



National Knowledge Management Policy Brief for **Tanzania**

Advancing Knowledge Management
for Agricultural Development in Tanzania

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The Forum for Agricultural Research in Africa (FARA) is the apex continental organisation responsible for coordinating and advocating for agricultural research-for-development. (AR4D). It serves as the entry point for agricultural research initiatives designed to have a continental reach or a sub-continental reach spanning more than one sub-region.

FARA serves as the technical arm of the African Union Commission (AUC) on matters concerning agricultural science, technology and innovation. FARA has provided a continental forum for stakeholders in AR4D to shape the vision and agenda for the sub-sector and to mobilise themselves to respond to key continent-wide development frameworks, notably the Comprehensive Africa Agriculture Development Programme (CAADP).

FARA's vision is to "Reduced poverty in Africa as a result of sustainable broad-based agricultural growth and improved livelihoods, particularly of smallholder and pastoral enterprises" its mission is the "Creation of broad-based improvements in agricultural productivity, competitiveness and markets by strengthening the capacity for agricultural innovation at the continental-level"; its Value Proposition is the "Strengthening Africa's capacity for innovation and transformation by visioning its strategic direction, integrating its capacities for change and creating an enabling policy environment for implementation". FARA's strategic direction is derived from and aligned to the Science Agenda for Agriculture in Africa (S3A), which is in turn designed to support the realization of the CAADP vision.

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Acknowledgement

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Background

Tanzania's agricultural sector is a major driver of economic growth, poverty reduction, employment creation, and food security, with more than 80% working in this sector and 27% of the economic production coming from agriculture.

Whereas other sectors are growing faster with a higher profitability, the agricultural sector still has a huge potential for increased productivity. However, the key resource for better production is not in the availability of land, labour or money, but in the availability, accessibility and usability of knowledge. A knowledge-based agriculture can increase productivity and profitability while providing decent jobs to the communities and protect the environment from short-sighted industrialization.

The agricultural knowledge ecosystem in **Tanzania provides a lot of expertise and experience**, spanning from traditional knowledge to scientific innovation and the availability of agricultural data, information, and knowledge provided through digital platforms and the internet is endless. However, for many reasons the farmers still don't have the right knowledge in the right format at the right time available to act and change their production.



One of the main reasons is the **lacking knowledge preparedness of farmers**, who are often lacking basic skills (like digital skills, language skills, and knowledge skills like learning, innovating, sharing, capturing) as well as infrastructure (like electricity, internet, knowledge infrastructures like places to work and share, learn, innovate) and social network (cooperative institutions, knowledge networks, Communities of Practice). Therefore, available knowledge cannot be adequately adopted and applied. A share of at least xx% of the population is excluded of knowledge and therefore cannot actively participate in the prosperous, digitally connected knowledge economy, which in fact offers endless opportunities to those who are knowledgeable.

Another main reason is the **lacking capacity of institutions to manage knowledge**. For decades Knowledge Management has grown internationally as a relevant management concept, but in African Agriculture it is still widely unknown or inadequately applied, even though the key products and services

of academic institutions, public bodies, NGOs, farmer associations, extensionists and others is knowledge. A targeted, systematic, and integrated approach to knowledge would help to focus on knowledge to create impact – profitability and sustainable agricultural development. However, knowledge is still not professionally managed, accessible, shared, captured within organisations. And when people leave the organisation relevant knowledge gets lost – regularly.

Finally, a very relevant reason for the underperformance of knowledge is the **dysfunctionality of the knowledge ecosystem**, in Tanzania like in many other African countries: Institutions do not adequately collaborate, align their knowledge flows according to shared visions, objectives and programmes. Relevant knowledge is not disseminated adequately, knowledge agents are often not equipped with resources and even the motivation to share knowledge in an impactful way is often lacking due to inadequate business models. The system is more driven by politics, donor funding, and corruption than by market mechanisms and business logics.





Rationale for a Tanzanian Knowledge Partnership for Agricultural Development

The advancement of knowledge in Tanzania - in the agricultural sector as well as in other sectors - requires a coordinated approach. No institution knows everything, and all depend on each other to create a performative knowledge value chain. The establishment of a National Knowledge Partnership for Agricultural Development is therefore a necessary starting point for the transformation of Tanzania into a knowledge society. Based on common understanding of the knowledge ecosystem, shared visions, aligned activities and programmes, integrated knowledge flows, ambitious capacity building efforts, brave investments in knowledge and information systems, and professionally facilitated collaboration mechanisms, Tanzania can be a front-runner in knowledge-based agriculture.

