Review

A Review of Agricultural Transformation Agenda in Nigeria: The Case of Public and Private Sector Participation

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Agriculture is an important sector of the economy with high potentials for employment generation, food security and poverty reduction. However, the potentials have remained largely untapped, which has led to the dwindling performance of the agricultural sector both domestically and internationally over years. Agricultural transformation in some countries has been documented to have significant impact on poverty reduction. The vision in the transformation strategy is to achieve a hunger-free Nigeria through an agricultural sector that drives income growth, accelerates achievement of food and nutritional security, generates employment and transforms Nigeria into a leading player in global food markets to grow wealth for millions of farmers. The mandate of the agricultural transformation agenda could be achieved if the government should enhance and empower agricultural institutions with the mandate to fast-track the positive transformation in the agricultural sector of the Nigerian economy in order to increase the quantity and quality of agricultural products. This can be done through the introduction and development of need-based, home-grown agricultural mechanization technologies, encouraging and engaging in adaptive and innovative research geared towards the development of indigenous machines for farming and processing techniques, designing and developing simple and low-cost equipment which can be manufactured with local materials, skills and facilities and to standardize and certify, in collaboration with the Standard Organizations of Nigeria (SON). Private sector involvement, ranging from large companies to small-scale farmers and their organizations is critical if agriculture is to contribute effectively to food and nutrition security.

Key words: Agriculture, extension systems, transformation, organizations, agenda, public, private, sector, Nigeria

INTRODUCTION

Agriculture remains a key component of Nigeria’s economy, and currently contributes about 40.0% of the GDP and employing about 70.0% of the active population, the sector, the sector has however, significantly underperformed its potential (Federal Government of Nigeria (FGN), 2008). This has been clearly manifested in the very high food prices nationwide, food insecurity both at the household and national level and malnutrition especially in children. It is unfortunate that Nigeria’s awesome National Agricultural Research and Extension System (NARES), the largest in sub-Saharan Africa, has not been able to engineer a sustainable agricultural development that would have ensure both National and household food security, improved rural livelihoods and indeed, make Nigeria’s agriculture competitive in the world agricultural market today.

According to Federal Ministry of Agriculture and Rural Development (FMARD) (2011), the current situation of food insecurity, rural poverty, and un-competitiveness of Nigeria in the world global food market is not acceptable.

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to the present administration. It is the determination of government therefore to initiate an agricultural transformation agenda that will to create jobs, especially for the masses of unemployed youths, create wealth by making Nigeria a global competitor in the world food market, and ensure food security.

The major challenges of Nigeria’s agricultural extension and advisory services have been identified to include: lack of a legislated agricultural extension policy, compounded by non-standardized policy in the sector; grossly inadequate and untimely funding; poor leadership and coordination, low private sector participation, a very weak Research-Extension-Farmer-Inputs Linkages system and driven by ineffective top-down, supply-driven, extension approaches.

To effectively drive the agricultural transformation agenda, an agricultural extension transformation agenda has been articulated. The objectives were to:

i) Establish a Federal Department of Agricultural Extension (FDAE) which will oversee, monitor and provide the leadership needed for an efficient and effective agricultural extension and advisory service delivery in Nigeria;

ii) Review the agricultural extension policies within the subsisting agricultural policies and recommend appropriate policies that will ensure the effective participation of all stakeholders in a stable policy environment and adequate funding for the delivery efficient and effective agricultural extension and advisory services;

iii) Recommend appropriate institutional structures and arrangements for the delivery of effective and efficient multi-plural agricultural extension and advisory services in Nigeria, using the value chain approach; and

iv) Recommend demand-responsive extension systems/approaches and tools that will ensure the delivery of efficient and effective agricultural extension and advisory services for all the multi-actors in the targeted commodity value chains of interest to government (FMARD, 2011).

The report of the agricultural extension transformation agenda has provided a clear road map to address the critical challenges of agricultural extension and advisory services to transform it into a participatory, demand-response, market-oriented and ICT driven service that will provide for extension needs of all actors along the targeted commodity value chains of interest to the present administration, starting with the review and articulation of a functional, all-encompassing and friendly agricultural extension policy with inputs from all the key stakeholders in the agricultural and rural development sector (FMARD, 2011).

