

Gap Identification in Agricultural Value Chain Role Performance of Agricultural Advisory and Extension Service Staff in Imo State, Nigeria

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Abstract: Extension work should go beyond the production and raising of crops and animals by farmers. Farmers need to increase their incomes substantially by processing and adding value to their products. This research investigates the production extension services advice given to farmers by the extension staff; the gap in agricultural value chain roles performed to meet farmer's needs of increase incomes and the challenges extension staff face in discharge of such duties. A total of 120 extension staff was purposively selected and questionnaire distributed to elicit information on the production advice given, their value chain role performance and challenges facing them. Data were collected with the aid of a questionnaire and analyzed descriptively. Results showed that extension staff carry out the following roles: regular farm and home visits (90.7%), give advice on crop treatment (65.3%), advice farmers on planting time (85.6%), and conduct method/result demonstrations (86.4%) among many others. On value chain role performance, they are lacking in knowledge. They perform only 3 roles namely: they advice farmers on product storage ($M=3.05$), help farmers make production plan ($M=2.99$), information on product processing ($M=2.91$). There is a gap here to fill. They are faced with the challenges of value chain knowledge deficit (78.3%), lack of practical skills in value addition (84.1%), value chain deficit in curriculum (84.1%). Extension staff, therefore, needs training in various important areas such as crop/animal products processing, market intelligence, packaging and grading among many other areas. Agricultural value chain training should be taught to extension graduates at the pre-service training level.

Key words: Value chain, agriculture, role performance, marketing, extension staff

Introduction

Agricultural value chain development is about linking farmers to people who can process, package, market and eventually buy the food they produce. In Africa, the agriculture sector employs more than 55 percent of the working population, and most of them are small-scale farmers. This rises to above 75 percent in the rural areas (LEISA 2009). More than 35 percent of the country's gross domestic product (GDP)) comes from agriculture. This pattern is not different from other economies in sub-Saharan Africa. Despite the enormous contribution of agriculture to national economies, the rural folk whose main livelihood activity is agriculture happen to be the most poverty-stricken in the developing world (LEISA, 2009).

Rural farmers have always taken opportunities to trade their products, to improve their ability to create wealth. However, how can farmer's inherent entrepreneurial capacities be enhanced even further? This is where value chain development as part of the overall development agenda has an answer. Small-scale farmers, however, need coaching to play gainful roles in the agro-food industry. Coaching on chain development techniques is a sure way of empowering small-scale farmers to engage with suppliers and buyers of their produce, to develop a common strategy from which farmers and buyers both benefit.

Farmers increasingly need the knowledge and skills to compete in the new farming environment. They may need to develop or adopt new technologies, diversify their production and identify and exploit new market opportunities. In this context, extension has a significant role to play. Extension efforts need to be directed towards developing the skills and strengthening the capabilities of small-scale farmers to become more competitive and profitable. The changes occurring in farming have also had wide implications for extension workers (Kahan, 2013). There has been a shift from merely providing technical solutions to production problems towards a broader approach of understanding farmer's goals and market opportunities.

Improvement in farmers' technical knowledge alone is not sufficient. It needs to go hand-in-hand with the development of entrepreneurial capacity and managerial ability. For extension workers to effectively respond to the new challenges that farmers are now facing, they require knowledge and competencies in farm management and entrepreneurship. Extension services must also redefine their role and the content of their extension messages to better reflect the reality of small-scale farmers not only being producers but business managers. Extension services need to revisit the production-oriented farming systems and assist farmers as they adopt a more market-oriented approach. Support provided by extension services should also be available to other value chain stakeholders including traders, agro-processors and other small- and medium-scale entrepreneurs. This further implies that extension workers need to be adequately trained and informed about the entire value chain process(Meyer-Stamer, 2004)..

The role of front-line extension workers is undergoing a change in the face of global forces that are affecting agriculture. Traditionally, most extension workers come from backgrounds in agriculture, crops or livestock management, but their role has diversified to include involvement in management and marketing tasks(Meyer-Stamer, 2004). It is no longer sufficient to provide technical solutions to production problems because that cannot make farmers more independent. The ability to relate to a broader framework of what

farmers wants and opportunities and limitations markets impose is as crucial as technical know-how to bring about positive social change.

Therefore developing regional value chains for strategic agricultural commodities is essential to enhance agricultural transformation and global competitiveness (Meyer-Stamer, 2004). The agricultural value chain approach, now in currency, brought actors other than the farmer, into focus in agricultural transformation. What implications will the value chain approach have on the traditional concept and practice of agricultural extension?

There is a growing realization that small-scale farmers can increase their incomes substantially by processing and adding value to their produce. Like many countries in sub-Saharan Africa, part of the reason why Nigerian farmers do not engage in value addition is that, historically, the extension services in the country have been focused on improving production and productivity (Gebremedhin *et al.*, 2006). Extension services are structured for this production focus. University training also has a strong production orientation. As Sutz (2005) points out, universities are not isolated institutions. They are socially embedded and their guiding visions are influenced by local history and traditions. This situation is therefore self-reinforcing the extension service's production focus influences training at universities, and training at universities determines what extension can do.

