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Mainstreaming Agricultural Extension Services in Value Chain in Nigeria.

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Abstract

The paper examined how agricultural extension services can be mainstreamed in value chain in Nigeria. Literature materials concerning the concept of Value Chain, Agricultural extension and their roles were reviewed. Further effort was made to x-ray the possible ways where agricultural extension was used to facilitate the value chain. Findings on reviewed researches revealed that the involvement of agricultural extension in this crusade is paramount in achieving food security, poverty reduction, wealth and employment creation vis-a-viz Agricultural Transformation Agenda. Therefore, agricultural extension should be at the fore front of creating awareness on value chain to get farmers to participate as well as encourage them to be value chain actors. Government and stakeholders should facilitate the setting up of effective and functioning of value chain stakeholder committees ensuring the inclusion of agricultural extension services for effective facilitation.

Keywords: Agricultural Extension Services, Mainstreaming, Value Chain

Introduction

Agriculture currently contributes about 40.0% of the GDP and employs about 70.0% of the active population, the sector has however, significantly underperformed its potential (Federal Government of Nigeria, 2008). This is evident in high level of food insecurity (Henri-Ukoha, Orebiyi, Ohajianya and Ibekwe., 2011) both at the household and national level. It is sad to note that although Nigeria is Africa's second largest economy with a GDP of about US \$40.0 billion, in addition to the abundant natural resources (Shaib., Aliyu and Bakshi., 1997) yet, two-thirds of the population live below the national poverty line of US\$1 per day while about 1.2 billion lived in absolute poverty depending on US\$1 per day as at 1998 (World Bank, 2000). Poverty is more predominant in the rural areas where more than 70 percent of the people live deriving their livelihood from agriculture (International Fund for Agricultural Development, 2009). Nevertheless, about 90 per cent of Nigeria's food is produced by small-scale farmers who cultivate small plots of land and depend on rainfall rather than irrigation systems (IFAD, 2010) leading to low productivity. Several attempts have been made over the years to boost farmers'

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productivity. Moreover, there is a huge supply gap to be filled for a lot of agricultural products for which the country has production potentials. Yet, the country boasts of suitable land and weather for these crops. For instance, Olajide *et al.* (2012) observed that only less than 50% of the Nigerian arable land is under cultivation. Despite the high levels of production of some crops in the country, there is still a high level of wastage, due to insufficient infrastructure (FDI, 2011 as cited in Outlook, 2014) for storage and processing of most of these crops. Most of the value chain of the crops of the major crops produced is poorly developed. Nigeria, for example, is the number one producer of cassava in the world accounting for 21% of global production in 2012. In terms of trade in the crop, the country is barely visible. The story for Sorghum and some other crops is largely the same. Nigeria spent about N1.3 trillion annually to import basic food, N635 billion on wheat, N356 on importing rice, N271 billion on sugar and N71 billion importing fish (FMARD, 2012 as cited in Tiri *et.al.*,2014). The worrisome aspect is the attitude of farmers towards agriculture as they perceive it as a way of life as well as a developmental issue. This shows that the limitations of the farmer are both attitudinal and technical, and need to be addressed before any meaningful transformation could take place on an enduring basis (Naswem., Okwoche and Age, 2016). It is obvious that farmers who approach farming as a way of life may not possess the capacity to become commercial entrepreneurs overnight. They require a re-orientation to adjust their mindset from subsistence orientation to commercial-investment orientation. The assumption that farmers would act rationally in the economic arena and transform into modern businessmen fails to recognize their limitations in a changing business environment where advanced information communication technology, and complex networks determine business success (Naswem *et.al.*, 2016)

In order to move agriculture from a traditional occupation to a modern business in line with global best practices, the Agricultural Transformation Agenda (ATA) of the Federal Government was introduced. The programme was designed to address the issues of agricultural value chain thereby positioning agriculture to be more productive, efficient and competitive as a new way of thinking to promote food security and job creation as well as diversifying the economy from over reliance on oil (Oredipe, 2015). Unfortunately, majority of Nigerian farmers do not possess this capacity as illiterate traditionalists are known to resist change, sometimes even when the changes were demonstrated to be superior to their current practices (Pandey, 2008). This will hinder the success of implementation of the ATA. The vision of 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 (Natsa, 2013). The favourable demographics (over 170million) with a robust annual growth rate of 2.5%, rising income levels, growing industrial sector all buttress the fact that the future direction of demand for agricultural products has a high chance of moving upwards (Outlook, 2014).

