



INITIATIVE ON  
Diversification in East  
and Southern Africa

## Enhancing Knowledge Management and Learning for Agricultural Resilience in East and Southern Africa



Hannock Kumwenda, Ngowenani Nohayi, Winnie Kasoma-Pele,  
Bridget Kakuwa and Moses Odeke

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## Key Messages

- ▶ Knowledge management (KM) in Eastern and Southern Africa faces significant challenges that hinder its ability to drive meaningful agricultural productivity. Key barriers include a **weak appreciation of KM at high management levels within agriculture institutions, inadequate and unsustainable resource mobilization, persistent connectivity issues between knowledge providers and rural users, and fragmented coordination between national agricultural research organizations and regional bodies.**
- ▶ These challenges impede efforts to accelerate innovation and the adoption of best agricultural technologies and practices by end-users, particularly farmers in remote areas.
- ▶ Raising awareness among high-level stakeholders about the critical role of KM, coupled with increased resource allocation, improved connectivity, and enhanced coordination between national and regional research entities, can transform agricultural productivity. This transformation would have a positive ripple effect on the broader economy of the region.
- ▶ Strategic investment in KM at the national level offers immense potential to catalyze agricultural growth and economic development. Policymakers and decision-makers must urgently prioritize KM by recognizing and championing its role in driving sustainable agricultural advancements.
- ▶ Unlocking KM's full potential **requires fostering collaboration and sharing best practices between regional and national research bodies.** This includes **appointing high-level, formal KM champions within these organizations, ensuring accountability for KM outcomes, and securing sustained, long-term funding.** Additionally, **technical support and robust monitoring and evaluation mechanisms** are essential to track progress, drive improvements, and demonstrate the impact of KM on agricultural innovation and productivity.

## 1. Introduction

Agricultural Knowledge Management (KM) is a systematic process for creating, organizing, storing, sharing, and leveraging knowledge across institutions and stakeholders in the agricultural sector (Gupta et al., 2000; Durst et al., 2024). In the context of Eastern and Southern Africa, KM is essential for enhancing decision-making, fostering innovation, and driving agricultural productivity and diversification, particularly in maize-based farming systems. By ensuring the flow of actionable information, KM empowers rural farmers to adopt sustainable practices, adapt to climate challenges, and improve their livelihoods. It also unites diverse stakeholders, researchers, policymakers, extension officers, and last-mile users, into cohesive networks that facilitate collaboration and practical solutions.

The true value of KM lies in its ability to foster resilience and sustainability. By promoting informed practices, optimizing resource use, and enabling adaptive capacities, KM equips the agricultural sector to navigate dynamic challenges (Branca et al., 2022). Effective KM frameworks bridge the gap between scientific research and real-world applications, linking key actors, such as researchers, policymakers, NGOs, private sector players, and farming communities into integrated systems that drive transformation.

This policy brief highlights the status of agricultural KM in the region, identifies critical challenges and barriers, and proposes actionable recommendations. The insights presented are drawn from a 2024 scoping study for the Ukama Ustawi initiative's Learning Alliance (UULA) and a Regional Policy Dialogue Forum (RPDF) on KM (see Figure 1 for the RPDF facilitators).

The scoping study assessed the potential for establishing a robust KM network modelled on a Learning Alliance. Building on these insights, the RPDF offered actionable recommendations to strengthen KM practices across Eastern and Southern Africa.

Held as a one-day event, the RPDF convened approximately 30 participants, including representatives from national agricultural research organizations (NAROs), regional organizations, CGIAR centers, government ministries of agriculture within SADC, development partners, KM experts, and private sector stakeholders. This diverse group contributed valuable perspectives to inform the development of effective and inclusive KM frameworks for the region.



Figure 1: Facilitators of RPDF on KM. Photo credit: N. Dlamini

Both activities were funded and organized through partnerships among key regionally based research bodies: Centre for Coordination of Agricultural Research and Development for Southern Africa (CCARDESA), the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), and CGIAR centers:

International Water Management Institute (IWMI) and the International Livestock Research Institute (ILRI). These collaborations reflect a shared commitment to advancing KM practices and fostering agricultural development in Eastern and Southern Africa.

