



Integration Of Nutrition Education Into Agricultural Extension And Advisory Services In Nigeria: A Case Study Of Katsina State

Sani Ibrahim

**Department Of Agricultural Education,
Isa Kaita College of Education Dutsinma Katsina State, Nigeria
<http://orcid.org/0009-0003-8426-9567>
mhsaniky@gmail.com. 08065057395**

ABSTRACT

This study was carried out to investigate the possibility of integrating nutrition education into agricultural extension and advisory services in Katsina state with the view of mitigating malnutrition particularly among farming communities. Two stage sampling technique was employed to sample respondents for the study. The first stage involves purposive selection of seven local government area with the highest number of extension workers in the state. The second stage the use of proportionate sampling technique to determine the number of extension workers to be sampled out of each local government in which a total of 120 agricultural extension worker were sampled for the study as recommended by Rao soft sample size calculator. Primary data was collected using a structured questionnaire by trained enumerators. The data was be analyzed using descriptive statistics, knowledge scale and Nutrition Education Dissemination Capacity Index. The findings reveal that majority of the extension workers have little knowledge and experiences on nutrition education, but have greater potentials of undertaking such roles if adequately trained and supported, indicating a high possibility of integrating nutrition education into agricultural extension services in the study area. However, problems such as poor funding, poor accessibility, insecurity as well as lack of synergy between agricultural sector and nutrition sector were identified as the major challenges of integrating nutrition education into agricultural extension services in the study area.

INTRODUCTION

A multi-sectorial approach to carryout nutrition education is desirable given the complexity of the nutrition challenge and in particular the use of the agricultural sector. This is because the agricultural sector through extension services can train on nutrition messages which other sectors like that of health may not be able to deliver well (Shimali, 2018). Therefore, linking agricultural extension and advisory service (EAS) with participatory learning and action on nutrition and health has the potential to improve the sustainability and impact of food and agricultural programs on nutrition and household food security. Moreover, due to their established structure/network and their greater reach to the community of whom they often already have the trust, agricultural extension and advisory workers (EAW) are probably the best resource to help achieve nutrition security through nutrition education (Dia *et al.*, 2018). Hence, the rational for the integration of nutrition education into agricultural extension and advisory services lies in the opportunity to leverage the key strength of agricultural extension and advisory services which include;

an established infrastructure, reach, community trust, cultural awareness, as well as an understanding of how to mitigate the constraints faced by the farmers. Moreover, recognizing the importance of agriculture in reducing malnutrition and the unique position that extension agents occupy, has provided a solid theoretical basis for integrating nutrition into agricultural extension (Jessica *et al.*, 2013). Hence, there is a need to consciously adopt nutrition-sensitive extension approaches which provide nutrition-sensitive agriculture that involves the production and consumption of diverse and nutrient-dense foods (Manhenge *et al.*, 2017). Because consuming diverse and nutritious diets helps to prevent malnutrition and reduce risks of non-communicable diseases (WHO, 2018). Therefore, improving poor people's access to food and disseminating knowledge about different foods and the skills needed to grow, purchase, process and prepare these foods on a daily basis are essential components of a holistic strategy for preventing micronutrient deficiency and promoting good nutrition (Cellens, 2003). Thus, given the fact that the core responsibilities and training of AES are focused on food production and value chains, it is likely that they can contribute to nutrition of farming households and communities without becoming experts.

While there are many factors that affect poor people's ability to produce enough nutritious foods, it is beyond doubt that a functional agricultural extension system is as crucial for food security as are effective health services for disease prevention and treatment. Hence, integrating nutrition communication in agricultural intervention programs aimed at increased food availability and accessibility in resource-poor areas is crucial (Keding *et al.*, 2021). Although integrating nutrition into agricultural extension is one of the main objectives of Agricultural Sectors Food and Nutrition Strategy 2016-2025 no research was recorded in Nigeria on this subject matter. The main focus of this research therefore is to explore ways through which nutrition education can be integrated into agricultural extension and advisory services with the view of incorporating nutrition objectives into agricultural value chains thereby mitigating malnutrition among farming communities.

