

**REVIVING AGRICULTURAL EXTENSION FOR EFFECTIVE
TRANSITION FROM SUBSISTENCE TO COMMERCIAL
AGRICULTURE IN NIGERIA**

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ABSTRACT

The paper is a historical review of agricultural extension and the agricultural research system in Nigeria covering the period of the colonial period through the post-colonial period to the present. The impact of the oil boom on agricultural extension is also discussed. The aim is to identify factors that led to the erosion of the extension system and point the path to an effective revitalization of the system as part of the new Agricultural Transformation Agenda policy. The paper discusses the theoretical roots of the Agricultural Development Programme that drives the Nigerian extension system, and the contribution that extension can make to the success of the agenda. Weaknesses of past extension efforts are highlighted and suggestions offered to redress them in the new policy.

A nation's extension policy and practice invariably reflect the philosophy driving its agricultural policy. Agricultural extension serves to give farmers information on useful innovations to support their activities. In Nigeria where most of the population survives on agricultural production, and where poverty is endemic, advisory services are also viewed as a poverty alleviation strategy (Chikaire et al. 2011; Oladoja, Adeokun, and Adisa 2005). Nigeria's extension services are based on the Training and Visit system through Agricultural Development Programmes (ADPs) housed in each state of the federation.

From ancient civilizations, societies have sought to increase agricultural productivity by making available useful information on farming techniques to farmers. In Nigeria, however, agricultural extension seems to have yielded very little results owing mainly to the neglect that the agricultural sector has suffered. A second factor is that past agricultural policy has served the interests of the powerful rather than the farmer. In 2013 the Federal Government launched the Agricultural Transformation Agenda (ATA) that seeks to radically transform the way agriculture is practiced in Nigeria.

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This paper seeks to highlight the contribution that agricultural extension can make to the success of the ATA and makes a case for the revival of the country's comatose extension system. The paper begins with a historical review of the major landmarks in the extension system from the colonial period through the post-colonial period, the oil boom period up to the present anchored on the ADP. The next section deals with the philosophy that underpinned the practice of agricultural extension in Nigeria. This is followed by a section on the evolution of the agricultural research system and the shifting perceptions of the extension-farmer nexus. The section that follows introduces the ATA and situates it within the modernization theory. Also discussed is the role that extension could play in the ATA. Mistakes of the past that need to be redressed are highlighted. The paper concludes with a focus on the unique opportunity presented by the ATA for extension to be rekindled on a more positive note.

HISTORY OF AGRICULTURAL EXTENSION IN NIGERIA

The Pre-Colonial to the Post-Colonial Era

Agricultural extension was introduced into Nigeria by the colonial administration whose agricultural policy centered on the production for export of certain cash crops required in Europe. These included oil palm, cocoa, groundnuts and soybeans. Farmers were encouraged to grow these crops and were sometimes offered free seeds and advisory services. Agricultural policy of the colonial era was not concerned with the integration of agricultural production with the overall national economy. The policy had an external focus: servicing the industries of Britain (Mbakwe 2015; Shokpeka and Nwaokocha 2009). Very often the British colonialists were accused of being interested only in the resources they could extract from the colonies and nothing more (Adeyeri and Adejuwon 2012; Shokpeka and Nwaokocha 2009). This extractive mentality informed the colonial attitude to agricultural extension.

Since no premium was placed on the local agricultural economy, no deliberate policy on agricultural extension emerged. Rather, extension activities were hinged on "uncoordinated plans and ad hoc arrangements" (Osuntogun and Olufokunbi 1986). Ironically while the agricultural extraction was going on in Nigeria, Britain operated a carefully planned extension system with legal backing that offered free services to farmers (Garforth 2004; Naswem, Daudu, and Ejembi 2008). Extension activities were first in a department of the regional Ministry of Agriculture, and later with the creation of states under the independent government, they were located in the states.

The nationalist government continued with the focus on cash crops as these were the main sources of foreign exchange. The consequence of this mentality was that the farmer and his welfare were totally ignored. The local food crops of interest

to the local farmers were not included in the government's agricultural plans (Mbakwe 2015; Shokpeka and Nwaokocha 2009).

Agricultural Extension During the Oil Boom Years

With the discovery of oil in commercial quantities, the traditional cash crops faded in importance as foreign exchange sources. Petroleum became the new goose that laid the golden eggs. During this time, the political structure of Nigeria also changed from the four regions – Northern, Eastern, Western, and Mid-Western – to the 12 states. The number of states was later increased to 19 and finally to the current 36 states. Extension services were now housed in the state ministries responsible for agriculture. Emphasis also shifted to the production of food crops; however, the newfound petroleum wealth was a huge distraction as Nigerians acquired a big taste for foreign goods, including agricultural produce the country has the comparative advantage to grow.