Creating an enabling environment for KM requires more than inclusion in development plans; it demands actionable mechanisms. These include clear policies that prioritize KM, institutional frameworks to sustain initiatives, investments in infrastructure for accessible information, and capacity-building to ensure all stakeholders can effectively engage. However, embedding KM into plans alone does not guarantee success. Real impact relies on practical implementation, continuous adaptation to challenges, and collaboration among all actors to turn strategies into tangible agricultural transformation.

## 2. Status of knowledge management

Systematic KM in agriculture remains underdeveloped across the region. While regional institutions have established KM units, according to the scoping study, these are generally under-resourced, with limited staffing and a lack of dedicated funding lines in annual budgets. Although some modern communication tools for dissemination are available, their use is still in its early stages. National Agricultural Research Institutions primarily rely on ad-hoc arrangements for KM, lacking both funding and technical systems for effective dissemination. According to the RPDF on KM, formal KM strategies are limited, and policies are almost absent at the national level, although some informal collaboration structures for KM do exist among stakeholders.

## 3. Challenges and barriers to effective knowledge management

The scoping study revealed **a weak appreciation of KM at high management levels within implementing institutions**. While regional institutions are generally better resourced for KM than national ones, both face the same challenge of limited recognition of KM's importance at the top leadership level. Even where KM capacities have been developed, they are often not embedded within senior management, hindering strategic decision-making and the effective implementation of KM initiatives. (See Figure 2 below for an overview of key challenges.)

Discussions at the RPDF highlighted that, at the national level, this gap is evident in the limited or sometimes absent KM strategies and their weak integration with National Agricultural Policies. This lack of alignment further undermines the ability of KM to inform and support policy and program implementation effectively.

**Mobilising regular and sustainable resources for knowledge management.** The Scoping Study and the RPDF on KM noted that current KM efforts heavily depend on external and donor funding at regional and national levels. This reliance limits the scale and sustainability of KM initiatives. The lack of seed and operational funding has hindered the establishment of KM systems within institutions.

**Overcoming connectivity issues between knowledge providers and users, particularly in rural areas.** The scoping study and RPDF highlight that while technology presents efficient ways to disseminate knowledge, significant challenges persist in reaching rural users. Poor internet connectivity and low literacy levels create barriers to accessing and applying knowledge effectively. To address these challenges, efforts are being made to improve infrastructure and design communication strategies in local languages. Additionally, innovative approaches, such as mobile-based knowledge-sharing platforms and community-driven initiatives, are being tested in sectors beyond agriculture, providing a blueprint for broader application.

## **Fragmented interactions between national agricultural research organizations and regional bodies.**

The scoping study emphasizes the fragmented interactions between national agricultural research organizations and regional bodies, stemming from the absence of formalized collaboration networks for knowledge exchange and management. This fragmentation results in duplication of efforts, underutilized resources, and missed opportunities for

innovation. Moreover, research scientists and other key staff are not uniformly engaged in KM collaborations, further limiting their potential impact. Strengthening formalized networks and actively involving diverse staff cadres in KM initiatives can foster better resource sharing, innovation, and cohesive action across institutions.

