

## Reflections on Agricultural Development in Nigeria: ... then, now, and what could be

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### Abstract

*This paper adopts a historical time frame with Nigeria's independence from colonialism in 1960 as the fulcrum/pivot. Thus, 3 periods emerged: the colonial period of agricultural production and policy; independence and 50 years after; and the future. The periods past were critically appraised with perspective of finding anything in the past that could lead to better prognosis for the future. Agricultural production and supporting policies were scored high during the colonial era, as there were concrete evidences in the groundnut pyramids and buoyant Marketing Boards. Since independence, there has been no dearth of policies and though some were structurally unbalanced, virtually all suffered from unsustainable implementation along stated lines. For the future, the authors postulate that if sufficient and due attention were paid to research; rural women and followers empowered; sustained and sustainable policies implemented, then Agricultural development along stated lines looks attainable and rosy.*

### Introduction

This paper is situated in the time frame of Nigeria's colonial experience: the colonial era; independence, and 50 years after; and the future. In each of the specified period, agricultural development was considered important since agriculture was, still remains, and is likely to be the main stay of the Nigerian economy, in spite of crude petroleum oil which is a non renewable resource.

It was reasonably assumed (Oluwasanmi 1964) that the preference for native small holdings compared to large plantation crop agriculture coupled with a lack of large animal farms in West African British Empire was a deliberate preferred agricultural policy of the colonial era.

However, since independence, in 1960, there has been no dearth of agricultural economic policy. This is not to imply that all such policies were of equal merit, or that they lacked deficiencies. In the immediate post independence years, there were such titles as Stolper (1971) "Planning without facts" and Rene Dumonts (1966) "False start in Africa." Dumont who was an agronomist, observed that most African countries were starting on the wrong foot by copying their colonial masters models of development without tapping into their indigenous strengths which

he saw was largely agriculturally based economic development.

In this study, starting with theoretical considerations of the development process, the authors were able to critically appraise development efforts within each of the aforementioned periods in the country's history. The last period, relating to the future, dwelt on such matters whose careful consideration and adoption should greatly speed up agricultural development in Nigeria.

### Theoretical and analytical framework

There exists in literature theoretical models for economic development. Consideration of these usually help in policy formulation. For example, Lewis 2-sector model of development (Eicher and Witt, 1964) and Schultz's (1960) theoretical framework of transforming traditional agriculture which has ingredients for sustainable agricultural development with particular reference to gender fairness and environmental impact assessment.

In Lewis' two-sector model, the traditional (or subsistence) sector yields unlimited supply of labour for development of the modern (or capitalist) sector. The process of development is

indicated by the expansion of the modern sector at the expense of the traditional sector which necessarily contracts.

However, one of the criticisms of the two-sector model is the fact that labour may not be unlimited in the traditional sector and many economies are land not labour surplus. Furthermore, the wage rate is likely to increase over time, turning the terms of trade against the capitalists sector. There is also the implicit problem of out-migration from the traditional to the capitalist sector, raising the issue of rapid urbanization, the problem of urban sprawls and the gender implications of who gets left behind. There is also the issue of the absorptive capacity of the modern sector and the quality of labour that is released to it.

Schultz's model is also implicitly two – sector, consisting of agricultural and non-agricultural sectors. Traditional agriculture is regarded as a particular type of equilibrium which has been stable for a long time. Farm practices have been handed down through different generations. Farmers are "efficient but poor, they have reached the limit of efficient operation, with the given levels of resources and existing technology. Within the traditional agricultural sector in this theoretical framework, what can raise efficiency is bringing in new and modern inputs from outside agriculture.

Transforming traditional agriculture means essentially bringing the benefit of science and technology into agriculture for the purpose of productivity and output increases, greater income generation and overall improvement in the life of the farmers and all other rural people. Technology transfer for agricultural development has been a continuing process, which dates back to the agricultural revolution in Europe (FAO, 1996). Considering further the level of poverty in traditional agriculture, the new technology needs to be low-cost, to meet the needs of the traditional farmers in terms of affordability. According to Conway and Babier, 1990, agricultural development thought and its empirical framework have emphasized the need to bring the high pay off inputs "from outside to inside" agriculture before its transformation can be effected. Such high pay off inputs include improved seed varieties, agrochemicals – particularly fertilizers, and water supply, especially through irrigation.

Adekanye (1999) identified two key components of an African development paradigm, namely, participatory approval and appropriate technology. The first approach involves working with the local people, regarding them as partners in progress, while the second approach involves blending aspects of old and new technologies to develop a higher level of technology, relevant to the needs of the local people and suitable for adoption.

