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COMPETENCIES AND AGRIBUSINESS SKILLS OF AGRICULTURAL EXTENSION WORKERS IN DEVELOPING RURAL WOMEN FARMERS IN NORTHEAST NIGERIA

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Abstract
The study was aimed at determining the competencies and agribusiness skills of agricultural extension workers towards entrepreneurship development of the rural women farmers in northeastern, Nigeria. Proportionate stratified random sampling was used to select a sample size of 356 respondents (rural women farmers). A structured questionnaire was used to collect data from the respondents. The data collected were analysed using descriptive statistics that used frequency, percentage, mean and standard deviation. Correlation was also used to test the hypotheses at the 0.05 level of significance. The study reveals that agricultural extension workers are competent (3.57 mean score) with moderate agribusiness skills (2.84 mean score), but their client (rural women farmers) has a lower level of required entrepreneurship development skills (1.09 mean score). Also, the competencies and agribusiness skills of agricultural extension workers impact the entrepreneurship development of rural women farmers. Entrepreneurship and agribusiness skills development are necessary for the empowerment of rural women farmers. The study recommended that government policies and programs on women's social investment and poverty alleviation should be restructured and directed towards empowering them on their known occupation.

Introduction

Rural women farmers have been making significant effort towards the development of food security and agriculture. They contribute immensely to the world's food and agricultural production, food sufficiency and security (FAO, 2019). They play a vital role in the enhancement of the agricultural sub-sector; women participate in numerous agricultural activities in almost all aspects of agricultural activities. Furthermore, the Food and Agricultural Organization (FAO, 2019) reported that rural women globally are making a significant contribution to the overall economy of the nation's regarding contributions towards farming and agriculture. Research findings also reveal the effort of rural women in agricultural productivity, which accounted for about 70% to 80% of the total of food production in Africa, 45% in Latin America, and 65% in Asia (Cisco & Alungah, 2016)

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Despite the contribution of rural women farmers in the economic development of the nation, coupled with the availability of numerous agribusiness and investment opportunities in the country, rural women in Africa, specifically Nigeria, are still poor, illiterate and non-enterprising (Fabeyi & Akande, 2015). Nigeria is blessed with numerous human and agricultural resources, utilisation of these resources requires knowledge and application of entrepreneurial and agribusiness skills, especially in rural areas. The knowledge will enable rural farmers to become economically viable in the area of agriculture. This can only be achieved if agricultural extension workers are competent enough to transmit the needed knowledge and skills to the target farmers (Olorunfemi, Olorunfemi, & Oladele, 2020). The agricultural food industry involving agribusiness has a strong link with agriculture and the role played by the industry is increasingly relevant to rural incomes growth (Andre, Maximo, Jason & Douglas. 2017).

The sustainability of agribusiness requires creation of awareness, education and training on entrepreneurship development and medium-scale agro enterprises (Munonye & Esiobu, 2017). This can be achieved through the involvement of agricultural extension workers. Agribusiness constitute about 70% of the business activities of developing countries (Andre et al, 2017). The Nigeria Bureau of Statistics (NBS, 2015) stated that 41% of agribusiness are perform by individuals who are directly connected with farmers and not farmers themselves. Moreover, Munonye & Esiobu, (2017) determine that involvement of farmers in agribusiness is capable of improving their income, poverty reduction as well as generating employment in the rural settings.

Agribusiness provides significant linkages and spurs financial specialists in a manner that may not only have huge multiplier impacts on development, but also address food uncertainty by upgrading efficiency and expanding riches for the populace and country social orders (Adenle, Manning & Azadi, 2017). Agribusiness speculation among extension workers can advance agricultural value chains by providing direct information sources, for diversification in various activities related to improving seeds, water management system, manures utilisation, and post-harvest technology as well as marketing (Adenle, Manning & Azadi,2017). Consequently, agribusiness can also have a significant multiplier impact on the improvement of the rural economy if the right strategy is created and embraced.