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Opportunities exist along the value chains of so many agricultural products, what is needed is the engine that will create awareness, participation and strengthening of the value chain hence, the usual approach to agricultural sector needs some structural and radical changes. This necessitates the fact that agricultural extension be able to meet the needs of key players through the provision of linkages between research, extension, and the value chain actors. Henri-Ukoha *et.al.*, (2015) advocated for special programmes targeted at bringing interaction and exchange of ideas between extension, experienced actors and others. The paper sought to achieve the following objectives: to identify the roles played by agricultural extension, the relevance of mainstreaming agricultural extension in value chain and ways of achieving success.

Concept of Agricultural Extension

Extension was perceived as a service to “extend” research-based knowledge to the rural sector to improve the lives of farmers which incorporated the components of technology transfer, broader rural development goals, management skills, and non-formal education. This was therefore concentrated on increasing production, improving yields, training farmers, and transferring technology. In this direction, agricultural extension was defined as the application of scientific research and knowledge to agricultural practices through farmer education. Broadly speaking, agricultural extension can be defined as the “delivery of information input to farmers” (Anderson and Gershon, 2007). Extension is essential in acting as the pathway of translating new knowledge from the laboratory into innovative practices which ensures a return on investment in research (Davies *et.al.*, 2009); this therefore renders invaluable services in teaching farmers how best to improve their productivity through production, processing and marketing of agricultural products.

It is interesting to note that apart from the conventional role of boosting agricultural productivity through knowledge transfer, new roles of extension are emerging in high value and export markets, promoting environmental outcomes as well as other issues that boarder on the welfare of the farming households. Extension goes beyond technology transfer to facilitation, beyond training to learning, and includes helping farmers form groups, deal with marketing issues, and partner with a broad range of service providers and other agencies. Agricultural extension can thus be defined as the entire set of organizations that support people engaged in agricultural production and facilitate their efforts to solve problems; link to markets and other players in the agricultural value chain; and obtain information, skills, and technologies to improve their livelihoods. Extension services is categorized into 3 which include technology transfer, advisory services and facilitation (Beynon *et.al.*, 1998). This study adopted this definition with emphasis on of facilitation. The extension services will focus on facilitating producers and processors, marketers and all other actors on the targeted value chains and service providers.

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Roles of Agricultural Extension

1. Agricultural extension according to International Food Policy Research Institute plays a crucial role in promoting agricultural productivity, increasing food security, improving rural livelihoods, and promoting agriculture as an engine of pro-poor economic growth.
2. Extension is needed to meet the new challenges agriculture is confronted with such as changes in the global food and agricultural system, including the growth in non-farm rural employment and agribusiness and other health challenges that affect rural livelihoods; and the deterioration of the natural resource base and climate change.
3. Extension helps to transfer the knowledge and information that will enable a farmer to understand and make decisions about an innovation.
4. Agricultural extension enables farmers to develop their own initiatives, gain confidence, organize themselves and learn to get involved in extension activities as well as tackle their own problems.

Value Chain

Value chains are a key framework for understanding how inputs and services are brought together and then used to grow, transform, or manufacture a product; how the product then moves physically from the producer to the consumer; and how value increases along the way. Simply put, from farm to plate. Value chain arose out of the need to design interventions which will be geared towards value addition, lower transaction costs, diversify rural economies, and contribute to increasing rural household incomes in developing countries.

A value chain refers to the full life cycle of a product or process, comprising supply of input, production, consumption, marketing and even disposal/recycling processes (World Business Council for Sustainable Development, 2011). “Value chain” describes the full range of value-adding activities required to bring a product or service through the different phases of production, including procurement of raw materials and other inputs, assembly, physical transformation, acquisition of required services such as transport or cooling, and ultimately response to consumer demand (Kaplinsky and Morris 2002) and final disposal after use (Kaplinsky and Morris, 2001). Interestingly, value is added to preliminary products through combination with other resources as the product passes through the stages of the value chain, its value increases. Value Chain is a business-oriented approach, which aims at capturing the best value at all stages of production, processing and trading, from farmers through traders, processors and retailers up to the final consumer. It can be local, national or global, linking rural producers with traders and consumers worldwide. Enhancing value chain participation is increasingly recognized as an effective approach to generating growth and reducing the rural

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poverty prevalent in developing countries who need to view agriculture from a business lens and not just as a means of survival. Moreover, value chain participation will assist those dependent on agriculture and agribusiness in increasing their incomes and asset base as productivity in terms of net value added is a crucial measure of value chain performance.

