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## **Women Farmers Perception of Information Dissemination Skills among Agricultural Extension Workers in North Eastern Nigeria**

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### **Abstract**

*This study examined the perception of rural women farmers on information dissemination skills of agricultural extension workers. Using multistage sampling procedure 378 respondents were randomly selected from the population of 6758 women farmers. Questionnaire was administered to the sampled farmers. Data were analysed using mean, and standard deviation. Findings reveals that women farmers participated moderately in agricultural practices with overall mean value of 2.65. Also, agricultural extension workers had a lower level of information dissemination skill in dealing with women farmers with overall mean value of 2.25. There is the need for training and retraining of extension workers to boost their skills for information delivery to women farmers. Extension programme for rural women should be designed to ensure extension workers are well informed and knowledgeable enough to work with them.*

**Keyword;** Information dissemination, women farmers, agricultural extension workers

### **Introduction**

Information is regarded as an important factor required in all aspect of agricultural production (Akinwale, 2020). Access to timely, relevant and reliable agricultural information is necessary for agricultural development (Zhang., Wang, & Duan, 2016). Highly developed and organised flow of agricultural information is capable of

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enhancing productivity and better market price for farmers, increase farmers knowledge and facilitate agricultural activities in rural areas (Msoffe & Ngulube, 2016). However, many African countries do not have organised channels of disseminating relevant agricultural information and knowledge to farmers (Aldosari., Al Shunaifi, Ullah, Muddassir & Noor, 2019). The need to determine the information dissemination skills of agricultural extension workers (AEWs) in the transmission of relevant information and knowledge of agricultural practices in rural areas become necessary

Agricultural information dissemination has been found to increase farmers' access to agricultural knowledge and ideas which assist them in decisions making regarding farming activities. (Msoffe & Ngulube, 2016; Ranii, Metha, Rani, 2019 & Damba et al., 2020). Agricultural information has significant impact on economic growth and development of many nations (Zhang et al., 2016). There are variety of factors that prevent rural farmers from accessing to agricultural information and knowledge in good time which need to be investigated (Nwafor, Ogundeji & van der Westhuizen, 2020).

Obtaining high quality agricultural output is related to information availability to farmers (Msoffe & Ngulube, 2016; Aldosari., et al, 2019 & Global Agriculture, 2020) and effective information transmission accelerate productivity (Buehren, Goldstein, Molina, & Vaillan 2019) and encourage farmers participation (Danso-Abbeam, Ehiakpor & Aidoo, 2018). Information dissemination through extension services and organization provide direction for rural farmers to make better decision (Gebreegziabher & Mezgebo, 2020; Okwu & Umoru, 2019). Access to Information by farmers in rural areas of developing nations is provided through variety of means including mass media and other local facilities used by extension officers (Msoffe & Ngulube, 2016; Relebohile & Keregero, 2019).

Agricultural extension workers have a greater role to play in bridging the information gap between the information source (research institutions) and women farmers. The evidence of low farm output and poor quality of agricultural yield among women farmers is attributed to limited access to information and knowledge of agricultural practices (Buehren, Goldstein, Molina, & Vaillant, 2019) Similarly, inadequate information and poor allocation of agricultural resources among women in rural communities resulted in lower level of agricultural productivity (Zhang et al., 2016; Uduji, Okolo-Obasi & Asongu, 2019).

There are factors that create an information gap between extension workers and women farmers which affect farmers participation in farm activities (Takahashi, Muraoka & Otsuka, 2020). Culture that prevented women farmers to interact with extension agent (Ali, 2020). The women farmers depend on their husbands and fellow women to provide the needed information which are mostly inadequate and cannot meet their need (Buehren, Goldstein, Molina & Vaillant, 2019). Information must be made available and easily accessible by extension workers for farmers to assimilate, digest and made easily available and utilized (Anaglo, Manteaw &

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Kwapong, 2020). Therefore, transmission of information to rural farmers require certain skills which need to be assess regularly for efficient performance (Msoffe & Ngulube, 2016). This study provided information on AEWs skills in the transmission of knowledge to women farmers which would provide a guide in policy and decision making regarding the competency of AEWs in dealing with women farmers

Extension workers must be competent enough to use the various facilities to ensure proper information dissemination for women farmers who are mostly uneducated and poor (Norton, & Alwang, 2020). For agricultural extension service to function effectively in rural areas, it must strengthen the relationship and contact between extension workers and women farmers through different method (Norton & Alwang, 2020) Professional extension workers should also be involved and regularly examined and provided with adequate training in extension method as well as communication skills in dealing with women farmers (Takahashi, et all, 2020; Cascio, & Montealegre, 2016)).