These theoretical models have not adequately characterized the local environment from socio-economic perspectives. For example, in subsistence agriculture survival rather than profit is assumed by the authors as the main motive and farming as a business is not given equal weight as in more developed agricultural systems.

### Sustainability

Sustainable development according to the 'Brandtland Commission' is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". The major objective of development of any nation can be achieved through different sectors of the economy. For instance, agricultural development, implies a sustained increase in the level of production and productivity over a reasonable length of time and the subsequent improved well-being of farmers as reflected in their higher per capita income and improved standard of living.

The issues of sustainability represents the last step in a long evolution that economic development must consider: the protection of natural resource and the maintenance of environment quality (Batie, 1989). Agriculture is the cornerstone of sustainable development. It is central to promoting economic growth, food security, improved management of natural resources, and broad-based rural development, which are the essential pillars of sustainable development. Sustainability implies keeping alive all the resources that are available or not using up all the resources now and leaving none for the future generation. Sustainability can be narrowly defined further, as the ability of the ecosystem to function efficiently on a continuous basis to meet the needs of the present and future generations without impairing the resources base on which they depend (FAO, 1991).

Therefore, sustainability in relation to agriculture is the ability of a farmer to continue to produce indefinitely with minimum resources. Sustainable agriculture generally concerns the need for agricultural practices to be economically viable, to meet human needs for food, to be environmentally positive and to be concerned with the quality of life.

According to Ress (1989), sustainable development is positive socioeconomic change that does not undermine the ecological, social systems upon which communities and social systems are dependent.

The implementation of sustainable development, however requires integrated policy, planning and social learning process. Its political viability depends on the full support of the people it affects through their government, their social institutions and their private activities. In relation to agriculture, it means changing agricultural system so that farmers are able to produce indefinitely (Rodale, 1988).

Agenda 21, states that major adjustments are needed in agricultural, environmental and macroeconomic policy at both national and international levels in developed as well as developing countries, to create the conditions for sustainable agriculture and rural development. The major objective of sustainable agriculture and rural development is to increase food production in a sustainable way and enhance food security. This, according to Agenda 21, will involve education initiatives, utilization of economic incentive and the development of appropriate and new technologies, thus ensuring stable supplies of nutritionally adequate food, access to those supplies by vulnerable groups, and production for markets; employment and income generation to alleviate poverty; natural resource management and environmental protection (Agenda 21, 1992).

According to (Wilson and Tyrdiniewicz, 1995), the objectives of sustainable agriculture can be achieved in a number of different ways, hence, it is not linked to any particular technological practice. It is rather thought of in terms of its adaptability and flexibility over time to respond to the demands for food and fiber (both high and low), its demand on natural resources for production, and its ability to protect the soil and resources. This goal requires an efficient

use of technology in a manner conducive to sustainability. Finally, because agriculture is affected by changes in market and resources, decisions in other sectors and regions, it is important that these changes do not provide a rationale for depleting the agricultural resource base locally.

The importance of sustainability of agricultural production system is becoming a major concern of agricultural researchers and policy makers world-wide for both developing and developed nations. Hence sustainable agriculture should be based on approaches that reduce environmental degradation, conserve resources and provide adequate farm income thus reducing poverty and associated problems.

### **Lessons from the past: the colonial model**

Generally, third world countries which includes Nigeria, have the problem of translating from underdeveloped to developed economies. Often, care has not been taken by bodies/agents guiding the development process to carefully characterize the existing environment, learning in the process what factors had helped to sustain the existing system and how such energies may be channeled/modified/improved to achieve a higher level of development. Agriculture offers a very good example.

#### *The problem*

To satisfy the need for raw materials for industry at home, the colonial masters were interested in the development of cash crops: cocoa, palm oil, groundnut, rubber etc. In passing, it should be noted that little attention was paid to the staples: yam, cassava, sorghum etc. Nor was much attention given to animal resources in the colonies.

#### *The solution*

Use was made of the available human resources in the small farmers producing crops appropriate to their niche e.g. groundnuts for savannah north, palm oil/cocoa for humid zone to the south.

#### Targeted intervention

- Careful considerations which preferred small scale local human resources to large scale mechanized plantations.
- Concentration on cash crops

- Stimulation of increased production through guaranteed price for product
- Stabilization of price through establishment of marketing boards
- Enhanced quality of product through establishment of research institutes for cocoa, oilpalm, rubber etc.
- Development of suitable transport system (railway lines) to transport bulky farm produce cheaply from the hinterland to the coast for onward evacuation to the home land.

