

Agricultural Value chain Training Needs of Front-line Extension Professionals in Imo State, Nigeria

¹Chikaire, J.U., ²Oparaojiaku, J.O. and ³Chikezie, N.P.

¹Dept. of Agricultural Extension, Federal University of Technology, Owerri, Imo State,

²Dept. of Agric. Extension Management, Imo State Polytechnic, Umuagwo, Imo State,

³Dept. of Agricultural Extension and Rural Sociology, University of Abuja, Nigeria | Email :
futo.edu.ng@gmail.com

Abstract: Extension work should go beyond the production and raising of crops and animals by farmers. They need to increase their incomes substantially by processing and adding value to their products. This paper investigates the post-production extension advice given to farmers by the extension staff and the areas that extension staff need more training on agricultural value chain to meet farmers needs. A total of 120 extension staff was purposively selected and questionnaire was distributed to elicit information on their value chain training needs. Data collected with the aid of a questionnaire were analyzed descriptively. Results showed that extension staff give farmers advice mainly in storage (91.6%) and marketing (81.6%). Though extension perform tasks such as disseminating research results, education of farmers and demonstrations, they are not giving farmers advices on value chain addition. Extension staff, therefore, need training in four important areas – crop/animal products processing, agribusiness management, marketing/market analyses and support services provision. Agricultural value chain training should be given to extension graduates at the pre-service training level.

Keywords: Agriculture, values chain, Extension, marketing, training.

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 farmers' 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 farmers' 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.

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. 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.

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. Yondewei and Kwarteng (2006) define training need as the difference between the required level of individual competence and his present level of competence. Radhakrishna and Thomson (1996) state that extension agents particularly require experiential learning that provides them with opportunities to relate to rural people in an interactive process that combines scientific technical knowledge with local indigenous knowledge in client-centered problem solving activities. However, Allo (2001) points out that one of the main factors limiting the development of effective training programmes for agricultural professionals in developing countries is the inadequacy of information on their training needs.

The overall purpose of the study was to analyze the training needs of extension agents on agricultural value issues in Imo State. Specifically, the objectives were to: a) identify level of farmer participation in post production activities and current extension advice given; b) identify tasks performed by extension agents of the IMO ADP with regards improving farmer productivity; c) determine task areas in which extension agents of the IMO ADP needed further training on agricultural value chain issues; and d) ascertain the level at which the training should be given to extension staff.

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. Rainfall is between April and October, while the dry season starts from November to early March. Purposive sampling technique was employed to select the respondents. A sample size of 120 extension agents available in Imo State, as obtained from the ADP staff list. 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 4. While objective 3 was analyzed using a 4-point likert scale of very much needed, quite needed, little needed, and not at all needed to rate extension agents' areas of agricultural value chain training needs. 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 areas of training needs while a mean score lower than 2.50 indicated areas where trainings were not needed.

Results and Discussions

Post Production Advice Given to Farmers

The Table 1 showed also that extension staff gives advice on storage of farm produce (91.6%), and marketing (81.6%), transportation (37.5%) to available markets to farmer with very little on processing and value addition (processing (10.8%), packaging (4.2%)). During discussion with

the extension staff, they cited lack of appropriate technologies as well as lack of knowledge and skills as the main reasons for this bias. Another reason given by the extension staff was lack of focus on value addition by the extension service. Field extension staff also mentioned lack of demand from farmers. The extension staff said during oral discussions that farmers considered storage and marketing as the most problematic areas where they needed help, rather than processing and value addition. The implication is that, as farmers were not engaged in processing and value addition, they did not seem to be aware of the numerous opportunities that they were missing in terms of increase income or making more money. They were not concerned about reducing storage and other post-harvest losses and finding ready markets for their produce. The role of extension here should be to help the farmers change attitude and behavior and bring them in line with the current.

Table 1: Current Post Production Advice given to Farmers

Extension advice	Percentage
Storage	91.6
Marketing	81.6
Transportation	46.6
Processing	10.8
Packaging	4.2

Tasks Performed by Extension Workers

Extension workers perform a legion of tasks/roles in relation to helping rural farmers increase income and improve standard of living. Table 2 showed that the primary tasks performed by extension workers were dissemination of research knowledge to farmers, teaching soil conservation/farming skills, advising farmers on decision making with 100% responses. This agrees with the primary role of teaching, dissemination research result to farmers and regular and timely advice giving to farmers by extension workers.

