

Research Application Summary

Towards a new role of agricultural extension in nutrition education: Evidence from western Uganda

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Abstract

Extension and advisory services had their main role as training, communication and dissemination of technical information, improved technologies and practices. However, there is increasingly a realization that extension has to take on new roles suited to the evolving development and innovation system. Current national demands and goals define this. In many countries including Uganda, these are increasingly going beyond the traditional focus on food security and income to include improved nutrition and rural livelihoods, farmer empowerment, and sustainable natural resource management. The objective of the study was to determine the role of the extension workers in nutrition education. Data were collected from nutrition experts and extension workers and 82 farmers from Kihihi, Nyamirama, Rugyeyo and Kirima sub-county under two nutrition sensitive extension organizations; Africa 2000 Network (A2N) and Community Connector (CC) in Kanungu district in southwestern Uganda. Qualitative data were collected from eight focus group discussions (FGDs) with farmers. Two FGDs with extension workers and one with nutrition experts were conducted using a modified Delphi-technique. From the study, all respondent categories agreed that extension workers are key in carrying out nutrition education because they link farmers to other partners. Three themes were revealed on their role and they include; 1) the traditional role of training, communication, dissemination of information and technologies is still pertinent. However, the message and approach should change by embracing a nutrition focus; 2) the new role of promoting cultural and social transformation and, 3) promoting intra-household decision making that promotes household nutrition security. Therefore the central government, private partners, research organizations and Universities need to work hand in hand with the extension workers and give them all necessary support to develop their capacity so that they can effectively reach out to the farmers to build their capacity in nutrition matters.

Key words: Agricultural extension workers, nutrition education, roles, Uganda

Résumé

Les services de vulgarisation et consultatifs ont leur rôle principal comme la formation, la communication et la diffusion des informations techniques, et l'amélioration des technologies et des pratiques. Cependant, il est de plus en plus conscience que l'extension doit assumer de nouveaux rôles adaptés au système de développement et de l'innovation en constante évolution. Les exigences nationales actuelles et objectives définissent cela. Dans de nombreux pays, dont l'Ouganda, ceux-ci sont de plus en plus vus au-delà de l'approche traditionnelle de la sécurité alimentaire et le revenu d'inclure l'amélioration de la nutrition et les moyens de subsistance en milieu rural, l'autonomisation des agriculteurs, et la gestion durable des ressources naturelles. L'objectif de l'étude était de déterminer le rôle des agents de vulgarisation dans l'éducation nutritionnelle. Les données ont été recueillies auprès de spécialistes de la nutrition et des agents de vulgarisation et 82 agriculteurs des sous comtés de Kihihi, Nyamirama, Rugyeyo et Kirima, sous deux organisations de vulgarisation sensibles à la nutrition : le Réseau Afrique 2000 (A2N) et le Connecteur Communautaire (CC) dans le district de Kanungu, au sud-ouest de l'Ouganda. Les données qualitatives ont été recueillies à partir de huit de groupes focalisées sur des discussions (DGC) avec les agriculteurs. Deux groupes de discussion avec les agents de vulgarisation et une avec des experts en nutrition ont été menées en utilisant un programme modifiée de «Delphi-technique». A partir de cette étude, toutes les catégories de répondants ont convenu que les agents de vulgarisation sont essentiels dans la réalisation de l'éducation nutritionnelle parce qu'ils relient les agriculteurs à d'autres partenaires. Trois thèmes ont été révélés sur leur rôle et ils comprennent : 1) le rôle traditionnel de la formation, de la communication, de la diffusion de l'information et des technologies sont encore pertinents. Cependant, le message et l'approche devraient changer en adoptant un accent sur la nutrition; 2) le nouveau rôle de promotion de la transformation culturelle et sociale et, 3) la promotion de la prise de décisions au sein des ménages qui favorise la sécurité nutritionnelle des ménages. Par conséquent, le gouvernement central, les partenaires privés, les organismes de recherche et les universités doivent travailler la main dans la main avec les agents de vulgarisation et de leur donner tout le soutien nécessaire pour développer leurs capacités afin qu'ils puissent efficacement atteindre les agriculteurs à renforcer leurs capacités en matière de nutrition.