Among other important issues, the policy will address the critical issues of the roles and responsibilities of all the stakeholders (the various tiers of government, the private sector, including the Farmers’ Associations, NGOs and CBOs), funding, institutional arrangements, and gender mainstreaming, etc.

The establishment of the new Federal Department of Agricultural Extension will provide the needed impetus for the leadership, coordination, monitoring and evaluation and the quality control and assurance to drive the extension transformation agenda using the appropriate extension systems/approaches under a pluralistic delivery system, methods and tools (both electronic and print; traditional and modern). A market-oriented and knowledge and skills-based extension service delivery must of necessity be ICT-driven. A farmers’ ICT Center/ Farmers’ Helpline has been proposed, to be complemented with other appropriate ICT tools suitable for rural communities (Arokoyo, 2003).

FMARD (2011) reported that the transformation action plan for some priority agricultural commodities will be focused in the six geopolitical zones of the country. The commodities are rice, cassava, sorghum, cocoa, cotton, maize, dairy, beef, leather, poultry, oil palm, fisheries as well as agricultural extension. This will be carried out through the value chains of each of the commodities while recognizing roles the actors/stakeholders along the nodes of the chain, input requirements in achieving production targets, constraints faced and expected output. The main target is to grow the agricultural sector through the various commodities and also to generate employment opportunities.

According to Akinwumi (2012), as part of the Federal Government of Nigeria’s effort to revamp the agriculture sector, ensure food security, diversify the economy and enhance foreign exchange earnings, the FMARD embarked on a transformation agenda with a focus on the development of agricultural value chains, including the provision and availability of improved inputs (seeds and fertilizer), increased productivity as well as the establishment of staple crop processing zones. It also addresses reduction in post-harvest losses, improving linkages with industry with respect to backward integration, as well as access to financial services and markets. The transformation agenda targets rural communities particularly women, youth and farmers’ associations as well as improving rural institutions and infrastructure.

The programme aims to provide over 300 Billion Naira (US$ 2 billion) of additional income in the hands of Nigerian farmers. Over 60 Billion Naira (US$ 380 million) is to be injected into the economy from the substitution of 20% of bread wheat flour with cassava flour. Nigeria would therefore be enabled to be food secure by increasing production of key staples (Akinwumi, 2012). Sackey (2010) noted that the agricultural sector is still bedeviled by lack of access to long term finance, low productivity, low level of private sector investment, non-competitiveness, inadequate funding as well as under-developed land ownership and tenure system. Associated with low productivity are issues of ageing farming population and continued reliance on rudimentary tools and cultural practices. Other related issues are
persistent drift of population from rural to urban areas, weak linkage to agro-allied industries sector, inadequate storage facilities, low prices during harvest period, poor research co-ordination and weak linkage between research and extension services, poor state of rural infrastructure such as feeder roads and very weak marketing structure.

The paper therefore reviews current agricultural extension transformation agenda in Nigeria, roles of public and private sector, non-governmental organizations, community based organizations, women and youths in the transformation agenda as well as challenges to its implementation.

CURRENT AGRICULTURAL EXTENSION TRANSFORMATION IN NIGERIA

The ineffective and inefficient parallel extension system of the pre and immediate post independence era, remained operational until the establishment of the Agricultural Development Projects (ADPs) supported by the World Bank (1975-1995) using the classical Training and Visit (T & V) Extension system. Midway into the implementation of the ADPS (1991), a policy of a unified agricultural extension service (UAES) which mandated extension delivery through a single extension agent to the farmers for the complete farming system was enacted for the ADPs, to improve effectiveness and efficiency of the extension service (United States Agency for International Development (USAID), 2010).

However, because of the historical development of the extension system, the crop sector still remains dominant at present. But notably however, the policy failed to effectively address institutional arrangements, coordination, collaboration, leadership and funding for Nigeria’s public agricultural extension service which still remains the dominant service for the majority of Nigeria’s small-scale farmers. Neither, did system clearly address the roles and responsibilities of the various stakeholders in agricultural extension until the enactment of the 2001 National Agricultural Policy by past administration.