Value chains encapsulate the sequence of steps, flows, investments, actors, and interrelationships that characterize and drive the process from production to delivery of a product to the market. Value chains include all the vertically linked, interdependent processes that generate value for the consumer, as well as horizontal linkages to other value chains that provide intermediate goods and services. It focuses on value addition typically through innovation in products or processes, as well as marketing and on the allocation of the incremental value. The production stages entail a combination of physical transformation and the participation of various producers and services, and the chain includes the product's disposal after use as opposed to the traditional exclusive focus on production, the concept emphasizes the relevance of value addition at each stage, thereby treating production as just one of several value-adding components of the chain (Vienna, 2009). This includes design, production, marketing, distribution and support services leading up to consumption (and often beyond, when recycling processes are considered).

Roles of Value Chain

- i.** Value chain provides a vital means to understand business-to-business relationships that connect the chain, mechanisms for increasing efficiency as well as ways to enable businesses to increase productivity and add value.
- ii.** It provides a reference point for improvements in supporting services and the business environment.
- iii.** It contributes to pro-poor initiatives and better linking of small businesses with the market.
- iv.** Increasingly, the value chain approach is being used to guide and drive high-impact and sustainable initiatives focused on improving productivity, competitiveness, entrepreneurship, and the growth of small and medium enterprises (SMEs)
- v.** It focuses on net value added instead of just overall revenue and gross physical output. Industries and services linked to agricultural value chains often account for over 30 percent of GDP in developing countries.
- vi.** It is concerned with cost build-up and value addition, as well as the distribution of burden or benefit in both.

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- vii. It recognizes that linkages between productive activities and actors vary according to the specific product type and target market, even if the main actors are the same.
- viii. It recognizes that economic activity is very dynamic, necessitating adjustments in strategy and tactics constantly as circumstances change.
- ix. It recognizes that there are different kinds of value chains (buyer-dominated, supplier-dominated, balanced, or directed) depending on which actors or activities have the most leverage, information, and power.
- x. It looks not just at physical flows, but also informational flows.
- xi. It seeks to better understand the constraints and opportunities within each segment, as well as the context in which the chain operates.
- xii. Value adding off-farm activities such as processing and packaging, increase the worth of a product and can increase the economic gains for producers.

Mainstreaming Agricultural Extension in Value Chain

Involving agricultural extension in the crusade for value chain in Nigeria is a step in the right direction now that Nigeria is experiencing economic recession. The value chain approach involves not only addressing major constraints and opportunities faced by farmers or producers, but also those of processors, traders and other businesses at multiple levels and points along a given value chain. Therefore, agricultural extension should be at the front line of facilitating these value chain activities. Facilitation can be defined as an action or agent that stimulates a value chain to develop and grow but does not become part of the chain. The activities that facilitators do are often the same as those that implementers have always done: providing training and technical assistance, subsidizing activities, and providing a range of support services. It is equally important to note that the value chain promotion process is knowledge based and demanding, its success depends on the quantum and rate of generation and dissemination of appropriate information and knowledge on challenges, problems and opportunities facing major actors and service providers in the selected value chain. The process also includes facilitating a wide range of activities such as: access to inputs, strengthening the delivery of business and financial services, enabling the flow of information, facilitating improved linkages between actors and to higher-value markets. This calls for the inclusion of agricultural extension services in value chain. In line with this, agricultural extension should concentrate on interventions that aim at achieving:

- i. products of higher unit value;
- ii. more volume of products of the same value;
- iii. a different mix of products; and/or
- iv. delivery of a given set of products into more diverse markets.

Mainstreaming can be defined as the ability to cause (someone or something) to be included in or accepted by the group that includes most people. The movement and

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handling of information / knowledge in the steps described above requires efficient communication modes just like the movement of physical goods requires transportation modes. Similarly, the storage of information / knowledge requires warehousing just like physical goods. The only way to do these effectively and efficiently is by mainstreaming agricultural extension into all the steps in the chain.