Vision of a knowledge-driven agriculture in Tanzania

The vision of a knowledge-driven agriculture includes happy, wealthy, knowledgeable citizens working in agriculture, knowledge management capacities of institutions and companies able to compete and collaborate globally at the highest level of knowledge, and a performative knowledge ecosystem where Tanzania has found its uniqueness in traditions and modern science, being well connected in global networks, appreciated for its unique qualities, and contributing to sustainable development.

Key actions to be taken

10 work packages are proposed with a total of 30 recommended actions. It is an ambitious package, but considering that the lives of our people, the wealth of our nation, and the sustainability of Africa and the planet are rooted in the ability to make the best use of knowledge for our future, no effort must be spared to advance Knowledge Management.



Knowledge Management for Agricultural Development Agenda



The 10 actions in short

01 Knowledge Partnership and Knowledge Agenda

Forming a Knowledge Partnership for Agricultural Development
 Co-creating a Knowledge Agenda with actionable measures
 Foster Communities of Practice and Innovation Labs in key thematic areas

02 Knowledge Inclusion Programme

Develop a Knowledge Inclusion Framework; focal points in public bodies and CoP
 Identify and promote technologies helping disadvantages people to access knowledge
 Trainings for public and private bodies to become knowledge inclusive

03 Knowledge Awareness Programme

Knowledge Talks of Leaders
National K4D Conference
KM4D Award Programme

04 Knowledge Management Excellence Programme

National Knowledge Management Policy and Strategy for the public admin
KM positions established in all public bodies
Professional Society for Knowledge Management

05 National Knowledge Hub and Digitalization

Establish a National Knowledge Hub
Develop a Knowledge Graph for AgD for AI-Applications in cooperation with FARA and partners
Digitalize agricultural knowledge processes on the Hub

06 Advanced Knowledge Processes

Setup mechanisms for capturing traditional knowledge
Define knowledge transfer plans and indicators for knowledge dissemination
Define a strategic process for technology adoption in agriculture

07 Academic Centres for Knowledge Sciences

Establish a Centre for Knowledge Sciences
Develop a UNESCO Chair Research Programme for Knowledge Ecosystems
Integrate KM Education in existing educational programmes

08 Business Models and Resource Mobilisation

Strengthen dynamic business models and identify new business opportunities
Establish T-Know Ltd. as a PPP company driving innovation
Create a Knowledge for Development Fund

09 Fake News and Quality information standards

Define standards for quality information and fake news
Focal points for quality information and fake news
Awareness and Capacity Building Programme to fight fake news and misinformation

10 Knowledge infrastructures and centres

- Establish/Upgrade Agric Centers to Knowledge Villages
- Upgrade village libraries to Knowledge Spaces
- Develop and promote an affordable smart farm equipment



01 Knowledge Partnership and Knowledge Agenda

Forming a Tanzanian Knowledge Partnership for Agricultural Development (T-Know) is a key element for targeted, systematic, and integrated approach to knowledge and requires structures and processes for governance. T-Know shall be a national, coordinating body for the advancement of knowledge in the agricultural sector of Tanzania.

Co-creating a Knowledge Agenda with actionable measures is essential to focus activities on prioritized elements in the Tanzanian knowledge ecosystem.

Fostering Communities of Practice and Innovation Labs in key thematic areas shall be formed to implement the Agenda on an operational, collaborative level. This can include thematic CoPs as well as Communities dedicated to specific knowledge processes, services and products.

02 Knowledge Inclusion Programme

Knowledge exclusion is one of the most critical source for inequality, poverty, and lack benefits from social and economic opportunities, and exclusion in general. The key barriers for knowledge inclusion are manifold, mainly rooted in the inadequate packaging of knowledge in an adequate format. An assessment framework needs to be developed to systematically assess and identify knowledge exclusion and knowledge inclusion focal points should be installed in all public bodies.

Specifically for disabled people, a lot of technologies have been developed in the recent years to give them an opportunity to better acquire knowledge. Such technologies shall be

identified and applied in public bodies, being a role model for the private sector. Knowledge exclusion is mostly not intended and can be avoided. Trainings and awareness activities shall be initiated and provide actionable solutions.