Problem Statement

Recognizing nutrition as a multi-sectorial issue that must be simultaneously addressed by multiple sectors, the agricultural sector is in particular has the potentials to play a very crucial role towards the attainment of the key national, regional and global nutrition objectives. To accomplish this, nutrition must be incorporated at all levels of the agricultural value chain, including farmers producing more nutritious food with the assistance of nutrition-sensitive agricultural extension and advisory service (EAS). (FMARD, 2017). Hence, linking agricultural extension and advisory service (EAS) with participation learning and action on nutrition and health has the potential to improve the sustainability and impact of food and agricultural programs on nutrition and household food security (Dia *et al.*, 2018). Agricultural extension and advisory workers (EAWs) are key transmitters of agricultural knowledge to farmers; hence, including nutrition in their mandate, and training them for it, could improve farm households' production, livelihoods and overall wellbeing. Thus, after years of neglect, there is now a renewed interest in agricultural extension and advisory services worldwide. This was echoed in the Second International Conference on Nutrition (ICN2) in 2014 and its Framework for Action which clearly insists on the importance of building nutrition skills and capacity to undertake nutrition education activities, particularly for front line social workers, agricultural extension personnel, teachers and health professionals. Experience also suggests that Agricultural extension can play a key role in promoting nutrition outcomes, enhancing the food and nutritional security of household members, and ensuring sustainable food systems that promote healthy diets. (Mustapha *et al.*, 2016).

Moreover, in Nigeria the AFSNS maximizes the potential of the agriculture sector to provide sustainable food security and nutrition by mainstreaming nutrition into agricultural policies, programs and value chains. This includes strategies for training and capacity building for federal state and local government agricultural extension personnel in nutrition education with the sole aim of increasing the knowledge of nutrition among the populace. Based on this observation, from 2010 to 2014, the FAO conducted need assessments of training in nutrition education in professional and academic contexts in twelve African countries. Findings of the assessment identified significant gaps in nutrition education particularly in

Benin, Botswana, Burundi, Cameroon, Egypt, Ghana, Niger and Nigeria. Interestingly, Nigeria is one of the countries recognized with a significant gap in nutrition education training among its agricultural extension personnel which form the bedrock for integrating nutrition in agricultural extension and advisory services. Moreover, many researches on integration of nutrition education into agricultural extension were recorded in literature by (Gurundu, 2012; Fanzo, 2015; Fanzo *et al.*, 2105; Vijayakhader, 2017; Dia, 2018; Shimali, F. *et al.* 2016). However, none of these researches or similar was conducted in Nigeria. Hence, this study intends investigate and identify the possible pathways through which nutrition education can be integrated into agricultural extension with the view of mitigating malnutrition particularly among farming households. It is therefore in the light of the above that the study proposes to answer the following research questions:

- 1) What is the knowledge level of extension workers in Nutrition education in the study area?
- 2) What are the potentialities of the extension workers in disseminating nutrition-based education to farmers in the area?
- 3) What are the possible challenges of integrating nutrition education into agricultural extension services in Katsina State?
- 4) What are the current efforts being made by government to mitigate malnutrition among rural farming communities in the area?

Objectives of the Study

The specific objectives of the study are to:

- 1) Determine the knowledge level of extension workers in Nutrition education in the study area
- 2) Determine the potentialities of the extension workers in disseminating nutrition-based education to farmers in the area
- 3) Identify the possible challenges of integrating nutrition education into agricultural extension services in Katsina state
- 4) Identify the current efforts being made by government to mitigate malnutrition among rural farming communities in the area.

