

Assessment of Extension Workers' Nutrition Education Competency Level and Training Needs in Katsina State, Nigeria

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Abstract

This research was carried out to assess the extension workers' nutrition education competency level and training needs in Katsina state, Nigeria. A multistage sampling technique was used to sample 90 extension workers from the three agricultural zones in the state. Seven categories of 49 specific nutrition education competency items were adapted for the study. A structured questionnaire was used to collect data from the sampled respondents. The mean competency rating for each competency item was computed using SPSS and Microsoft Excel. A Mean scale to interpret the computed mean values. While mean weight discrepancy score was used to determine the areas of training needed by the extension workers. The findings showed that 85.6% of the respondents were males with a mean age of 44 years. It also revealed that the extension workers had a high level of literacy and vast years of working experience of 20-25 years. In terms of their nutrition education competency level, the findings showed that 71.42% of the extension workers have an average competency level on basic nutrition knowledge, nutritional needs of different household members, Hygiene and sanitation, Post-harvest handling and food safety, as well as on Gender and nutrition. However, the extension workers were found to have a low competency level in planning and resource allocation for household food security which also featured to be the prioritized area of training needed by the extension workers. It was finally recommended that nutrition education should be integrated into the extension worker's professional training in the study area.

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Introduction

Globally, about 800 million people are undernourished and about 2 billion people suffer from micronutrient deficiencies (Jäckering *et al.*, 2019). Most of these people live in rural areas of developing countries and depend on agriculture for food and income generation. Thus substantial and sustainable reduction in malnutrition in these countries will remain a significant challenge without an effective engagement of the agricultural sector. Nigeria with at

least 5 % of the global burden of undernutrition and with more than 14 million malnourished children, the government recognizes that addressing malnutrition is indispensable for economic and social development. Federal Ministry of Agriculture and Rural Development, while nutrition-specific interventions – such as micronutrient supplementation, breastfeeding, and immunization, which address the immediate causes of malnutrition (inadequate dietary intake and

diseases), are necessary, they are not sufficient for achieving adequate nutrition. Other interventions such as nutrition-sensitive interventions in areas such as agriculture are required for achieving additional reductions in stunting and malnutrition (Federal Ministry of Agriculture and Rural Development (FMARD, 2017). Nutrition sensitive interventions through nutrition sensitive agriculture can help to address malnutrition by developing and promoting nutrition-sensitive agricultural value chains and other pro nutrition technologies. (Jethi *et al.*, 2021). Nutrition sensitive agriculture is a food-based approach to agricultural development that puts nutritionally rich foods, dietary diversity and food fortification at the heart of overcoming malnutrition. Hence, there is heightened awareness globally and within development institutions and governments for the need to better understand the linkages between agriculture and nutrition, and to decipher the ways in which the agricultural sector can contribute to improved nutrition. Thus, in recent years, the interest in leveraging agriculture to improve nutritional outcomes is being amplified especially at an institutional level. Indeed, many international agencies and development institutions have issued reports highlighting the linkages between agriculture and nutrition. According to the national food policy and nutrition in Nigeria (2016), the nutritional well-being of all people is a precondition for sustainable social, economic and human development.

As nutrition therefore becomes an important pillar for economic, human and social development, and as countries start scaling up nutrition programs, new ways of delivering interventions, knowledge, and tools will be essential. One potential vehicle would be through Agricultural extension, because of their ability to improve knowledge, provide information, and deliver improved practices to rural households through consistent provision of services and

far reaching networks with rural communities. Agricultural extension and advisory workers (EAWs) are the key transmitters of agricultural knowledge to farmers, therefore including nutrition in their mandate, and training them for it, could improve farm households' production, livelihoods and overall well-being. They are often thought of as a promising platform or vehicle for the delivery of nutrition knowledge and practices to improve the nutritional health of rural communities because they reach and interact closely with farmers in different settings. They also act as significant service providers of crop, livestock, and forestry aspects of food security, consumption and production (Dia and Edye, 2018).

