



doi: <https://doi.org/10.20546/ijcrar.2018.609.009>

Capacity Building of Livestock Extension Staff for Improvement of Animal Agriculture in Imo State, Nigeria

J. U. Chikaire^{1*}, F. N. Nnadi¹, J. A. Echetama¹ and E. Emerhirhi²

¹Department of Agricultural Extension, Federal University of Technology, Owerri, Imo State, Nigeria

²Department of Agricultural Science Education, Federal College of Education, Omoku, Rivers State, Nigeria

*Corresponding author

Abstract

The paper examines capacity building of livestock extension staff as a strategy for the improvement of livestock farming/animal agriculture in Imo state, Nigeria. A total of 120 livestock extension staff from the Livestock Unit of the Ministry of Agriculture and Natural Resources was used for the study. Questionnaire was used to elicit information and percentages, mean and standard deviation were used for analysis. Results showed that the reasons for capacity includes - to build the capacity of rural livestock farmers (M = 2.65), provision of livestock services (M = 2.53), improve productivity/quality of livestock product (M = 2.77) to satisfy/meet market demand (M = 2.97) among others. The following methods of capacity building exists – workshop training (100%), mentoring (95.8%), brainstorming sessions (82.8%) etc. The following core areas of training for livestock extension staff were general farm management (M = 3.05), animal health management and hygiene (M = 3.31), veterinary medicines and biologicals (M = 3.42), animal feeding and watering (M = 3.33), environmental and infrastructure (M=3.07), animal and products handling (M=3.42).

Article Info

Accepted: 25 August 2018

Available Online: 20 September 2018

Keywords

Capacity, livestock, extension, animal

Introduction

Achievement of sustainable agricultural development and national food security is dependent on a number of factors, chief among which is the presence of a virile livestock production sub-sector. Apart from being a source of income for the government, the subsector provides employment, food, farm energy, manure, fuel, fibre, hides and transport (Nuru, 1986). Increasing livestock productivity is an important strategy for poverty reduction and agricultural productivity enhancement, especially in developing countries where a large share of the rural people keeps livestock as contributors to their livelihoods (FAO, 2009).

Furthermore, livestock, especially ruminant production, is the most efficient user of uncultivated land and contributes evidently to crop production (Fakoya, 2007).

In Nigeria, the livestock subsector is endowed with abundant resources made up of an estimated 16.2 million heads of cattle, 52.5 million goats, 33.1 million sheep, 6.6 million pigs and 166 million poultry, aside from other species of livestock (Federal Ministry of Agriculture and Rural Development, FMARD, 2010). However, recent trends indicate that the contribution of livestock to Nigeria's Gross Domestic Product (GDP) over the years has been declining –from about 10% in 1984 to 2.0% in 2005 (Ojiako & Olayode, 2008).

Currently, livestock contributes just about 15% of the national agricultural GDP (FMARD, 2010).

A major cause of the prevailing livestock production scenario has been low technology input by the bulk of animal producers owing to inadequate extension services and poor communication (and utilization) of livestock research findings (Nuru, 1986; Adeokun & Adeyemi, 2003). For instance, more than 80% of national production of cattle, sheep, and goat is contributed by subsistence farmers who still rely on traditional production techniques (FMARD, 2010). It is obvious that in order to meet the keen challenge of supplying animal products in the right quantity and quality for an ever-increasing human population, the country's livestock production sub-sector must witness adequate adoption of modern and efficient livestock production techniques. A livestock extension service delivery system comprising of competent and well-trained personnel, among other requisites, would go a long way in enhancing the development of the livestock sub-sector.

The necessity for increased uptake of improved livestock production methods by farmers has been long recognized as a panacea for a virile livestock subsector in Nigeria. Furthermore, the significance of capacity-building is implicitly accentuated by the need for greater adoption of livestock production technologies. Capacity building is important for livestock extension staff who work closely with farmers (NAFES, 2005). They take on a role as facilitators helping farmers to identify their main problems and opportunities. They transfer new technical knowledge using extension methodology to individual farmer and farmer groups, and help farmers to access markets (NAFES, 2005). The livestock farmers need extension staff who have knowledge, skills, attitudes and abilities appropriate to all levels from the national to circle (village cluster) level. Extension staff provide information services in agriculture including technical, extension and marketing information to farmers (NAFES, 2006).