03 Knowledge Awareness Programme

Recognizing that the creation of more gainful and productive women and youth employment in the agribusiness sector is an important means to reduce rural poverty, it is critical to unleash the capacity of the stakeholders (women and youth) to enable them effectively participate in the modernization of the agricultural sector. Three actions are proposed as an initial programme:

Knowledge Talks of Tanzanian Leaders are interactive sessions with highly recognized personalities from politics, business, academia, civil society, art, agriculture, and beyond, highlighting the relevance of knowledge in society and giving advice to citizens to take action. These short interviews shall be recorded as short video and disseminated widely on social media. Videos can also be created by the personalities themselves as individual statements.

A National K4D Conference shall bring key organisations together to achieve or deepen their understanding of Knowledge Management and create a sense community and mutual support.

A KM4D Award Programme shall recognize all achievements in KM and be published widely.

04 Knowledge Management Excellence Programme

It is foreseen that professionals in KM will create agricultural development prosperity and sustainability, if organizations are appropriately capacitated with technical and functional skills so as to deliver on critical development issues. Thus, enforcing an educational programme with a common core of KM that promotes the KM Standard (ISO 30401) will prepare scholars for certification, align their KM capabilities to the requirement of the standard, enhancing a systematic construction, embodiment and dissemination of KM skills for agricultural development. Promoting a KM4D Framework and knowledge society will also provide guidance on following a common KM approach and foster inclusiveness and empowerment as it will accrue preservation and sharing of information.

The development of a National Knowledge Management Policy and Strategy for the Public Administration shall drive the development of KM in the country, KM positions to be established in all public bodies.

A Tanzanian Community of Practice for Agricultural Knowledge Management shall be

established linked with the respective African CoP. This can then lead to the formation of a Tanzanian professional Society for Knowledge Management.

05 **National Knowledge Hub and Digitalization**

The coordination, organisation and linking of agricultural knowledge requires a strong and performative National Knowledge Hub. Data, information, and knowledge shall be integrated through a knowledge graph (a fact-based ontology) to make knowledge searchable and findable, as well as processable for Artificial Intelligence Solutions. Recommender Systems shall help farmers and processors to find what they haven't even known about. Agri advisors, chatbots, and other interactive solutions shall help the masses to get relevant, tailored advice at any time and place. The development of the knowledge graph shall be developed in coordination with FARA and other continental partners to create additional synergy and impact.

National knowledge process, like the dissemination of information or extension services, shall be as much as possible digitalized on the Knowledge Hub to have all relevant knowledge transparent, accessible, findable, and (re)usable.

06 **Advanced Knowledge Processes**

Knowledge processes, like knowledge capturing and knowledge dissemination are to a large extent cross-organisational and require coordinated planning and implementation. Capturing traditional knowledge is a process that requires a strategy and coordinated action to be successful. The knowledge partnership can facilitate the coordination and the knowledge hub can be a space to document and present the result. However, the process needs to be designed and agreed by the participating partners. Knowledge transfer plans and indicators shall be defined to clearly determine the format, quality and quantity of knowledge to be delivered to be further processed along the knowledge value chains. This is specifically needed in the extension and dissemination system.

A national, strategic process shall be set up to speed up technology adoption from international markets, making Tanzania a "fast follower" in the international innovation system.

07 **Academic Centres for Knowledge Sciences**

Knowledge is the essential resource for Tanzania's development and Knowledge Management is a critical competence for the country. Considering its relevance and complexity, scientific research and education is needed to make best use of this science at an international level. A Joint Centre for Knowledge Sciences at Sokoine University for Agriculture in partnership with K4DP School of Knowledge Sciences is proposed for implementation.

An international Research Programme chaired by UNESCO shall provide deeper understanding of knowledge in societies and provide evidence of the Tanzanian knowledge ecosystem.

Existing Universities and other public and private training institutes shall adopt KM in their educational programmes. Schools shall adopt key knowledge skills in their curricula.

08 **Business Models and Resource Mobilisation**

The deficiencies in the dissemination of agricultural knowledge are not mainly due to a lack of knowledge, or people, or money. It is the business models that lack motivation for impactful delivery of knowledge as a service. Extension officers are often not well paid, well equipped, well resourced to deliver knowledge at a high level, and successful work does not lead to benefits, specifically not to financial benefit. The model of publicly paid services needs to be complemented by more innovative, dynamic business models, where entrepreneurial thinking, investments, and innovative farming go together well. The Ministry of Agriculture shall explore innovative models in cooperation with the farmers, the business sector and academia. A national agricultural development company

T-Know Ltd. shall be formed as a public-private-partnership to mobilize knowledge, power, business, and farming capacities to pioneer innovative agricultural processes and act as a role model for the whole agricultural sector.