However, this can only be possible when the extension workers have the right competencies to undertake such activities. Competency is one of the key variables that explain the performance of agricultural extension workers (Mangheni *et al.*, 2016). Unfortunately, there is an inadequate understanding of the competencies needed for effective integration of nutrition education into conventional agricultural extension roles in developing countries and pre-service training curricula at universities and vocational training institutions that train agricultural extension personnel. The perception of key stakeholders, notably, farmers and field extension staff on this matter has rarely been sought, yet this is critical in informing the development of the appropriate competency profile for extension service providers. It is therefore in light of the above that the study attempted to analyze the following research objectives;

A growing number of studies (Alkali *et al.*, 2020; Fanzo *et al.*, 2015; Babu *et al.*, 2016) also emphasize the important role and potential of agricultural extension and advisory workers (EAW) in improving nutrition outcomes of agriculture interventions (Dia and Edye, 2018). Despite this emphasis, little is known about their nutrition education competency levels and

training needs. These competencies enable an individual to be effective in Function in a certain profession, organization, position or role. Understanding the competency of workers is conceptualized as a pathway to informing his/ her training needs.

Many researches on nutrition education competencies needed by extension workers were recorded in literature (Shimali, 2021; Dia *et al.*, 2017; Megheni, 2016; Edye and Schneider, 2016). However, these researches were conducted in Uganda, the U.S.A and Kenya respectively which entirely differ from Nigeria in terms of geographical location, agricultural policies, programs, interventions and strategies. Similarly, other studies conducted about competencies needed by extension in Nigeria include research conducted by (Ayansina and Adeogun, 2017; Olorunfemi *et al.*, 2020); Alabi and Ajayi, 2021) and Okeowo (2015). However, these researchers only addressed competencies needed by extension workers to their conventional roles of modern farming technology transfer and job performances. Hence, this study intends to fill these identified gaps by assessing specifically the nutrition education competency needed by extension worker in Nigeria using Katsina state as a case study area, as this would pave the way for the integration of nutrition education into agricultural extension and advisory services in Nigeria.

It is therefore in light of the above that the study attempted to analyze the following research objectives;

1) To determine the socio-economic characteristics of the extension workers in the study area.

2) To determine the nutrition education competency level of extension workers in the study area.

3) To identify the nutrition education training needs of the extension workers in the study area.

Conceptual Framework for nutrition education competency level of extension workers

The conceptual framework for the study is shown in Figure 1. The framework shows the interrelationships between the dependent and independent variables. The figure indicates that the individual factors of the extension workers such as age, level of education, working experience, internet access, nutrition education training attended and seeking for nutrition related information may positively influence their nutrition education competency level. This conforms to a study conducted in Uganda by Shimali *et al.* (2021), which shows that factors such as education level, access to the internet and organizational type positively influence the nutrition education competency level of the extension workers. It also presumed that improvement in the competency level of the extension workers may encourage the government to making agriculture and extension services nutrition sensitive which could in turn make nutritious food more available and accessible particularly to vulnerable farming households. It may also guide the training institution in planning pre-service and in-service training for extension workers in nutrition education. This training can equip the extension workers with the necessary competencies that will enable them to educate the farmers on nutrition thereby mitigating the burden of malnutrition and its consequences particularly among vulnerable households.