Mots clés: agents de vulgarisation agricole, l'éducation nutritionnelle, les rôles, Ouganda

Background

Given the changing context in which extension operates, the role of extension in the 21st century should include empowerment of clients, collaboration with other sectors and acting as a link between the farmers and research (Terblanch, 2005). The Global Forum for Rural Advisory Services (GFRAS) defines the extension workers and organizations as "The New Extensionist." This therefore means that Extension and Advisory Services (EAS) need to go beyond their traditional role of training, communication and dissemination of technical information, improved technologies and practices so as to effect innovation. It is now therefore the current context in which extension operates that is to say the other actors in the AIS and their roles and functions that define the EAS' new role (Davis, 2012). That is why the role

of public sector extension varies from nation to nation given the current national agricultural development goals of that nation. In many countries including Uganda, their roles are increasingly going beyond the traditional focus on food security and income to include improved nutrition and rural livelihoods, farmer empowerment, and sustainable natural resource management (FAO, 2001).

Nonetheless, the agricultural extension workers' roles still remain multiple especially in developing countries though traditionally its role has been information dissemination on agriculture to the farmers. In addition to information dissemination to farmers, writing of reports, setting demonstrations, and reporting of the farmers' problems are the most perceived roles of extension agents. The other roles include home economics teaching, conducting farmer meetings, supervising government projects, and community project organization, planning programs and working calendar though these were the least perceived roles (Ajieh, 2002). For effective performance of extension workers therefore, role perception is a very important element (Ajieh, 2002). The aim of this study was to determine the perceptions of farmers, agricultural extension workers and nutrition experts on the role of agricultural extension workers to carry out nutrition education

Literature summary

A multi-sectoral approach to carry out 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 (Herforth *et al.*, 2012). Accordingly, of recent there has been a shift in the role of extension from being planners for the beneficiaries to planning with them with the changing context (Zwane *et al.*, 2015). It is therefore Key for the extension workers to apply multi disciplinary approaches so as to be able to connect with the different partners to address the diverse needs of their clients (Dillard, 2014).

Study description

The study was conducted in Kanungu district which is in south western region of Uganda. It is located at latitude 00°53'24.93 S and longitudes 29°46'23.323 E. It is in one of the regions that were mentioned to have high prevalence of malnutrition incidences (UBOS, 2012). For this study a total of 98 respondents participated in the focus group discussions (FGDs) with 82 farmers from Kihhihi, Nyamirama, Rugyeyo and Kirima sub-counties and extension workers under two nutrition sensitive organizations A2N and CC and nutrition experts. Eight in depth FGDs were conducted with the farmers to get qualitative data and a deeper understanding on what should be the roles of extension workers in nutrition education.

For the nutrition experts and extension workers, data were collected using a modified Delphi technique within the focus group discussion context. Each participant during the focus group discussions was given a card and asked to write down his/her perception regarding what the role of agricultural extension workers should be in nutrition education. All the cards were

then pinned on a chart on the wall. After reading through the cards together, the researcher asked whether there were more points to be included on the list. After all responses from the participants, each point was read out and discussed. Through consensus, related points were merged to avoid overlap while those that were not applicable were left out.

