

### Full Length Research Paper

## UP-GRADING AGRICULTURAL INFORMATION FOR ENHANCING ENTREPRENEURSHIP OF GRADUATES IN LIVESTOCK PRODUCTION IN ENUGU STATE.

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**Abstract:** The study investigates upgrading agricultural information for enhancing entrepreneurship of graduates in livestock production. The study was carried out in Enugu State, Nigeria. Survey research design was adopted for the study. Four research questions and two hypotheses were formulated to guide the study. The population of the study was 88 made up of 73 graduates of Agriculture and 15 extension agents. There was no sampling. The instrument used for data collection was a 24 items structured questionnaire titled "Agricultural Information for Livestock Questionnaire (AFLPQ) developed from literature reviewed. The Cronbach Alpha method was used to determine the internal consistency of the instrument which yielded reliability co-efficient of 0.91. Eighty eight (88) questionnaire were administered and retrieved for data analysis (mean, standard deviation were used to answer the research questions, while t-test was used to test the Null hypotheses at .05 level of significance). Findings from the study revealed that respondents agreed to all the sources of agricultural information, majority agreed on the types of feeds for livestock, respondents were in the affirmative as regards the extent of utilization of agricultural information and all the constraints in accessing agricultural information. It was recommended amongst others that Department of Livestock Management should make available agricultural information on livestock production and that livestock feeds/feeding stuffs should be subsidized for graduates by government to enable them embark on livestock production. It was concluded that access to agricultural information by graduates would lead to massive establishment of small scale businesses in livestock industry for entrepreneurial stability.

**Key words:** Agricultural Information, Entrepreneurship, Animal production.

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## **Introduction**

Information is essential and stimulates creativity resulting in new outcomes and processes. The possession of awareness and use of appropriate information guarantee individual and organizational functioning. Bitso (2012) states that agricultural information to a large extent determines the farmers need to upgrade to current practices. Extension services in agriculture enable the farmer to use appropriate information from agricultural research to increase farm size, access to credit and reduction in rigor of farming work. In this regard, Burus (2014) posits that the least expensive input for rural agricultural development is adequate access to knowledge and information in areas of new agricultural technologies. This will pave way to remedy the traditional print and library based methods of providing such agricultural information to uninformed farmers in the area of animal production.

As reported by Prager, Lorenzo and Anibas (2017), the principal aim of animal production is to produce meat, milk and eggs for the domestic market. Technologies for animal production include feed formulation, medications and improved breeding which the graduates of animal production are supposed to master effectively on the job. Competence of graduates indicates sufficiency of knowledge and skills towards optimal production. Akpela (2012) affirmed that graduates who are in full-time animal production are known to have low output probably due to lack of access to timely and up-to-date information. This information would have enabled them to achieve optimal performance which could be made available to them via extension workers, community libraries, and state and local government agricultural agencies. Aside the print, video, television, films, slides and pictures, traditional media such as radio has been used to in delivering agricultural information relating to animal production to graduates in the rural areas. As explained by Mugwisi, Ocholla and Mostert (2012), agricultural information contributes significantly to high output. The availability of information ensures that graduates involve in animal production will know which animal to rear or keep and how to control pests and diseases. Food and Agricultural Organization (2014) points out that agricultural information is an important factor that interacts with other production factors such as land, labour, capital and managerial ability which arguably can be improved by relevant, reliable and useful information. Information within the hands of graduates farmers means empowerment through control over their resources and decision-making processes. Therefore, the information systems which integrate farmers, agricultural educators, researchers, extensionists and farmers should be wholly involved in agricultural sector. They operate as facilitators and help farmers in their decision-making and ensuring that appropriate knowledge is implemented. However, this integration among people and institutions, particularly in the research-extension-farmer relationship, has not been

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successful in many parts of developing countries with regards to livestock production. In line with this, Dolinska and Agwino (2016), reiterates that new advances in biotechnology application in animal production suggest production of several offspring's from artificial initiation of stem cell division into many units each of which is capable to grow into individual animals. Several application of scientific principles have evolved into skills and technologies with tremendous impact on improving animal production system and profitability. Gonlet (2013) states that the direct contribution of livestock farming to the economy are established to run into millions of Dollars for developing countries and this does not account for the services that rely on it, ranging from butchers, retailers, transport companies and equipment manufacturers. Beyond its economic value, livestock farming supports the livelihoods and provides food security to almost 1.3 billion people (Ekele, 2015). Today, it is one of the fastest growing sectors of the agricultural economy. The practice of concentrated animal feeding operation (CAFO) means farmers are rear more animals by confining them in concentrated areas maximizing the potential of the land area they have at their disposal. This means pigs, cows, goats and other livestock are kept in a very small area of land which makes livestock easier to manage while increasing output for a smaller amount of land. Also, entrepreneurial education and ability of graduates is of utmost importance to achieve the much desired output in animal productions through quality agricultural information.