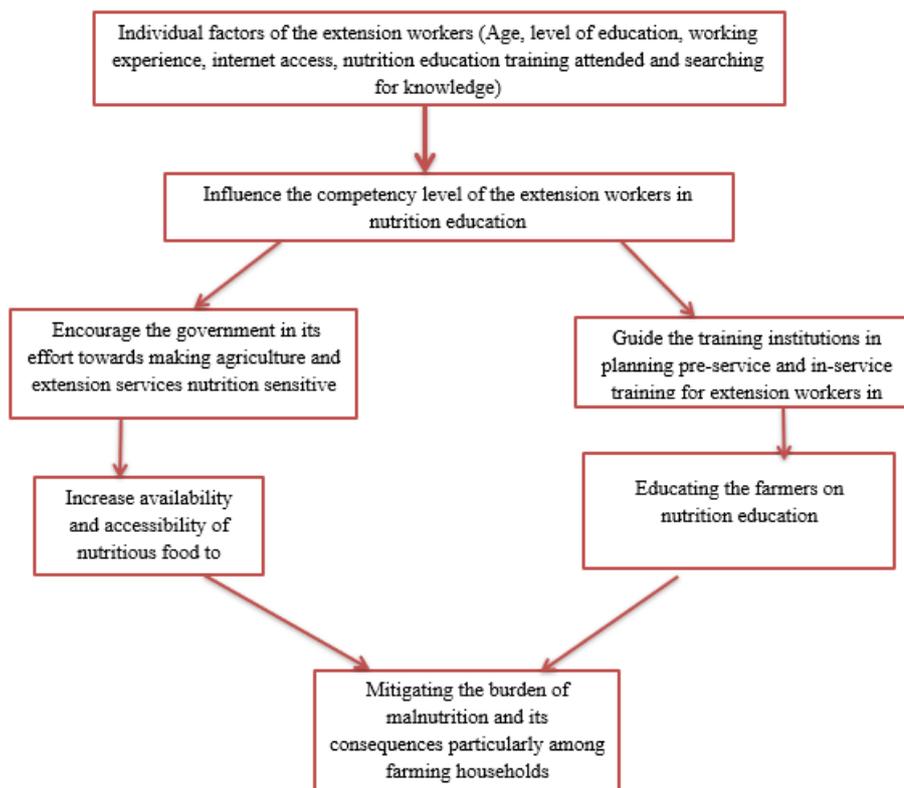


Figure 1. Conceptual frame work on extension worker’s nutrition education competency level and training needs

Review of studies on the perceived nutrition education competency level and training needed by extension workers

According to Edye and Schneider (2016), competency is a skill, attitude, or behavior that enables an individual to do his/her job more effectively in order to contribute to the mission of the organization to which s/he belongs. It is, therefore, a characteristic embodied by individuals within an organization that is clearly linked to the ends the organization seeks to achieve

Jessica *et al.* (2013) opine that the effectiveness of Agricultural extension and advisory (EAS) agents to deliver nutrition services to the client hinges upon their sufficient understanding of the nutrition-related issues in the communities in which they operate.

In a study conducted by Shimali *et al.* (2021) on Nutrition Education Competencies Needed by Agricultural

Extension Workers in Uganda. Data were collected from 61 private and 163 public AEWs from four districts using self-administered questionnaires and analyzed using descriptive statistics, Chi-square, and Mean Weighted Discrepancy Score. Nine nutrition competency items were adopted for the research. The findings show that the majority of both Public and private agricultural extension workers perceived that they are above average competency ($X^- = 3.50-4.49$) across the nine categories. These included; Basic nutrition knowledge, hygiene and sanitation, Post-harvest handling and food safety, Farming systems that promote nutrition, Planning and resource allocation for household food and nutrition security, Boosting family income, and Gender and nutrition. Only public agricultural extension workers rated themselves as having average competency ($X^- = 3.47$) in the nutrition needs of different household members. The top four perceived nutrition education training needs for public

AEWs were prioritized as; the nutrition needs of different household members, Farming systems that promote nutrition, Postharvest handling and food safety; and Basic nutrition knowledge. On the other hand, private AEWs prioritized; Postharvest handling and food safety, Basic nutrition knowledge, nutrition needs of different household members and Farming systems that promote nutrition in that order.

Another study conducted by Al-Zahrani *et al.* (2018) in the Kingdom of Saudi Arabia on the competency and training needs by the extension workers to improve their work. A total number of 250 professionals involved in extension work in the Directorates of the Kingdom were used for the study. Structured questionnaires were used to collect data from the respondents, which were analyzed and interpreted using SPSS and descriptive statistics. The findings revealed that most agricultural extension workers had qualifications in plant protection, plant production, and general agriculture before entering the Extension Service (19.3, 17.6, and 16.8%, respectively). Only 7.7% had specialized in agricultural extension and agricultural engineering. The study established the need for extensive training programs to enable extension workers to work efficiently and effectively in the changing farming scenario in the Kingdom. It also shows that training needs are correlated with the length of service and educational qualifications.

