

Sustainable Agricultural Development in Nigeria: A Way Out of Hunger and Poverty

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Abstract

This paper examines the agricultural transformation via-a-vis hunger and poverty eradication as a means of sustaining economic growth and development in Nigeria. About 80 percent of Nigerians live in rural areas and agricultural sector remains the main provider of livelihood for most rural dwellers and a major contributor to Nigeria growth rate besides oil and gas sector. Before the discovery of crude oil in commercial quantity in the country in 1968, agriculture dominated the economy and accounted for almost all its foreign reserves. The discovery of oil caused a paradigm shift from agriculture to petroleum, relegating the multi-functional nature of agriculture to the background. Despite the huge revenue and foreign reserves derived from the oil sector, hunger and poverty rates remain on the increase in Nigeria. Recent estimates put the number of undernourished Nigerians at over 53 million-representing about 30 percent of the country's total population while the poverty statistics shows that about 72 percent of Nigerians (118.2million people) are poor. The importance of agricultural transformation on the nation's socio-economic development cannot be over-emphasized. Hunger and poverty rates will continue to rise as long as the abundance human and material resources located in Nigeria rural settings are not optimally harnessed. This paper therefore, emphasizes significant improvements and effective harnessing of agricultural sector for meaningful and adequate food production and other socio-economic developments through agricultural reforms. Specifically, the study limits itself to the important role of agricultural transformation in engendering sustainable development and significant levels of hunger and poverty reduction in South Western Nigeria.

Keywords: Hunger, Agricultural transformation, Food production, Poverty reduction, Sustenance

1. Introduction

Nigeria, a third world country is situated in Sub-Saharan Africa with huge agricultural potentials. It has an arable land potential of 98.3million ha consisting of 72.2 million ha (72.4 percent) cultivable (about 23 percent of arable land across all the West Africa) and only 27.1 million ha (27.6 percent) non cultivable land. Agriculture is the predominant activity in most of the zones in the country including the south Western Nigeria (Adebayo & Olagunju, 2015). Majority of the Nigerian labour force (70-80 percent) are peasants practicing subsistence farming (Odetola & Etumnu, 2013; Adebayo & Olagunju, 2015). At independence, agriculture dominated Nigeria's economy contributing 63.49 percent to Gross Domestic product in 1960 (CBN, 1980) and was the major source of funds for implementing the first national development plan, 1962-1968. The discovery of crude oil in commercial quantities in Nigeria in 1968 and the subsequent oil boom of the 1970s culminated in the displacement of agriculture as the driver of the nation's economy (NISER, 2015). Within a decade up to 1981 however, agricultural output in Nigeria declined and Nigeria began to import major staple foods

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such as rice, wheat, sugar, fish to argument local supplies. Since then, Nigeria has been spending substantial amount of its foreign reserves on importation of staple foods. It spent over 1.3 trillion naira in 2010 alone on imports of wheat, rice, sugar and fish (Adesina, 2012).

Today, Nigerian economy depends largely on oil for appreciable percentage of its foreign exchange earnings. As the largest oil exporting country in Africa with a rapidly growing economy, crude oil accounts for about 95 percent of Nigerian's foreign exchange earnings (Alademerin & Adedeji, 2010; Raji & Yunus, 2014). The petroleum sector caused fundamental changes in the Nigerian economy. The 'affluence' associated with the oil boom of the 1970s was used to develop social and economic infrastructures in urban areas while the rural areas were neglected. This resulted to mass exodus of young people from rural to urban areas with its attached decline in agricultural production. Consequently, prices of staple food increased. Massive importation of food stuff also imported inflation into the country following rising world food prices. This increased hunger for both the urban and rural poor.

Over the years, government has initiated various policies to unleash the potentials of Nigerian agriculture to feed its nation and become a leading exporter of food such as Operation Feed the Nation (OFN), Green Revolution, National Food Acceleration Production Programme (NAFPP), Directorate of food, Road and Rural Infrastructure (DFRRI) among others. These programmes failed due to policy inconsistencies and corruption (Ifeanacho, et al (2009).