Information dissemination skills of AEWs has been found to reduce rural poverty, increase farming output, and provide better household income (Damba, Kodwo Ansah, Donkoh, Alhassan, Mullins, Yussif, Taylor, Tetteh & Appiah-Twumasi, 2020). Farmers need information that enhance productivity and enable them meet market target, increase profit and take decision in good time. (Norton & Alwang, 2020). Effective dissemination of agricultural information and knowledge by extension workers to women farmers increase income level, thereby enhance their quality of life (Kyaw, Ahn, & Lee, 2018). An empirical study revealed significant relationship between information dissemination for farmers and agricultural productivity (Funom & Soyemi, 2020). Similarly, availability and utilization of agricultural information improve socio- economic wellbeing of farmers (Funom & Soyemi, 2020). Information access improve farmers' quality of life as the livelihood of millions of farmers is supported by good information for food production (Damba et al., 2020; Drafor, 2016).

The conventional methods of information dissemination adopted by extension workers especially in developing nations do not adequately provide the required information in good time for rural farmers. Such methods include farm lecture, farm visit, schedule meeting or home visits and individual contact (Akinwale, 2020; Funom, & Soyemi, 2020). Other methods of information dissemination in rural areas of developing countries include the use of media including radio, video, television, pictures, print materials, drama, folklore and exhibitions (Msoffe & Ngulube, 2016). This study investigated the skills of AEWs in disseminating information to women farmers. Specifically, the study determined:

1. the level of rural women farmers participation in agricultural practices in north eastern Nigeria
2. the level of information dissemination skills of agricultural extension workers in north eastern Nigeria

## **Methodology**

The area of study was North Eastern Nigeria (latitude 10° 00' - 11° 00' N and longitude 11° 00'-12° 00' E). The area consists of six states namely; Gombe, Adamawa, Yobe, Taraba, Bauchi and Borno State. The population of the study was 6758 registered women farmers in 24 rural communities in north eastern Nigeria (Cooperative Financing Agency, 2020). A sample size of 378 women farmers was randomly selected from the population using multistage sampling procedure. Purposive sampling of two local government areas from each state of North eastern Nigeria was carried out in the first stage. This was based on their status of being rural. In stage two, simple random sampling techniques was used for the selection of two rural communities from each of the local government. areas. In stage three, proportionate sampling was used for the selection of women farmers from each community. Data was collected from the women farmers about their perception on information dissemination skills of extension workers and level of participation of women in agricultural practices

The instrument used for data collection was a structured questionnaire. The questionnaire was validated and pilot tested. Reliability coefficient of 0.87 was obtained. The data was also subjected to exploratory data analysis using SPSS to check for normality, multicollinearity, outliers as well as missing data before the final data analysis. The final data analysis was conducted using descriptive (mean) and inferential (correlation) statistics. The decision rule on the levels of the participation (dependant variable) and information dissemination skills (independent 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.

## **Results and Discussion**

### **Women Farmers Participation in Agricultural Practices**

Table 1, reveals that, from the perspectives of women farmers, there is a high level of participation of women in crop production ( $\bar{x}$ =3.7), moderate participation in livestock ( $\bar{x}$ = 2.9), horticulture ( $\bar{x}$  =2.5) and poultry production ( $\bar{x}$ = 2.5), and low level of participation in fish production practices ( $\bar{x}$ = 1.68). Table 1 also reveals that women farmers participate moderately in agricultural practices with overall mean value of 2.65. This indicate that women participate in crop production, animal production, horticulture and poultry production with little participation in fish production. This finding is in line with that of: Aldosari., et al, (2019) and Buehren, et al, (2019) that women are making significant impact on economic wellbeing of individuals due to their participation in agriculture. Similarly, Global Agriculture (2020) reported that women participate in farm labor which accounts for about 43 percent in Latin America ,20 percent in Asia and 50 percent in Africa.

The lower level of participation in fish production in the study area indicate the limited level of knowledge and information received by women farmers on fish farming and management. Meanwhile moderate participation in livestock, horticulture and poultry indicated an average information and knowledge received by women farmers.