Thus, by careful study of the environment (physical and socio-economic), choice of appropriate and feasible technology, cost effective and highly successful results were achieved as attested by the famous groundnut pyramids and buoyant Marketing Boards at independence in 1960. Crops were produced in sufficient quantities for maximum income at minimum costs.

### Post independence

There has been a number of programmes by the Federal Government at different periods to move agriculture forward, since independence. Some selected examples will suffice to highlight the general problems.

- (1) **Operation Feed the Nation (OFN):** It had the following objectives: to attain food self-sufficiency for the nation, to reduce the high price of food, as well as, putting more land into agricultural production. This was launched in 1976 during the military regime of Gen. Olusegun Obasanjo under the 3<sup>rd</sup> National Development Plan, 1975-1980. The programme lacked adequate and qualified personnel to handle it while the planning of the programme was said to be poor and incomprehensive. It lacked infrastructural facilities, for example in 1976/77, there was a supply of 50,000 tonnes of fertilizer which was imported at over N12.5million – It was wasted due to inadequate storage and transport facilities (*Govt. of Nig. 1978*). There was over-reliance and high cost of external inputs, which held the country to ransom. The cost of inputs should be reasonable with a lot of its production by home industries or better still use of local materials that will be used for this purpose. It led to a poor adoption on the part of the citizens

which discouraged the continuity of the programme.

- (2) The National Agricultural Land Development Authority (NALDA) was another programme put in place by the federal government in 1991. It initiated a land consolidation scheme in an attempt to bring farm innovations into Nigeria's agriculture as well as providing solutions to the problem of low utilization of available farm lands, small farm sizes and low productivity.

NALDA had the aim of harnessing the available abundant land and labour resources in rural Nigeria for the increased agricultural production, to also provide gainful income and employment opportunities for rural Nigerians, to encourage the evolution of economic size village settlements and also to help regain the export capability in traditional and non-traditional exports.

The programme was quite promising yet was not sustained as most farmers living in the rural areas of the nation are poor, not being able to afford the economic power to adopt the latest innovations on agriculture. There was *inadequate capital to expand their scale of operation to take advantage of economies of scale*, which was one of the main focus of the agency.

The named programme did not have sustainability built into their planning. All these factors contributed largely to the failure of the programme.

- (3) Farm settlement schemes was another programme that was established in 1959, to extend farm production into areas of unused land with the settlers exposed to farm innovations to boost output. The government had in view to achieve through this scheme, an increased production of food. It was further to develop a modern farming system, which would encourage young educated persons to take up farming as a profitable way of obtaining a livelihood. It also aimed at providing inputs such as improved seed varieties, fertilizers, basic infrastructure like roads, schools, health centers and irrigation scheme and agricultural machines for the farms.

A lot of factors were responsible for its failure, some of which include the inadequacy of funds to continue with the programme, lack of maintenance of the few agricultural machineries being used.

According to Adegboye (1969) the settlers were not in any way committed to the settlements in term of personal capital involvement, such that some of them did not think twice before leaving the settlements after encountering minor problems, for they had nothing to lose.

(4) In the 1970s, the River Basin Development Programme by the Federal Government to bring unused land into productions through development programmes like irrigation; preventing land in use from deteriorating into waste land either through excessive cultivation, leaching, desertification or flooding. Its objectives include irrigation, drainage, flood control, public water supply, power generation, navigation, sediment and salinity control, recreation, fish and wildlife conservation facilities.

River Basin Development Authority to farmers was *expensive* and *wasteful* and *clearly* not sustainable. Poor cost of recovery was another point to its disadvantage, as well as a great level of erratic fund allocation.

(5) The Agricultural Development Programme was also developed in the 1970s by the Federal Government of Nigeria with help from the World Bank. This was supposed to help expose farmers to an integrated package of technology comprising physical inputs, credits, technical advice and other services in the course of food crop production. The programme to further establish workable rural infrastructure by improving the road net work, health facilities and water supply thereby reducing the rate of rural-urban migration.

- Over the years, it was discovered that the programme *over depends on the World Bank for more and more bulk of the funding and extra costs.*
- The ADP is a *separate entity from the state ministries of Agriculture*, leaving its sustainability, questionable, it often led a *high level of conflict of authority between the ministry of Agriculture and the Agricultural Development Programme.*

(6) Another programme is the better life for Rural women's which was established in April 1987 by the then first Lady, Mrs. Maryam Babangida. It was aimed at improving the living standard of the rural women involved in agriculture, politics, public service, education, family planning and family care. The programme did not go very far with the rural women. It was hijacked by the urban dwellers, leaving the rural women unattended to, making the programmes activities ceremonies to be conducted in the state capitals in a funfair.