In yet another study conducted by Chikaire *et al.* (2018) on competencies relevant to the needs of agriculture extension workers in carrying out their assigned duties to the satisfaction and joy of farmers. A purposive sampling technique was used to select 120 Agricultural Extension as Advisory Services Providers (AEASP) of the Imo State Agricultural Development Program (ADP). A structured questionnaire was used to elicit information from the respondents and data were analyzed descriptively using tables, percentages, mean and standard deviation.

The Results showed that competent extension officers would accomplish the following: dissemination of technologies, harnessing local knowledge, conveying extension messages as well as maintaining relationships with farmers. It suggests that extension providers should be clear of their roles and duties from the onset, and be aware of their expected competencies as developed on the job through regular training, seminar and workshop attendance. Though the study is relevant, it differs from the ongoing study since it was conducted to assess the nutrition education competencies needed by the extension workers in Katsina State Nigeria.

Similarly in a study conducted by Ayansina and Adeogun (2017) titled Assessment of the professional competency needs of agricultural extension agents of Ogun State Agricultural Development Programme (OGADEP). A simple Random Sampling Technique was utilized to select 81 respondents from the four zones of the organization. Respondents were interviewed on socioeconomic characteristics such as age, sex, marital status, educational background, income level and job satisfaction measured on nominal and ordinal levels. The Result reveals that the mean age of the respondents was 46.95 (SD=6.64) with 42.7% falling between 41-50 years. Male extension agents (53.1%) dominated the respondents' population. The majority of the respondents (75.3%) had a degree(s). Respondents were mostly competent in the use and dissemination of Agrochemical machine and fertilizer distributor technology ($X = 3.99$), and agronomic production techniques ($X = 3.94$). Additional competencies were required in the evaluation of extension programs ($X = 1.85$), the latest communication technology ($x = 1.83$), and; statistical analysis ($X = 1.80$) among others. Barriers to competency acquisition include insufficient funds ($X = 2.26$), lack of training opportunities ($X = 2.16$), and increased workload in the offices ($X =$

2.13). Employees are recommended for needed training while funds should be made available to staff for their welfare to improve their competency levels. Though the research was conducted to assess the professional competency of the extension workers, it did not take into account their nutrition education competency level and their areas of training needs which this study seeks to address.

Similarly, a study conducted by Tafida *et al.*, (2021) titled Assessment of training need and competency level of extension workers in Kano State Nigeria. Three (3) local government areas were purposively selected from each of the three administrative zones making a total of nine Local government areas. A total of 117 extension agents were randomly selected and data were collected using structured questionnaires. Descriptive statistics and training need analysis were used to analyse the data. The study revealed that the extension services in the study area were male dominated (88.9%) and more than two thirds obtained ordinary and higher diplomas. The majority of the extension workers was found to understand the organization's needs and had the impression that the issues of the organizations could be solved through training. The study further revealed that the extension workers were competent in learning initiative and enterprises (3.41), teamwork (3.24), communication and problem solving (3.15), while they were found least competent in planning and organization (2.19) and leadership (2.96). The SWOT analysis found the strength and weaknesses of the extension workers as transferring information through regular interaction with farmers (3.4) and having too many jobs with different specializations (3.12), while the highest ranked opportunities and threats were good communication skills with farmers (3.44), respectively. Therefore, frequent professional and technical training, employment of more extension workers especially women, disengagement of

politicians from technical aspects and collaboration with research institutes and universities would improve capacity and efficiency of extension services delivery in the study area.

Alabi and Ajayi (2018), conducted research in south western Nigeria on the Assessment of Desired Competencies of Agricultural Extension Agents in Sustainable Agriculture Development Activities). The study looked into the effectiveness of the agents in ensuring sustainable agricultural development. Three states: Lagos, Oyo and Ondo states were randomly selected from the six in southwest Nigeria and all the AEAs in the Agricultural Development Projects in the selected states were sampled. The mean age of the AEA was 39 years and the mean year of experience of the AEA was 10 years. AEAs highest mean score on knowledge in sustainable agricultural development activities was recorded in livestock manure management ($x = 3.37$) and the highest mean score in skill was recorded in farmers organization establishment ($x = 2.98$). Some of the training needs identified included participatory needs analysis and livestock manure management. The study concluded that many of the identified training needs are outside the pre-service training of the AEAs. This study differs from the ongoing study in the fact that it did not consider the competencies and training needed by the extension worker to sensitize farmers on nutrition-related issues, despite their established structure, trust and far reaching network with the rural farming communities.