When the World Bank entered partnerships with the Nigerian government to fund ADPs, the Bank contributed 66% of the total project cost, the Federal Government 20% and the states 14% (Ammani, Auta, and Aliyu 2010). After the World Bank ceased its funding, the program atrophied considerably. Today, the ADPs (now States' Agricultural and Rural Development Agencies) are entirely in the hands of the state governments. With oil revenues remaining significant until very recently, the states also neglected the agricultural sector (and, by implication, the ADPs). Whatever funding that was available for the ADPs made very little impact due to the endemic corruption in the society. The Projects' assets and operations over the years have become degraded, with staff populations grossly inadequate, and lacking in motivation (Ammani et al. 2010).

In spite of the foregoing, extension activities often continued, especially where external bodies have collaborated with state governments. A good case in point is the World Bank Fadama Project that has occupied the ADPs in some states (Kudi et al. 2008). The International Fund for Agricultural Development is also intervening in some states through the ADPs. Thus, weak as they may be, the ADPs remain the most viable platform for agricultural extension services in Nigeria. It is trite that extension services under the ATA will also depend on the ADP's structure. Fortunately, the Department of Agricultural Extension has been created in the Federal Ministry of Agriculture (Obiora and Emodi 2013). This should make the coordination of agricultural extension activities in Nigeria easier.

The Agricultural Development Projects

In the early 1970s, the ADPs were introduced with joint funding with the World Bank. This happened during the oil boom when oil revenues were high, so agriculture was not given the kind of attention it deserved. According to the World

Bank, the ADPs were designed in response to the drastic decline in agricultural productivity that followed the oil boom. The ADP was formally launched in 1975. The first ADPs were enclave projects covering one local government area in three states in the country. They were expected to give farmers improved seeds, fertilizers, pesticides as well as credit facilities and infrastructure (rural roads, earth dams, culverts and irrigation facilities). The perceived success of the pilot scheme led to their expansion to cover all the states. These have evolved to become the main extension delivery organs of the Nigerian extension system. Although the ADPs had an autonomous administrative structure, ministry staff were seconded to work on the project. After the end of the project in 1995, the state ADPs transformed into States' Agricultural Development Agencies. These are the institutions responsible for agricultural extension in Nigeria today, and are still called ADPs.

At the inception, they were structured to operate in synergy with the existing ministry structures. The Agricultural Project Monitoring and Evaluation Unit of the Federal Ministry of Agriculture and Natural Resources (now the Project Coordination Unit) was to coordinate monitoring and evaluation with Monitoring and Evaluation Units in the various ADPs.

Critics, however, believe the projects to be little more than an exercise in keeping up with the current fad at that time – the Green Revolution – propelled by the Training and Visit extension approach. Performance evaluations of the ADPs have been almost unanimously negative. Dibua (2006) has summarized them to include:

1. Preferential treatment for the richer farmers who constitute a tiny minority of farmers. Small farmers (96% of all farmers) received no extension visits from any extension officer (Shabu, Gyuse, and Abawua 2011; Wallace 1981).
2. Ignoring the food crop priorities of poor farmers in preference to tradable and exportable crops.
3. Imposition of Western practices on the farmers in disregard of indigenous practices.
4. Creation of a class of landless peasants for the first time in Northern Nigeria.
5. Excessive capital outflows in terms of remuneration for a large expatriate staff and payment for fertilizer imports benefitted foreign interests

In spite of these criticisms the ADPs have been credited with some positive impact as new varieties of major food crops were introduced and outputs boosted (Omonijo et al. 2014; Ugwu 2007).

Alongside the ADPs, faculties of agriculture in some Nigerian universities as well as the three universities of agriculture also offer some extension services,

especially to their immediate host communities. Some nongovernmental organizations (NGOs) also provide extension services as part of their mandate. Most NGOs adopt precision-targeting of the most vulnerable poor and have been active all over Nigeria (Adegbola and Bamishaiye 2013; Ladele, Awolola, and Ogunlade 2002). Private processing and marketing companies are also a vital part of the extension matrix in Nigeria. In their heyday the Nigerian textile companies and the Nigerian Tobacco Company had very robust out-grower programs that they supported with credit, inputs, and advisory services (Alam et al. 2013).

THE PHILOSOPHY OF AGRICULTURAL EXTENSION IN NIGERIA

Agricultural extension in any country is a derivative of the main agricultural policy thrust of that country. Agricultural policy in Nigeria during the pre- and immediate post-independence period was driven by an extractive philosophy. This philosophy approached agriculture as a vehicle for extracting natural resources from the colonies for the exclusive use of the colonial homeland. This defines the relationship between the colonial homeland and the colonies. The resources in the colonies included valuable minerals like gold, diamonds, tin, and columbite. It was usual for the equipment required for exploitation to be moved to site and deployed. Once the prize was obtained, most of the sites were abandoned in their ravaged states with open pits and gullies to tell the story.

It was the same mind-set that underpinned colonial agricultural policy. Whatever investment made in agriculture was only such as was necessary to produce the required cash crops. Agricultural extension activities, therefore, reflected this objective. This is apparent in the choice of crops targeted for advisory services: oil palm, rubber, cotton, groundnuts, and cocoa were highly prized commodities in Britain. Seeds and seedlings were sometimes distributed free to encourage production and farmers taught post-harvest handling to meet stipulated standards (Yudelman 1975).

