

ADULT EXTENSION PRACTITIONERS' CONTRIBUTION TO COMMUNITY FOOD SYSTEMS IN BOTSWANA



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Introduction

This article focuses on a *Special Diploma Programme in Agricultural Extension* which ran from 2014 until 2022 at the Botswana University of Agriculture and Natural Resources (BUAN).

The programme, for adult extension practitioners (AEPs), sought to address issues of food insecurity in Botswana, among others. The programme ended because the Ministry of Agriculture, which had requested it, could no longer sponsor their staff. This article starts by briefly looking at food insecurity, then at the special diploma programme and how it sought to address this very important issue.

What is food insecurity?

The results of a study by Statistics Botswana (2023) indicate that '53.29% of the population was affected by moderate or severe food insecurity in 2021/22, out of which 27.13% were affected by moderate food insecurity and 26.16% were affected by severe food insecurity. This translates to about 46.71% of the population being food secure to mildly food insecure'¹.

Several factors contribute to food insecurity, including a lack of access to or limited access to food because of the absence of low or irregular income; migration from rural to urban areas; and low food production caused by unreliable rainfall, prolonged drought and/or high temperatures due to climate change. Other factors include inadequate technology and infrastructure availability for food production, and pests and diseases.

Despite the government of Botswana providing subsidies and international organisations providing support for the farming system to address food

insecurity, poverty and malnutrition still exist. This problem is not unique to Botswana, and studies have shown that food insecurity is a global concern, especially after the COVID-19 pandemic (Buheji et al., 2020).

Botswana is among the 193 United Nations member countries that endorsed the 2030 Agenda for Sustainable Development. The second of the 17 Sustainable Development Goals (SDGs) aims to end hunger, achieve food security, and improve nutrition while promoting sustainable agriculture. The Botswana government has developed several strategies to address this. Asefa (1991) refers to the National Food Strategy with its long-term goal of increasing food security through improved agricultural production and a diversified rural economy, and a short-term goal of providing food security to the country's most vulnerable people.

The Role of AEPs

The link between adult education and agricultural development has always been strong and continues to be so. The principles of adult learning, such as self-directedness, the learner's need to know, and readiness to learn are traits that are commonly found among agricultural groups. Furthermore, farmers, like other adult learners, choose when and if they would like to attend trainings. The learning must be relevant and useful to their everyday lives and livelihoods.

In Botswana, the contribution made by AEPs to developing community food systems and, therefore, to the attainment of food security is critical. AEPs serve as frontline professionals acting as a support to communities through creating awareness; disseminating knowledge based on research; demonstrating skills, such as control measures for

pests affecting crops, among others. They offer practical assistance and psychological, emotional, and cognitive support. Indraningsih et al. (2023) and Post (2011) state that AEPs as educators provide much-needed awareness and education to stakeholders in food systems, such as technical guidance; management, etc. A number of scholars (Abdu, 2016; Brenya & Zhu, 2023) argue that AEPs play a pivotal role in helping farmers increase agricultural production and, therefore, contribute to the attainment of food security.

BUAN and the Special Diploma Programme

In order to contribute to a strategy to strengthen food security in the country, in 2014 BUAN came to an agreement with the Ministry of Agriculture to develop a two-year diploma programme for upgrading extension officers from a certificate to a diploma level. This special agricultural extension programme, housed within the Department of Agricultural Education, Extension and Rural Development, started in the academic year 2014/15. It was designed to empower AEPs to help to address farmers' challenges related to food security.



Kgalapitse farmers gathered for a demonstration conducted by BUAN AEPs

Each course in the programme offered different competencies as shown in Table 1 below.

Table 1: AEP competencies

- Empowerment education for discussions and problem solving.
- Leadership skills for self-knowledge.
- Develop place-informed education.
- Strengths-based learning based on questioning and appreciating colleagues and community experiences.
- Communication (publicising farm activities, person-to-person writing, class reports).
- Problem solving and decision-making.
- Computer-based skills through information research.
- Teamwork through cooperation and collaboration with village leaders, Dikgosi (Chiefs), agriculture demonstrators, local companies and food supply chain stores.
- Experiential learning.
- Self-directedness.
- Community development knowledge.
- Ability to form partnerships through participatory learning.
- Farmer-to-farmer learning: sharing ideas and experience.
- Needs assessments.

Source: Compiled from Diploma in Extension Education (DEE) courses (2014) and former students (based on Pamphilon, 2017)

The programme allowed farming communities within a 30km radius of BUAN to work with BUAN/AEPs in building community food systems to help address food insecurity and improve livelihoods. For example, a course called *Extension Projects* was offered on a practicum basis to assist in building capacity for the local farming community and to expose AEPs to real life community food systems' experiences.

Former students interviewed for this article revealed that AEPs used practical methods such as 'farmer profiling surveys' to identify challenges affecting agricultural production systems. One student indicated that a course called *Development Communications* prepared them for community profiling and participation in development organisations, while *Computer Studies* introduced them to the use of computers to access data and information for extension purposes.

On reflection, students reported that the active engagement promoted cooperative and teamwork strategies. A course called *Principles of Extension and Comparative Extension Education* dealt with extension methods, approaches, and their applications via the linking of extension stakeholders to partnerships and collaboration.