Materials and methods

The study was conducted in Katsina State. The state covers an area of about 23,983 square kilometers with a projected population of 9,921,456 people by 2021 (Ibukun, 2019). The state is located in the North-western part of the country and lies in between latitudes $11^{\circ} 03'$ and $13^{\circ} 05'$ N and longitudes $07^{\circ} 21'$ and $09^{\circ} 02'$ east of

Greenwich Meridian and bordered by Kaduna State to the South, Niger Republic to the North, Zamfara state to the West and Kano as well as Jigawa States to the East. The economy of the state is basically agrarian with about 2.4 million cultivable hectares of land. Hence, farming and rearing of animals constitute the means of livelihood for about 80% of the population. The state has two climate seasons; rainy and dry seasons with a mean average rainfall of about 400-1300mm. The climate favors maize, rice, beans, groundnut, millet and guinea corn. Major livestock in the state include cattle, sheep, goats and poultrys (Saleh and Oyinbo, 2017).

Sampling procedure

The sampling procedure involves the purposive selection of 15 L.G.As with minimal security challenges, out of the 34 LGAS in Katsina state. This includes 8, 4, and 3 LGAs from each of the three Agricultural Zones in the state (i.e. Zone I, Zone II and Zone III) respectively. Since all the L.G.As has the same number of six extension agents, therefore, the sample size of the study was 90 extension workers.

Data Collection

The study used primary data which was collected from the sampled respondents using a structured questionnaire administered by the researchers and some trained enumerators.

Data Analysis

Descriptive statistics of frequency and percentages were used to analyze the socio-economic characteristics of the extension workers. To determine the perceived nutrition education competency level of the extension workers, a total of 49 nutrition education competency items were adapted for the study. The competency items are grouped into seven categories which were elaborated in the questionnaire for rating by the extension workers during the field survey. The seven categories are; Basic nutrition knowledge, Nutrition needs of

different household members, Hygiene and sanitation, Post-harvest handling and food safety, Farming systems that promote nutrition, Planning and resource allocation for household food and nutrition security, Gender and nutrition) The extension workers were asked to rate each competency item based on their perceived competency level. The mean ranking for each competency item was computed using appropriate statistical software such as SPSS, Microsoft Excel or STATA. A scale used by Shimali *et al.* (2021) was adopted to interpret the mean values as follows.

The means between;

0.00-1.49 =Not competent (very low competency);

1.50-2.49 = (low competency);

2.50-3.49 = Average competency (medium);

3.50-4.49 = (high competency)

4.49 – 5.00 = very competent (very high competency)

Mean Weight Discrepancy Score (MWDS)

To determine prioritized areas of nutrition education training needed by the extension workers in the study area, a mean weight discrepancy score was used. Mean weighted discrepancy score (MWDS) is a measure that ranks and represents the discrepancy between the perceived importance of an item and the extension worker's perceived competency level (Kitchel *et al.*, 2010). The model has been widely adopted in academic research and has been yielding positive results in assessing competency level and training needs in different professions including agricultural extension (Shimali *et al.*, 2021; Kitchel *et al.*, 2010; Alibaygi and Zarafshani, 2008; Zahrani *et al.*, 2017).

The Mean Weight Discrepancy Score (MWDS) was calculated by subtracting the competency mean scores from the importance mean scores and then

multiplying it by the mean importance ratings for each item to produce an average score for each competency item. Items ranked with the highest (MWDS) represent the highest priority area of training need (Shimali *et al.*, 2021). It can be expressed in the following form.

$$MWDS = \bar{Y}_j^1 - \bar{Y}_j^2 \times \bar{Y}_j^1 \quad \cdot (i)$$

Where:

MWDS = Mean Weight Discrepancy Score

\bar{Y}_j^1 = Mean importance of j^{th} competency item

\bar{Y}_j^2 = Mean competency of j^{th} competency item

Results and discussion

Socio-economic characteristics

The socio-economic characteristics of the respondents are presented in Table 2. The result shows that the respondents have a minimum age of 23 and a maximum of 57 years with a mean age of 44 years. The majority (30%) were within the age range of 44-50 years. This implies that the extension workers are still productive and, hence can actively and conveniently undertake new responsibilities such as delivering nutrition education to farming households. This agrees with the findings of Kolawole *et al.* (2016) in Ekiti state Nigeria which report that the mean age of the extension personnel was 44 years with about 63% within the age range of 41-50 years (Middle Ages). The working experience results show that the extension workers have between a minimum of 2 years and a maximum of 28 years of experience with a mean age of 12 years year. More than half (52.2%) of the respondents have working experience of 20-25 years. This indicates that the extension workers are quite experienced in providing extension advices to the farming communities in the study area. Working experience is one of the key variables that influence the performance and competence level of extension workers. Since the

majority of the extension has a higher level of working experience, it is expected that incorporating nutrition education into agricultural extension services in the study area may yield a better result. This conforms to a study conducted by Umar *et al.* (2017) in the Sokoto state of Nigeria who reported that the majority (79%) had a working experience ranging from 21-25 years in extension service delivery. In terms of the level of education of the respondents, the majority of the extension workers (65.6%) have a higher national diploma. This implies that most of the extension workers in the study area are qualified to carry out their extension mandates professionally. It also indicates a high level of literacy and professional training that could enable them to cope with new emerging roles like that of nutrition education. However, a few of them have bachelors and master's degrees. Hence a similar finding was made by Kolawole *et al.* (2016) in Ekiti state of Nigeria. Similarly, the result in Table 2 indicates that most extension agents (87.8%) have never provided any nutrition information to farming households in the study area. Only about 12.2% of the extension agents have provided one form of nutrition information or the other to farmers. This implies that most of the extension workers in the area have no previous knowledge of delivering nutrition education to farmers. Furthermore, male extension agents are the majority (85.6%). This means that extension service in the study area is primarily dominated by males. This can be attributed to the cultural and religious beliefs of the people in the study area. The implication of this is that extension service in the study area may favour male farmers in particular. It also reflects gender balance in the distribution of extension workers in the state. Kolawole *et al.* (2016) in also made a similar observation in Ekiti state. The results of the nutrition education training attended by the extension workers revealed that majority of the extension workers (90%) had never attended any training on nutrition education; this may be attributed to the fact that in Nigeria

Nutrition education is not currently incorporated in agricultural extension training. It also portrays the agricultural extension services in the study area as not being nutrition sensitive.

Table 1. Socio economic characteristics of the respondents

Age of the respondents	Frequency	Percentage
23-29	11	12.20
30-36	3	3.30
37-43	25	27.80
44-50	27	30.00
51-57	24	26.70
Mean	44	
Minimum	23	
Maximum	57	
Years of working experience		
2-7	17	18.9
8-13	16	17.8
14-19	7	7.8
20-25	47	52.2
26-31	3	3.3
Mean	12	
Minimum	2	
Maximum	28	
Level of education		
Certificate	6	6.7
ND	18	20.00
HND	59	65.60
BSC	6	6.7
MSc	1	1.1
Delivery of nutrition information		
No	79	87.8
Yes	11	12.2
Gender		
Males	77	85.6
Females	13	14.4
Nutrition education training attendance		
No	81	90.00
Yes	9	10.00
Total	90	100

Source: Field survey (2022).

Overall competency level of extension workers in nutrition education

The overall competency level of extension workers in nutrition education is presented in Table 2. The results indicate that the extension workers in the study area have moderate competence on basic *nutrition knowledge, nutritional needs of different household members, "Hygiene and sanitation," Post-harvest handling and food safety* as well as *Gender and Nutrition*. This implies that the extension workers in the study area have the potential to

undertake nutrition education roles related to these categories but may not necessarily be efficient. However, the extension workers were found to have a high competency level in *"Farming systems that promote nutrition"* occupying only 14.29% of all the competency categories. This may be attributed to the fact that this category is already known to be part of the extension workers' conventional roles. Hence, the extension workers could efficiently deliver nutrition education roles related to all the specific competency items in this category.