Livestock extension staff need not only agricultural technical skills to assist farmers in growing forages, livestock feeding and breeding, controlling animal diseases and livestock marketing but also require knowledge and skills in social assessment and facilitation (MAF, 2008). Extension staff should have good social skills to help upland communities to organise themselves better. They also need to have basic knowledge about finance, marketing and micro-enterprise development to link farmers and producers groups to market systems

(MAF, 2008). However, the knowledge and skills of government livestock extension staff is lacking in quality and quantity (Stur *et al.*, 2002). Their ability to learn technical and extension skills is critical and is influenced by the capacity building methods used in Imo state for livestock extension (NAFES 2005). "Therefore, improving staff capacity is necessary to upgrade the knowledge and skills of local staff and ensure their direct contact with ethnic minority groups, which has been an obstacle to developing agricultural practices in upland areas so far. However, there has been little research into the capacity building methods used for livestock extension professionals, their effectiveness in influencing staff performance and confidence, or ways to strengthen the capacity building of extension staff. This study therefore sought to find out the capacity building methods and areas where training livestock extension staff will draw heavily from.

Materials and Methods

The study was conducted in Imo State Agricultural Development Programme (IMO ADP). 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 objectives 1, 2 and 3. While objectives 1 and 3 were analyzed using a 4-point likert-type scale of strongly agree, agree, disagree and strongly disagree. 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 reasons for capacity building and areas of training while a mean score lower than 2.50 indicated an opposite of the situation.

Results and Discussion

Reasons for Capacity Building of Livestock Extension Staff

Teaching the teachers is rewarding and worth doing. Empowerment of the livestock extension staff will

improve livestock development through capacity building. Table 1 showed the reasons why livestock extension staff should improve their skills and knowledge. With a discrimination mean index of 2.50, all statements were accepted as reasons for capacity building of livestock extension staff. The reasons were to build the capacity of livestock farmers (M = 2.65), to provide livestock services to farmers (M= 2.53), to impart basic skills/information (M = 2.63) relevant for livestock development, empower farmers to adopt improved livestock technology (M = 2.74).

Other reasons included to improvise livestock services at doorstep of farmers (M=2.51), satisfy market demand/needs(M=2.97), improve productivity/quality of livestock of products(M=2.74), resolve farm, field/industry problems (M=2.94), enhances the bargaining position of rural livestock farmers (M=2.84), build linkages between farmers and other relevant agencies (M=2.56), and to create jobs/employment opportunities in rural setting (M=2.75). All of the above would be achieved when livestock staffs are properly and adequately trained using various avenues/platforms.

Public and private agricultural extension play a major role in the capacity building of rural people (Coutts *et al.*, 2005). Their mandate is to facilitate farmer learning and decision making regarding changes to farming systems including trialling new technology and overcoming problems such as food security, poverty reduction, environmental management and marketing of products (Rangnekar, 2006). In agriculture, especially in livestock activities, extension staff work closely with farmers in the fields of animal feed, animal health and animal marketing. Their role is to strengthen farmers' abilities, and help them gain empowerment and ownership. The extension workers need to understand farmers' opportunities and problems and help them to find the best way to make decisions for their future. In working closely with farmers the extension staff can better understand the farmers' needs. For example, if the farmers need to improve their animal feeding, the extension workers can work with them on this activity. The extension workers are then in a position to introduce appropriate technologies or information relevant to farmers situation

Methods of Capacity Building of Livestock Extension Staff

Table 2 revealed that several avenues could be employed to train and re-train livestock extension staff to be

prepared and adequate in performing their statutory roles/functions as change agents. The methods included workshop (100%) which allows extension staff to gain new theoretical knowledge and share their experiences with each other and trainers. However, workshop training is expensive and quality of delivery depends on having good facilitators and experts; cross visits/study tours (91.6%), which also creates learning in the field, particularly between extension staff as they compare farming systems to their own districts. However, they are expensive to run and require good organisational skills; staff meetings (97.5), this create opportunities to share experiences and plan together. They create an environment to present the progress, outputs and outcomes of activities, get feedback from the field and together solve problems and make plans. They need to be structured and held regularly with managers present create opportunities to share experiences and plan together. They create an environment to present the progress, outputs and outcomes of activities, get feedback from the field and together solve problems and make plans. They need to be structured and held regularly with managers present; mentoring (95.8%), is seen as crucial for new district staff including volunteers and contract staff in their first year of project implementation. Younger staff are less experienced and need mentors who have more experience to give advice. It requires experienced and qualified mentors; formal study (98.3%) this allows staff to upgrade their knowledge and qualifications. However, it requires funds, time and support from managers and families; interactive tutorials (91.6%), demonstrators (81.6%), brainstorming (95%), backstoring/accompaniment (82.5%) and use of internet/reading documents (90.8%) among others.