These efforts ensured that the agricultural sector was the backbone of the economy, accounting for much of the country's export. Statistics show that in 1960 agriculture contributed 64.2% of exports for that year. A decade later, agriculture's contribution to exports fell by more than half to 30.2%. This downward trend continued until it hit the lowest point in 2000 when the sector contributed a mere 0.5%. (Central Bank of Nigeria 2015). Conversely the importance of oil as a source of foreign exchange continued to rise over the same period. From 25.3% in 1960, it more than doubled in 1970 and continued to rise to its highest point in 2000 when it contributed 98.7% of Nigeria's exports (Central Bank of Nigeria 2015).

EVOLUTION OF THE AGRICULTURAL RESEARCH SYSTEM IN NIGERIA

Extension is but one leg of the innovation system tripod: the others two being the technology generating system and the end-users (farmers). Extension is an activity that facilitates the transmission of useful innovation to the end users. These innovations flow from the technology generating system traditionally represented by research institutes, universities, and other formal institutions doing research, but also recently including NGOs and indigenous technical knowledge of farmers (Asiabaka 2007). The history of innovation generation in Nigeria parallels the developments in the management of extension.

Early agricultural research in Nigeria was based on exportable crops. The first of such activities was the Cotton Research Institute established in 1905 in Ibadan, but later moved to Samaru, Zaria. In 1922 the Institute of Agricultural Research was established in Samaru. In 1939 an oil palm research station was established, and this later metamorphosed into the Nigerian Institute for Oil-Palm Research (NIFOR). The West African Institute for Oil-Palm Research replaced NIFOR in 1951.

A second set of research institutes operating in Nigeria had the same objective of researching on export commodities, but their mandates covered the whole of Anglophone West Africa. They operated under the umbrella “West African Research Organizations.” In the euphoria of post-independence nationalism this body was dismantled to give way to several national research institutes (Anka 2014). These included the Nigerian Institute for Trypanosomiasis Research, the Nigerian Stored Products Research Institute (NSPRI), the Cocoa Research Institute of Nigeria, and of course the rebirth of NIFOR. In 1972 the National Science and Technology Development Agency was put in place by the military government to coordinate research in science and technology. Some key institutes under its ambit were the NSPRI and the Nigerian Agricultural Extension and Research Liaison Services (NAERLS).

The Agricultural Research Council of Nigeria (ARCN) was set up in 1999 by the ARCN Decree No. 44. However, it was not until 2006 the council took off. It is mandated to coordinate and supervise agricultural research in Nigeria (ARCN 2016). This body has been responsible for the coordination of agricultural research in Nigeria to date.

Shifting Perceptions of the Research-Extension-Farmer Nexus in Nigeria

From colonial times up to the mid-1980s the relationship between research, extension and the end-users of products of research was viewed as unilineal. The formal public research sector was viewed as the generator of innovations. This was in line with the high visibility of government in the operation and funding of national extension systems. Otherwise known as National Agricultural Research

Systems. This approach places much emphasis on the generation of technology from the formal research sector and its transmission through the extension system to the farmers in an almost patronizing fashion (Agwu, Dimelu, and Madukwe 2008)

In line with shifting analytical emphasis, the Agricultural Knowledge and Information System (AKIS) emerged with a focus on linkages that exist between research, education and extension in generating and nurturing innovation. However as noted by Agwu et al. (2008), AKIS was limited in its analysis to the public agricultural research sector as at the heart of technological change. It represents progress from NARS in that it focuses not just on generation, but the diffusion of innovations within an agricultural system.

The Agricultural Innovation System (AIS) analytical framework has gained acceptance lately. AIS has been described as “a set of agents that jointly and/or individually contribute to the development, diffusion and use of agriculture-related new technologies and that directly and/or indirectly influence the process of technological change in agriculture” (Agwu et al. 2008, p.1607). The agents in reference include research institutes, training and education institutions, credit institutions, policy and regulatory bodies, private consultants/NGOs, farmers, farmers’ associations and public services delivery organizations. This approach conceptualizes the research-extension-farmer nexus as a complex system with all players as equal partners working through complex location specific linkages to generate, diffuse and use innovations (Asiabaka 2007). It has been suggested that existing agricultural extension policy would need to give way to more flexible policy that would promote not only technical innovations but also institutional, organizational and managerial innovations (Agwu et al. 2008). These remain ideal that have to be made practical. Meanwhile, the major part of innovation diffusion is played by the public domain adopting the NARS orientation, represented by the ADP system although increasing partnership with NGOs seem to influence a gradual adoption of the AKIS and AIS outlook.

AGRICULTURAL EXTENSION AND ATA: A NEW AGENDA

The ATA is Nigeria’s agricultural policy response to the stark reality of dwindling oil revenues. As the prices of crude began to tumble the era of huge oil revenues was apparently over. It then dawned on Nigeria’s policy authorities that agriculture could offer a more sustainable source of government revenue over time, and address some serious socioeconomic problems confronting the country. These problems include poverty, and youth unemployment as well as low level of value-addition and manufacturing. According to the Nigerian Bureau of Statistics (NBS), 112 million out of Nigeria’s population of 163 million (representing 69%) were living in poverty as at 2010 (NBS 2010). At last, serious attention is being paid to agriculture as the economic engine room of the country. For the first time, Nigeria

has a well-thought out agricultural policy. The major aim of the ATA is to transform agriculture in Nigeria from a mere traditional practice to a business enterprise. The value-chain approach adopted promises to lift agricultural activities beyond primary production to embrace significant investment in storage, processing, services and marketing (Akinwumi 2012).