In recent times, Obasanjo introduced the cassava project as a prominent agricultural programme in 2004-2005; President Yar Adua' 7 point agenda also places emphasis on food security, and President Goodluck's (the Nigerian immediate past president) initiated agricultural transformation programme. Despite all these, agriculture has failed to keep pace with Nigeria's rapid population growth. Over 53 million (about 30 percent) of Nigerians remain undernourished and majority of Nigerians (65 percent) remain food insecure (Dada, 2011). Likewise, the poverty statistics show that about 72 percent of Nigerians (118.2 million people) are poor (Nwankpa, 2015). Given the current economic recession in Nigeria coupled with hyper inflation, hunger has increased in the land.

Inspite of the huge earnings from oil, many Nigerians remained poor. This implies that only a few percentage of the Nigerian population benefit from the oil revenue (Demachi, 2012). Worse still, the volatility of the international oil market has adversely affected government revenue and the nations' foreign reserves since late 2014. Hence, there is an urgent need for the government to diversify the nation's export base.

2. The Role of Agriculture in the National Economy

The perceived role of agriculture in growth and development process of a nation has changed considerably over time. Early theorists building on the dual economy model comprising of agricultural and industrial sectors believed that economic development was strongly associated with industrialization. To them, economic development was viewed as a growth process requiring the reallocation of resources from a backward low-productivity agricultural sector to a modern industrial sector with higher productivity and increasing returns (Lewis, 1954). Agriculture was perceived, not as a primary stimulant of

development, but a subsidiary of the industrial sector contributing only passively to economic development.

Modernization of agriculture was not accepted to be needed as a strategy for developing the rest of the economy. (Timmer, 1988). The unique features of agriculture as a sector were simply not widely understood in the 1950s.

However, the 1960s witnessed a drastic paradigm shift in development thinking about the role of agriculture in a national economy. The dynamism of the Green Revolution in Asia during the 1960s and 1970s (Diao et al 2010) showed that it was possible to transform traditional agriculture into a modern sector. This demonstrated agriculture's potential as a growth sector and its active role in initiating broader development (Adelman, 2001). Emphasis was laid on the interdependence of agriculture with the industrial and service sectors where supply and demand in sectors can be accommodated through strengthened linkages rather than competition (Timmer, 1988; Mellor, 1986). Other development theorists have also emphasized the role of agriculture in rural development. Positive impact of agricultural growth on rural development was found to be strongest in countries where small farms dominated agriculture (Diao et al 2010). In Africa, particularly Nigeria, given widespread rural poverty and small scale farming, agriculture plays significant roles in economic development and transforming agriculture, implies sustainable economic development for the nation. However, both the agricultural transformation itself and the contribution of agriculture to the rest of the economy depend on three important features: (1) the peculiarities of production function, (2) the importance of home consumption of output for the sector and (3) the role of agricultural sector as a source of reservoir. The design of agricultural policies that will unleash the potentials of agriculture in a country's development efforts require a recognition of these features (Timmer, 1988)

Thus, in attempting to study the significant role of agricultural transformation in sustainable development, this paper examines the potentials of sustainable agricultural development in achieving significant level of hunger and poverty reductions in South Western Nigeria.

3. Conceptual and Empirical Reviews

DFID (2004) examined the relationship between agriculture, growth and poverty reductions. It argued that links between agriculture and poverty reduction are forged through four 'transition mechanisms' (1) direct and relatively immediate impact of improved agricultural performance on rural income, (2) impact of cheaper food for both urban and rural poor; (3) agriculture's contribution to growth and the generation of economic opportunity in the non- farm sector; and (4) agriculture's fundamental in stimulating and sustaining economic transition, as countries (and poor peoples livelihoods) shift away from being primarily agricultural towards a broader base of manufacturing and services. The study however asserted that the potential for further poverty reduction through these transmission mechanisms depends on the extent to which agricultural productivity can be increased where it is most needed.

