeria and, to that extent, the aggregate input usage and, indeed, agricultural productivity is affected. Also, because of the domestic roles of women and the lack of freedom to participate in on-farm activities in some communities, there is the tendency to undervalue labour productivity in Nigeria. Both the incidence and depth of poverty are higher in Sub-Saharan Africa than in most other regions of the world. Shackleton et al. (2009); and Etim and Edet (2013) reported that of the world's 6 billion people, 2.8 billion live on less than US\$2 a day and 1.2 billion live on less than US\$1 a day and Sub-Saharan Africa has the highest poverty rates in the world. Poverty is also a consequence of low access to agricultural technologies, compounded by poor rural infrastructure that blocks easy inflow of inputs and outflow of farm produce (AfDB, 2002). Poverty can result in food insecurity, low productivity, and farmers' inability to afford yield-enhancing inputs (Ogunlela and Ogunbile, 2006). Women have relatively limited rights to farmland in spite of having a significant role in

agricultural production in many parts of Nigeria. Women have less access to extension services and credit. These constraints, together with lower access to farmlands, limit their agricultural productivity.

g) Low and Unstable Investment in Agricultural Research

Agricultural research in Nigeria has been primarily funded by the federal government. Funding, however, has become somewhat unstable since the early 1980s. Private-sector involvement in agricultural research has remained negligible to date. Some 59 higher education agencies were involved in some form of agricultural research by 2000 (Beintema and Ayoola 2004). Low private investment in agricultural research in Nigeria can be traced to a few key factors. First, private-sector agricultural agencies gain costless access to the research results generated by the public research agencies, thus leaving little or no desire for private-sector investment in such research. Secondly, political instability through the years has hampered long-term private investments in agricultural research. Thirdly, the process for varietal release is long, which is a disincentive to private-sector investment in crop varietal research (Beintema and Ayoola 2004).

Low public expenditure on agricultural research has been associated with low growth in agricultural productivity elsewhere. Conversely, such investment can help to explain eventual agricultural productivity growth. However, it is not uncommon to expect some spillover of research impart from other countries or international research centers within a country (or both) even where a country spends little on research.

When research is poorly funded, agricultural technologies cannot be improved, and there will be no downstream farm income increase, rural employment generation, reduction in food prices, establishment of agrobased-industries, and economic growth. In short, absence of new technologies in agriculture will slow the growth of agricultural productivity and the reduction of rural poverty.

h) Poor Funding and Coordination of Agricultural Extension

During much of the implementation period of the World Bank-assisted ADPs in Nigeria, T&V was the prevalent agricultural extension system. Due largely to good funding of the ADP system, including staff incentives (such as timely salaries, and provision and maintenance of project vehicles), there were satisfactory contacts between farmers and extension agents. The main concern during the ADP implementation period was that there were insufficient technologies to take to farmers. Thus, the monthly technology review meetings (MTRMs) jointly held by the ADPs and NARIs could not be backed up with sufficient release of farm technologies, partly because the NARIs were poorly funded and because of the lengthy procedures for certifying the release of improved technologies to farmers. Specific constraints identified in the implementation of the T&V system in Nigeria included bureaucratic procedures, and location of crop and livestock extension staff in different departments and ministries, which tended to promote rivalry and duplication of resources. Related to these issues was the fact that the extension system was implemented with a huge bias in favor of cropping activities. In 1992, the NCA approved the adoption of UAES to ensure a single line of command and delivery of unified extension messages to farmers. The implementation of this laudable extension system remains hampered by poor funding, as most of the state ADPs stopped functioning after the cessation of World Bank funding. A recent and empirical study by Etim and Okon (2013) reported that extension services delivery in Nigeria is lagging in effectiveness and efficiency, especially after the withdrawal of funding of the Agricultural Development Project (ADP) by the World Bank.

The agricultural extension staff is inadequate in number and quality. In the northeast zone, the extension worker: farmer ratio is estimate at 1:1,700 (NARP 1995). This ratio is similar to the average ratio found in the late 1980s for all of Africa (1:1,800), and indicates a low level of extension service to farmers in Africa in general and in Nigeria in particular (Swanson, et al., 1990). Farmers are highly dispersed across large areas of land and this affects the quality of messages as well as the frequency of visits. The agricultural extension

staff is poorly paid. Unattractive and untimely paid wages are bound to affect performance. The frequency of visits to the fields by the zonal extension agents (ZEAs) and the block extension agents (BEAs) have been known to be seriously affected by poor wage incentives and poor mobility. Most agricultural research and the emerging recommendations in Nigeria have targeted programs promoting technology adoption by small-scale farmers. There are various reasons that a study might be designed to estimate adoption rates of components or a package of agricultural technology. An adoption study may be undertaken to evaluate the effectiveness of an agricultural extension system. An adoption study may form part of a larger study to diagnose interest as part of an agricultural technology impact study, especially where an economic surplus approach is the preferred analytical framework (Philip et al., 2009).

Conclusion and Policy Recommendations

The contribution of agriculture to the economy goes far beyond simply the primary production of crops and livestock. If the multiplier effects of agriculture on the rest of the economy are taken into account, agriculture's share of GDP ranges from 3 to 10 times that shown by agricultural statistics for primary production alone. Usually as an economy develops and diversifies, the primary agricultural sector loses weight in terms of GDP but develops strong linkages with the rest of the economy. Despite huge government spending in the agricultural sector, the sector is still dwindling and suffering set backs as it is unable to deal effectively with the food security challenges of the Nigerian populace. This paper highlight some constraints to increasing agricultural productivity in Nigeria to include policy, land tenure, labour, capital and marketing related constraints, poverty and women's limited access to resources, low public expenditure on agricultural research, poor funding of agricultural extension among others. In order to ensure sustained and increased inflow of investment in agriculture, agricultural policies must endure and outlive the government that formulated them. The practice of changing macroeconomic policies with successive federal and state governments does not augur well for and is inimical to long term investments in agriculture. Therefore, the various tiers of government should act in concert with the economic reform and agricultural transformation agenda to promote a greater role for the private sector involvement in agricultural production, processing and marketing of farm commodities. However, with consistency in execution and implementation of agricultural policies/programmes, provision of formal credit with less administrative and lower costs of debt funds, reformed agricultural and land policies, increased labour productivity, investment in rural infrastructure, education and social capital, functional storage facilities, and investment in research and extension, the sector will in no small measure provide sufficient food for the increasing population in the country.

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