Capacity building refers to activities that improve an organisation's ability to achieve its mission or a person's ability to define and realise his/her goals or to do his/her job more effectively (Linnell, 2003). Capacity building is as important as capital investment and infrastructure. This is supported by Morgan (1997, cited in Horton 2002) who referred to capacity building as improving or upgrading the ability of the person, team and institutions to implement their functions and achieve goals over time. Capacity building is important for all levels, from individuals to national organisations (Horton, 2002). Capacity building also alludes to building the organisational capacities of communities, and supports the formation of non-profit organisations (Paul & Thomas, 2000). Coutts (2003) stated that capacity building is upgrading the abilities and resources of

individuals, organisations and communities to achieve a goal. This occurs through a number of ways apart from organized extension and education activities. The main activities inside communities which also build capacity are mentoring, self-directed learning, experiential learning and other personal and community growth processes

Areas of Training on Livestock Extension

Table 3 showed that livestock extension staff need training on the following areas – general farm management (M = 2.60). A number of common themes run through all levels of farm management and recur often in the principles elaborated below. They are:

Legal obligations

Farmers should be aware of, and comply with, all legal obligations relevant to livestock production, e.g. disease reporting, record keeping, animal identification and carcass disposal.

Record keeping

When a problem arises in an enterprise, be it a disease, a chemical hazard issue or a physical safety matter, record keeping is central to any effort to trace the source of the

problem and eliminate it. Hence, as far as is practicable, farmers should keep records of: All animal populations on the farm (groups or individuals as relevant); All animal arrivals, including their identification marks or devices, origin and date of arrival, to ensure that movements of incoming animals are traceable to their source; Movements of animals around the enterprise; Changes to feeding or health regimes, and any other management changes that may occur.;

Origin and use of all feeds, drugs, disinfectants, herbicides and other consumable items used on the farm; Known diseases/infections, diseased/infected animals and mortalities, as far as possible giving details such as dates, diagnoses (where known), animals affected, treatments and results.

Animal identification

Animal identification and the ability to trace animals have become important tools to ensure food safety and improve management. Identification of animals may be on an individual or group basis, and connections between properties as a result of animal movements should be able to be deduced from good record keeping and animal identification. The ability to trace animals at least one step forward and one step back from the current holding is recommended.

Table.1 Perceived Reasons for Capacity Building of Livestock Extension Staff

Reasons for capacity building	Mean	SD
Building capacities of livestock farmers	2.65	0.743
Provide livestock services	2.53	1.256
Impart basic skills/information	2.63	1.489
Empower farmers adopt improved livestock technology	2.74	0.783
Improvise livestock services at doorstep of farmers	2.51	1.495
Improve productivity /quality of livestock products	2.74	1.341
To satisfy market demands	2.97	1.239
Resolve problems in field/farm/industry	2.94	1.319
Improve/enhance bargaining position of farmers	2.84	1.042
Build linkages between farmers and relevant agencies	2.56	1.407
Create jobs/employment opportunities in rural setting	2.75	0.784

Decision rule: Mean 2.50 and above accepted as reasons

Table.2 Methods of Capacity Building of Livestock Extension Staff

Capacity building avenues	Percentage
Workshop training	100
Cross visits/study tours	91.6
Staff meetings	97.5
Mentioning	95.8
On-site-training	85.8
Formal study	98.3
Interactive tutorials	91.6
Demonstrations	81.6
Brainstorming sessions	95.0
Use of internet/reading document	90.8
Back-storming/accompaniments	82.5