Entrepreneurship education as presented by Egbule (2018) entails the inculcation of skills, ideas, principles, values, attitude, knowledge and beliefs into individuals through well-structured programs. It is concerned with creativity and innovation in agriculture related business for self-reliance, diligence at work, employment provision for others and productivity for economic and social development. Consequently, entrepreneurship contributes in no small way towards creating new jobs, creating wealth, reducing poverty and providing income-generating activities for teeming graduates of agriculture. Entrepreneurship education ought to be focused on genuine school work-based learning and enterprises, development of apprenticeship-schemes for new graduates that would enable them develop entrepreneurship internship programs to create a pool of local, public and private funds. With all these arrays of potential contribution of entrepreneurship education, it is sad to note that dearth of requisite entrepreneurship competencies and job skills had prevented graduates from fulfilling the job market demands. Entrepreneurship competencies are the required knowledge, skills and attitude needed to establish and operate either small-scale or large scale business ventures. Observation by the researcher in the study area revealed that most unemployed graduates lack these competencies probably as a result of inferior agricultural information. There is therefore, the need to upgrade agricultural information for enhancing

entrepreneurship of graduates in livestock Production. Specifically, the study sets out to determine:

1. sources of agricultural information
2. types of feeds used for livestock production
3. extent of utilization of agricultural information
4. constraints of agricultural graduates in accessing agricultural information.

### **Research Questions**

1. What are the sources of agricultural information?
2. What are the types of feeds used for livestock production?
3. To what extent are agricultural information utilized?
4. What are the constraints of agricultural graduates in accessing agricultural information?

### **Hypotheses:**

*H<sub>01</sub>*: There is no significant difference in the mean ratings of graduates and extension agents on types of feeds used for livestock production.

*H<sub>02</sub>*: There is no significant difference in the mean ratings of extension agents and graduates on the extent of utilization of agricultural information.

### **Methods**

The study adopted survey research design. The study was carried out in Enugu State of Nigeria. The population of the study is 88 made up of 73 graduates of Agriculture and 15 extension agents in Enugu State. There was no sampling as all the population was used for the study. A 24 items questionnaire titled Agricultural Information for Livestock Production (AFLPQ) was developed from literature and used for data collection. The instrument has a 4 point response scale of Strongly Agreed(SA), Agreed(A), Disagreed (D),and strongly Disagreed (SD) with a corresponding value of 4, 3, 2 and 1. The instrument was subjected to face validity by three experts, one from Department of Agricultural Extension, one from the Department of Agricultural Education, and one from the Department of Animal Production all from University of Agriculture, Makurdi. Cronbach Alpha method was used to determine the internal consistency of the instrument. A reliability co-efficient of 0.81 was obtained. One research assistant was involved and was trained on how to administer the questionnaire to the respondents. Eighty eight (88) copies of the questionnaire were administered to the

respondents, retrieved and analyzed using mean ( $\bar{x}$ ) and standard deviation to answer the research questions. Real limit of numbers were used as bench mark for decision making as follows: 0.5 – 1.49 (Strongly Disagreed), 1.50-2.49 (Disagreed), 2.50-3.49 (Agreed), 3.5 – 4.49 (Strongly Agreed).

## Results:

**Table 1: Mean and standard deviation of graduate of agriculture and extension agents on sources of agricultural information (N<sub>1</sub>=73; N<sub>2</sub>=15).**

S/N	Items	$\bar{x}_1$	$\bar{x}_2$	G $\bar{x}$	SD	Remark
1.	Mobile/cell phones	2.96	3.35	3.16	.72	Agreed
2.	Farmers' cooperative union	3.00	2.90	2.95	.70	Agreed
3.	Agricultural institutions	2.77	2.98	2.87	.65	Agreed
4.	Bulletins/Newsletter	3.10	3.15	3.12	1.17	Agreed
5.	Radio and internet	2.65	3.06	2.85	.90	Agreed
6.	Television and library	2.52	3.40	2.96	.85	Agreed
7.	Non-governmental organizations	2.76	2.80	2.78	.92	Agreed

**Keys:**  $\bar{x}_1$  = Mean of graduates;  $\bar{x}_2$  = Mean of Ext. Agents; G $\bar{x}$  = Grand Mean; SD = Standard Deviation.