As for the category of “*Planning and resources allocation for household food and nutrition security*,” the result depicts that the extension workers had a low competency level with an average mean score of ($\bar{X} = 2.04$) which occupies only 14.29% of all the competency categories. This implies that the agricultural extension workers had a

poor competency level without this category. Hence it suggests the need for capacity building in this specific area.

Generally, the findings disagree with that of Shimali *et al.* (2021) in Uganda where the authors reported that the extension workers had a high competency level in most of the category items.

Table 2. Overall competency level of the extension workers

Competency category	Mean	Rank	Remark
Basic nutrition knowledge	2.68	5 th	Average competency
Nutrition needs of different household members	2.58	6 th	Average competency
Hygiene and sanitation	3.20	3 rd	Average competency
Post-harvest handling and food safety	3.07	4 th	Average competency
Farming systems that promote nutrition	3.80	1 st	High competency
Planning and resources allocation for households food and nutrition security	2.04	7 th	Low competency
Gender and Nutrition	3.42	2 nd	Average competency
Overall Mean	3.12		

Source: Field survey (2022).

Areas of training needed by extension workers

The result in Table 4 below shows that extension agents ranked *Planning and resource allocation for households' food and nutrition security*” as the first important area where training is needed to enhance their competence in providing nutrition education to farmers. The second most important area where training is required is on identification of the nutritional *needs of different household members'* This is not unexpected because understanding the nutritional needs of different households is the key for improving the nutritional status of the farming households and of course an important factor that could determine the ability of the extension workers to undertake nutrition education training mandates. The third important area of training needed is the area of basic *nutrition knowledge*. This may be attributed to the fact that basic nutrition knowledge is the building block for any nutrition education activity as well as the extent to which the extension workers in the

study area wish to improve their basic nutrition skills for effective nutrition education service delivery. The finding is in line with the work of Shimali *et al.* (2021) in Uganda where it was found that basic nutrition knowledge was one of the most important areas of training needed by the extension workers. Another important area where training is required is the “*gender and nutrition*” category. This category of competency item is very important as it portrays the involvement of both genders in joint decision making concerning household nutrition. This is because traditionally women are in most cases neglected in decision making especially in rural areas. Thus, the extension workers considered this category as one of the most important. The fifth most important area of training needed is “*Post-harvest handling and food safety*.” The rank attained by this category, may be attributed to the need for minimizing nutrient loss during post-harvest food handling by the farmers. This is in line with the findings of Mangheni *et al.* (2016) in Uganda.

Table 3. Areas of training needs by extension workers

Competency category	Mean Importance (\bar{Y}_i^1)	Mean Competency (\bar{Y}_i^2)	MWDS	RANK
Basic nutrition knowledge	4.42	2.68	7.69	3 rd
Nutrition needs of different household members	4.41	2.58	8.07	2 nd
Hygiene and sanitation	3.44	3.20	0.83	8 th
Post-harvest handling and food safety	4.05	3.07	3.97	5 th
Farming systems that promote nutrition	4.05	3.80	1.01	7 th
Planning and resources allocation for household food security	4.16	2.04	8.82	1 st
Gender and Nutrition	4.35	3.42	4.05	4 th
Overall Mean		3.12		

Source: field survey (2022).

Conclusion

Based on the research findings, it is concluded that the extension workers in the study area have an average competency level in “*Basic nutrition knowledge*,” “*Nutrition needs of different household members*”, “*Hygiene and sanitation*”, “*Post-harvest handling and food safety*”, “*Gender and Nutrition*”. Furthermore, the extension workers have a high competency level in “*Attitude*” and in “*Farming systems that promote nutrition*”. As for “*Planning and resources allocation for household food and nutrition security*,” the extension workers had a low competency level and at the same time were the prioritized areas of training need. It was recommended that Nutrition education should be integrated into the curriculum of agricultural extension training institutions to produce extension personnel with a sound and basic background to undertake nutrition education roles effectively. Similarly, regular in-service training on nutrition education should be organized to build the capacity of the existing agricultural extension manpower, especially in areas that are identified with low competency level.

Conflict of Interest

The authors declare that there are no conflicts of interest regarding the publication of this manuscript.

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