As part of government effort to develop the agricultural sector to ensure food security and improved productivity, a comprehensive Agricultural Development Programme was developed. The programme consists of commercial agriculture; the Special Programme for Food Security (SPFS); Fadama I and II Programmes; Fertilizer Revolving Fund; Presidential Initiative on Cassava, Rice, Vegetable Oil, Tree Crops and Livestock; restructuring and recapitalization of the Nigerian Agricultural, Cooperative and Rural Development Bank. These were complemented with other initiatives, including the Value Added Tax Exemption for locally produced agricultural inputs such as fertilizer, and agricultural machinery, storage and processing facilities. Also, there are agricultural development and marketing initiatives resulting in the establishment of the Livestock Development and Marketing Company and the Arable Crop Development and Marketing Company. The CBN also adopted new measures on credit delivery including the Trust Fund Model which reduced risk faced by farmers. These policies, programmes and projects had positively impacted on agricultural production in the country (Akinwumi, 2012).

The sector-wide strategies for the agricultural sector include:

i. Promote agricultural development and management of natural resources in a value chain approach;
ii. Enhance the development and dissemination of appropriate and efficient technologies for rapid adoption;
iii. Enhance capacity for value addition leading to industrialization and job creation;
iv. Ensure efficient exploitation and utilization of available agricultural resources; and
v. Promote greater export and import substitution.

Consideration should be given to the following areas:

Crop production: The policy in crop production will focus on the development of five crops namely rice, sorghum, cocoa, cotton and cassava. It seeks to increase the current level of production and productivity of the crop sub sector. The strategies to be adopted include:

i. Establishing “Staple Crop Processing Zones” to attract private agribusinesses that will set up processing plants in zones of high production, to process agricultural commodities into high value products, and cluster into these zones critical infrastructure such as power, irrigation, rail, roads, communications and water;
ii. Providing fiscal, investment and infrastructure policies for encouraging domestic production and processing of agricultural commodities into high value products;
iii. Establishing price stabilization mechanism and strengthening the existing agricultural marketing mechanisms;
iv. Providing incentives to encourage local manufacturing of fertilizers, drawing on the gas industrialization policy and encourage private sector participation in the distribution system;
v. Improving access to agricultural development funds by working with the CBN on the N450 billion facility with commercial banks.;
vi. Implementation of agriculture cadastre programme in 36 States and FCT; and
vii. Intensification of applied research by strengthening the Agricultural Research Council of Nigeria and other agricultural research institutions.

Livestock production: This deals with effective control and management of vectors of animal diseases and migratory pest as well as encourages private sector
participation in all aspects of livestock production, processing and marketing. Some of the strategies to be adopted in transforming the livestock sub-sector are:

i. Intensification and diversification of research in livestock;
ii. Breeding to ensure availability of improved feed stock;
iii. Dairy development;
iv. Grazing reserve development;
v. Ensure improved animal public health; and
vi. Pest control services and development of the value chain and overall quality control.

**Fisheries:** The priority of government is to achieve increased domestic fish production from various sources on a sustainable and remarkable basis to the level of self-sufficiency and fish export in the medium and long term. To achieve this goal, government will adopt the following strategies:

i. Construction of ornamental fish development centres;
ii. Ensure standardization and certification of fish seed;
iii. Promoting development of shrimp farming; and
iv. Promoting local fish seed production from five million to about four billion annually.

**ROLES OF PUBLIC SECTOR IN AGRICULTURAL TRANSFORMATION**

Agricultural sector has high potential for tackling socio-economic challenges including high levels of income, poverty and food insecurity. Given the importance of the sector as a source of livelihood for the large majority of the population, and a base for foreign exchange earnings; the sector deserve adequate public and private sector investment for attaining and maintaining the anticipated high growth rate. This remains a critical challenge for agricultural transformation in Nigeria (Mlingi and Rajab, 2009).

Public investment in the sector should be directed towards infrastructure development that include rehabilitation of existing rural and agricultural infrastructures and establishing new ones to help in mitigating impacts of climate change, restore soil fertility, remove barriers to domestic trade and flows of food.