In China, agricultural and rural development fuelled its economic development and contributed significantly to hunger and poverty reductions. Within a space of 30 years,

the incidence of poverty in China fell from 31 percent in 1978 to 9.5 percent in 1990 and then to 2.5 percent in 2008. The possession of food crops per capita increased from 285kg in 1978 to around 400kg in 2008. Among the factors that contribute to the successful agricultural and rural development in China include land reform, agro-market reform, technological innovation, effective agricultural policies, and increased investment. (China – DAC Study Group, 2010).

Results from cross-country regressions among developing countries show that \$1 increase in GDP results in significantly more poverty reduction when the growth is in agriculture rather than other sectors (Lipton, 2012). Diao et al (2010) examined the relative contribution of agriculture to poverty reduction and growth in six low-income Sub-Saharan African Countries – Ethiopia, Ghana, Kenya, Rwanda, Uganda and Zambia – using economy-wide simulation models. Bearing in mind that an important factor determining the contribution of agriculture to economic growth is the linkages between agriculture and the rest of the economy, the models captured three important areas via: (1) disaggregated growth across regions and sectors; (2) employment effects through factor markets and price effects through commodity markets within countries and through foreign trade and (3) household – level income and poverty effects according to either income sources or expenditure patterns. The models' results reveals a high poverty-growth elasticity with agricultural growth than non-agricultural growth. For example, in the model, a 1% annual increase in Ethiopia's per capita GDP driven by agricultural growth leads to a 1.7% reduction in the country's poverty headcount rate per year. By contrast, a 1% annual increase in per capita GDP driven by non-agricultural growth in the country leads to only a 0.7% reduction in the poverty rate. Overtime, these deviations in the poverty-growth elasticity can translate into significantly different poverty outcomes. The study concludes that agricultural growth is more pro-poor, primarily because it allows for greater participation of the poor in the growth process (Ibid). These findings are consistent with those of Christiaensen, Demery and Kühn (2006), who used a pooled sample of sub-Saharan African countries and econometrically show that agricultural growth has a greater poverty reduction effect than non-agricultural growth.

In Nigeria, several studies have been carried out to examine the relationship between agriculture and economic development. Applying Augmented Dickey-Fuller unit root test, ordinary least squares, and the Newey-West method on secondary data, Dim & Ezenekwe (2013) modelled life expectancy against agricultural output and agricultural expenditure, among other variables. The result is quite revealing. The agricultural output with coefficient – 1.71 is elastic-implying that a percentage rise in agricultural output will increase life expectancy (economic development) in Nigeria by 1.71%. The study however stresses that agricultural productivity is not sufficient to improve rural life except it is accompanied by a corresponding off-farm employment creation, improvements in education, medical and other social services. This suggests that the state has crucial role to play if agricultural growth must lead to poverty and hunger reductions in Nigeria.

Umaru and Zubairu (2012) applied Augmented Dickey – fuller technique and chow breakpoint test on an empirical analysis of the contribution of agriculture and petroleum sector to the growth and development of the Nigerian economy from 1960 to 2010. The

results show that although both sectors contribute positively to economic growth and development, agricultural contribution is higher. The study noted that a good performance of an economy in terms of per capital growth may be attributed to a well-developed agricultural capital. The study calls for concerted effort by policy makers to increase agricultural productivity in Nigeria by improving the expenditure on the sector. In 2008, UNDP reported that the 12.6% reduction recorded in the proportion of underweight children between 1990 and 2008 can be attributed largely to growth in the agriculture sector in Nigeria (Ibid).