In Nigeria, the scope for the improving of agriculture and agribusiness has been moderate (Oluwatoyese, Applanaidu & Razak, 2016). The existing strategies have not included the support of mobilising huge number rural communities towards food security and poverty alleviation activities (Oluwatoyese, et al, 2016). The achievement of agribusiness in African nations can be ascribed to a progression of hidden drivers and danger factors which need to be investigated. Meanwhile, an endeavour to change African agribusiness through Structural Adjustment Programs, especially in Nigeria, has yielded important outcomes among smallholder farmers (Poole, Chitundu, & Msoni, (2018). Four components of agribusiness opportunities were found in African rural communities; those include agricultural inputs supply, agricultural produce supply, processing, marketing and produce distribution (Igbokwuwe, Essein, & Agunnaah, 2015; Munonye & Esiobu, 2017; Oluto & Umoru, 2019). The competencies of agricultural extension workers in impacting the necessary knowledge of agribusiness and entrepreneurship development to rural women farmers have not been checked or determined and this will continue to generate serious poverty and high level of illiteracy among rural women farmers in many African countries including Nigeria. The competencies of extension workers deal with extension workers' ability and knowledge to understand and improve the culture and lifestyle of rural farmers (Sajid, Mehmood & Fahad,2018), is also capable of improving agricultural technology transfer among farmers while strengthening the development of agricultural value chains (Donovan, Stoian, & Poe, 2015). Competency will also enable extension worker to efficiently evaluate knowledge, create awareness and motivate farmers (Sajid, Mehmood & Fahad, 2018) and facilitate access of technical information to farmers (Gebreegziabher & Mezgebo 2020). Therefore, revisiting of extension worker competencies is necessary for extension service delivery and the achievement of organisational goals.

The extension worker's competencies also have to do with personal communication skills, leadership quality and equality in dealing with farmers to be able to solve the problems technically. Those behaviours and the skills are necessary for behavioural leadership. Competencies in leadership ought to be necessary in certain operational skills and behaviours to be successful in-service delivery (Cisco & Olungah 2016). The evaluation of the

competences in leadership and performance would be based on such qualities. A study on the proficiency of agricultural educators in conducting their services finds out that agricultural educators are not competent or proficient in the entrepreneurship development of their clients, especially in the area of entrepreneurial innovation and creativity, venture creation in agriculture as well as the, determination of areas of investment in Agriculture (Abdulmumini, Oguntunde & Man, 2020). A lack of competencies in marketing systems reduces the development and market for quality produce (Narine, Ganpat, & Seepersad, 2015). Naminse and Zhuang (2018) determined a strong relationship between the competencies of farm entrepreneurs and the knowledge capabilities of extension workers. Therefore, the competencies of extension workers in extension services have an effect on client empowerment and productivity.

Nigeria is among the developing countries that face the challenges of redeveloping the economy and poverty reduction. More than 70% of its population has little or no access to basic social amenities such as portable drinking water and good health care facilities due to low income (Mumtaz & Gopal, 2017). A good number of the world population which account for about 1.2 billion people, survive daily below one dollar, which is an international standard for determining the poverty line per day, and that a higher number of these people were in the rural areas of developing countries including Nigeria (Mumtaz & Gopal ,2017).

A good and better extension network and service that is targeted at providing rural farmers with entrepreneurship skills would enable rural women poor to be self-reliant, increase savings, create employment opportunities, and engage in economically productive activities. In addition, entrepreneurial processes would assist rural communities through agribusiness empowerment. Meanwhile, Mwambi, Oduol, Msehga, and Saidi (2016) stated that, farming along may not be insufficient for farmers to raise their income they should also do better in agriculture related businesses.

The inability of the RWF to access information and knowledge on agribusiness and various empowerments program as well as productive resources affects the income level. Also reduce their productivity and potentiality in investment on agricultural production as well as their capacity in undertaking agribusiness. The opinion of the public on agricultural production is at the forefront (Alexa, & Kevan 2019), the attitude of other stakeholders in agricultural extension on entrepreneurship development of farmers is not encouraging, and economic impact of entrepreneurship development in the extension program is not yet recognised (Vítor & Pereira, 2020). However, entrepreneurial skills and competences are necessary for economic growth (Lans, Galen; Verstegen; Biemans, & Mulder, 2014), especially in rural communities where employment availability is scarce. Therefore, inculcating self-confidence in agribusiness among farmers is crucial for the success of entrepreneurship (Makinen, 2018).