Research application

From all the stakeholder categories, it was revealed that agricultural extension workers have an important stake in nutrition education under the multi-sectoral approach. The focus groups further revealed satisfactorily from the respondents that the agricultural extension workers were already on ground reaching out to farmers more than any other actor in the sector. As noted by a respondent who participated in one of the extension workers' focus group: *"....This is because extension workers are the ones who interface with the farmers. They also reach areas where other professional cannot reach such as the doctors and nurses...."*

Roles of agricultural extension workers in nutrition education

On the roles of extension workers in nutrition education three roles were printed out, namely

- 1) The traditional role of extension training, communication, dissemination of information and technologies is still pertinent. However, the message and approach should change by embracing a nutrition focus;
- 2) The new role of promoting cultural and social transformation; and
3. Promoting intra-household decision making that promotes household nutrition security

From the three key roles a number of other roles emerged as sub-themes with some being common to all FGD categories (farmers, extension workers and nutrition experts), some to only two of the categories and some to only one category as seen in the explanations below.

Theme 1: The traditional role of extension training, communication, dissemination of information and technologies is still pertinent. However, the message and approach should change by embracing a nutrition focus.

Training farmers on post-harvest handling. All FGD categories indicated that extensionists should teach the farmers how to store cereals for a long period of time. It was further revealed from FGDs that extension workers should teach farmers how to make granaries and ensure that beans are not left on the floor so they can take a short time to cook and; they also need to teach farmers on proper storage practices for the crops like drying the crops from off the ground so the quality is good and the income obtained is higher to buy more household requirements and food for the family.

Training farmers on hygiene and sanitation. Most FGDs, extension workers and experts indicated that they should train farmers on home hygiene and sanitation. They need to train on raising of plate stands, and constructing rubbish pits and pit latrines in homes. Emphasis

was put on hand washing before and after eating food; after visiting toilets; and before preparing and serving food to ensure health of household members. A nutrition expert said this helps in prevention of diseases affecting the population.

Distribution of nutritious food crops, animal breeds and other inputs. The FGDs with farmers revealed that extension workers should train farmers on the importance of nutritious foods in the body and as a result promote and distribute these crops. However these crops should be adoptable to the soils, weather, be easy to intercrop given the land shortage challenge and fit in the cultural context of the communities. They should also have high yields, be resistant to pests, diseases and drought. According to the extension workers and nutrition experts, the new technologies need to be demonstrated to the farmers to ease their learning. The extension workers' FGDs revealed that they should distribute nutritious food crops like high iron beans and orange flesh sweet potato vines to farmers to supply vitamins A and iron especially in young children under five years and pregnant women.

Training farmers on food preparation. Both farmer and extension worker FGDs revealed that the extensionists should train farmers on how to prepare the newly introduced nutritious food crops. The farmers from most FGDs said that different foods require different preparation procedures. For example OFSP should be prepared differently hence, requires special trainings.

Training and promoting of food processing. Extension workers and farmers FGDs indicated the need for training on value addition and processing for the markets. Examples given included, making of crisps, chips and flour for the orange flesh sweet potatoes and bananas during seasons of abundance; training on making guava jam, tomato sauce and making juice for the different fruits grown to avoid waste during the harvest seasons. This was seen as a role for extension workers.

Dissemination of information on healthy eating and signs of malnutrition. The extensionists and farmer FGDs also indicated that the extension workers should train farmers on nutrition matters. The FGD categories further revealed that extension workers should recommend foods for pregnant women and children. One farmer FGD reported that farmers knew how a malnourished child looked like but had no idea on what signs are in a malnourished adult. The extension workers agreed that training on a balanced diet, symptoms of malnutrition in children, caused malnutrition and dangers to one's health should be provided by extension workers and health community agents.

Training farmers on crop pests and diseases and agro-chemical use. The farmer and extension worker FGDs indicated that extension workers should Train farmer on Agro-chemical use and agronomic practices like fertilizer and herbicide use to allow for better crop growth and lessen need for weeding; pesticide and fungicides for health plant growth; and improved agronomic practices like row planting for millet; and pest identification. for nutritious crops like paw paws and egg plants. Related to this the farmers said that they need to teach farmers pest and disease control using less money or no money at all.

Monitoring and evaluation. The need for monitoring and evaluation was seen as a key role for extension workers, which was termed as follow up on behavioral change on nutrition related matters.