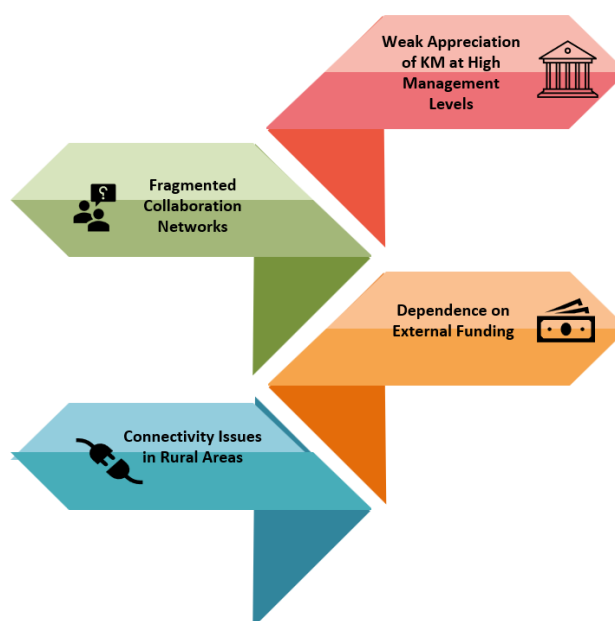


Figure 2: Key challenges to effective knowledge management (Source: Authors)

## **4. Recommendations on knowledge management**

### **4.1. Opportunities for enhancing knowledge management**

Leveraging key regional initiatives, such as the CGIAR Ukama Ustawi's Learning Alliance (LA), is crucial for advancing agricultural KM. The Learning Alliance serves as a collaborative platform that connects researchers, policymakers, farmers, and private sector actors to facilitate knowledge exchange and co-develop innovative solutions. By focusing on participatory approaches, the LA fosters inclusive engagement, ensuring that knowledge generated is not only accessible but also relevant to end-users, particularly those in rural areas. Its value lies in breaking down silos between stakeholders, promoting evidence-based practices, and scaling sustainable agricultural innovations tailored to local needs.

One of the LA's standout contributions is its emphasis on co-creating knowledge products with users, such as audio-visual tools developed in collaboration with farmers. These tools make complex information easily understandable and actionable, particularly for last-mile users who may face literacy barriers. Stakeholders also recognize the potential of innovative technologies, digital platforms, and public-private partnerships supported by the LA to strengthen the KM ecosystem and drive long-term impact in agriculture. By building on the momentum of initiatives like the LA, there is a unique opportunity to transform KM into a driver of resilience and productivity across the region.

The diverse institutional setups across countries present a wealth of opportunities for mutual learning and adaptation in KM. These variations allow countries to share experiences and tailor KM solutions to meet their

unique needs and resource constraints. For instance, farmer clinics in Uganda provide accessible platforms for farmers to receive expert advice and technical support, fostering localized problem-solving. Similarly, local-language animations in Zambia have proven effective in breaking literacy barriers, ensuring critical information reaches rural communities. In Malawi, market-oriented extension services connect farmers with market opportunities, demonstrating the value of integrating KM into agricultural value chains. These examples highlight the potential for cross-country collaboration to strengthen KM systems and promote inclusive, impactful agricultural development.

Regional bodies hold a key role in identifying and scaling up best practices to enhance KM across the region. By fostering collaboration and sharing, these entities can bridge gaps between national institutions and provide a cohesive framework for KM advancement. Initiatives like the Knowledge Management for Agriculture Development Challenge (KM4AgD) serve as strategic platforms to build and strengthen national KM capacities. These initiatives not only mobilize resources but also provide a robust foundation for institutionalizing effective KM practices in agriculture, ensuring that lessons learned, and successful models are scaled and adapted to benefit stakeholders across diverse contexts.

Furthermore, the increasing adoption of digital tools and platforms, such as DSpace, presents a unique opportunity to bridge knowledge gaps in agriculture. These platforms enable the efficient dissemination of information, allowing stakeholders across the region to access timely and relevant knowledge. To maximize their impact, regional bodies can play a critical role in promoting digital literacy and ensuring these tools are accessible to rural populations. By addressing barriers like connectivity and usability, these efforts can empower last-mile users to engage with and benefit from digital KM innovations.