Meanwhile, the development of an individual on entrepreneurship has been considered as the requirement for employment generation (Vítor & Pereira, 2020). However, agricultural extension services have neglected the aspect of entrepreneurship and economic empowerment in many countries, resulting in an unpleasant effect on the economy. Entrepreneurship approach in rural areas is an essential for the improvement and maintenance of economic and social cohesion in rural communities using agribusiness actions (Hudcová, 2016). Entrepreneurship skills development by agricultural extension workers is expected to create employment opportunities among rural youths and position the economy on a stable track.

Agricultural entrepreneurship development of rural poor's is considered necessary for the improvement of livelihoods and food security for rural people. But if this problem is allowed to continue and remain unchecked rural women farmers in Nigeria will continue to be uneducated and poor. It is based on this fact that this study seeks to investigate the Competencies and Agribusiness Skills of Agricultural Extension Workers towards Entrepreneurship Development of Rural Women armers in North Eastern Nigeria. Specifically, to determine

1. The level of entrepreneurial skills development of rural women farmers.
2. The level of competencies and agribusiness skills of agricultural extension workers
3. The relationship between competencies, agribusiness skills of agricultural extension workers and entrepreneurial skills development of rural woman farmers

Framework for the Study

The Competency motivation theory (CMT) by Elliot & Dweck (2005) is a conceptualised and designed to discuss and measure an individual's competency. Elliot & Dweck (2005) stated that individual competency in

service, motivation and activity is the major construct of CMT, because individual competency motivates him to participate in a particular task or activity (Weiss & Amorose, 2008, Horn, 2004, Horn & Harris 2002, Weiss & White, 1959 & Harter, 1978), to enable him to work harder in any achievement context or tasks. The focus of the theory according to Elliot & Dweck (2005) is when an individual is expected to participate in an activity at which he or she feels he or she is competent or capable. The theory explains the relationship between the competency of an individual and the activity, the theory is therefore, considered relevant to this study as the study deals with the relationship between the competency of AEW and the entrepreneurship development of rural women farmers as stated in objective three of the study. The theory can be used by researchers and the government to identify ways and how AEWs can be encouraged to participate in their achievement contexts (Weiss & Amorose, 2008). The main focus of competence motivation theory, which is also related to a by model called the competence motivation model, that an individual is expected to participate in activities in which he feels competent of doing to achieve the goal of people, and to participate actively in solving the problems (Horn, 2004). The competencies of AEW were determined based on competence motivation theory of (Elliot & Dweck 2005)

Rural women farmers are facing a lot of problems such as poor and unstable yield (Man, 2009) due to low level of education, use of crude implement resulting in investment of more energy on farm and lack of technical skills to undertake modern farming. These courses a higher rate of poverty (Fig 1.1). Nevertheless, competency and agribusiness skills (independent variable) of AEW would no doubt improve entrepreneurship skills development (dependent variable) of RWF, which would also enhance their living standard, increase income and technical skills as well.