Coming during a period of serious national economic stress, there is a shift of emphasis from public services to favor public-private partnership, and free-market operations. The policy claims to be sensitive to the needs of the most vulnerable farmers, as structures are set in place for to capture their peculiar needs. For instance, the Growth Enhancement Support Scheme is designed to deliver subsidized farm inputs including fertilizers, seeds and other inputs the resource-poor farmers. The strategy to achieve this is the e-wallet system. Under this system, the Federal Government in conjunction with the states engage service providers who supply inputs to farmers at the agreed subsidized rates. Electronic coupons are generated and sent to the mobile phones of farmers who must present same to the service provider before they can buy inputs at the subsidized rate. The input merchants then present records of sale of inputs to the governments to claim the balance that represents the subsidy. This scheme has effectively cut off the intermediaries who used to hijack subsidized inputs in the past, and has resolved a protracted nightmare, except that the two bags allocated to each farmer have been grossly inadequate for the needs of most farmers (FEPSAN 2012)

Another key component of ATA is the Nigeria Incentive-based Risk-sharing System for Agricultural Lending. This strategy is designed to make agricultural credit more accessible to all players in the agricultural value chain, and attractive to the lenders by considerably reducing the risk associated with lending for agricultural production. The Staple Crops Processing Zone strategy is an additional component of ATA. It is focused on attracting private investors to locate processing plants in areas of concentrated food crop production. The aim is to process commodities into food products. Marketing corporations, operated by private investors are yet another component of the ATA. These corporations are expected to provide markets for farmers and redress price volatilities promoted by intermediaries. These if implemented diligently should result in a robust agricultural sector that would drive the economy and guarantee better living standards of most Nigerians.

ATA as a Modernization Agenda

The ATA is essentially a modernization program. Modernization is a term that connotes the transition from a traditional agrarian society to a modern industrial society (Matunhu 2011; Tipps 1973). Traditional societies are agrarian, characterized by social homogeneity, low social mobility and the dominance of

affective social relationships (Shukla 2015). A modern society, on the other hand, is based on the division of labor and specialization, and decisions are based on rational considerations. Contacts between individuals are largely impersonal.

Early sociologists theorized actively on this transition. Durkheim (2014) viewed this dichotomy in terms mechanical/organic solidarity; Tonnies conceived it to involve the advancement from folk to urban society (Tonnies and Loomis 2014). However, Rostow's theory on modernization with his five stages of modernization has been one of the most influential (Rostow 1960). Modernization theory has been described as an explanation of the processes of transformation from traditional or underdeveloped societies to modern societies. Modernization theory also describes the path to the goal of modernization for underdeveloped countries like Nigeria (Armer and Katsillis 2003). To many commentators, modernization is associated with progress, and development in all ramifications.

The theory has generated passionate criticism especially regarding its Eurocentric assumptions that developing countries have to follow the path taken by Europe for them to achieve modernization (Armer and Katsillis 2003; Matunhu 2011). A second issue relates to the price at which modernization in Europe happened. It is argued that European industrial development was powered by fossil fuels that have led to global warming that threatens the environment today (Wrigley 2011; Zahran et al. 2007). The view today is that developing countries must find alternative and sustainable sources of energy to power their own development, and these alternative sources are very expensive (Fan and Ramirez 2012). A third criticism focuses on the peculiar experience of developing countries who went through slavery and colonialism that robbed them of the human and physical resources that could have been used for their own development. The argument is that Europe did not experience the twin catastrophes of slavery and colonialism, and thus does not present a valid blueprint for the developing world.

Yet is modernization a desirable goal? The affirmative answer is based on the premise that even if modernization as a process is problematic, it can be empirically demonstrated that developed societies rank much higher than developing societies in nearly all development indices (Global Sherpa 2016; UNDP 2015).

For countries like Nigeria, where majority of the population lives in the rural areas practicing agriculture, any efforts at modernization would require agricultural modernization as a *sine qua non*. Modernization of agriculture has been described as "a process of transforming agriculture from traditional labour-based to technology-based agriculture" (Wu 2011). The injection of advanced technology into agricultural production is expected to yield tangible outcomes in terms of increased output, and material prosperity for the farmer (Hasan, Imai, and Sato 2013). To most proponents of modernization, expansion in output and material well-being of farmers are worthy ends in themselves. However, the sustainable development

school cautions that any technology utilized in meeting the needs of the present generation must do so without jeopardizing the needs of future generations (Gowing and Palmer 2008; UNESCO 1997). Modernization transcends material technology and affects the cognitive and institutional aspects as well. The debate on the consequences of modernization has accordingly been extended to cover the concept of resilience (Wilson 2013). Resilience connotes “the ability of farming house hold to have the capacity to absorb the disturbance occasioned by climate change and globalization without compromising their basic functions and structures” (Knickel, Zemeckis, and Tisenkopfs 2013).