LITERATURE REVIEW

The role of extension services in agriculture

Agricultural extension programs have been one of the main conduits of addressing rural poverty and food insecurity. This is because, it has the means to transfer technology, support rural adult learning, assist farmers in problem-solving and getting farmers actively involved in the agricultural knowledge and information system (Gebrehiwot, 2015). Extension is defined by FAO as; “systems that should facilitate the access of farmers, their organizations and other market actors to knowledge, information and technologies; facilitate their interaction with partners in research, education, agribusiness, and other relevant institutions; and assist them to develop their own technical, organizational and management skills and practices”. By this definition, an extension is deemed as a primary tool for making agriculture, its related activities as well as other economic activities more effective and efficient to meet the needs of the people. It is, therefore, regarded as a policy tool for promoting the safety and quality of agricultural products. Agricultural extension is aimed primarily at improving the knowledge of farmers for rural development; as such, it has been recognized as a critical component for technology transfer. Thus, agricultural extension is a major component to facilitate development since it plays a starring role in agricultural and rural development efforts (Bruce *et al.*, 2014).

Definition of Nutrition Education

Nutrition education is defined as “any combination of educational strategies, accompanied by environmental supports, designed to facilitate the voluntary adoption of food choices and other food- and nutrition-related behaviors conducive to health and well-being and helps people to make such choices (Contento, 2018). Although nutrition education has traditionally been based on knowledge transmission methodologies, information dissemination alone often has little effect in achieving lasting dietary change. In contrast, effective nutrition education is action-oriented, and needs to be carried out by people who are

suitably trained or who at least understand the process. “Professional training in nutrition education and communication” means learning where and how to “do” nutrition education (Contento, 2018).

Nutrition education puts a special emphasis on behavior change. The nutrition education training too should have an applied orientation, in other words, “learning to do”. Thus, it deals with methodologies and approaches in all forms of promoting healthy eating: behavior change, communication, health promotion, community counseling, social marketing, as well as formal nutrition education, which cover diverse settings (Wijesinha-Bettoni *et al.*, 2014)

Malnutrition

Malnutrition is an imbalance in dietary intake. It occurs when the body does not get enough nutrients or when a person has too much or little essential nutrients required for body growth and functions. In other words, it refers to the deficiencies or excess in nutrients intake or impaired nutrient utilization resulting in health problems (World Health Organization (WHO), 2022). The double burden of malnutrition consists of under-nutrition, over-weight, obesity as well as diet-related non-communicable diseases. In developing countries, poverty is the number one cause of malnutrition especially in rural areas. This is because most of the families in rural areas lack access to food containing essential nutrients required by the body and many do not have full-service grocery stores that regularly stock fresh nutritious dense food. Chronic malnutrition is becoming concentrated in countries with the fewest resources and has also become increasingly concentrated in conflict-affected countries (WHO, 2022).

The consequences of malnutrition are massive, pervasive, and often hidden. Malnutrition (in some form) is a cause of 45% of all deaths of children under five years of age, amounting to over three million deaths each year. It stunts growth, erodes child development, reduces the amount of schooling children attain, and increases the likelihood of poverty in adulthood (International Food Policy Research Institute (IFPRI), 2016). According to Agba, 2020, Nigeria is reported to have the second highest burden of stunted children in the world with an estimate of 2.5 million children under the age of 5 years suffering from severe acute malnutrition. Moreover, the share of population suffering from moderate to severe food insecurity increases from 35.6% to 57.7% between 2018 and 2020. In the same period, the share of undernourished population doubled, going from 7.1% to 14.6%. Malnutrition in all its forms imposes unacceptably high cost on the nation. It stretches the already thin economy and has serious economic consequences at the individual, household and community level (Akombi, 2021).

Empirical studies

Kuria (2014), analyzed a study on integrating nutrition in farmer field schools (FFLS) in Eastern Africa. The results revealed that learning about nutrition in FFLS was found to be closely linked to the food production component whereby members of the groups were encouraged to grow diversified and nutrient dense crops using good agricultural practices. This encouraged high yields, and it resulted in adequate food for the family and surplus sold to earn income for other household needs. The Participants were able to determine food sources for proteins, carbohydrates, vitamins, and minerals from their locality. The participants’ knowledge on a balanced diet and sources of vitamins and proteins from the fieldwork showed that farmers had little knowledge on the composition of a balanced diet.