Table.3 Areas of training livestock extension staff

Areas of Training	Mean	SD
General farm management	2.60	1.642
Animal basic health and hygiene	3.31	0.670
Veterinary medicines and biologicals	2.98	1.180
Animal feeding and watering	2.69	0.807
Disease identification/control	2.80	1.117
Environment and infrastructure	3.10	0.674
Animal and products handling	3.05	0.638

Decision rule: Mean 2.50 and above accepted as training areas

Hygiene and disease prevention

Measures aimed at preserving cleanliness, preventing pathogen build-up and breaking possible pathways of transmission are essential in the management of any modern farming enterprise, regardless of the species or the farming system.

needs amongst stakeholders and promote necessary training. This would contribute to the commitment to, and effective execution of, all practices in livestock farming. Farmers and farm managers should:

Actively seek and use relevant training opportunities for themselves and their workers.

Training

Husbandry measures and techniques are ever-changing. Competent authorities are encouraged to assess training

Be aware of any training courses that may be compulsory in their countries and regions.

Keep records of all training undergone.

Another important area is animal health & hygiene (M = 3.31)

Managers of livestock need to address both biohazards and physical hazard and should; Establish a working relationship with a veterinarian to ensure that animal health and welfare and disease notification issues are addressed; Seek veterinary assistance to immediately investigate any suspicion of serious disease; Comply with regulations concerning restrictions on animal movements.

Separate diseased from healthy animals such that transmission of infection does not occur and, where necessary, cull diseased animals; Practice breeding and selection such that animals well suited to local conditions are raised and detailed breeding records are kept; Acquire animals (including breeding stock) only from sources with a known, safe health status, where possible with supporting health certificates from veterinarians; Source fresh or frozen semen, ova and embryos from sources with a known, safe health status, accredited by the Competent Authority of the country of origin, with appropriate health certification.

Veterinary medicines and biologicals (M = 2.98)

Managers of livestock should: Be aware of and comply with restrictions on medicines or biologicals for use in livestock; Use veterinary medicines and biologicals strictly in accordance with the manufacturer's instructions or veterinary prescription; Use antimicrobials only in accordance with regulatory requirements and other veterinary and public health guidance.

Keep detailed records of the origin and use of all medicines and biologicals, including batch numbers, dates of administration, doses, individuals or groups treated and withdrawal times. Treated individuals or groups should be clearly identified; Maintain required storage conditions for veterinary medicines and biological; Ensure that all treatments or procedures are carried out using instruments that are appropriate and correctly calibrated for the administration of veterinary medicines and biologicals. Dispose of used instruments (including needles) in a biosecure manner; Keep all treated animals on the farm until the relevant withdrawal times have expired (unless the animals should leave the farm for veterinary treatment) and ensure that products from these animals are not used for human consumption until the withdrawal periods have elapsed.

Animal feeding and watering (M = 2.69)

Managers of livestock should

Acquire feed from suppliers who follow recognised good manufacturing practices; Manage the feed chain (transport, storage, and feeding) in such a way as to protect feed from contamination (biological, chemical, and physical hazards) and minimise deterioration. Feeds should be used as soon as possible and, if applicable, in accordance with label instructions; Ensure that only water of known and acceptable biological and mineralogical quality (i.e. fit for animal consumption) is used for watering stock; Keep records of all feeds and dates of acquisition and feeding; where possible the animals/ groups of animals fed should be clearly recorded. Self-mixed feeds should have their ingredients and mixes recorded, as well as dates of feeding and animals fed as specified above; where on-farm manufacture of feeds is practised, follow procedures designed to minimize contamination and prevent the inclusion of undesirable feed components. Where necessary, expert assistance should be sought. Others were environmental and infrastructure (M = 3.10), Ensure that where animals are confined, the housing or pens are constructed such that the basic needs of the animals are fulfilled especially with regard to ventilation, drainage, and manure removal. Walking surfaces should be level, non-slip, and all surfaces should ideally be washable; Locate farms in areas free from industrial and other pollution and sources of contamination and infection. Ensure that farm layout and building construction provide for adequate separation of animals by production group as necessary; Ensure that buildings and perimeter fences are constructed so that contact with other livestock and wild animals is minimised. Maintain adequate separation between clean and contaminated materials (e.g. feed and manure). Ensure that systems that use animal or human waste for fertiliser purposes take into consideration relevant treatment methods as well as specific holding times before animals are allowed onto treated pastures.