The ATA as a change program underpinned by the modernization philosophy will upset the agricultural production paradigm of the average Nigeria farmer in a radical way. Agricultural extension properly practiced should build the resilience of the local farmers.

The Role of Agriculture Extension in Agricultural Modernization

Agricultural extension has been defined as “A service or system that assists farm people, through educational procedures in improving farming methods and techniques, increasing production efficiency and income bettering their levels of living and lifting the social and educational standards of rural life” (Jones and Garforth 1997). Several other scholars have defined agricultural extension but the central point of convergence is the idea of making available useful information on farming techniques to farmers to modify their practices for better productivity and improved standards of living. A definition that covers contemporary concerns is provided by Syngenta:

Agricultural extension is the function of providing need- and demand-based knowledge in agronomic techniques and skills to rural communities in a systematic, participatory manner, with the objective of improving their production, income and (by implication) quality of life (Syngenta Foundation for Sustainable Agriculture 2016)

Function of agricultural extension can be provided in three major ways. The first is the public sector or supply-driven extension where the government takes full responsibility. Secondly, we have NGO extension provided to a limited clientele by donor agencies and other private NGOs as philanthropic outreach. The third extension approach is the private or demand-driven extension where extension functions are provided by manufacturers, marketing firms, and other commercial players. Experience has shown that most developed economics started with public extension transited over time to the now dominant demand-driven private sector extension system (Jones and Garforth 1997; Garforth 2004). In many developing

countries the private sector-led extension model (both nonprofit and for profit) is expanding because of shrinking government funding for extension. The consensus however is that the resource-poor farmers are too poor to participate in the private sector led extension and must be supported by public funding.

ROLE OF AGRICULTURAL EXTENSION IN ATA

Results of studies on the role of extension in agricultural modernization are conflicting (Taye 2013). Some studies report significant impact while others report the contrary. Taye (2013) reviewed 21 impact evaluations conducted in Africa and found out that 71% of studies reported positive impact. A similar review conducted earlier by Birkhaeuser, Evenson, and Feder (1991) showed similar results (75%) positive impact. These studies also reported high rates of return to extension of between 13% and 500%. Paradoxically, key agricultural performance indices for sub-Saharan Africa have lagged behind those of Latin America and Asia (Chauvin et al. 2012). Studies that reported growth have been careful to stress that this growth is not the result of increased use of technology but the expansion of land brought under cultivation (Block 2014). More fundamentally, isolating the effect of public extension is quite difficult due to several reasons. Taye (2013) identified some of them. First, since agricultural extension efforts are directed toward the whole farming community, having a comparable control group in evaluation studies is difficult. Secondly, there are several other sources of information and technology available to the farmers, and this could veil the real source of a useful information or technology. In addition, there is a myriad of serious methodological and human capacity weaknesses that make it difficult to measure the true impact of agricultural extension in sub-Saharan Africa. Taye concludes that “impact evaluation objectives have shown a shift from proving impact to improving impact.”

So, what role can agricultural extension possibly play in the agricultural extension agenda? It is imperative to point out at the onset that as long as new research breakthroughs and technology emerge, there will always be a role for agricultural extension. The question really is the kind of funding arrangement and methods that will be adopted. For the ATA, the choice is clear-cut to an extent. Since the objective of the ATA is obviously to transform traditional farmers into modern entrepreneurs, the extension system will also have to move away from the supply-driven character to a more market friendly one. However, in doing so due sensitivity should be applied in view of the varying socioeconomic capacities of farmers. The architects of the agenda seem to recognize this differential, nevertheless, old mistakes made with the ADP system seem to have been repeated, and need to be redressed before agricultural extension could make the desired impact.

1. The extractive mentality. The ATA is rooted in the desire to secure an alternative source of foreign exchange for the country since oil prices have taken a tumble. In the fixation with foreign exchange, overlooking the interests of the farmers is possible, which is the case as evidenced in the allocation of two bags of fertilizers to each farmer irrespective of the size of their holdings.
2. The silver bullet approach: a serious flaw of the ADP was the one-size-fits-all technology basket it offered farmers. The point raised above also highlights this problem. The ceiling placed on the number of bags each farmer could purchase at the subsidized rate has elicited a strong reaction from farmers.
3. Deference to the interests of the powerful. The real beneficiaries of the new agricultural policy are big farmers, processors and foreign seed and fertilizer and agrochemical merchants.
4. The top-down orientation. The beneficiaries of extension never had the opportunity to make inputs into the conception, planning, implementation and monitoring and evaluation of extension programs. It is often assumed that farmers are illiterate and ignorant and may not have anything to offer in this regard. This disadvantage should not preclude their participation because they have preferences and if these are respected they would become more open to be persuaded on matters they may not fully understand. Furthermore, local farmers possess “expert” knowledge on their local environment that can prove useful in the design and implementation of extension programs. Participatory approaches must be adopted.
5. Unsustainable practices. The World Bank-funded ADP system turned a blind eye to sustainability. It utilized expatriate staff, equipment and inputs. The ATA must rely on local human capacity and home-grown technology and promote the maturity of the demand-driven system to avoid the trap of poor funding that grounded extension services at the exit of the World Bank. In this regard, it would be essential to build the capacity of Universities of Agriculture to conduct basic and applied research and come up with appropriate technology for local agro-ecological conditions. This way reliance on unsustainable foreign interventions would be eliminated.
6. Lack of a concrete youth development program. The ADPs did not have a deliberate youth development program that would make agriculture attractive to youth. This contributed to the enduring stereotype of farmers as associated with poverty and retrogression. The ATA can change all that and re-socialize the young generation by making provision for school farms from the primary school to secondary levels with extension agents visiting schools. If designed carefully, this should remove the stigma associated with farming and the youth will grow up imbibing the culture of modern commercial agriculture.