Theme 2: The new role of promoting cultural and social transformation

Promotion of enterprise diversification amongst farmers. On this issue the nutrition experts FGD indicated that the extension workers needed to educate farmers on proper enterprise mix that aim at food and nutrition security. The farmers required to be trained or they should teach about marketable crops like onions and apples; layer and broiler chicken farming; and improved cattle breeds, mushrooms and bananas so that the income generated from them could be used to buy nutritious food crops in the homes.

Teaching farmers about saving with a purpose. According to the farmers, they needed extension workers to teach farmers about the importance of farming for economic reasons. The farmers expressed the need to explain to them how income can be raised from rearing of cows. The extension workers added that, their role should be to train farmers on saving money with a purpose so that they can invest in enterprises that can ensure continual supply of food to household members for example businesses.

Networking and linking farmers. Another sub-theme from the study was on networking and linking farmers to other partners. Here there was agreement on the findings from extension workers and farmer FGDs on the point of linking farmers to markets of OFSP. The extension workers added however that, extension workers should organize farmers into groups so as to easily link them to these markets of nutritious food crops (e.g. OFSP). The extension worker and expert focus group discussions revealed that the role of extension workers' role should include advocating and lobbying for support to farmers from different actors like health to train farmers on diseases associated with malnutrition. The experts further agreed that extension workers should consult and work hand in hand with the health sector and research to address needs of farmers that require other stakeholders. However, the farmer category showed a concern to connect them to genuine inputs sellers for good seeds of all crops; herbicides; pesticides and; fungicides.

Promote behavioral change. The other need raised was promotion of behavioral change concerning eating of certain foods prohibited by culture. It was revealed from different farmer FGDs and one for the extension workers that production of household food is left for the women in the community while the men spent most of their time and money in bars which affected nutrition of household members and the community at large and intervention need to address such issues.

Theme 3: Promoting intra-household decision making that promotes household nutrition security

Counseling farmers. From all the respondent categories, counseling of farmers on sharing of roles in homes was an important matter. This was particularly raised by the female

farmers. It was revealed by the different farmer FGDs that production of household food was largely left to the women in the community while the men spent most of their time and money in bars which affected food production and nutrition of household members and the community at large. The female farmers reported that their husbands were even selling the nutritious food crops to and animal products like eggs and milk to buy alcohol for themselves leaving their households malnourished. A female farmer said this: *“They should teach men in communities about leaving bad behaviors of selling of eggs for and other nutritious foods for alcohol “waragi.”* “

Implications of the findings and conclusion

From the findings, an extension worker has roles beyond the traditional role of training, communication and dissemination of information and technologies. Therefore, for an extension worker to be effective in nutrition education service delivery, he/ she should have basic knowledge on sociology and community development; gender roles, inequalities; and current farmers' needs and preferences in terms of nutritious foods before promoting and distributing them to the farmers. They should also be able to link farmers to health sectors and markets.

Therefore building of capacity of extension workers can help in making them more effective in performing their roles in nutrition education. This would in the end lead to improvement in the nutrition status of the farmers. Availing refresher courses for old staff and incorporation of nutrition related subjects in the curriculum of higher institutions of learning; input from farmers, research, private sectors and other relevant stake holders would enrich content and delivery of the needed skill enhancement. Further, those aimed at promoting nutrition education should fit within the local context in which implementation is to be done. Culture, the type of soils, size of farming land, tastes and preferences of the clients are key issues in promotion of nutritious food crops.

Development partners, and other organizations need to consider the challenges farmers face, like soil infertility, crop pests and diseases, animal diseases, and inadequate land before they recommend crops to be grown in such areas. Developing of the curriculum for training extension workers should now incorporate the ideas of farmers and other relevant stake holders like nutrition experts so as to build the capacity to address the nutrition needs in communities. Therefore, there is need for extension units to collaborate with education and health sectors to develop curricula and identify roles that are in line with their profession (Ubel, 2010).

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