#### **4.2. Institutional and policy changes required**

An overview of the institutional and policy changes required is illustrated in *Figure 3 below*. These changes include the following:

- ▶ Regional and national research bodies should appoint high-level, formal KM champions who are responsible for and accountable to KM outcomes. These leaders must ensure that the value of knowledge management is recognized and supported throughout the organization.
- ▶ Leadership at the highest levels will be crucial to securing support for KM investments, fostering knowledge-sharing networks, and ensuring that KM is integrated into organizational strategies.
- ▶ In the medium term, regional bodies should continue to support national institutions in developing KM strategies and policies for the agricultural sector through the KM4AgD Challenge.
- ▶ Beyond creating national KM strategies, regional bodies should advocate for the integration of KM into national agriculture policies, offering technical support, training, and capacity-building to ensure that national institutions are equipped to strengthen KM practices and align them with broader agricultural development goals.

- ▶ Promote the adoption of the Africa Knowledge Management Framework (developed by CGIAR and the CAADP-XP4 Consortium in 2022) at both regional and national levels. This framework emphasizes multi-stakeholder collaboration in designing and implementing effective KM strategies, ensuring inclusive and impactful practices.



Figure 3: Institutional and policy changes to strengthen knowledge management (Source: Authors)

- ▶ Creating an enabling environment for KM involves prioritizing investments in both human and financial capital to ensure long-term sustainability. Supporting policies that foster collaboration, knowledge-sharing, and equitable access to digital tools is essential for making KM an integral part of the agricultural sector's growth and resilience.

### 4.3. Partnerships for advancing knowledge management

Regional bodies should support the formation and strengthening of national-level partnerships to improve agricultural KM (see Figure 4 to the right). These partnerships should be inclusive, engaging stakeholders such as government entities, the private sector, civil society, development partners,



Figure 4: Participants at the KM4AgD Workshop. Source: KM4AgD Event (2022)

educational institutions (e.g., universities), farmer networks, and other organizations. The focus of these partnerships should include resource mobilization and investment in KM, along with addressing other key issues. National partnerships should not remain theoretical but must demonstrate effectiveness in practice. Monitoring mechanisms should be implemented to track their performance and recommend necessary improvements to enhance their contribution. Regional bodies should facilitate the exchange of best practices and lessons learned

from successful national partnerships, enabling countries to replicate effective KM strategies and foster cross-border collaboration.

#### 4.4. Investments and actions for effective knowledge management

- ▶ Ongoing advocacy is essential to emphasize the importance of KM until it is fully recognized at the highest organizational levels across the region. This can be achieved through targeted consultations and joint forums that engage both regional and national institutions. Indicators of success will include adequate staffing and resource allocation dedicated to KM. Ensuring sustained resources will be crucial to support continuous collaboration and investment in the necessary KM tools and systems that enable national institutions to effectively reach last-mile users.
- ▶ In the short term, regional bodies will require increased funding and technical support to drive KM improvements across the region. A key area of investment should be in monitoring and evaluation (M&E), with a focus on both technical expertise and operational resources. M&E is critical for tracking the progress of KM initiatives and their impact on agricultural innovation and productivity. This investment should build on the existing M&E capacities within relevant institutions, enhancing them through targeted training and capacity-building efforts.
- ▶ Additionally, investments are needed to support innovation and technology adoption that can improve KM, particularly through the integration of digital platforms and new technologies that enhance knowledge dissemination. This includes supporting the development and implementation of digital tools specifically designed to meet the needs of agricultural knowledge providers and users, particularly in rural areas. These investments will help strengthen KM by improving access to information, promoting knowledge sharing, and facilitating the adoption of innovative solutions in agriculture.

#### 4.5. Regional integration and cross-border collaboration

The importance of cross-border collaboration and integration in KM is highlighted in *Figure 5: The Accra Declaration on KM4AgD Agenda for Africa*, which provides a foundational framework for these efforts. Below are important steps to advance regional integration and cross-border collaboration:

- ▶ Enhanced collaboration between stakeholders at national and regional levels is vital to promoting regional integration and cross-border collaboration in KM. The first step would involve establishing institutional and management structures that support these collaborative efforts. While technology-based platforms can improve the



Figure 5: The Accra Declaration on KM4AgD Agenda for Africa. KM4AgD Challenge (2021)

efficiency and accessibility of collaboration, the focus should initially be on building strong institutional mechanisms before relying on technical solutions.