Generally, the study found that the nutrition component was inadequately included in a structural manner within the schedule of FFLS. Group members felt that they had increased knowledge on the composition of a balanced diet but felt that this knowledge had been acquired in a provisional manner rather than being a planned part of their curriculum. Nutrition related topics tended to be addressed only when individual members/facilitators felt a need or desire to handle a special topic in nutrition, thus not mainstreamed in all groups. Neither nutrition-specific curricula nor nutrition-sensitive topics for FFLS were identified in the project and this made the inclusion of nutrition a challenge. The need for a curriculum with the desired number of nutrition sessions was expressed.

In the work of Gudrun *et al.*, (2021), the authors piloted the approach of ‘nutrition integrated agricultural extension in Western Kenya’ and tested nutrition-related outcomes with two types of nutrition messages (specific vs. sensitive) and two delivery channels (public sector vs. private sector). The study

interventions comprised (i) vegetable seed kit distribution, (ii) ongoing agricultural extension activities by public or private sectors and (iii) nutrition communication with two different messages. It was found that some nutrition knowledge gaps identified in the FGDs could have been addressed by general nutrition education for which material is already available. One major challenge found during FGDs was that available nutrition information mostly targets women's roles only. In fact, there is a lack of nutrition messages that are not explicitly targeted at women as is often the case, for example, messages on infant and young child feeding, complementary feeding and breastfeeding. While to the best of the authors' knowledge there are no explicit studies on nutrition education for men in East Africa, it is well known that male-headed households have in general higher dietary diversity and that men's dietary knowledge can have a positive effect on the dietary diversity of women, children and the whole household.

The result on the nutrition knowledge score (0–9) measured the overall nutrition knowledge gains. The knowledge scores of participants receiving different messages of interventions provided by the same delivery channels were compared. In the Public/NGO delivery channel, knowledge scores among the participants groups ranged from 4.1 to 4.7 before the intervention and significantly ($p < 0.01$) increased to 5.7–6.3 post-intervention. In the private delivery channel, the knowledge scores of the SK, SK þ M1 and SK þ M2 groups ranged from 4.1 to 4.8 before intervention and significantly ($p < 0.01$) increased to 5.7, 6.7 and 6.1, respectively, after the intervention. Nutrition communication was found to be especially important in conveying recommended food amounts and promoting increased vegetable consumption.

Another work was conducted by Wijesinha-Bettoni *et al.*, (2014), the authors analyzed the module on nutrition education and communication for Africa. The result on the meaning of nutrition education showed that on average, less than 20% of the samples chose learning to improve diets (answer b), while 45% of the respondents thought that nutrition education was learning about nutrition (answer a). In the present context, answer b would have been the most suitable answer, and answer 'a' the least suitable answer. Regarding the meaning of training in nutrition education, the majority of samples expect training in nutrition education to cover learning about how to enable people to improve their diet, although 14% of the respondents still think that the training would involve learning about nutrition, while 19% appear to think of nutrition education in terms of information, education, communication activities (IEC), as they selected learning about what to *tell* people about food and diet.

METHODOLOGY

Description of the study area

The study will be 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 (National Population Commission (NPC), 2017; Ibukun, 2019). The state is located in the North-western part of the country and lies in between latitudes 11° 03' and 13° 05' N and longitudes 07° 21' and 09° 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. It has two climate seasons; rainy and dry seasons with a mean average rain fall of about 400-1300mm. The climate favours maize, rice, cowpea, groundnut, millet and guinea corn. Major livestock in the state include cattle, sheep, goats and poultry (Saleh and Oyinbo, 2017).