The focus of agricultural transformation will be to create a favorable policy and regulatory framework that will lead to enhanced quality compliance with local, regional and international standards; facilitate measures that will promote private sector investment into the sector and create room for strengthened public private partnership. To that effect, the following areas will be emphasized during implementation:

**Enhance capacity in value addition and agro processing:** The thrust will be placed to broaden institutional capacities to specifically provide services related to value addition and agro-processing such as quality assurance, inspection and certification and take concrete steps to enhance knowledge and information sharing amongst the relevant stakeholders on agro-processing and value addition. In addition, the public investment will be extended to provide support and improve the expansion of the degree of processing (secondary and tertiary industries), so as to increase the share of product prices and strengthen incentive structure for private sector participation in agro-processing and value addition.

The aim of this component is to encourage, promote and support public and private sectors to invest in agro processing and value addition activities to increase competitiveness of locally produced agricultural products to satisfy domestic and export markets. Subsequently, the sub sector will be enabled to play a driving role in the economic development of the country, add greater value to raw materials, and generate employment, wealth and foreign exchange.

Although the agro-processing sub sector is currently underdeveloped, it has the potential to be a key driver of development. The country has significant untapped potential to add value to existing raw materials, agricultural and marine products.

In terms of crops, food crop commodities such as cassava, sweet potatoes, banana, mangoes, oranges, pineapples and tomatoes can potentially be produced to the amounts sufficient for processing and value addition. Recent study on the post harvest losses of crops, livestock and fish (Mlingi and Rajab, 2009) estimated that post harvest losses of fish in processing, preservation and notably in storage averages 10 percent while the overall loss in the whole value chain is estimated at 25 percent per year.

**Human and institution capacity:** The public investment will be directed towards enhancing institutional and human resource capacity, prompting efficiency through appropriate incentive and motivation packages to scientists and professional staff and to support and strengthen capacity of producer institutions for them to adequately participate in provision of support services necessary for implementing agricultural transformation agenda. Specifically, the initiative will focus on:

**Institutional strengthening and human capacity:** Support will be availed to strengthen the institutional capacity for managing agricultural development and increase the ability to cope up with emerging challenges by putting in place a system of coordination, and empowering the relevant institutions by providing them with adequate resources both financial and human. Public investment will also include developing scientific and professional human capacity so as to benefit from technological opportunities. Emphasis will be to create
proper working environment for scientists to efficiently deliver and to put in place clear framework for implementing human resource development programme specifically addressing gaps in high-technology areas.

Support creation and strengthening of trade unions, producer organizations and farmers groups: Farmers and trade organizations should be prepared and empowered to demand and access support services provide by public and private sectors; to take part on the design, implementation and monitoring of agricultural projects and to further participate in the process of commercialising the sector and to demand favourable national policies and legislations to effectively and efficiently guide the sector.

Commercializing agricultural production: The main focus of this component is to promote the development of value chains of a few selected high value commodities based on comparative advantage, farmer preference and market demand through: a) transformation of subsistence smallholder farming into viable commercial production units that are feasible for private sector investment (service provision, market access); b) promoting adequate utilization of productive land and industrial resources through joint venture schemes (medium to large scale firms) for increasing employment and agricultural output; c) enhanced investment in identified priorities areas to increase agricultural output.

Promoting youth involvement in agriculture: The current proportion of youth population engaged in agricultural activities is very low. This makes agricultural labour force being dominated by women and old aged population. Youth involvement/engagement to the sector is constrained by low production and productivity embedded in the sector, high risks and uncertainty, low returns and declining terms of trade as compared to the other sectors of the economy (Amani, 2010).

To facilitate agricultural transformation, it is critical that this trend is reversed. This trend therefore, necessitates for targeted interventions to promote youth participation in agriculture as well as provide specific incentives to the youth for entry into the agriculture sector.

Under agricultural transformation agenda the focus will be on encouraging youth to realize their potential through investing in agriculture and count agriculture as a productive way of life whilst benefiting from employment opportunities. Special efforts will be undertaken to place youth confined in a range of viable agricultural enterprises where they will be exposed to operations, practical skills and processes, farm management skills (FMARD, 2001).