Analysis of Table 1 revealed that respondents agreed on sources of agricultural information from which livestock production could be improved. This is evident in the grand mean which ranged from 2.78 to 3.16 and are above the 2.50 cut-off mark. Similarly, the standard deviation ranged from .65 to 1.17 indicating that the respondents are close in their opinion.

**Table 2: Mean Rating and standard deviation of extension agents and graduates on various types of feed used for animal production (N<sub>1</sub>=73; N<sub>2</sub>=15).**

S/N	Items	$\bar{x}_1$	$\bar{x}_2$	$G\bar{x}$	SD	Remark
1.	Grasses and hay for cattle, sheep & goats	2.80	3.03	2.92	.83	Agreed
2.	Silage and leguminous crops for ruminant	1.60	2.40	2.00	.86	Disagreed
3.	Cereals and maize	2.06	2.35	2.21	.70	Disagreed
4.	Sugar beet and groundnut cake	2.55	2.70	2.62	.61	Agreed
5.	Wheat chaffs and burukutu waste for pigs.	3.08	3.46	3.27	.64	Agreed
6.	Fruits and vegetables for rabbits	2.85	2.60	2.73	53	Agreed

**Keys:**  $\bar{x}_1$ = Mean of graduates;  $\bar{x}_2$ = Mean of Ext. Agents;  $G\bar{x}$ =Grand Mean; SD= Standard Deviation.

Results from Table 2 showed that respondents agreed on 4 items out of the 6 items on various types of feeds/feedstuff used for animal production (Mean ranges from 2.62 to 3.27). Respondents disagreed on the use of silage, leguminous crops, cereals and maize by farmers in animal production, hence their grand mean rating of 2.00 and 2.21.

**Table 3: Mean and standard deviation of graduates and extension agents on the extent of utilization of agricultural information by farmers (N<sub>1</sub>=73; N<sub>2</sub>=15).**

S/N	Items	$\bar{x}_1$	$\bar{x}_2$	G $\bar{x}$	SD	Remark
1.	Most farmers are aware of new breeds of livestock but cannot co-breed with local herds of livestock	2.64	2.96	2.8	.75	Agreed
2.	Farmers lack knowledge and skills in the control of livestock diseases and pest.	3.20	3.12	3.16	.73	Agreed
3.	Drugs for the treatment of diseases of livestock are available but cannot be utilized by farmers.	2.75	2.98	2.86	1.27	Agreed
4.	Information on new methods of breeding are available but cannot be used by farmers.	3.10	2.84	2.97	.69	Agreed
5.	New management practices as specified in the standard practice for raising livestock are not followed by farmers hence the information are not used.	2.66	2.80	2.73	.71	Agreed
6.	Extension agents hardly communicate new innovations/techniques in modern livestock rearing to farmers but farmers cannot understand let alone using the information.	2.59	2.86	2.72	1.15	Agreed

**Keys:  $\bar{x}_1$ = Mean of graduates;  $\bar{x}_2$ = Mean of Ext. Agents; G $\bar{x}$ =Grand Mean; SD= Standard Deviation.**

Analysis of Table 3 revealed that respondents agreed on all the items on the extent of utilization of agricultural information by farmers. The grand mean of respondents ranged from 2.72 to 3.16 with corresponding standard deviation which range from .69 to 1.13. The result implies that farmers' extent of utilization of agricultural information had been poor and not encouraging.

**Table 4: Mean and standard deviation of graduates and extension agents on constraints in accessing agricultural information by farmers (N<sub>1</sub>=73; N<sub>2</sub>=15).**

S/N	Items	$\bar{x}_1$	$\bar{x}_2$	$G\bar{x}$	SD	Remark
1.	Farmers inability to read and write.	3.14	3.25	2.68	.85	Agreed
2.	Poor medium communication by extension agents.	2.61	2.73	3.49	.79	Agreed
3.	Poor radio and Television services regarding agricultural information	2.80	2.57	3.19	.63	Agreed
4.	Inadequate and dearth of infrastructures that prevents visit of extension workers to rural farmers.	3.53	2.99	3.52	.81	Agreed
5.	Farmers inability to purchase newsletters, leaflets on agricultural information.	3.19	3.86	3.26	1.03	Agreed
6.	Near absence of public relation of extension workers with rural farmers.	3.06	3.93	2.67	1.15	Agreed

**Keys:**  $\bar{x}_1$  = Mean of graduates;  $\bar{x}_2$  = Mean of Ext. Agents;  $G\bar{x}$  = Grand Mean; SD = Standard Deviation.