- ▶ Regional bodies should play a key role in facilitating the implementation of the Africa KM Framework, which will enable cross-border collaboration on agricultural challenges. This will help promote harmonized approaches and foster mutual learning among countries in the region.
- ▶ Building trust and establishing regular communication channels between national and regional stakeholders is critical for ensuring long-term, effective cross-border collaboration. This can be achieved by creating forums for dialogue, knowledge exchange, and joint problem-solving, which will help address common agricultural challenges and strengthen collaboration across borders.

## 5. Conclusion

- Effective KM is essential for driving agricultural innovation, productivity, and diversification in East and Southern Africa.
- Bold policy actions and strategic investments are needed to unlock the full potential of KM in the region.
- Key challenges for KM include limited high-level recognition, inadequate funding, connectivity issues, and fragmented national and regional collaboration.
- Actionable opportunities include sharing best practices, building strong partnerships, and implementing targeted institutional and policy reforms.
- Appointing high-level KM champions, developing comprehensive strategies, and securing long-term resources can unlock KM's full value.
- Enhanced regional integration, cross-border collaboration, and ongoing investment in tools and capacity building are critical to accelerating agricultural innovation and improving food security.
- KM should be viewed as an investment, not an expense, with the potential to transform agriculture in the region.
- The benefits of improved knowledge sharing, technology adoption, and innovation can empower smallholder farmers, strengthen value chains, and enhance climate resilience.
- Collaboration is key to long-term success, with inclusive networks involving governments, CGIAR, the private sector, civil society, academia, and farmer organizations.
- The time for action is now—policymakers, leaders, regional bodies, and all stakeholders must prioritize KM to shape a resilient and prosperous agricultural future for the region.

## References

- Branca, G., Cacchiarelli, L., Haug, R. and Sorrentino, A., 2022. Promoting sustainable change of smallholders' agriculture in Africa: Policy and institutional implications from a socio-economic cross-country comparative analysis. *Journal of Cleaner Production*, 358, p.131949.
- Durst, S., Foli, S. and Edvardsson, I.R., 2024. A systematic literature review on knowledge management in SMEs: current trends and future directions. *Management Review Quarterly*, 74(1), pp.263-288.
- Gupta, B., Iyer, L.S. and Aronson, J.E., 2000. Knowledge management: practices and challenges. *Industrial management & data systems*, 100(1), pp.17-21.
- KM4AgD Challenge. 2021. The Accra Declaration on KM4AgD Agenda for Africa. Accessed here: <https://km4agd.faraafrica.org/background-2-3/>

## **Affiliations of authors**

Hannock Kumwenda<sup>1</sup>, Ngowenani Nohayi<sup>2</sup>, Winnie Kasoma-Pele<sup>2</sup>, Bridget Kakuwa<sup>3</sup>, Moses Odeke<sup>4</sup>

<sup>1</sup>Independent Consultant, Lilongwe, Malawi.

<sup>2</sup>International Water Management Institute (IWMI), Pretoria, South Africa

<sup>3</sup>The Centre for Coordination of Agricultural Research & Development for Southern Africa (CCARDESA)

<sup>4</sup>The Association for Strengthening Agricultural Research in East and Southern Africa (ASARECA), Kampala, Uganda

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The [CGIAR Initiative on Diversification in East and Southern Africa](https://www.cgiar.org/initiative/diversification-in-esa/) aims to help smallholders transition to sustainably intensified, diversified, and de-risked agri-food systems based on maize in 12 ESA countries. Specifically, it seeks to enable 50,000 value chain actors, including farmers (at least 40% women, 40% youth), to adopt climate-smart maize-based intensification and diversification practices and one million to access digital agro-advisory services. Emphasizing the role of the private sector in driving such transformation, UU targets to support at least 30 start-ups and SMEs. Learn more about Diversification in East and Southern Africa here: <https://www.cgiar.org/initiative/diversification-in-esa/>

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