Government will facilitate the process and continue to develop and maintain a favorable macro-economic policy environment conducive for private sector participation in the proposed agricultural transformation. These will focus specifically on the provision of support services required for increasing and sustaining agricultural production and productivity, growth of real farm incomes, and household food security.

ROLES OF PRIVATE SECTOR IN AGRICULTURAL TRANSFORMATION

A number of formal and informal institutions exist in rural areas. These institutions have a major role to play particularly in areas where climatic, economic, social and demographic stresses are severe and seriously impact on the livelihood system of the community. The private sector consists not only of various entrepreneurs and traders but also farmers, and livestock keepers, and other individuals and organizations that are motivated by profit to undertake investment in the sector, including provision of rural financial services to farmers. The private sector will be responsible for undertaking commercial activities such as production, processing and marketing. Effective private sector participation requires conducive environment that includes incentives and operating rules that facilitate private sector involvement (FMARD, 2002).

The government recognizes the essential role of the private sector in achieving agricultural growth and prosperity through investment in production, marketing and processing. Effective private sector participation will be stimulated through provision of favorable economic environment, promotion of agricultural technology and collection and dissemination of information to reduce the risk inherent in agricultural investment. If well coordinated and stimulated, the private sector could provide opportunities for employment creation in both rural and urban areas.

Farmers’ organizations: These are grass-root organizations, which are important for development and change in the rural areas. They provide services such as credit, extension, input supplies and market channels for agricultural produce. They will be encouraged to support increased production and productivity, processing, marketing and credit mobilization. The involvement of communities and their organizations is essential to ensure success in the implementation of the policy.

NON-GOVERNMENTAL ORGANIZATIONS (NGOS) AND COMMUNITY BASED ORGANIZATIONS (CBOs)

These are essential partners in fostering development as they play an important role in the provision of knowledge and mobilization of resources at the grass-root level. They just require an enabling environment for NGOs/CBOs interventions. A strong partnership with NGOs/CBOs in fostering rural development will be encouraged.
The private sector investment in agriculture will steer the process of agricultural transformation towards a vibrant commercial sector that is responsive to market demand with specific focus on whole value chain development for priority commodities which has comparative advantages. The priority components have a huge opportunity for interlinkages with other sectors especially the services such as tourism and trade which have registered high rates of growth over the last decade.

**CHALLENGES OF PUBLIC AND PRIVATE SECTOR PARTICIPATION IN AGRICULTURAL TRANSFORMATION AGENDA**

Agricultural production is predominantly subsistence, small scale and largely rain-fed. Low capacity in terms of finance, knowledge, skills and technology to exploit available resources intensively and efficiently impedes smallholder’s transformation into commercial farming as well as undermines private sector investment and incentives for entrepreneurship (Willoughby, 2004).

As for food crops sub-sector the analysis of production performance reveals that production of most of food crops is far below potential level. Main factors contributing to low production and productivity are: recurrent droughts, which have recently increased both in frequency and severity; low input use including lack of improved planting material e.g. seeds and inadequate use of fertilizers and pesticides; limited knowledge on improved production technology, weak support services (research, extension and credit); degradation of natural resources; low productivity of labour; high post harvest losses; limited small holder’s adaptation of improved farming practices; and inadequate capital investments for farm improvements. Given the seasonality in crop production and persistent climate change, investment in expansion of land under irrigated agriculture and water harvesting techniques would be the most reasonable option for stable and higher agricultural productivity. The potential exists to increase both smallholder and large-scale irrigation (Willoughby, 2004).

Although the livestock sector performance is encouraging, recent livestock production growth rates have showed overall positive trend but productivity per head has remained very low. This is attributed among others by; (a) inadequate provision of animal health and management services such as availability of quality and affordable animal feeds; (b) an outdated and weak regulatory framework; (c) poor genetic potential of livestock breeds (d) weak linkages between producers and markets; and (e) inadequate number of qualified technical personnel, equipment and lack of research facilities (Adeniyi, 2012). Despite these constraints, Nigeria has significant potential for market-led commercialization of the livestock sub-sector, driven by domestic urban demand and the increasing tourist investments.