4. Potentials of Nigerian Agriculture to Poverty Reduction

Nigeria like most African economies, is still an agrarian nation and has huge agricultural potentials. With an arable land potential of 98.3 million ha, only 34.2 million ha (48 percent) is cultivated while 52 percent is yet to be exploited. Agriculture employs over 70 percent of the labour force and was a major driver of growth before the oil era. In the 1960s, Nigeria agriculture contributed significantly to the nation's GDP (see figure 1) and played major roles in the global community. It accounted for 42 percent of the world's export of shelled groundnut in 1961; 27 percent of the global export of palm oil in 1960 and 18 percent global export of cocoa in 1961. Nigeria was also the largest exporter of cotton in West Africa. Today, Nigeria has lost its glory. The decline in agriculture contribution to GDP from 63 percent in 1960 to 34 percent in 1988 was due to the neglect of the sector and not because of increased share of the industrial sector (Ekpo and Umoh, 2012). Coupled with the dominance of largely subsistence production, 90 percent of which is undertaken by tradition-bound small-holder farmers, the potentials of the agricultural sector have not been optimally tapped. Yet, agriculture has unique power in reducing poverty. World Bank (2008) noted that GDP originating in agriculture is at least twice as effective in reducing poverty when compared to GDP originating from non-agricultural sectors. This has been the historical experience of China, India, Latin America and recently Ghana. This should encourage an economy like Nigeria with huge agricultural potentials to develop its agricultural sector rather than continue to depend largely on monolithic sector characterized by resource depletion and oil shock vulnerabilities. Umo (2012) identified two reasons why agriculture can serve as a leading growth sector in an agro-based economy. First, the presence of non-tradable staples like root crops, tubers and local cereals, offer the much needed food security. Second, it offers comparative advantage which is in primary activities. Until improvements occur in the environment for manufacturing, current comparative advantage is to be found in agriculture (Ibid). As has been noted by Wit and Crookes (2013), Nigerian manufacturing sector remains undeveloped. It contributed only 3 percent of GDP annually between 2002 and 2007 (World Bank 2012).

The relevance of Nigerian agriculture to poverty reduction and wealth sustainability is summarized using the 'diamond policy' in figure 2. The diamond at the centre of figure 2 guarantees labour mobility and migration resulting in: (1) self employment and entrepreneurship in agricultural pursuits; (2) small holder subsistence farming for food security; (3) offer of formal/paid employment in medium to large farm enterprises; and (4) engagement in non-farm activities within the rural area. Umo (2012) however noted

that the critical success factors (CSF) for the diamond-based policies include: good governance, sound macro-economic fundamentals and conducive socio-political environment. These CSFs are essential in Nigerian because of the different constraints/challenges facing agriculture in the country.

5. Challenges of Nigerian Agricultural Development

“A man is truly poor not when he has nothing, but when he does nothing or does anything below his potentials” – Arthur Godfrey.

Nigerian poor performance in agriculture despite its huge agricultural potentials stems from the various challenges that have undermined the development of the sector over the years. The major challenge to agricultural development since independent has been the neglect agriculture suffered as Nigeria discovered oil in commercial quantities in the late 1960s and the oil boom of the 1970s (Dim & Ezenekwe, 2013). This declined agricultural output led to massive importation of food and other agricultural products. Unfortunately, food imports contributed negligibly to food security in Nigeria as Akpa (2009) found out that 85 percent of Nigeria’s food security would be reversed through an increase in domestic food production. Moreover, the distribution of infrastructure and employment opportunities in favour of urban areas using the ‘affluence’ of the oil revenue led to the exodus of young people from the rural areas – ignoring agriculture and creating more urban poor.