Animal and product handling (M = 3.05), and disease identification/control (M = 2.80)

Ensure that all animals destined for slaughter are clean, healthy and fit to travel and have not had recent contact with diseased stock or infectious material. Apply short duration feeding regimes aimed at reducing the shedding of harmful bacteria by animals destined for slaughter. Ensure that contamination of animal products from

animal and environmental sources during primary production and storage are minimised. Ensure that storage conditions maintain the quality of the products. Keep records of animals and animal products leaving the farm as well as their destination and date of dispatch. Ensure full compliance with existing legislation such that applicable maximum residue levels are not exceeded. Ensure that no animal destined for slaughter has been subjected to treatment for which the withdrawal period has not elapsed. Ensure that mustering or catching and handling of animals prior to loading is carried out in a safe and humane manner. Ensure that loading facilities are appropriately constructed.

The competencies required of agricultural extension workers are pervasive, universal, and variable. Whether in the agricultural extension, health, business, etc, competencies are considered important. The need and demand for extension professionals to demonstrate a higher level of professionalism in their services are growing. Extension employees should possess the necessary competencies to anticipate and deliver quality educational programs of relevance and importance to our publics.

References

- Coutts, J., Roberts, K., Frost, F., and Coutts, A. (2005). *The role of Extension in Building Capacity-Whatworks, andwhy*. Retrieved 12 September 2007, from <http://www.rirdc.gov.au/reports/HCC/07-102.pdf>
- Fakoya, E. O. (2007). Utilization of Crop – Livestock Production Systems for Sustainable Agriculture in Oyo State, Nigeria. *Journal of Social Sciences*, 15(1): 31-33.
- FAO (2009) Guide to good farming practices for animal production food safety. Food and Agriculture Organization Rome
- FAO. 2009. The State of Food and Agriculture. Livestock in the balance. Food and Agriculture Organization Rome.
- Federal Ministry of Agriculture and Rural Development, FMARD. 2010. Livestock Production. Retrieved from <http://www.fmard.gov.ng/aboutus>
- Horton, D. (2002). *Planning, Implementing, and Evaluating Capacity Development*. International Service for National Agricultural Research (ISNAR) Briefing Paper 50: Retrieved 23 October 2007 from http://portals.wi.wur.nl/files/docs/ppme/capacity_development_isnar.pdf
- Linnell, D. (2003). *Evaluation of Capacity Building: Lessons from the Field*. Washington, DC: Alliance for Nonprofit Management.
- Morgan, D. L. (2002). Focus Group Interviewing. In J. F. Gubrium & J. A. Holstein (Eds.), *A Handbook of Interview Research: Context & Method*. Thousand Oaks, California: Sage
- NAFES (2005). *Consolidating Extension in the Laos PDR*. Vientiane, Lao PDR: National Agriculture and Forestry Extension Service. Retrieved 25 October 2007, from <http://www.laoex.org/Docs/Consolidating-Extension-Engl>
- Ojiako, I. A. & Olayode, G. A. 2008. Analysis of trends in livestock production in Nigeria: 1970-2005. *Journal of Agriculture and Social Research*, 8 (1), 114-120.
- Paul, C. & Thomas, W (2000). The Participatory Change Process: a capacity building model from a US NGO. *Development in Practice* 10(2): 240-244
- Rangnekar, D.V. (2006). Agricultural Extension and the underprivileged farmers: A case for change in extension paradigm. In A.W. Van den Ban, & R.K. Samanta, (Eds.), *Changing Roles of Agricultural Extension in Asian Nations*. Delhi: B.R. Publishing Corporation.
- Stur, W., Gray, D., & Bastin, G. (2002). *Review of the Livestock Sector in the Lao People's Democratic Republic*. Prepared for the Asian Development Bank. International Livestock Research Institute, Manila, Philippines. Retrieved 29 October 2007, from http://www.ciat.cgiar.org/asia/pdf/adb_livestock_review.pdf

How to cite this article:

Chikaire J. U., F. N. Nnadi, J. A. Echetama and Emerhirhi E. 2018. Capacity Building of Livestock Extension Staff for Improvement of Animal Agriculture in Imo State, Nigeria. *Int.J.Curr.Res.Aca.Rev.* 6(9), 90-96.

doi: <https://doi.org/10.20546/ijcrar.2018.609.009>