The diploma programme promoted links between the farming community and the university course developers and instructors. AEPs can transfer knowledge from the classroom to 'real' life and identify and solve problems faced by farmers and the community in a participatory way (e.g. crop pest infestation affecting food production).

Through this diploma programme, AEPs contributed to community development by using participatory extension approaches appropriate to agricultural development. There is also an opportunity for the dissemination of research findings to more farmers in the future.

AEPs in action

The class of 2021/22 conducted surveys to identify challenges faced by farmers in Matebeleng, Dikgonnye and Malotwane villages. One of the problems identified was the inaccessibility to funding for production and marketing. This was found to be due to inadequate information dissemination – a failure to sufficiently equip the farmers with information about potential funding institutions and viable marketing strategies. In response to this, the BUAN programme AEPs conducted

a one-day workshop entitled *Linking Farmers to the Market for Horticulture*. It was attended by prospective local funding organisations, markets and supermarkets such as Spar, Sefalana Hyper and Choppies, and the Ministry of Education and Skills Development.

Another example of the important work that AEPs do was the farm field demonstration conducted by the class of 2022/23 at Kgalapitse village in the Oodi village extension area. This was carried out in partnership with stakeholders, such as Bosa Bosele Training Institute, Agri-Chem Distributing Company and the District Agriculture Extension Office of the Ministry of Agricultural Development and Food Security. This activity demonstrated skills linked to the control of anthills in crop fields under the theme *Twants'ho diji mo dijalong* ('pest control in field crops'). The AEPs demonstrated the process of destroying anthills, and the positive results of this for agricultural production. Through this field demonstration, farmers learned how to control ant colonies in crop fields. They learned that the most important thing when destroying anthills from a crop field is to destroy the queen far below the anthill. The demonstration showed that this is an easily achievable and affordable strategy.



Field demonstration by BUAN AEPs at Kgalapitse village, near Oodi



Identification of colony of insect pests dug from anthill at Kgalapitse crop fields

Conclusion

Faced with the challenge of food insecurity in Botswana, this special diploma programme allowed AEPs a much-needed opportunity to acquire relevant knowledge and skills to assist farmers and community members in addressing challenges to food systems. This was done with a particular focus on helping to attain food security. The learning was reciprocal in that the AEPs and BUAN also learned from the farmers and community members. This is adult education in action – adults learning and doing and, most importantly, making a positive contribution to mitigate a pressing socio-economic issue.

References

- Abdu, I. (2016). Roles of Agriculture Extension to Achieve Food Security and Improve Rural Livelihood. *Proceedings of ISER International Conference*, Abu Dhabi, UAE, 07th March 2016, ISBN: 978-93-85973-62-8.
- Asefa, S. (1991). Enhancing Food Access in Africa: The Botswana Experience. *Studies in Comparative International Development*, 26, 59-83. Retrieved from <https://doi.org/10.1007/BF02687175>
- Brenya, R., & Zhu, J. (2023). Agricultural Extension and Food Security – The Case of Uganda. *Global Food Security*, 36. Retrieved from <https://doi.org/10.1016/j.gfs.2023.100678>

- Buheji, M., da Costa Cunha, K., Beka, G., Mavrić, B., Leandro do Carmo de Souza, Y., Souza da Costa Silva, S., Hanañ, M., & Chetia Yein, T. (2020). The Extent of COVID-19 Pandemic Socio-Economic Impact on Global Poverty. *A Global Integrative Multidisciplinary Review. American Journal of Economics*, 10(4), 213-224. Retrieved from <https://doi:10.5923/j.economics.20201004.02>
- Indraningsih, K.S., Ashari, A., Syahyuti, S., Anugrah, I.S., Suharyono, S., Saptana, S., Iswariyadi, A., Agustian, A., Purwantini, T.B., Ariani, M. & Mardiharini, M. (2023). Factors Influencing the Role and Performance of Independent Agricultural Extension Workers in Supporting Agricultural Extension. *Open Agriculture*, 8(1). Retrieved from <https://doi.org/10.1515/opag-2022-0164>
- Pamphilon B. (2017). *The Farmer-to-Farmer Adult Learning Manual: A Process and Resources for the Development of Farmers as Peer Educators*. Canberra: Australian Centre for International Agricultural Research.
- Post, A. (2011). *Nordic Stakeholders and Sustainable Catering*. Gothenburg Studies in Educational Sciences 303. Göteborg: ACTA Universitatis Gothoburgensis.
- Statistics Botswana. (2023). *Prevalence of Food Insecurity in Botswana 2021/22*. Statistics Botswana. Retrieved from <https://statsbots.org.bw/sites/default/files/publications/PREVELANCE%20OF%20FOOD%20INSECURITY%20IN%20BOTSWANA%202021-22.pdf>
- United Nations. (2023). *The Sustainable Development Goals Report 2023: Special Edition*. United Nations. Retrieved from <https://unstats.un.org/sdgs/report/2023/The-Sustainable-Development-Goals-Report-2023.pdf>

Endnotes

- 1 Moderate or severe food insecurity occurs when a person or household has limited or uncertain access to sufficient and healthy food because of financial limitations or other constraints. As a result of this, people may have to compromise on the quality and quantity of their diets, but they do not necessarily suffer from extreme hunger or starvation (Statistics Botswana, 2023).