Another factor that has impeded development of agriculture in Nigeria is low investment in agriculture and absence of market institutions. Poor transport system creates mobility problems in Nigerian rural areas and deny farmers better market access. Moreover, the absence of functional marketing institutions has confined to expose the small holder farmers to unpleasant market conditions. In addition, small holder farmers in the country lack incentives for greater output. Access to credit, improved seedlings, research and extension education, is limited to the farmers. Worsensfill, the government’s subsidized agricultural inputs such as fertilizer do not target genue farmers due to high level of corruption that has eaten up the fabrics of the whole sectors of Nigerian economy. This has greatly reduced outputs in the sector. Another constraint on agricultural growth in Nigeria is tradition – bound practice and inappropriate technology. Small holders constituting over 90 percent of farmers rely on simple crude rudimentary tools and cultural practices depending absolutely on nature to produce water and fertilizers for feeding the crops or animals.

This results in decline yields of output and aggravates hunger in the land. Other constraints include among others: weak agro business linkages, political instability, and rapid population growth.

It is the view of this paper that eliminating these constraints will channel Nigeria agriculture in the path of sustainable development required to eliminate hunger and poverty in the land.

6. Policy Implications and Conclusion

6.1 Policy Recommendations

Having examined extensively the potentials of Nigerian agriculture sustainable development and the various factors that have hampered its growth over time, the following policy recommendations have emerged:

Focus development plan in agriculture and rural sector: A major policy reform that will set Nigeria in the path of agricultural transformation is for the government to make a conscious development efforts to revive the agricultural sector. In its urgent quest to diversify the economy due to the high volatility in the oil sector and recent economic recession in the land, agriculture should be made its priority. Empirical studies in Nigeria has shown that agricultural growth is more pro poor than growth in non-agricultural sectors. Secondly, the huge agricultural potentials of the nation remains largely untapped. Thirdly, over 70 percent of the total Nigerian labour force is employed by the agricultural and rural sector. Therefore, focusing development efforts in agriculture and the rural sector will unleash positive development dividends for the nation. **Enhance financing agricultural enterprises:** To unlock it's agricultural potentials, the federal government of Nigeria through its apex bank should reform and align its financial sector to increase their landing to agriculture. Some of the factors that led to the under-capitalization of the agricultural sector include high demands for collateral by banks; lack of capacity to develop appropriate credit instruments for agriculture and high interest rates. A recapitalization of the Nigerian Agricultural Cooperative & Rural Development Bank can further expand access to credit. It will also ensure longer term financing, with tenor of 5 years and above since commercial banks could not lend for long term needs of the agricultural sector.

Accelerate investment in agricultural infrastructure and marketing institutions: Given the low investment level in agricultural infrastructure in Nigeria, especially in the rural roads, most of the roads linking farmers to other sectors are inaccessible. Secondly, there is need to develop new and more efficient marketing corporations to replace the old marketing broads scrapped under the structural adjustment programmes of the World Bank and IMF.

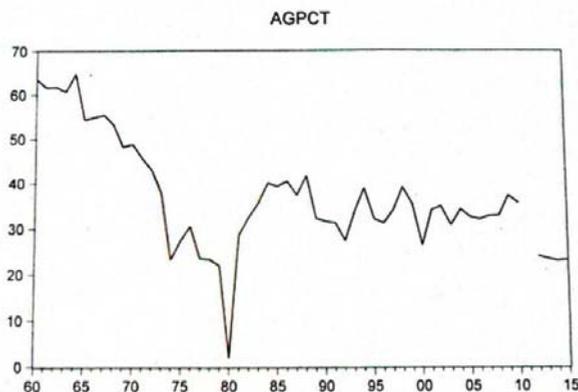


Figure 1: Graphical Presentation of Percentage Share of Agriculture CDP from 1960 - 2015
 Source: Author drawing from data collected from Various Issues of CBN statistical bulletin