In addition there is limited value addition for primary export commodities as well as for other potential export crops such as fruits, spices and perishable commodities (vegetables, livestock products and fish). Seasonality of production and lack of storage facilities render these commodities more vulnerable to large scale losses. The sub sector is also constrained by inadequate infrastructure, poor management, lack of experience in value addition and branding, inadequate creativity and weak entrepreneurial skills. Poor post- harvest and handling technology leads to poor quality of local agricultural products that make it difficult for smallholder producers to capitalize on the opportunities provided by the growing local and export markets.

The demand for high-value primary and processed products is rapidly increasing, driven by rising incomes, faster urbanization and market segmentation, liberalized trade, foreign investment, and tourism. These developments are expanding both internal and external market opportunities, which are important for fostering agricultural and non-farm growth and for greater employment and rural incomes. According to Ajani (2012), non-farm occupations played a major role in generating high income for the rural women and efforts should be geared towards improving the activities of rural women in non-farm occupations through provision of rural industries, effective poverty reduction programmes and establishment of vocational skill acquisition centres in order to increase their incomes.

The increase in budgetary allocation has not been directed to facilitate the core functions of the sectors such as research and development, human resource development, agricultural related infrastructure resulting in poor provision of agricultural support services, weak policy implementation and inadequate enforcement of regulations (Adeniyi, 2012).

The agricultural related infrastructure is constrained by inadequate and poor state of crop, fisheries, and livestock related infrastructure, namely: small to medium scale irrigation schemes, rural feeder roads, agricultural rural market centers and storage facilities, fish landing sites, slaughter houses and abattoirs. These constraints contribute to low production and productivity performance of the sector (Escribano, Guasch and Pena, 2008).

As for agricultural support services such as agricultural mechanization, input supply, extension, research, advisory services and financial services, the government has been a sole provider of these services in the last four decades. The private sector, on the other hand, has not been able to adequately participate in the provision of agricultural support services albeit the government policy as enshrined in the agriculture sector (Willoughby, 2004).

According to World Bank (2008), the ineffectiveness of private sector is partly attributed to limited financial and operational capacity, limited knowledge on demand and profitability of the sector, and unclear incentive package.
for investment into the sector. The other constraint that limit private sector participation in the provision of agriculture support services is the continued government generous provision of services at subsidized price, a situation that limit private sector operations at market costs.

With regards to weak policy implementation, government’s capacity to implement policies and strategies is constrained by limited availability of skilled manpower, brain–drain and weak public, private and farmer’s institutions. Failure of government to provide attractive incentives for most trained and qualified staff to perform efficiently has negatively impacted on research and technology transfer as well as effective implementation of existing policy and strategies. As a result, agriculture sector institutions have remained understaffed both in terms of quality and quantity, therefore their effective fulfillment of core functions remains unsatisfactory.

CONCLUSION AND RECOMMENDATIONS

Development of the agriculture sector has been identified as a priority for poverty reduction in Nigeria’s agricultural transformation strategy for growth and reduction of poverty. Increased investment in agriculture will accelerate the growth of the sector and therefore facilitate achievement of sustainable rural and urban livelihood systems and consequently promote overall food security and economic well-being. There arises the need for increasing farm productivity, value addition and improved marketing efficiency.

Public research and extension system ought to develop more active partnership with farmer organizations, private sector and NGOs so as to instigate enhanced adoption of technologies and product based development strategies; and that technology generation assessment, refinement and transfer can be undertaken in a more coordinated and effective manner to realize objectives of agricultural transformation agenda. The emerging private sector should be enabled and empowered to take a leading role in partnership with public sector in transforming agriculture into a dynamic economic sector that contribute towards meeting national food security, poverty reduction and improve socio-economic well-being.

A strong institutional and human capacity that is central to planning, managing and monitoring is essential to capture the needs of various stakeholders: policy makers, producers, input and output traders, processors, consumers and other stakeholders involved in transformation of agriculture.

In order to make the agricultural knowledge information system more effective, the strengths of NGOs and agricultural consultancies need to be inculcated in the public extension system through public -private-NGOs partnership programmes.

REFERENCES