Sampling Procedure

A two-stage sampling technique would be employed in the study. The first stage involves purposive selection of seven local government areas with higher number of Agric officers in Katsina State. These areas include Kankia, Daura, Funtua, Dutsinma, Dandume, Jibia and Malumfashi. While, the second stage is the application of proportionate sampling in order to allocate an appropriate sample size for the Agric officers in their respective Local Government Areas. Therefore, a Raosoft sample size calculator will be used, where 120 Agric officers will be recommended for the study. On the other hand, due to the limited number of extension agents in each Local Government Area of Katsina State, therefore all the extension workers (six) in the five sampled Local Government Areas would be used in this study. The following expression of the proportionate sampling was used.

$$n = \frac{G}{D} \times N$$

Where:

n = Sample size of agric officers selected per LG

G = Number of Agric officers in a LG

D = Total number of all agric officers in all LGs.

N= Recommended sample size for the study by Raosoft sample size calculator.

The proportionate distribution of the respondents is computed in the following table.

Table 1: Sample size distribution of the respondents

S/no	LGA	Population of Agric officers	Number selected
1	Kankia	25	14
2	Daura	35	20
3	Funtua	32	18
4	Dutsinma	30	17
5	Malumfashi	28	15
6	Dandume	31	17
7	Jibia	33	19
Total	5	214	120

Source: Reconnaissance survey, author's computation, and Katsina State Ministry of Agriculture, (2022).

Data collection

The study will use primary data which would be collected using a structured questionnaire by employing and training enumerators to collect information such as the socio-economic characteristics of the respondents, their knowledge on nutrition education, efforts of government in tackling malnutrition etc. Other secondary sources such as text books, internet, journals and previous dissertation or thesis would also be consulted. The data would be based on the stated objectives of the study.

Data analysis

The data to be collected would be analyzed using analytical tools such as descriptive statistics to achieve objectives (2), (3) and (4) knowledge scale to achieve objective (1), while Nutrition Education Dissemination Capacity Index (NEDCI) would be used to achieve objective (2).

Descriptive statistics

This simply involves the use of mean, frequency distribution and percentages to present the characteristics of the data to be collected. Hence, tables and figures would be employed for clear illustrations of the research findings.

Nutrition Education Dissemination Capacity Index (NEDCI)

Capacity index is a tool of analysis that measures the strength of a public or private organization in terms of resource personnel, structure, networking, infrastructures, technology, training, and human development which determine the accomplishment of certain tasks or the whole mandates of the organization (Kiran, 2017). Thus, the Nutrition Education Dissemination Capacity Index (NEDCI) measures the potentialities of extension workers to successfully disseminate nutrition-based education to rural farming communities. It is specified in the following formula.

$$NEDCI = \frac{\sum ECCI}{\sum NCCI} \times 100$$

Where:

$\sum ECCI$ = Number of existed core capacity items

$\sum NCCI$ = Number of non-existed core capacity items

0-39% = Weak potential

40-59% = Fair potential

60-100% = Strong potential

Nutrition Education knowledge scale

The scale for the level of knowledge of extension workers in nutrition education will consist of a 10-item scale. The maximum score obtainable will be 10 while 0 will be the minimum score obtainable. Any correct answer will be awarded a score of 1 and 0 if otherwise. The total for all correct answers will be the nutrition education knowledge score for each respondent. Bloom’s cut-off of 80% will be adopted to categorize nutrition education knowledge (Kaliyaperumal, 2004). This means that any respondents with correct answer 8 out of the 10 questions will be adjudged to have an adequate knowledge of nutrition education while those with scores less than the above threshold will be considered as having inadequate knowledge of nutrition education in the profession of agricultural extension and advisory services.

DATA PRESENTATION, DISCUSSION AND ANALYSIS

Table 1: Knowledge level of Extension workers on Nutrition Education

Basic nutrition education knowledge score	Frequency	Percentage	Remarks
0-7	90	75.00	Inadequate knowledge
8-10	30	25.00	Good Knowledge
Total	120	100.0	

Source: Field survey, (2024).