CONCLUSION

Agricultural extension in Nigeria has come a long way from the colonial times to the present. Several factors, including an extractive orientation by the colonial administration, the distraction of sudden oil revenues and perhaps what is most important, the absence of a coherent policy on extension has hindered the emergence of a vibrant responsive extension system. This resulted in poor funding, policy somersaults and lack of coordination. The ATA presents a unique opportunity to start all over, and to get it right this time. The supply-driven orientation of the past has been discarded for the demand-driven. Even then there is the need for a balance or else most players on the agricultural landscape in Nigeria will be eclipsed by powerful actors who have the capacity to take advantage of the opportunities presented by the liberalization of the environment. These poor peasants whose thankless labors earned foreign exchange for Nigeria before oil was discovered, who provided the food when oil was discovered cannot be abandoned to their fate. Nigeria must follow the example of the British who supported her farmers when they were helpless and grew them to maturity before weaning them off state support (Needham 1997). The prevailing stifling economic situation presents the temptation to embrace the laissez-faire doctrine fully, but the small actors who are in the majority are not equipped either financially or mentally, to take advantage of a free market environment. Subsistence production is both an economic and cultural reality. Traditions do not change overnight. They must be supported by effective subsidies, and attitude and behavior change programs until such a time when they do not require state support. To ensure long-term behavior modification, the younger generation that is more receptive needs to be involved deliberately.

AUTHOR BIOGRAPHIES

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REFERENCES

- Adegbola, J. Adetayo and I. Eunice Bamishaiye. 2013. "Privatization of Agricultural Extension Services in Nigeria: A Fallacy?" *Asian Journal of Agricultural Extension, Economics & Sociology* 2(1):14–22.

- Adeyeri, Olusegun and Kehinde David Adejuwon. 2012. "The Implications of British Colonial Economic Policies on Nigeria's Development." *International Journal of Advanced Research in Management Sciences*. 1(2):1-16.
- Agwu, A. E., M. U. Dimelu, and M. C. Madukwe. 2008. "Innovation System Approach to Agricultural Development: Policy Implications for Agricultural Extension Delivery in Nigeria." *African Journal of Biotechnology* 7(11):1604-11.
- Agricultural Research Council of Nigeria. 2016. History of ARCN. Retrieved September 8, 2016 (<http://arcnigeria.org/arcn/2016/07/27/history-of-arcn/>).
- Alam M. K., E. Aboki, E. H. Gidado, and D. D. Buba. 2013. "Economic Analysis of Cotton Production in Selected Local Government Areas of Taraba State, Nigeria." *Journal of Agricultural Sciences* 4(1):27-31.
- Akinwumi, Adesina. 2012. "Agricultural Transformation Agenda: Repositioning Agriculture to Drive Nigeria's Economy." Retrieved January 17, 2016. (http://www.emrc.be/documents/document/20121205120841-agri2012-special_session-tony_bello-min_agric_nigeria.pdf).
- Ammani, A.A., S.J. Auta, and J.A. Aliyu. 2010. "Challenges to Sustainability: Applying the Problem-tree Analysis Methodology to the ADP System in Nigeria." *Journal of Agricultural Extension* 14 (2):35-45.
- Anka, Lawal Mohammad. 2014. "Agricultural Research Management in Nigeria: Historical Antecedents and Contemporary Issues." Retrieved October 9, 2016 (<http://dx.doi.org/10.2139/ssrn.2492848>).
- Armer, J.M. and J. Katsillis. 2001. "Modernization Theory." *Encyclopedia of Sociology* Vol. 3.
- Asiabaka, Chigozie C. 2007. "The Challenges of Research Extension Farmer Input System (REFILS) in Agricultural Technology Development and Delivery in Southeast Agro-Ecological Zone." Paper presented at the 22nd Annual REFILS Workshop, Awka, Anambra State, Nigeria, 20-23 November. 2007
- Birkhaeuser, Dean, Robert E. Evenson, and Gershon Feder. 1991. "The Economic Impact of Agricultural Extension: A Review." *Economic Development and Cultural Change* 39(3):607-50.
- Block, Steven. 2014. "The Decline and Rise of Agricultural Productivity in Sub-Saharan Africa since 1961." Pp. 13-67 in *African Successes, Volume IV: Sustainable Growth*, edited by Sebastian Edwards, Simon Johnson and David N. Weil. Chicago: University Chicago Press.
- Central Bank of Nigeria. 2015. *Statistical Bulletin*. Central Bank of Nigeria.
- Chauvin, Nicholas Depetris, Francis Mulangu, and Guido Porto. 2012. *Food Production and Consumption Trends in Sub-Saharan Africa: Prospects for the Transformation of the Agricultural Sector*. UNDP, Regional Bureau for Africa.