Results from Table 4 showed that respondents agreed on all the 6 items on constraints in accessing agricultural information with grand mean ranging from 2.67 to 3.49 with standard deviation that range from .63 to 1.15.

**Table 5: t-test analysis of the mean ratings of responses of graduates and extension agents on types of feeds used for livestock production: (N<sub>1</sub>=73; N<sub>2</sub>=15).**

Status	N	Mean	Std.	Std. Error Mean	df	Sig	Alpha Value	Remark
Graduates	73	2.7321	.6503	.0156				
Extension Agents	15	3.4103	.7281	.0175	86	.015	.05	S

**Keys:** N=Number of Respondents; Std.=Standard Deviation; df=Degree of Freedom; Sig.=P-Value; (P > 0.05, N5 = Not Significant) S=Significant.

Table 5 shows a P-Value of .015 which was less than the alpha-value of .05. This indicates that there was significant difference between the mean rating of the responses of graduates and extension agents on types of feeds used for livestock production. Hence, the hypothesis of no significant difference was rejected.

**Table 6: *t*-test analysis of the mean ratings of extension agents and graduates on extent of utilization of agricultural information: (N<sub>1</sub>=73; N<sub>2</sub>=15).**

Status	N	Mean	Std.	Std. Error Mean	df	Sig	Alpha Value	Remark
Graduates	73	2.593	.7269	.0026				
					86	.35	.05	NS
Extension Agents	15	3.069	.8056	.0197				

**Keys: N=Number of Respondents; Std.=Standard Deviation; df=Degree freedom; Sig.=P-Value; ( $P > 0.05$ ), NS = Not Significant .**

Analysis of Table 6 shows a p-value of .35 which is greater than the value of .05. This indicates that there was no statistical significant difference between the mean ratings of graduates and extension agents on the extent of utilization of agricultural information. Therefore, the hypothesis of no significant difference was accepted.

#### **Discussion of Findings:**

The findings from Table 1 that respondents agreed on all the sources of agricultural information were in consonance with the findings of Ekele (2015) and Ekele (2011) who reported that agricultural institutions, farmer's cooperative union and NGOs are the most common sources of agricultural information. He asserts that the efficacy of these sources had enhanced farmers' ability to improve on their previous knowledge. The findings from Table 1 also confirms that findings of Mugwisi, Ocholla and Mostert (2012) where they reiterates that radio and internet remains effective sources of agricultural information. Findings from Table 2 that respondents rates four of the items agreed (the items are grasses and hay for cattle ,sugar beet and groundnut cake, wheat chaffs, burukutu waste and fruits/vegetables) were in agreement with the findings of Prager, Lorenzo and Arribas (2017)

where it was affirmed that the aforementioned feeds are used for various livestock production by farmers. The findings from the study on the extent of utilization of agricultural information and in which respondents were in agreement with all the items, was also in line with the findings of Prager et al (2017). Study by Farog, Ishaq, Karim and Issah (2010) corroborates the findings from Table 3 which reported that the extent of utilization of agricultural information had been poor. Findings from Table 4 on the constraints in accessing agricultural information were in line with study by Alfred and Odefadehan (2007) and the report of Heggem and Thanem (2016) who in their findings concluded that dearth of infrastructures illiteracy, poor linkage to information services occasioned by absence of public relation of extension workers with graduates constitutes constraints in accessing agricultural information with reference to livestock production.

**Conclusion:**

Agricultural information relating to livestock production is essential to boost improved production among graduates in the study area (Enugu State). This can be accomplished as established in the study through adequate sources of agricultural information in the areas of available varieties of feedstuffs and feeds for livestock, the extent by which agricultural information has been utilized by farmers and the constraints encountered by graduates in accessing agricultural information. Thus, the onus lies on the extension workers to assist the farmers in overcoming there obstacles in order to attain the desired goal for making livestock production profitable.

**Recommendations:**

1. All sources of information identified should be provided for graduates in livestock production. This can be achieved by Department of Livestock Management in the Ministry of Agriculture.
2. The livestock feeds and feedstuffs used by animals should be made adequately available to enable graduates take care of the livestock. Also, preparation of feeds for livestock and identification of same should be taught to graduates to enable them identify and prepare feeds and feedstuff.
3. Since extent of utilization of information is poor and graduates encountered a lot of constraints in accessing information, extension agents should sensitize NGOs and Ministry of Agriculture to reduce or ameliorate these challenges.

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