The result is that extension services are not trained to provide advice beyond production. At the same time, there is a realization that the capacity of the extension services to provide market-related services is limited (Alemayehu, 2009). Given the crucial role of extension in driving the agricultural modernization process, it is important that the service is competent to advise farmers on issues along the entire value chain. There is a need to regularly analyze the technical competence and job performance of extension agents who mediate between agricultural extension institutions and target farmers on agricultural issues. Yondeowei and Kwarteng (2006) define training need as the difference between the required level of individual competence and his present level of competence. The broad objective of this research is to assess the agricultural value chain role performance of extension staff in Imo State, Nigeria.

The specific objectives are to:

- ascertain current extension advice given to farmers;
- determine agricultural value chain role performance of the extension workers;
- identify challenges to value chain role performance by extension workers.

METHODOLOGY

The study was conducted in Imo State Agricultural Development Programme (IMO ADP). Imo State lies between latitude 5°12 and 5°56' North of the Equator and between longitudes 6°38 and 7°25' east of the Greenwich meridian. It is bordered by Abia State on the east, by the River Niger on the West, by Anambra State to the north and River State to the south (IMSG, 2001). Imo State occupies a land mass of about 5,530 km² with a total population of approximately 5,275,703 persons in 2016, projected from 2006 census figure (NPC, 2006). The State has two dominant seasons, that is, rainy and dry seasons. Data for this study was obtained from two main sources namely: primary and secondary sources. Purposive sampling technique was employed to select the ADP extension Staff as respondents. A sample size of 120 extension agents available in Imo State, ADP was used. The two main sources of data collection used in this research were the primary data and the secondary data. The primary data was collected from the field survey, using questionnaires. The

secondary data were collected from books, reports, journals, existing literature review, information from library, ADP etc. Basically, descriptive statistics were used to analyze most of the data. This involves the use of percentages and frequency counts, presented in tabular forms. These were used to achieve objective 1, 2 and 3. While objective 2 was analyzed using a 4-point likert type scale of strongly agreed, agreed, disagreed and strongly disagreed. to rate extension agents role performance of agricultural value chain. The responses were assigned weight of 4, 3, 2 and 1 respectively and added to give 10 divided by 4 to give a mean of 2.50. A mean score of 2.50 and above indicated value chain roles performed, while a mean score lower than 2.50 indicated areas where value chain role was not performed

This is mathematically represented as

$$\frac{4+3+2+1}{4} = \frac{10}{4} = 2.50$$

Results and Discussion

Current roles performed by extension staff

Table 1 reveals that the extension personnel performed numerous roles. The dominant ones however included regular/home visits (90.7%), method/result demonstration (86.4%), teaching planting time (85.6%), monitoring/evaluation (83.9%), training/education of farmers (82.2%), on-farm trials(60.2%) and advice on land preparation (80.5%). These according to World Bank (2021) reveals that regular home/farm visit are ways extension staff disseminate information and it is found to be more intensive and more significant as a source of information in area covered by the extension staff.

The above agrees with Suvedi and Kaplowitz, (2016) who posited that extension workers have some common roles such as: educating farmers and producers so that the farmers/producers can help themselves; linking farmers/producers with research-based information to improve agricultural production, productivity, processing and marketing of agricultural goods and services. These extension workers can serve as information brokers, community organizers, facilitators and change agents. Above all, they are the link between agricultural policy, agricultural research, agricultural education and training, non-governmental organizations (NGOs), farmer organizations and private sector stakeholders. Conduct demonstrations on local farms and let farmers participate in the demonstrations. The extension educator should facilitate and at the same time supervise the demonstration but allow the demonstrator farmers to play the primary role. Reaches out and teaches simple farming skills to a large number of people(Suvedi and Kaplowitz, 2016).

Table 1: Current extension roles performance

Current roles	*Frequency	*Percentage
Give advice on farm land preparation	95	80.5
Give advice on crop treatment	77	65.3
Teaching farmers planting of fruits trees	48	40.7
Give farmers advice on harvesting	65	55.1
Give advice to on proper weeding	78	66.1
Showing farmers sowing depth/distance	95	80.5
Advising farmers planting time	101	85.6
Land management technique	66	55.9
Training/education of farmers	97	82.2
Monitoring/evaluation	99	83.9
Needs assessment	65	55.1
Method/result demonstration	102	86.4
On-farm trials	71	60.2
Regular home/farm visit	107	90.7