- Chikaire, J., F.N. Nnadi, R.N. Nwakwasi, and N. Ejiogu-Okereke. 2011. "The Changing Roles of Agricultural Extension to Achieve Food Security and Improve Rural Livelihoods in Imo State, Nigeria." *Researcher* 3(10):41–8.
- Dibua, Jeremiah I. 2006. *Modernization and the Crisis of Development in Africa: The Nigerian Experience*. Hampshire: Ashgate
- Durkheim, Emile. 2014. *The Division of Labour in Society*. New York: Free Press.
- Fan, Shenggen and Ana Ramirez. 2012. "Achieving Food Security While Switching to Low Carbon Agriculture." *Journal of Renewable and Sustainable Energy* 4 Retrieved July 20, 2016 (<http://dx.doi.org/10.1063/1.3670412>).
- The Fertilizer Suppliers Association of Nigeria (FEPSAN). 2012. *The Growth Enhancement Support Scheme (GESS) Monitoring Report*. Submitted to the Honourable Minister of Agriculture and Rural Development African Health.
- Garforth, Chris. 2004. "United Kingdom: ADAS and the Privatization of Advisory Services in England and Wales." Agricultural and Rural Development Discussion Paper 9. Pp. 56–63 in *Extension Reform for Rural Development Vol. 2 Privatization of Extension Systems: Case Studies of International Initiatives*, edited by William Rivera and Gary Alex. Washington DC: The World Bank.
- Global Sherpa. 2016. "Development and Developing Countries" Retrieved June 28, 2016 (<http://globalsherpa.org/development-developing-countries-developed/>).
- Gowing, J. W. and M. Palmer. 2008. "Sustainable Agricultural Development in Sub-saharan Africa: The Case for a Paradigm Shift in Land Husbandry." *Soil Use and Management* 24:92–9. Retrieved July 20, 2016 (doi: 10.1111/j.1475-2743.2007.00137.x).
- Hasan, Faruq, Katsushi S. Imai, and Takahiro Sato. 2013. *Impact of Agricultural Extension on Crop Productivity, Poverty and Vulnerability: Evidence from Uganda*. Discussion Paper Series, Research Institute for Economics and Business Administration, Kobe University, Japan.
- Jones, Gwyn E. and Chris Garforth. 1997. "The History, Development, and Future of Agricultural Extension." Pp. 3–13 in *Improving Agricultural Extension. A Reference Manual*, edited by B. E. Swanson, R. P. Bentz, and A. J. Sotranko. Rome: Food and Agriculture Organization.
- Knickel, Karlheinz, Romualdas Zemeckis, and Talis Tisenkopfs. 2013. "A Critical Reflection of the Meaning of Agricultural Modernization in a World of Increasing Demands and Finite Resources." Proceedings of the International Scientific Conference on Rural Development 2013 Aleksandras Stulginskis University. pp. 561–7.
- Kudi, T.M., I. Usman, J. G. Akpoko, and A. L. Banta. 2008. "Analysis of the Impact of National Fadama Development Project II (NFDPII) in Alleviating Poverty Among Farmers in Giwa Local Government Area of Kaduna State, Nigeria." *Ozean Journal of Applied Sciences* 1(1):9–15.