In conclusion, the several programmes put in place so far by the Nigerian Government to improve agriculture has not been sustained over the years. In actual sense, for any level of progress to be made in the right direction there is need to keep these programmes alive, for development that is sustainable, some of the factors for consideration include:

- Affordable technologies by the rural dwellers, which will enable them adopt and sustain the use of the new technology.
- The bottom-top approach should be used so that the people's views are sought before any form of implementation. It will help carry the people along. They will also feel it is their project, which must not fail. In fact, the people will also like to put in their money feeling fulfilled that it is their project.
- Women must be involved. Studies have shown that they are involved to a large extent in farming activities. They will help make the programme workable.
- The cost of innovation which will eventually lead to adoption should not be too high for the local people to work with.
- The level of dependence of the programme on any external bodies or funding should be minimal.

## The future

Where and how do we proceed, fifty years after independence?

To begin with the importance of characterizing the environment for which development is planned cannot be over emphasized.

In the present Nigerian farming environment 3 groups are discernable:

- The rural subsistence farmer
- The middle level profit driven farmer
- and the wealthy, looking for safe haven for their money

The 3 groups contribute to the country's total farm output, but their socio-economic parameters are vastly different. The irony is that the first group which forms the overwhelming majority (more than 70%) are resource poor and small scale, consequently are the most disadvantaged when sourcing credit for expansion. But they cannot be ignored by any government sponsored development programme(s) as they constitute the majority. Even more important, until recently, female education was discouraged so one is likely to find in this group illiterate farmers who are mostly women and children.

The FAO (1985) documented that in Africa, in male headed-households, the labour input of women and children constitute the major component in household enterprises - farming being the most important of such enterprises. In the rural communities, women are involved in operations such as weeding, harvesting, marketing as well as processing (Afolami 1985). Therefore, future plans should device methods of tapping the huge human resources as represented by rural women and followers.

For maximum impact, future development projects should involve strategic and focused intervention.

### (a) Research

The following areas should be emphasized

- *Agriculture is a multifaceted activity*: there are many varieties of crops and animals. It also involves many processes before the crops and animals can be used for food or manufacture. One of the greatest challenges being how to preserve the harvested material (plant/animal) before ultimate use.

Research should therefore play a major role in defining goals, establishing priorities, and setting the general direction of activity more than as at present.

Research has been defined as organized search for new knowledge, and as such has wide applicability to many areas of human endeavour. Moreover, there are aspects of scientific research methodology: literature review which helps to define the problem and keep the questions asked in proper focus; setting up hypothesis which assists in making unambiguous statements; and rigorous methods of drawing inferences with appropriate probability safeguards.

For example, using cassava crop. There is at present great interest in the country in the development of this carbohydrate/energy source for food, industry and export. Research could help establish:

- which variety of cassava is best suited for where and for what purpose?
- Establish if the aim should be for maximum yield /hectare or otherwise. For example, farmers have complained that the high yielding, early maturing varieties lack keeping power, if they are not harvested as soon as they are ready. They tend to rot in the ground. The lower yielding varieties keep longer in the soil and do not rot as fast when not harvested. They are, therefore, better suited for small holder, "take as you need" subsistence farmer. But the high yielding varieties will be more ideal for industrial and manufacturing purposes. Research will clarify these issues, establish suitable cultural practices, the correct quantity and type of fertilizer; establish disease resistant varieties; and advantages of growing one variety for a particular location as against the other.

With respect to livestock, McDowell (1969) has pointed out the need for effective planning for expanding livestock production. One of the major differences in crop and livestock agriculture is that crops provide more rapid means for meeting short term food deficit but animals are more valuable per unit compared to crops and require higher level of investment. Since the balance is in favour of crops for meeting short term goals this disadvantage should be compensated for by planning more efficiently and effectively when animal programmes are concerned.

Such plans should according to McDowell (1969):

- Clearly define the goals i.e separating goals of total livestock output from social development and political considerations.
- In view of high cost of animal unit, development programme(s) concerning livestock need some measure of government support
- Closer attention may need to be paid to cultural inhibition, where necessary.
- Efficiency considerations as in any other commercial ventures should be paramount.
- And as stated earlier the environment should be carefully characterized. This may involve careful dialogue and participation of the farmers *ab initio* in the planning.