Other tasks included facilitating access to credit and inputs (86.6%), supporting adaptation to climate change (91.6%), evaluating/ monitoring extension programmes (98.3%), organizing farmers into groups (96.6%), promoting gender equality/poverty reduction (78.3%), organizing demonstrations (98.3%), analyzing farmers problems (83.3%) preparing instructional materials/teaching aids (82.5%), planning programmes on climate change (93.3%) among others. The implication of the above is that the tasks of an extension worker are endless and varied and must meet the ever increasing needs of our farmers to meet our changing agricultural needs.

Table 2: Tasks performed by extension workers

Tasks	Percentage
Disseminating research knowledge to farmers	100
Facilitating access to credit and input	86.6
Supporting adaptation to climate change	91.6
Evaluating/monitoring extension program	98.3

Organizing farmer/producer groups	96.6
Teaching soil conservation skills	100
Advising farmers on decision making	100
Promoting gender equality/poverty reduction	78.3
Organizing demonstrations	98.3
Assisting subject matter specialists	89.2
Agro-chemical skills training to reduce weed growth	95.0
Result/method demonstrations for teaching farmers	83.3
Analyzing farmers problems on related issues	93.3
Educating farmers on soil conservation methods	87.5
Weather forecasting on climate change issues	97.5
Record keeping on climate change effects/impacts	90.8
Programme planning on climate change issues	93.3
Preparation/use of audio visual instructional materials	82.5

Areas of Agricultural Value Chain Training Needs

Table 3 showed the training areas needed by extension services to provide advice beyond production. Four important thematic areas were identified which needs to be addressed. The first of the thematic areas was **animal/crop production**. Extension workers needed training on small scale crop/animal processing with a mean response of 3.55, storage of crop/animal products (M = 2.97), transportation of produce (M = 3.23), grading of produce (M= 2.86), packaging of produce (M = 2.55), safe handling of produce (M = 2.77), value addition techniques (M = 3.67) and quality assurance/control (M = 2.74). Oral discussion with extension agents revealed that extension workers do not have the skills for the above, therefore, the need for training in the areas. The second thematic area of training need was **agribusiness management**. Extension workers needed training on value chain analysis (M = 3.02), linking farmers to financial provides (M = 2.95) value chain transparency (M = 2.97), value chain upgrading (M = 2.63), financial management (M = 3.02), entrepreneurship skills (M = 2.63) and facilitating negotiations (M = 2.65). The role of the extension worker here affects the farmers performance and improved standard of living. The agent helps link the farmers to buyers by identifying traders and other buyers and arranging for them to meet with farmers to creates formal market linkages value chain development requires improved coordination between stakeholders so that farmers can develop new business opportunities in the future.

Market and marketing analysis was the third thematic area of training needed by extension services to make great impact in the business of agriculture. Extension workers needed training on setting up of collection points for produce (M = 3.01), advising farmers on products classification (M = 2.65), sett Ling farmers complaints about faulty scales (M = 2.74), advising farmers on estimated harvests (M=2.67), advising farmers on anticipated market supplies/delivery dates (M = 2.56), creating market linkages and identifying market opportunities with mean responses of 2.76 and 2.87 respectively. The performance of these roles require that the extension worker posses the skills to organize farmers into groups, associations and to cooperatives and has knowledge of contracting necessary to facilitate both formal and informal linkages. Benchmarking producers (M = 2.86) is another area of training area needed by the extension agents which helps them identify farmers who are best at doing something and

understanding how to do it. This skill requires that extension agents know to examine performance/weaknesses of farms. Market intelligence analyses (M = 2.56) and market information services (M = 2.90) were two areas training was needed by extension workers. This is so because, markets are a driving force for change. They determine the demand and supply of commodities/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 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. Understanding how markets operate allows one to understand the main sources of risk they face in farming business.

The fourth thematic area of training need was in the provision of **support services** for value chain improvement. These services included developing training manuals for service providers (M = 3.22), training input supplier staff (M = 2.75), training producer groups (M = 3.55), training farmers in financial management (M = 2.65), training distributors (M = 3.00), facilitating meeting between service providers (m = 2.65), enterprise selection/production technique (M = 3.10), strengthening communication (M = 2.88), among others. The aim of the above support services is to address value chain constraints and potentials.