- Ladele, Ademola A., M.D. Awolola, and I. Ogunlade. 2002. "Agrobased Non-Governmental Organizations for Extension Services in Nigeria: Evidence from Lagos and Oyo States." *Nigerian Journal of Rural Sociology* 3(1&2):88–98.
- Matunhu, J. 2011. "A Critique of Modernization and Development Theories in Africa: A Critical Assessment." *African Journal of History and Culture* 3(5):65–72.
- Mbakwe, P.U. 2015. "The Impact of Colonial Rule on the Agricultural Economy of Mbaise, Imo State, 1500–1960." *African Journal of History and Culture* 7(6):133–40.
- Naswem, A. A., S. Daudu, and E. P. Ejembi. 2008. "Legislated Policy as the Basis for Effective Extension Delivery: Lessons from the United Kingdom." *Journal of Agricultural Extension* 12(2):1–8.
- Needham, P. 1997. "Privatizing an Extension Service: A Management View." Pp. 192–8 in *Rural Knowledge Systems for the 21st Century: Rural Extension in Western, Central and Eastern Europe*, edited by R. Wallace. Reading, U.K: The University of Reading, ADAS and SAC.
- Nigerian Bureau of Statistics. 2010. Nigerian Poverty Profile. Accessed January 20, 2016 ([www.nigerianstat.gov.ng/pdfuploads/Nigeria Poverty Profile2010pdf.](http://www.nigerianstat.gov.ng/pdfuploads/Nigeria%20Poverty%20Profile2010.pdf))
- Obiora, C.J. and A.I. Emodi. 2013. "Restructuring the Agricultural Extension Service for Effective Agricultural Transformation Agenda in Nigeria." *Greener Journal of Agricultural Sciences* 3(6):516–22.
- Oladoja, M. A., O. A. Adeokun, and B. O. Adisa. 2005. "Agricultural Extension and Poverty Alleviation: Problems and Challenges in a Democratic and Deregulated Economy." *Journal of Agricultural Extension* (8):84–9.
- Omonijo, Dare Ojo, Sunday Oluwadare Wright Toluwase, Olumuyiwa Akinrole Oludayo, and Onyekwere Oliver Chizaram Uche. 2014. "Impacts of Agricultural Development Programme (ADP) on Rural Dwellers in Nigeria: A Study of Isan-Ekiti." *International Journal of Finance and Economics* (128):41–55.
- Osuntogun, S. and L. C. Olufokunbi. 1986. "History and Assessment of Agricultural Policies in Nigeria." Pp. 75–9 in *Financing Agricultural Development in Nigeria*, edited by C. Adeniyi Osuntogun. Nigeria: The Agricultural and Rural Management Training Institute.
- Rostow, W. W. 1960. *The Stages of Economic Growth: A Non-Communist Manifesto*. Cambridge: Cambridge University Press.
- Shabu, T., T. T. Gyuse, and J. I. Abawua. 2011. "Economic Impact of Olam Out-Grower Programme on Rice Farming on Kaambe District of Guma Local Government, Benue State, Nigeria." *International Journal of Humanities and Social Science* 1(17):303–16.
- Shokpeka, S. A. and Odigwe A. Nwaokocha. 2009. "British Colonial Economic Policy in Nigeria, the Example of Benin Province 1914–1954." *Journal of Human Ecology* 28(1):57–66.

- Shukla, S. 2015. "Comparison between Traditional Society and Modern Society." Retrieved July 28, 2016 (<http://www.importantindia.com/17241/comparison-between-traditional-society-and-modern-society/>).
- Syngenta Foundation for Sustainable Agriculture. 2016. "Agricultural Extension." Retrieved July 15, 2016 (<http://www.syngentafoundation.org/agricultural-extension>).
- Taye, Hailemichael. 2013. "Evaluating the Impact of Agricultural Extension Programmes in Sub-Sahara Africa Challenges and Prospects." *African Evaluation Journal* (1):1-9. Retrieved on July 22, 2016 (www.aejonline.org/index.php/article/view/19).
- Tipps, Dean C. 1973. "Modernization Theory and the Comparative Study of Societies: A Critical Perspective." *Comparative Studies in Society and History* 15(2):199-226.
- Tonnies, Ferdinand and Charles P. Loomis. 2014. *Community and Society: Gemeinschaft and Gessellschaft*. Mineola, New York: Dover Publications, Inc.
- Ugwu, Daniel S. 2007. "Contributions of Agricultural Development Programmes (ADPs) to Rural Livelihood and Food Security in Nigeria." *Agricultural Journal* 2(4):503-10.
- UNESCO. 1997. "Declaration on the Responsibilities of the Present Generations Towards Future Generations." Retrieved July 20, 2016. (http://portal.unesco.org/en/ev.php-URL_ID=13178&URL_DO=DO_TOPIC&URL_SECTION=201.html).
- United Nations Development Programme (UNDP). 2015. *Human Development Report 2015: Work for Human Development*. Retrieved July 15, 2016 (http://hdr.undp.org/sites/default/files/2015_human_development_report.pdf).
- Wallace, Tina. 1981. "The Challenge of Food: Nigeria's Approach to Agriculture-1975-80." *Canadian Journal of African Studies* 15(2):239-58.
- Wilson, Geoff A. 2013. "Community Resilience, Policy Corridors and the Policy Challenge." *Land Use Policy* (31):298-310.
- Wrigley, T. 2011. "Opening Pandora's Box: A New Look at the Industrial Revolution." Retrieved July 28, 2016 (<http://www.voxeu.org/article/industrial-revolution-energy-revolution>).
- Wu, Zhong Lun. 2011. "Research on Harmony Between Agricultural Modernization and Regional Economy Development in China." *Asian Agricultural Research* 3(3):6-10.
- Yudelman, M. 1975. "Imperialism and the Transfer of Agricultural Techniques." Pp. 329-60 in *Colonialism in Africa 1870-1960, Vol. 4. The Economics of Colonialism*, edited by P. Duignan and L.H. Gann. London: Cambridge University Press.

Zahran, Sammy, Eunyi Kim, Xi Chen, and Mark Lubell. 2007. "Ecological Development and Global Climate Change: A Cross-national Study of Kyoto Protocol Ratification." *Society and Natural Resources* (20):37–55.