(b) *Gender empowerment*

Mainstreaming gender perspective is the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementations, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. Historically, the family farm has been treated in research and policy debates as a single unit, with little analysis applied to the multiplicity of interests and roles within the family. Some organizations of the sustainable agriculture movement have followed suit and largely ignored women's roles on the farm, despite their importance to farm operations. The social construct of gender has implications for how farmers in this study define quality of life which, in turn, affects participation in the sustainable agriculture movement. Much of what men emphasize in describing quality of life reflects the values the sustainable agriculture movement itself espouses. For this wives, descriptions of quality of life are largely entwined with their higher elastic gendered roles and responsibilities on the farm, in the household, in paid and unpaid work in the community, and much less with their involvement in the movement. Because women's different and important contributions to the farm and family are not

institutionally recognized and addressed by the sustainable agriculture movement, the movement's goals, vision, and activities are gender-specific, dominated by men's participation and contributions.

Five main gender issues which are of particular significance in agriculture and rural development sector and which should be addressed include:

- (1) Equal access to land and water resources to credit and other support services;
- (2) Gender differences in roles and activities;
- (3) Gender and agricultural extension and research;
- (4) Gender, agricultural biodiversity and commercialization; and
- (5) Women's empowerment and equal access to decision-making.

(c) *Agricultural policy*

Sustainable agricultural development is propelled by agricultural policy. Nigeria's agricultural policy is the synthesis of the framework and action plans of Government designed to achieve overall agricultural growth and development. The policy aims at the attainment of self sustaining growth in all the sub-sectors of agriculture and the structural transformation necessary for the overall socio-economic development of the country as well as the improvement in the quality of life of Nigerians.

The Broad Policy objectives should include:

- (i) Attainment of self-sufficiency in basic food commodities with particular reference to those which consume considerable shares of Nigeria's foreign exchange and for which the country has comparative advantage in local production;
- (ii) Increase in production of agricultural raw materials to meet the growth of an expanding industrial sector;
- (iii) Increase in production and processing of exportable commodities with a view of increasing their foreign exchange earning capacity and further diversifying the country's export base and sources of foreign exchange earnings;
- (iv) Modernization of agricultural production, processing, storage and distribution through the infusion of

- improved technologies and management so that agriculture can be more responsive to the demands of other sectors of The economy:
- (v) Creation of more agricultural and rural *employment opportunities* to increase the income of farmers and rural dwellers and to productively absorb an increasing labour force in the nation e.g diversification of livelihood activities.
  - (vi) Protection and improvement of agricultural land resources and preservation of the environment for sustainable agricultural production;
  - (vii) Establishment of appropriate institutions and creation of administrative organs to facilitate the integrated development and realization of the country's agricultural potentials e.g. strengthening Agricultural Extension and Rural Development Institutions.

In addition appropriate macro and micro-policies on pricing, trading exchange rate, and land use; sector policies on food, food crops, livestock, fish, industrial raw materials, industrial crops, agricultural by products, forest products and wildlife. More attention paid to several support services; agricultural extension and technology transfer, agricultural credit, agricultural insurance, agricultural product marketing, agricultural commodity processing, agricultural mechanization, pest control, agricultural cooperatives, water resources development and land resource etc.

Hitherto, agricultural development continues to lack sustainability due to the fact that laid down policies has not followed to the letter. The three tiers of government have not always lived up to their roles and responsibilities for policy stability. Therefore, all these policies should be put in place and well directed for the sustainability of agricultural development in Nigeria.

The authors would like to highlight the fact that primary agriculture products are only a first step in the use of farm produce. There are other secondary, value added, processes in the chain, i.e transportation, preservation, processing, packaging, retailing etc. which require labour and which can generate income or profit

- A large proportion of the rural farmers still practice agriculture as a source of

food (staples) and thus for survival and financial security. The idea of agriculture as a business is not as strong a driving force as one would expect in developed market oriented economies. There is therefore need to encourage middle level profit motivated professionals in Nigeria.

Improvements are possible in any system of agriculture - developed or otherwise - but prescriptions for development may not always be the same, since the type of agriculture practiced is closely tied to the cultural milieu. Therefore, careful

characterization of not only the physical environment but the available human resources and survival strategies or social environment is necessary *ab initio*.

When agriculture is practiced as a business, with profit as the main motive, improvements in those factors that affect total efficiency/profitability of the system will also lead to improvement in the total output of the system. Inputs, such as appropriate research, better seeds, improved stock, correct fertilizer etc. all cost money and in business the greater the investment the greater the returns, all things being equal.

Most rural farmers in much of the rural areas of Nigeria are still at the subsistence level. Improvement programmes must also cater for this large rural majority.

### Conclusion

Therefore, if research is given appropriate place and focus, if rural women are empowered and if correct policies (micro and macro) are implemented and sustained, then the authors foresee a bright future in agricultural development in Nigeria.



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