Benefits of mainstreaming agricultural extension in value chain

1. Promote accessibility of information, stimulation of innovation, and support interested chain actors in building the necessary capacities especially where production and marketing are entirely new. Agricultural extension should link suitable stakeholders and ensure that all stakeholders are heard, and mediates between the different interests of the chain actors. This will lead to the development and strengthening of the capacities of chain actors and service providers, enabling them to overcome their hurdles and bottlenecks.
2. Agricultural extension services will bring about awareness of the distribution and flow of profits in the value chain which is fundamental to understanding the relationships among and behaviours of each segment, as well as the opportunities for increasing productivity and profit across the chain of activities and this can be largely achieved through updating them with the relevant information. Productivity can be strategic, as well as operational, in nature and this can be brought about by agricultural extension (Vienna, 2009).
3. Mainstreaming extension in value chain will lead to a substantial increase in the flow of financial resources and technical assistance devoted to supporting market-driven, competitive agro enterprises and agricultural value chains in Nigeria. It ensures that economic gains in value chains are fairly distributed among various actors, including rural producers.
4. Closer business links between farmers, agro-processors, exporters, traders and retailers provide significant potential for improved and increased employment and economic returns for rural producers. This is arising from the fact that rural areas have valuable agricultural and human resources that remain untapped. therefore, improving value chains and addressing bottlenecks can unleash economic potential and generate employment.
5. Integrating agricultural extension and rural actors in value chains can help increase their economic performance, boost employment creation and improve working conditions as they are major sources of employment and income, especially in rural areas.
6. Will help to re-orientate farmers towards focusing on value chains which can help rural populations to move out of subsistence farming and reap the more lucrative gains and income opportunities that well-functioning value chains offer.
7. Empowerment of rural entrepreneurs through the facilitation of investment in training, technology and management systems by chain actors to improve the ability of farmers' and other rural producers to create a better-quality product.

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8. Develop training programs that help farmers meet the standards of the specialty market through improved growing and processing techniques.
9. Facilitate the creation of support structures that enable enterprises and poor rural producers to access information about market requirements, product standards, and knowledge on innovative technologies and new production methods as well as supporting technological development and innovations to improve productivity. It also improves infrastructure in rural areas so transport and intermediation costs are reduced.
10. Support the establishment of farmer groups, producer organizations or cooperatives that help to increase the bargaining power of rural smallholders and information dissemination. This is largely achieved through the promotion of partnerships among small enterprises and producers that are too small to act alone to meet the quantity and quality requirements set by large firms. Work with farmer associations to identify and understand commodity value chains and market access opportunities and challenges.
11. Advocate trade laws that encourage and allow developing countries to develop their manufacturing capabilities and participate at the higher-value added sections of the value chain Strengthen value chains by facilitating collaboration among value chain actors in order to meet market requirements and standards.
12. Enhance value chain transparency, which will help identify bottlenecks and improve the efficiency and profitability of value chains.
13. Strengthen communication along the value chain to raise awareness about international labour standards along the whole value chain using transparency and social dialogue, among others and promote dialogue between actors and supporters. Find out how stakeholders communicate with each other and improve communication along the value chain.

This can be achieved through a mix of both traditional and modern tools/methods. Therefore, agricultural extension is the lifeblood of value chain.

Mainstreaming of agricultural extension in value chains can be largely achieved through:

1. Awareness creation and sensitization of value chain actors.
2. Transfer the knowledge obtained from research as well as facilitate the activities along the chain without becoming part of the chain.
3. Expose the various actors on the potentials and opportunities that exist in value chain
4. Identify and build capacity of actors in the value chain concept through workshops, extension outreach programmes, participation in trainings, exposure visits and encourage implementation.
5. Build and upscale value chain analysis capacities, especially at the regional and district levels to ensure effective and sustainable mainstreaming of the value

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chain approach in the sector. Encourage the players in group formation according to economic interests in order to enjoy the benefits of co-operation.

6. Link the participants to suitable value chain partners (e.g. processors, marketers) and service providers (e.g. business development services, financial service providers)
7. Organise periodic round tables at which the different stakeholders of a value chain coordinate their activities and discuss how to address challenges jointly.
8. Lobby to create a more enabling environment for value chain participation.
9. Facilitate the creation of support structures that enable enterprises and poor rural producers to access information about market requirements, product standards, and knowledge on innovative technologies and new production methods.

Conclusion and Recommendations

Mainstreaming agricultural extension in value chain will expose the farmers to better ways of production, processing, packaging, storage and marketing of farm produce. Hence, small holder farmers need to engage in value chain to have diverse opportunities for improving their livelihoods. It is therefore important to re-position the actors in the value chains to gain more power and value from the agriculture based value chain. This in effect will re-orient their farming behavior towards the requirements of the value chain, and consequently demand technologies and extension to fulfill the market requirements.

Government and stakeholders should facilitate the setting up of effective and functioning of value chain stakeholder committees ensuring the inclusion of agricultural extension for effective facilitation

There is need for mainstreaming to introduce coordinated extension services to the value chain, and create a platform where participants become more prominent.

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