The Table 1 shows the knowledge level of on nutrition education based on the seven (7) nutrition education core competency items used by Shimali (2018). The results in the table shows that Majority of the respondents (75.8%) have an inadequate knowledge on the basic nutrition education, and only (24.2%) were discovered to have good knowledge on basic nutrition education which is in accordance with Bloom’s cut off of 80% threshold. This therefore implies that the extension workers must be adequately train on the basic nutrition education principles to enable them professionally handle nutrition education mandates.

Table 2: Potentialities of Agricultural Extension workers to disseminate nutrition education information to the farming households

Core capacity items	Mean	%	Remark
Ability to disseminate information to the farmers on basic nutrition knowledge	2.68	53.60%	Average capacity
Ability to educate farmers on the Nutrition needs of different household members	2.58	51.60%	Average capacity
Ability to train farmers on Hygiene and sanitation	2.20	44.00%	Average capacity
Ability to educate farmers on post-harvest handling and food safety	3.98	76.60%	High capacity
Ability to disseminate information to the farming household on Farming systems that promote nutrition	3.80	76.00%	High capacity
Ability to educate farmers on Planning and resources allocation for households’ food and nutrition security	1.89	37.80%	Low capacity
Ability to disseminate information on nutrition sensitive agriculture.	2.67	53.40%	Average capacity
Overall Mean/ percentage/ capacity level	2.97	56.41%	Average capacity

Source: Field survey, (2024)

The results in Table 2 above indicate that the extension workers in the study area have average capacity to disseminate nutrition education information to the farmers on basic nutrition knowledge category (2.68), Nutrition needs of different household members (2.58), “Hygiene and sanitation category (3.20). as well as” the ability to disseminate information on nutrition sensitive agriculture (2.67). This implies that the extension workers in the study area have the potentials to undertake nutrition education roles related to these categories but may not necessarily be efficient. However, the extension workers were found to have high capacity to disseminate nutrition messages to the farming communities on post-harvest handling and food safety (3.98), and on “Farming systems that promote nutrition (3.80). 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 capacity to disseminate information to the farmers with respect to all the items in this category. This implies that the agricultural extension workers had a very low potential to disseminate nutrition education information with regard to this category. Hence it suggests the need for capacity building in these specific areas.

Table 3: Possible Challenges of integrating nutrition education into agricultural Extension.

Perceived challenges	Agreed		Disagreed	
	Freq.	%	Freq	%
Poor funding is a serious problem that may deter the integration of nutrition education into from discharging their duties	120	100.00	00.	0.00
Ineffective nutrition education training and lack of awareness may affect the integration of nutrition education into agricultural extension portfolio.	120	100.00	00.	0.00
Lack of adequate man power may limit efforts to integrate nutrition education into agricultural extension services	120	100.00	00.	0.00
Capacity gap between knowledge and skill of the extension workers in nutrition education may hinder the integration plans	120	100.00	00	0.00
Poor accessibility may prevent the extension workers from reaching out to rural farmers for effective nutrition education service delivery	120	100.00	00	0.00
Lack of mobility may prevent the extension worker from undertaking nutrition education mandate	120	100.00	00	0.00
Insecurities may hinder extension workers from reaching out to farmers	120	100.00	00	0.00
Lack of synergy between agricultural sector and nutrition sector	120	100.00	00	0.00
Unclear organizational mandate may also affect also pose a serious problem in the course of integrating nutrition education into agricultural extension mandate	120	100.00	00	0.00

Source field survey 2024

The results in Table 3 depict the perceived challenges of integrating nutrition education into agriculture extension services in the study area. They are perceived challenges since nutrition education is yet to be integrated into agricultural extension services in Nigeria. The results shows that majority of the respondents agreed that “poor funding” could be a serious problem that may hinder the integrating nutrition education into agricultural extension services in the study area. This indicates that adequate funding will be required to successfully integrate nutrition education in to agricultural extension portfolio.