**Table I: Level of women farmers participation in agricultural practices**

Items	Mean	Mean Average	SD
<b>Crop production</b>		<b>3.69</b>	<b>0.40</b>
Weeding	3.40		
Thinning	3.53		
Harvesting	3.73		
Processing	4.08		
<b>Livestock management and production practices</b>		<b>2.92</b>	<b>0.46</b>
Grazing	3.44		
Feeding	3.70		
Castration	1.62		
Watering	3.12		
Housing management	2.42		
Disinfection	2.31		
Quarantine	3.60		
Weaning	3.14		
<b>Horticultural/ fruit and vegetable production practice</b>		<b>2.46</b>	<b>0.77</b>
Raising seedlings	3.30		
Transplanting	3.02		
Mulching	3.20		
Pruning	2.48		
Grafting	2.06		
Budding	1.04		
Layering	1.05		
Planting	3.40		
Fruit collection	3.05		
Preparing nursery bed	2.04		
<b>Poultry production practices</b>		<b>2.48</b>	<b>0.85</b>
Housing management	3.08		
Feeding	3.46		
Watering	3.50		
Brooding	2.26		
Egg collection	2.00		
Record keeping	1.06		
Management of health condition	2.02		
<b>Fish production practices</b>		<b>1.68</b>	<b>0.88</b>
Fish pond management	1.40		
Water control	1.10		
Stacking finger lines	1.08		
Feeding	3.11		
Record keeping	1.03		
Fish harvesting	2.36		
<b>OVERALL MEAN</b>		<b>2.65</b>	<b>0.67</b>

Source; Field survey 2020

### Information Dissemination skills of Extension workers

Table 2 reveals that, from the perspectives of women farmers, extension workers had a moderate skill in the use of media system for disseminating information to women farmers ( $\bar{x}$ = 3.5), they also had a lower skill in the consideration of social system ( $\bar{x}$ = 1.8) and lower skills in the consideration of personal environment ( $\bar{x}$ = 2.3). Table 2 also reveals the perception of women farmers that, extension workers had lower information dissemination skill in dealing with women with overall mean

value of 2.25. This means that extension workers do not adequately consider social system and environment in dissemination of information for women farmers. This finding is in line with that of Aldosari et al., (2019) that there is need for training to equip extension workers with necessary competencies on emerging technologies on information dissemination method, to be able to impact the required knowledge. Similarly, Danso-Abbeam et al, 2018) reported that inadequate information and poor allocation of agricultural resources among women in rural communities resulted in lower level of agricultural productivity. This is also supported by Msoffe & Ngulube, (2016) that obtaining high quality agricultural output is related to information availability for farmers. Effective information transmission accelerate productivity and encourage farmers participation (Danso-Abbeam et al., 2018).

Table 2 with overall mean of 2.25 indicate a lower level of information dissemination skills by extension workers for women farmers, this may be responsible for limited access to information and knowledge of agricultural practices as supported by (Buehren et al, 2019). The evidence of low farm output and poor quality of agricultural yield among women farmers is attributed to lack of information and knowledge of agricultural practices

**Table 2: Level of information dissemination skills of AEWs**

Items	Mean	Mean Avarage	SD
<b>Media System</b>		<b>3.47</b>	<b>0.58</b>
Extension workers are effective in the use of mass media for disseminating information to rural women farmers	3.80		
Extension workers are effective in the use of ICT facilities for disseminating information to rural women farmers	3.50		
Extension workers are effective in the use of telecommunication system for rural women farmers	3.10		
<b>Social System</b>		<b>1.79</b>	<b>0.62</b>
Extension workers always consider the knowledge level of rural women farmers in information delivery	1.32		
Extension workers respect the local language of rural women farmers in dissemination of Information	2.33		
Extension workers consider the culture of rural women in information delivery	1.10		
Extension workers respect the tradition of rural women farmers in dissemination of information to them	1.33		
Extension workers respect the lifestyle of rural women farmers in information dissemination	2.43		
Extension workers always consider the religion of rural women farmers in disseminating information	2.20		
<b>Personal Environment</b>		<b>1.48</b>	<b>0.68</b>
Extension workers properly disseminate information to rural women farmers from their home environment	1.20		
Extension workers perfectly disseminate information to rural women farmers from their office environment	1.50		
Extension workers disseminate information to rural women farmers at rural environment	2.02		
Extension workers disseminate information accurately to rural women farmers at their leisure environment	1.22		
<b>OVERAL MEAN</b>		<b>2.25</b>	<b>0.62</b>

Source; Field survey 2020

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## Conclusion and Recommendation

Lack of access to agricultural information and knowledge were the main challenges affecting RWFs participation in agricultural practices. Lower level of information dissemination skill, lack of diversification in the selection of appropriate method, poor consideration of the women farmers needs as well as environment significantly affect participation of RWFs.

The need for training and retraining of extension workers to boost their information dissemination skills to suit the need of rural women become necessary. The status of being women should be considered in designing any extension programme relating to information dissemination so as to effectively impact and transmit the needed idea, knowledge and skills. Similarly, extension programme and agencies should strategize and provide alternative means of reaching women farmers especially in rural areas where internet and other ICT facilities are not available. Preferably the use of conventional method of extension despite its disadvantages of being more time consuming and expensive. Introduction of ICT may be gradual and only where the facilities are available.

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