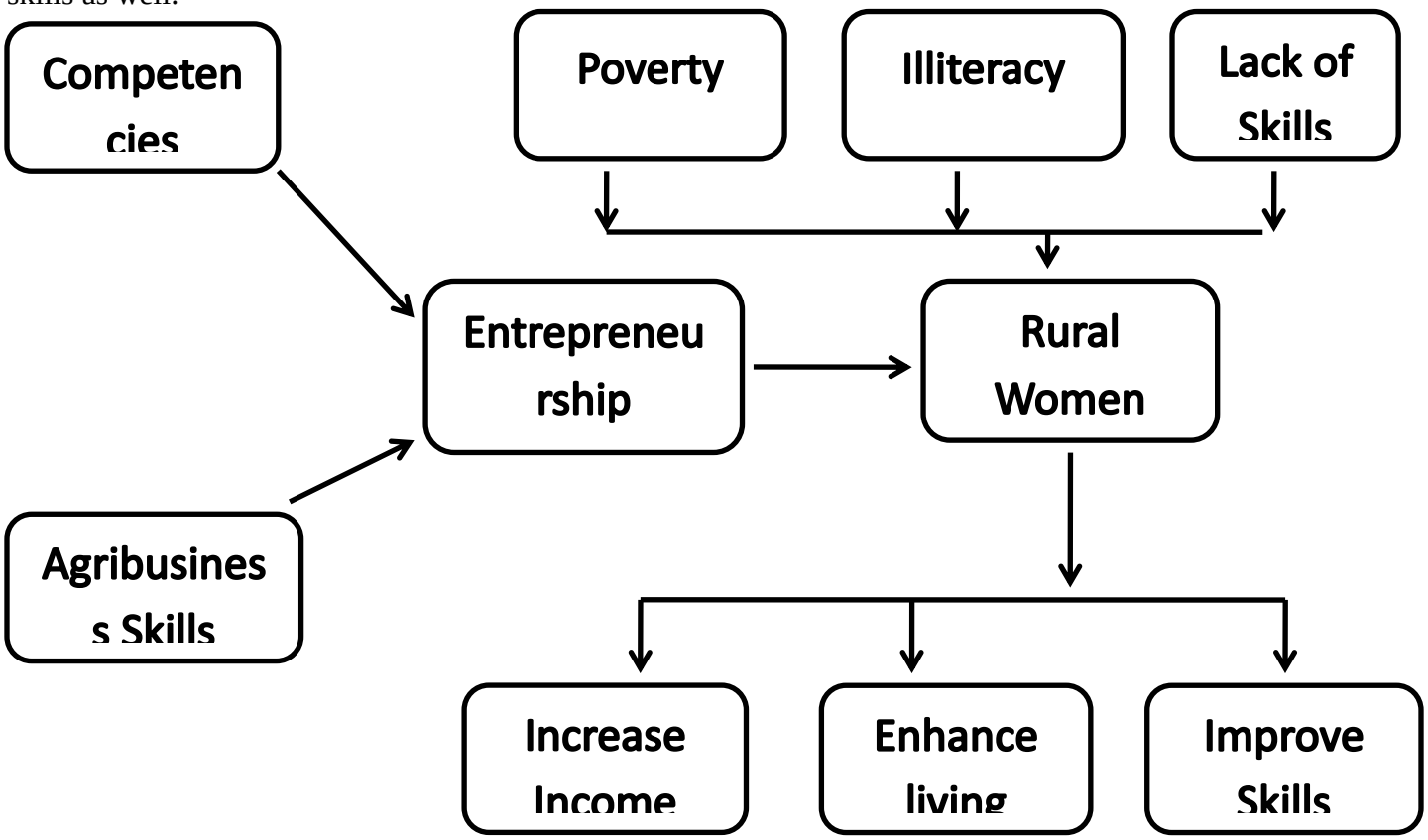

Fig 1.1: Problem facing rural woman farmers

Methodology

The method of research design is quantitative in nature, it makes used descriptive survey that uses a structured questionnaire, the questionnaire consists of five-point likert scale ranging from strongly agreed 1 point, agreed 2 points, moderately agreed 3 points, disagreed 4 point and strongly disagreed 5 points. The instrument was also

subjected to a validity and reliability test. For the validity, three experts in the area were used for face and content validity. The reliability of the instrument was carried out using 50 rural women farmers in Kaduna state Nigeria. The area chosen for the reliability test was not part of the study area. The methodology adopted in the reliability test involved dividing the items into two groups odd number and even number (split halve), and the scores obtained from each group were correlated using spearman rank order correlation. The reliability coefficient of 0.74 was obtained, which means that the instrument is reliable to collect data for the study.

