SEED SOVEREIGNTY'S ROLE IN ACHIEVING FOOD SECURITY: LIMPHASA RICE IRRIGATION SCHEME, MALAWI

Sangwani Tembo holds a Master's degree in Environmental Studies and a Bachelor's degree in Social Sciences in Cultural Anthropology from the Catholic University of Malawi. He also holds a certificate of participation in adult education and development. Sangwani is a lecturer in the Anthropology Department at the Catholic University of Malawi and is currently pursuing a PhD on Humanities in Anthropology at Rhodes University (South Africa). His research focus is Indigenous Knowledge Systems.

Ellen Kapeleta is a Social Anthropologist with seven years technical experience in the field of development, specifically in the environment sector. She works at the Centre for Environmental Policy and Advocacy in Blantyre, Malawi. As a Programmes Officer, her work mainly focuses on policy and institutional frameworks around biodiversity. Ellen holds a Master's degree in Environmental Studies and a Bachelor's degree in Social Science Anthropology from the Catholic University of Malawi. Her specialities include project management, policy review and analysis, partnership building, stakeholder engagement and knowledge management.

Introduction

This article interrogates the role of seed sovereignty in achieving food security. Using the Limphasa Rice Irrigation Scheme as an example, the article looks at factors that influence the use of local seed varieties instead of hybrid seeds that are advocated by the Malawi government through the Ministry of Agriculture. We look at indigenous knowledge systems (IKS) and argue that the abandonment of indigenous knowledge of local seed varieties is one of the causes of food insecurity. We argue for adult learning and education (ALE) among smallholder farmers on the topics of ownership, conservation, preservation and storage of local seed varieties. We concur with Phiri (2023) that 'adult education is a core component of life-long learning, which takes place from the cradle to the grave'.

Context

The government of Malawi, as in most African countries, encourages farmers, including those cultivating rice, to adopt high yielding varieties of seed through the Seed Act of 2022. This act does not recognise local seed varieties as approved seed. The dominance of commercial seed companies in Malawi has led to the erosion of farmers' rights to use local seeds. Seed patents and intellectual property rights have restricted the free exchange and saving of seeds, thereby hindering farmers' ability to access and preserve their local seed varieties. There is no protection for farmers' seed systems (and for their associated knowledge systems) leading to neglect and/or demise, or acquisition by commercial systems without benefits for the farmers (Wynberg, van Niekerk, Williams and Mkhaliphi, 2012). Many communities have lost their seed diversity and become dependent on

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commercial seeds, which do not always perform well in local environments (Mloza-Banda, Kaudzu and Benesi, 2010). The reliance on commercial seeds has posed challenges to food security due to their limited adaptability and genetic uniformity (Machena and Banda, 2002).

However, within this context, studies (Das and Das, 2014; Irangani and Shiratake, 2013) indicate that there are farmers who follow indigenous farming systems and use particular strategies to select seeds, maintain seed stock and anticipate climate change. One such example is the Limphasa Rice Irrigation Scheme. It is located in the Mkondezi area of the Traditional Authority Mkumbira in the Nkhata Bay District (Northern Region of Malawi). Some of the findings from a study undertaken there are discussed below.

Findings from the Limphasa Rice Irrigation Scheme

The research revealed that farmers prefer to plant local rice varieties like Nyanyondo and Langimbiri, introduced by farmers from Chitipa District[1] and distributed through a farmers' network. The reasons for this include that the varieties are aromatic, have a medium grain size, grow well during both winter and summer and mature early. These factors are not found in the genetically modified seeds provided by agricultural extension workers. The study indicated that being drought-resistant is one of the key factors influencing the adoption of local rice seed varieties. Farmers create plots and use traditional water management techniques to conserve water. When the plots have more water than is required for the growth of the seed, farmers drain it off. They also use indigenous knowledge in their approach to storage and to determine which grains are healthy.

The importance of local seed varieties and IKS

Farmers have been the primary custodians of seed varieties for millennia, preserving and exchanging them through traditional practices. These practices are crucial for maintaining the diversity of local seed varieties. When farmers have control over their seeds, they can use them according to local conditions and share them freely within their communities conserving valuable genetic resources. This farmer-led seed preservation and control not only ensures food security but also empowers communities to be more self-reliant (Wynberg et al., 2012).

As noted by different scholars, there are examples of farmers in countries such as India, Sri Lanka and the Philippines who prefer their own seeds rather than those supplied by private companies. Some farmers create informal networks and visit each other's fields before harvest (Irangani and Shiratake, 2013; Nicolas and Cabarogias 2015). They judge the quality of the seeds by observation. If they are satisfied, they can enter into an agreement to exchange seeds with each other (Singh, 2007).

In addition to the importance of local seeds to food security and agriculture (e.g. fodder quality and yield), the right to save, use, exchange and sell farm-saved seed is an extremely important economic issue for the welfare and livelihood of small-scale farmers (Pungulani, Kadyampakeni, Nsapato and Kachapila, 2012). Being able to save money is an important benefit for farmers who can then use any money saved to improve their livelihoods as opposed to spending it on commercial seeds.

The use of local seeds also provides a strong social and cultural bond among farmers and between communities. By sharing and exchanging seeds, farmers have been able to define and strengthen kinship, friendship and solidarity. Farmers' seed systems are an integral part of local traditions and culture, and are embedded in farmers' identity and customs.

Towards a cooperative model for seed sovereignty: The role of ALE

Achieving food security is a complex challenge that demands innovative approaches and collaborative efforts. Empowering farmers with control over local seed varieties through ALE is a potent strategy to enhance food security, agricultural resilience and community self-reliance. The Limphasa Rice Irrigation Scheme study suggests the need to draw on IKS methodologies to better understand the broader political position regarding the use of local seed varieties versus corporate invasion, and also in finding ways to protect and support rice farmers. Adult education has a vital role to play in this. In regard to training, a model of seed preservation through cooperatives, that aim to protect local seed varieties while strengthening food security within communities, could be devised. This model would involve the formation of cooperatives where members share experiences about seed preservation, storage, sustainable farming practices and the value of IKS. These cooperatives would serve as hubs for activities such as seed collection, storage, sharing and advocacy, with the overall aim of fostering a sustainable approach to seed sovereignty and agricultural resilience. Adult education has a central role to play within such a cooperative model – some examples being the organising of workshops, field visits, interactive sessions and seed-sharing events to actively engage community members.

ALE provides an opportunity for different stakeholders such as policy makers, agricultural practitioners and academia to learn from indigenous farming techniques, including the choice of local seeds by smallholder farmers. Smallholder farmers can also learn from others in a reciprocal relationship. This is in line with Sustainable Development Goal 2, which argues that '[t]raditional knowledge related to the preservation of existing genetic resources, including the genetic diversity of seeds, should be recognized and maintained, and the fair sharing of the relevant benefits should be promoted' (United Cities and Local Governments, 2018).

Conclusion

By valuing and preserving IKS and its practices, we can build a sustainable agricultural system to nourish the present and future generations of Malawi. Encouraging farmers through adult education programmes, workshops and training about the importance of retaining indigenous knowledge of seed ownership, conservation, preservation and storage of local seed varieties will help achieve seed sovereignty and, ultimately, food security.

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Endnotes

1 Chitipa is a district in the North of Malawi bordering Tanzania and Zambia.