Field survey, 2022. *Multiple Responses

Value chain role performance of extension staff

Table 2 showed the value chain roles performed by the extension staff in the area. From the table, it could be seen that out of 18 roles, the extension staff performed only 3. These 3 are advice farmers on product storage (M=3.05), help farmers make production plan(M= 2.99) and three, information on product processing methods (M=2.99). According to the result, the major value chain roles they could not perform included provide information on market intelligence (M= 1.77), provide information on price fluctuation, (M=1.37) they provide information on production and quantity (M=1.20),give information on current market price of agricultural produce M=(1.16), help farmers reduce production losses(M=1.05), information on post-harvest handling (M=1.02), training producer groups (M=1.93) Advice farmers on product delivery(M=1.66), marketing identification (M=1.66), information on product grading(M=1.58), information on financial services(M=1.48), information on production packaging(M=1.40). However, extension personnel are expected to actively support value chain. GFRAS (2016) reported a declining involvement of public extension agents in supporting agricultural value chains. According to it, the recent trend has witnessed a rising participation by NGOs and other organizations. This implies that Extension and advisory services providers do less in terms of value chain function.

The role of front-line extension workers is undergoing a change in the face of global forces that are affecting agriculture. Traditionally, most extension workers come from backgrounds in agriculture, crops or livestock management, but their role has diversified to include involvement in management and marketing tasks. (Suvedi and Kaplowitz, 2016). It is no longer sufficient to provide technical solutions to production problems because that cannot make farmers more independent. The ability to relate to a broader framework of what

farmers want and opportunities and limitations that markets impose is as crucial as technical know-how to bring about positive social change

Markets are a driving force for change. They determine the demand for and supply of commodities and services. Extension programs are effective when they link farmers to markets and help them understand market opportunities. Extension workers need to be aware of and understand the risks that farmers are likely to face so that farmers making farm management decisions can reduce the negative effects of the risks associated with their decisions and farming practices. (Suvedi and Kaplowitz, 2016). Understanding how markets operate allows one to understand the main sources of risk they face, typically production risk, marketing risk, financial risk, legal risk and human resources risk. Some forces influencing these risks include climate change, price volatility and the global financial crisis.

Use of new inputs such as seeds and pesticides is growing. In addition to knowing what inputs are best, extension services providers need to be aware of the impact of prices and encourage collaboration between farmers and input suppliers to promote quality assurance (Suvedi and Kaplowitz, 2016). In addition to knowing the best technologies and production systems, extension service providers need to understand the concept of profitability and be alert to opportunities for achieving economies of scale through growth strategies (i.e., capacity expansion, replication and modernization).

Table 2: Distribution of extension personnel according to value chain roles

Value chain roles	\bar{X}	S.D
Provide information on market intelligence	1.77	0.54
Provide information on price fluctuation	1.37	0.63
Provide information on product quality & quantity	1.20	0.71
Provide information on low input storage techniques	1.20	0.65
Information on current market price of agricultural produce	1.16	0.77
Help famers reduce production losses	1.67	0,45
Advice farmers on product storage	3.05*	0.71
Information on post-harvest handling	1.02	0.85
Help farmers make production plan	2.99*	0.76
Linking farmers with potential buyers	1.93	0.98
Information on delivery & demand	1.93	0.73
Information on product processing methods	2.91*	0.73
Marketing identification	1.66	0.91
Information on product grading	1.66	0.76
Communication along value chain lines	1.58	0.89
Advice farmers on advert/sales issues	1.57	0.87
Information on financial services	1.53	0.91
Information on product packaging	1.48	0.93
Provide information on input processing techniques	1.40	0.88

Field survey, 2022; Accepted mean=2.50

Challenges faced by extension personnel in value chain business

According to table 3, majority (84.1%) of the personnel indicated value chain deficit in curriculum and lack of practical skill in value addition (84.1%) as challenges to their performance of value chain roles. Focus on production and non post production function (65%) and knowledge gap about processing (83.3%) are other challenges faced in value chain role performance. These challenges will no doubt affect the effectiveness of extension personnel in value chain role performance, thus reducing farm production benefits of farmers and affecting extension staff general job performance.

Table 3: Challenges faced by extension personnel

Challenges	*Frequency	Percentage
Knowledge gap about value chain	94	78.3
Lack of practical skill in value addition	101	84.1
Knowledge gap about processing	80	83.3
Focus on production and non post-production function	78	65.0
Lack of commitment	98	81.6
Value chain deficit in curriculum function	101	84.1

Field survey 2022. *Multiple responses

Conclusion

Farmers participate so much in storage, marketing and transportation of produce to the market for sale and even in processing, but do not participate in packaging. They receive extension advice in all areas of production except in packaging and value addition which indicates a lack of Knowledge on the part of the extension staff. Value chain training is needed in areas such as Crop/animal products processing, storage and grading, quality assurance/packaging, financial Management, value chain upgrading, value chain analyses, market/marketing analyses and Support services provisions. Training in these areas should be given to extension staff at the pre- service, in - service and induction levels.

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