Data collection was carried out using the instrument, which was directly administered to the respondent (rural women farmers) across six states of north eastern Nigeria, namely Adamawa, Bauchi, Borno, Gombe and Taraba State. The respondents were given one week to fill the instrument before collecting it back for analysis. The sample size of 356 rural women farmers was involved in the study and they were randomly selected from the population of 3300 registered RWF using proportional random sampling techniques. This sampling techniques was adopted because there are six states of different population size, for each of these states to be represented in accordance with the population size of the state proportional random sampling techniques is believed to be propriate and sampling techniques for this study. The sample size of 356 rural women farmers was determined using the scientific procedure Taro Yamane formula for determining the finite population

$$n = \frac{N}{1+N(e)^2}$$

N = the final population (which is 3300)

e = Level of Significance (which is 0.05)

1 = Unity or Constant

n = Sample size

Substituting the value from the formula

$$n = \frac{3303}{1+3303(0.05)^2} = \mathbf{356}$$

The instrument was directly administered to the respondents who were selected proportionally from various states in accordance with the population size of each state, Administration of the instrument was carried out in February 2020 with the help of three research assistance. Data collected were analysed using descriptive statistics, which include mean and standard deviation for the level of competencies, agribusiness skills and entrepreneurship development. The overall mean score of each variable studied was obtained by summing the mean of each questionnaire item divided by the number of questions. The decision rule on the levels of the variable was determined by three categories of mean scores (Low 1.00-2.33, Moderate 2.34-3.67, and High 3.68-5.00) the mean difference was determined by dividing the overall mean score of 5.00 by 3. Spearman rank moment correlation was used for the relationship between the dependent and independent variables of the study as stated in the objective of the study.

Results and Discussion

Table I reveals that competencies have the highest mean score of 3.57 while entrepreneurship development has the lowest mean score of 1.09, in addition agribusiness skills recorded the mean score of 2.84. The analyses also indicate that from the perspectives of rural women farmers, Agricultural extension workers are competent (3.57 mean score) with moderate agribusiness skills (2.84 mean score), but their client (rural women farmers) a has lower level of required entrepreneurship development skills (1.09). This implies that agricultural extension warders do not extend the information and innovation required on agribusiness and entrepreneurial skills development of their client, their emphasis was only on productivity without necessarily concern about entrepreneurship development of the rural women. It also implies that, the availability of numerous investment opportunity in the agricultural sector would not be utilised by rural women farmers. This situation would continue to keep rural women farmers in poverty due to lack of entrepreneurship skills.

Table I- Level of Competencies, Agribusiness and Entrepreneurship Development n 356

S/N	Items	Mean	Overall Mean	SD	Remark
	Competencies		**3.57**	**0.48**	**Moderate**
1	Supervision	3.72			
2	Advisory services	3.60			
3	Motivation	3.20			
4	Information dissemination	3.50			
5	Farm visit	3.52			
6	Farm lecture	3.53			
7	Group meeting	4.20			
8	Innovation adoption	3.43			
9	Record keeping	3.53			
10	Organising training session	3.50			
	Agribusiness		**2.84**	**0.56**	**Moderate**
1	Agricultural marketing	2.44			
2	Agricultural finance	2.70			
3	Agritrading	3.03			
4	Agribusiness management	1.81			
5	Agribusiness planning	3.62			
6	Agricultural input supply	3.22			
7	Agroprocessing	2.53			
8	Distribution	2.31			
9	Market information	3.60			
10	Market research	3.24			
11	Storage of the produce	3.81			
12	Agribusiness purchase	2.43			
13	Determination of the price	2.52			
14	Profit determination	2.32			
15	Accounting	2.94			
	Entrepreneurship Development		**1.09**	**0.87**	**Low**
1	Identification of the investment opportunity	1.50			
2	Decision to form a business	1.02			
3	Knowledge of business ownership	1.50			
4	Sources of funding	1.42			
5	Feasibility studies	1.38			
6	Market information	1.06			
7	Capital requirement	1.04			
8	Legal procedure	1.05			
9	Leadership	1.10			
10	Marketing	1.05			
11	Profitability	1.04			
12	Venture creation	1.01			
13	Record keeping	1.02			
14	Business environment	1.08			
15	Business Location	1.07			

Source: Field survey 2020

Relationship between Competencies, Agribusiness and Entrepreneurship Development.