Table 3: Agricultural Value Chain Training Needs of Extension Staff

Areas/Statement	Mean	SD
Animal/Crop Production	3.55	0.684
Small-scale crop and animal processing	2.97	1.239
Storage of crop and animal products	3.23	0.627
Transportation of produce	2.74	0.783
Grading of produce	2.86	1.276
Packaging of finished/unfinished produce	2.55	1.407
Safe handling of produce	2.77	1.299
Quality assurance/control	2.74	1.399
Value addition techniques	3.67	0.470
Agribusiness Management		
Financial management	3.02	1.411
Entrepreneurship skills	2.63	1.489
Value addition mapping	2.53	1.256
Value chain upgrading	2.63	1.236
Facilitating negotiations	2.65	1.416
Enhance value chain transparency	2.97	1.239
Linking small scale farmers to financial providers	2.95	1.072
Principles of value chain	2.50	1.495
Value chain analyses	3.02	1.246
Market/ Marketing Analyses		
Setting up collection points for farm produce	3.01	1.148

Advising farmers on classification of products	2.65	1.311
Settling farmers complaints about faulty scales	2.74	1.547
Advising farmers on estimated harvests	2.67	1.154
Advise on anticipated market supplies & delivery dates	2.56	1.242
Creating market linkages with buyers and producers	2.76	1.472
Identifying market opportunities	2.87	1.150
Benchmarking/comparing farmers/producers	2.86	1.187
Market intelligence performance analyses	2.56	1.051
Market information services	2.90	1.191
Support Services Provision		
Developing training manuals for service providers	3.22	1.291
Training input supplier staff	2.75	1.216
Train producer groups	3.35	1.241
Train farmers in financial management	2.65	1.042
Train distributors/suppliers of technical aspects of inputs	3.00	1.325
Facilitate meeting between service providers	2.65	1.319
Enterprise selection/production technique	3.10	1.285
Strengthening communication along value chain	2.88	1.284
Farm machinery services and supplies	2.54	1.242
Technical and business training	2.86	1.187

Levels for Providing Training

Table 4 showed the level at which extension workers should be trained to serve the needs of the farmers effectively and efficiently. All the extension workers (100%) agreed that value chain training need to improve farmer income should be given at the pre-service level. This means that before an extension worker qualifies, he should receive training on value chain in the higher institutions, be it at the NCE, ND, HND, BSC levels to be sound in training farmers. This agrees with Hoffman et al (2009) who posited that training is the heart of development practice, a key activity in successfully building up capacity, acquiring competence and improving a person's performance. The development of abilities and the acquisition of new skills are done through organized learning events that take place in a classroom, at home or on the job using various forms and didactic methods and aids. The incorporation of training into the agenda of advisory organizations is essential because the acquisition of new skills empowers and enables the extension workers to render good services to their clientele.

Table 4: Levels at which training should be provided

Training level	Percentage
On-the-job training	97.5
Induction	70.8
Back stopping/accompaniment	61.6

Pre-service training	100.0
Seminars/conferences/execusion	87.5
Refresher courses	77.5

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 level.

References

- Allo, A.V. (2001). Professional requirements of the extension worker in training the extension worker. FFTC Extension Bulletin, No. 173.
- Radhakrishna, R. B and Thomson, J.S. (1996). Extension agents' use of information sources. *Journal of Extension* 34(1), pp. 12-17.
- Youdeowei, A. and Kwarteng, J. (2006). Tool kit for the production of agricultural extension materials. Guide book. CTA Wageningen, The Netherlands, pp.50.
- Alemayehu, I. (2009). 'Extension staff development needs, challenges and expectations from universities, Ethiopia'. In Mambo, I. (ed.) *Proceedings of East Africa Regional SAFE Networking Workshop*, Desalegn Hotel, Addis Ababa, Ethiopia, 12–14 October 2009. Sasakawa Africa Fund for Extension Education (SAFE), AddisAbaba, Ethiopia.
- Gebremedhin, B., Hoekstra, D. and Tegegne, A. (2006). Commercialization of Ethiopian agriculture: Extension service from supplier to knowledge broker and facilitator. *IPMS (Improving Productivity and Market Access) of Ethiopian Farmers Working Paper 1*. International Livestock Research Institute, Nairobi, Kenya.
- Sutz, J. (2005). The role of universities in knowledge production. *Policy Brief*. Science and Development Network. <http://www.scidev.net/en/policy-briefs/the-role-of-universities-in-knowledge-production-.html> (retrieved 12 August 2009).
- David Kahan, (2013) Market-Oriented Farming: An Overview; Food And Agriculture Organization Of The United Nations Rome 2013
- Leisa, (2009) Farmers as entrepreneurs; *LEISA Magazine on Low External Input and Sustainable Agriculture June 2009 Volume 25 No. 2* as s