Similarly, 100% of the respondents perfectly agreed that “inadequate training” in nutrition education may affect the capacity of extension workers to deliver nutrition messages to farming households. This may be attributed to the fact that agricultural extension workers in many countries typically receive limited training and support on how to conduct appropriate nutrition education related roles. The finding corroborates the work of Dia et al, (2017) where it was unveiled that major challenges to integrating nutrition into EAS in many countries is centered on lack of training for agents. In the same vein, all the extension workers studied perceived that “Capacity gap between knowledge and skill of the extension workers in nutrition education may hinder the integration plans. Similarly, all the respondents are of the view that poor accessibility and lack of mobility may posed as serious challenges in integrating nutrition education in the study area. Likewise, majority of the extension workers in the study area perceived Systematic challenges and lack of synergy between agriculture and nutrition sector as a major challenge to effective nutrition education service delivery. This may be attributed to the current looping relationship between agricultural sector and nutrition sector. Hence, majority of the respondents (99.71%) agreed with the items in Table 3 as potential challenges of integrating nutrition education in to agricultural extension services in the study area. This suggests the need for establishing a good synergy between agricultural extension service and nutrition sector to ensure adequate food security.

Table 4: Current efforts Being Made by Government to Mitigate Malnutrition Among Rural Farming Communities in the Area.

Presume effort made by government to mitigate malnutrition	Agreed		Disagreed	
	Freq.	%	Freq	%
Ensuring food and nutrition security at national, community and household level	80	66.67	40	33.33
Increasing availability, accessibility and affordability of food	70	58.33	50	41.67
Improving food harvesting, processing and preservation	70	58.33	50	41.67
Improving food preparation and preservation	90	75.00	30	25.00
Improving food-security crises and nutrition in emergency	80	66.67	40	33.33
Strengthening nutrition education and training in the school curricula	100	83.33	20	16.67
Promoting school feeding program	110	91.67	10	8.33
Ensuring optimum nutrition in the first 1000 days of life	100	83.33	20	16.67
Reducing morbidity and mortality associated with malnutrition	110	91.67	10	8.33
Preventing micro- nutrient deficiency	90	75.00	30	25.00

Source field survey 2024

The results in the table above revealed that (91%) of the respondents are of the view that government is currently making effort to mitigate malnutrition by promoting school feeding program as well as reducing morbidity and mortality associated with malnutrition. Only (8.33%) had a contrary view. Similarly, (83.33%) perfectly agreed that government is currently making efforts towards strengthening nutrition education and training in the school curricula as well as ensuring optimum nutrition in the first 1000 days of life with the view of mitigating the burden of malnutrition especially among rural populace, while (16.67%) dis agree. This implies that majority of the respondents appreciate the efforts made by the government towards addressing malnutrition related issues in the study area.

Furthermore, (58.33%) of the respondents are of the opinion that government is making effort towards addressing the issues of malnutrition by Increasing availability, accessibility and affordability of food to the rural dwellers as well as improving food harvesting, processing and preservation while (41.67) dis agree. This suggests the need for government to double it effort in this aspect so as to bridge this identified gap. In same vein, (66.67) of the respondents agreed with the effort made by the government towards mitigating malnutrition by ensuring food and nutrition security at national, community and

household level. This implies that government is seriously making efforts toward addressing malnutrition and malnutrition related morbidity in the study area.

CONCLUSION

Base on the findings of this research it can be concluded that there is every opportunity for integrating of nutrition education into agricultural extension services in the study area which lies in the knowledge level, capacity and capability of extension of agricultural extension workers to undertake nutrition education mandates. However, factors such as poor funding, ineffective nutrition education training, poor accessibility, insecurity as well as lack of synergy between agricultural sector and nutrition sector were found to be the major challenges that may negatively affect the integration of nutrition education into agricultural extension services in the study area.

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