Competencies and Entrepreneurship Development

Table II reveals that, there is a significant relationship between the competencies of agricultural extension workers and the entrepreneurship development of rural women farmers (r= 0.249, p=0.000), and that, agricultural extension workers who are competent are more likely to enhance the entrepreneurship development of rural farmers. This finding agrees with the findings of Naminse and Zhuang (2018) that a relationship exists between the competencies of farm entrepreneurs and the knowledge capabilities of extension workers. The competency of the extension worker provides him with opportunities to reach out and serve rural farmers and connect across cultural and traditional differences, and ultimately enhance the extension services and performances. In contrast, in a study by Abdulmumini, Oguntunde & Man, (2020) found out that agricultural educators are not proficient in entrepreneurship development of their clients, especially in the area of entrepreneurial innovation and creativity, venture creation in agriculture as well as, determination of areas of investment in Agriculture, this resulted in lack of job and entrepreneurship skills among the students after graduations

Agribusiness Skills and Entrepreneurship Development

Table II also shows a significant relationship between the agribusiness skills of agricultural extension workers and the entrepreneurship development of rural women farmers (r=0.384, p=0.000), this means that agricultural extension workers who are involved in agribusiness activities and have agribusiness skills are more likely to enhance the entrepreneurship development of rural women farmers. In addition, rural farmers who are responsible for the business activities of their own agricultural products are more entrepreneurial than farmers who do not. Similarly, Mwambi et al., (2016) determine that integration of farming with entrepreneurship and agribusiness activities significantly increase farmers' income than engaging in farming along.

Competencies and Agribusiness Skills

Table II also reveals a significant relationship between the competencies of agricultural extension workers and their agribusiness skills (r=0.421, p=0.001), agricultural extension workers who are competent are also expected to have agribusiness skills for entrepreneurship development of rural women farmers. This is also in line with the findings of Naminse and Zhuang (2018) who found out that there is a positive relationship between the competencies of farm entrepreneurs' educational and knowledge capabilities of extension workers towards rural farmer entrepreneurship growth. Also, Abdulmumini, Oguntunde & Man, (2020) reported that Agricultural educators are proficient in determining the capital requirements for learners and have a higher level of awareness in agribusiness ownership. The lack of competencies in marketing systems reduces the development of an enterprisebfor quality produce (Narine et al., 2015).

Table II- Relationship between Competencies, Agribusiness and Entrepreneurship Development n=356

Variable	**Competencies**		**Agribusiness**		**Entrepreneurship**	
	r	P	R	P	R	P
Competencies	_	_	0.421	0.001	0,249	0.000
Agribusiness	0.421	0.001	_	_	0.384	0.000
Entrepreneurship	0.249	0.000	0.384	0.000	_	_

Source: Field survey (2020)

Conclusion and Recommendations

Based on the findings, it can be concluded that the competencies and agribusiness skills of agricultural extension workers do not reflect more on the entrepreneurship development of their client (RWF). In view of this,

agricultural extension workers are expected to diversify efforts and impact the needed entrepreneurship skills for rural women farmers for poverty reduction and positive empowerment of rural poor farmers. Emphasis should be given in the identification of investment opportunities in agriculture, decision to form agribusiness ventures, type of agribusiness ownership, market opportunities, sources of agribusiness funding as well as entrepreneurship development. Without sufficient knowledge of entrepreneurship development, rural women farmers would continue to be poor and suffer from tedious and monotonous agricultural practices. Therefore, extension workers are expected to be competent enough in the provision of required skills and entrepreneurial innovation on agribusiness, so that they would not only produce agricultural product but also be able to be involved in marketing and profit generation on their farm product.

Government policies and programs for poverty alleviation in rural areas should be restructured and directed towards empowering rural women on their known occupation (agriculture). The competencies of agricultural extension workers in carrying out their services should be regularly examined, especially providing information and knowledge of agricultural enterprises and entrepreneurship development of farmers in general. Adequate knowledge and training should be regularly provided by the government to agricultural extension workers on agribusiness and entrepreneurship development. This is to equip them with the necessary knowledge and entrepreneurial skills to positively impact to the economic development of rural farmers.

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