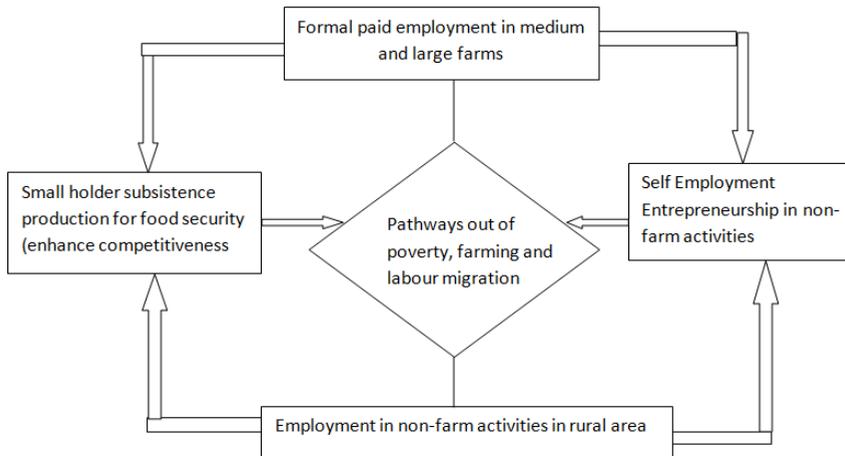


Fig 2: Pathways to exit from poverty in Nigeria offered by agriculture
 Source: Umo, (2012) as adapted from World Bank Report, 2008, p. 19.

These institutions will help to improve the coordination of markets for agricultural commodities, provide market price information, improve access of farmers to credit and assure grades and standards. Developing market institutions and improved access to transport infrastructure will enable farmers get better market access and higher prices for their products. It will also encourage poor households mobility from subsistence production to off-farm jobs (DFD, 2015).

Rural transitions: There is need to create structural change in the labour composition of the Nigerian rural sector. Farm production alone is unlikely to provide the needed pathway out of poverty for the majority of the Nigerian rural poor. Apart from improving farm output through increased incentives to small holder subsistence farmers, achieving sustainable economic development in Nigeria will also require a private – public partnership in creating off-farm jobs or wage labour opportunities, in commercial agriculture, agro-based industries or the rural non-farm economy. Again, the federal government through its various agencies and ministries (such as DFRRI and NDE) should build linkages and promote greater mobility between rural and urban areas and/or between farm and non-farm opportunities.

Improve distribution of subsidized inputs: Farm inputs have failed to improve yields because they are not always well targeted and/or delivered in a timely fashion. For agricultural transformation to be sustained, policy reforms should target genuine farmers. For decades, Nigerian governments procured and distributed fertilizers. Due to the level of corruption of government officials, only 11 percent of farmers got the government distributed fertilizers (Adesina, 2012). Rich commercial and powerful political farmers hijacked the subsidized fertilizers which are eventually sold to neighbouring countries, through their agents. According to Dr. Akinbunmi Adesina – the immediate past Nigerian Minister of Agriculture and rural development, “Nigeria was not subsidizing farmers. It was simply subsidizing corruption”. There is need for policy reforms to target poor small holder farmers by eliminating middlemen and spurring private sector to build supply chains that reach farmers.

Construct nation-wide dam irrigation scheme and make them adoptable by rural farmers: Deliberate efforts should be made to expand the use of irrigation in arguing the natural rain fall. This will guarantee year long cultivation to spur agricultural production and ensure food security in the country. At present, the few irrigation projects are located in the northern savannah part of Nigeria. The tropical zone of the south also needs proper irrigation. These two zones support different variety of crops. Develop appropriate technologies: There is need to develop appropriate technologies for and with the farmers who have not benefited from imported green revolution package of Asia and Latin America.

6.2 Conclusion

In attempting to study the significant role of agricultural transformation in sustainable development in Nigeria, this paper has examined the potentials of sustainable agricultural development in achieving significant levels of hunger and poverty reductions in the country, particularly the South Western Nigeria. It also examined the challenges faced by the agricultural and rural sector in actualizing its potentials. Based on the findings of this study, relevant policy measures have been suggested. A major policy implication of this study is that the agricultural sector is pivot to sustainable development in Nigeria. Policy makers should therefore make concerted efforts to unlock the growth potential of the sector so as to improve the lots of the masses.

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