A Knowledge for Development Fund shall be established to finance strategically relevant projects strengthening the transformation of Tanzania into a knowledge society.

09 Fake News and Quality information standards

Promoting facts, quality information and science is a key element in a knowledge society, whereas fighting fake-news and misinformation becomes relevant. Standards for quality information are needed to raise the quality and reliability of information – starting with all public bodies, which must be trusted and reliable sources of knowledge for the public. An observatory for quality information and misinformation shall be established by the government and private, independent fact checking bodies shall be supported. Focal points for quality information and fake news need to be installed by public bodies, Knowledge Managers can take this role as well.

Public officials who have a knowledge dissemination function shall be trained in providing quality information, trainings and awareness programmes shall also be promoted for the public. Educational videos disseminated through social media and training for organisations shall be provided to strengthen the key contributors or generators of Knowledge (KM holders) to provide in-depth, evidence-based information that is authoritative. Artificial Intelligence shall be applied to identify and reduce misinformation and fake news.

10 Knowledge infrastructures and centres

Physical encounters, real spaces, trustful face-to-face communication are still relevant even when all information might be available online. Visiting farmers and other end-users at their places is not always possible and adequate. Centres for Agricultural Development are needed for the purpose of meeting, demonstrating, collaborating, co-creating, and capturing knowledge. This includes essential agricultural knowledge, but also knowledge about IT, processing, trading, and more. The 17 TARI Centres shall be upgraded to become Knowledge Villages, growing spaces for knowledge, well known and appreciated in the region. A dynamic PPP business model shall allow the Knowledge Village to grow and provide services on a self-sustained basis. A comparable strategy shall be created for village libraries at a smaller scale to provide infrastructures for people to access knowledge.

A minimum set of infrastructures, however, is still needed by every citizen to participate in the knowledge society, and that includes electricity, access to internet, hard- and software, furniture to work on a computer. For many citizens in decentral places, this infrastructure is missing. The government shall provide in cooperation with private organisations a basic set at an affordable price to cover these needs independent of public infrastructure, e.g. through solar technologies, satellite, sponsored equipment, and furniture/housing. This can be provided to individuals as well as to villages.



Conclusion

The identified 10 work packages are essential to the transformation of Tanzania into a knowledge society. None of them can be left out. Each of them influences the existence and performance of the others. Therefore strong attention and support by all stakeholders is required.

The success of Tanzania's transformation into a knowledge society – as any other relevant peaceful advancement in the history of mankind – is founded in unity, trust and community. Therefore the Knowledge Partnership is elementary to the other measures and deserves prioritized attention.

Next Steps

To get started is the most important. We propose a kick-off Meeting for the Tanzanian National Agricultural Knowledge Partnership (T-Know) in March 2022. TARI shall take the lead in initiating the process and hosting the Partnership Meeting. Until then the following steps shall be taken:

20 individual leaders in Agricultural Development shall be invited to provide a statement to the Tanzanian Agenda Knowledge for Agricultural Development. This includes the Prime Minister, the Minister of Agriculture, other Ministers relevant to Agriculture, the ED of TARI, the VCs of leading Universities, representatives of farmer

associations, TFAAS, FARA; CCARDESA, ASARECA, representatives of producers and processors, representatives of donors and international organisations, and a number of farmers, students, disadvantaged. The President shall be invited to give the patronage for T-Know. The statements and additional research shall lead to a draft Knowledge Agenda with an initial action plan to be presented at the Kick-off Meeting of T-Know.

The Kick-off Meeting shall be linked with a KM Essentials Training, making a Tanzania Knowledge Week with the Conference and additional workshops.



References for further reading

UNESCO: [Towards Knowledge Societies](#)

UNESCO: [Knowledge Society Policy Handbook](#)

Kimiz Dalkir: [Knowledge Management in Theory and Practice](#)

ISO-Standard 30401

10 Policy Briefs provided by the KM4AgD Challenge 2021

About the KM4AgD Challenge

The Knowledge Management for Agricultural Development Challenge is an annual programme within the CAADP-XP4 Programme financed by the European Commission and managed by IFAD. The continental partners FARA, CORAF, ASARECA, CCARDESA, AFAAS, and YPARD have joined forces with K4DP Knowledge for Development Partnership in this educational and transformational programme. 28 participants from 21 countries and 25 experts have collaborated to co-create solutions for advancing knowledge for agricultural development. This policy brief is developed by the authors specifically for Tanzania, but it is based on the findings and proposed solutions of all partners.



Development
Symbol



Growth Arrow

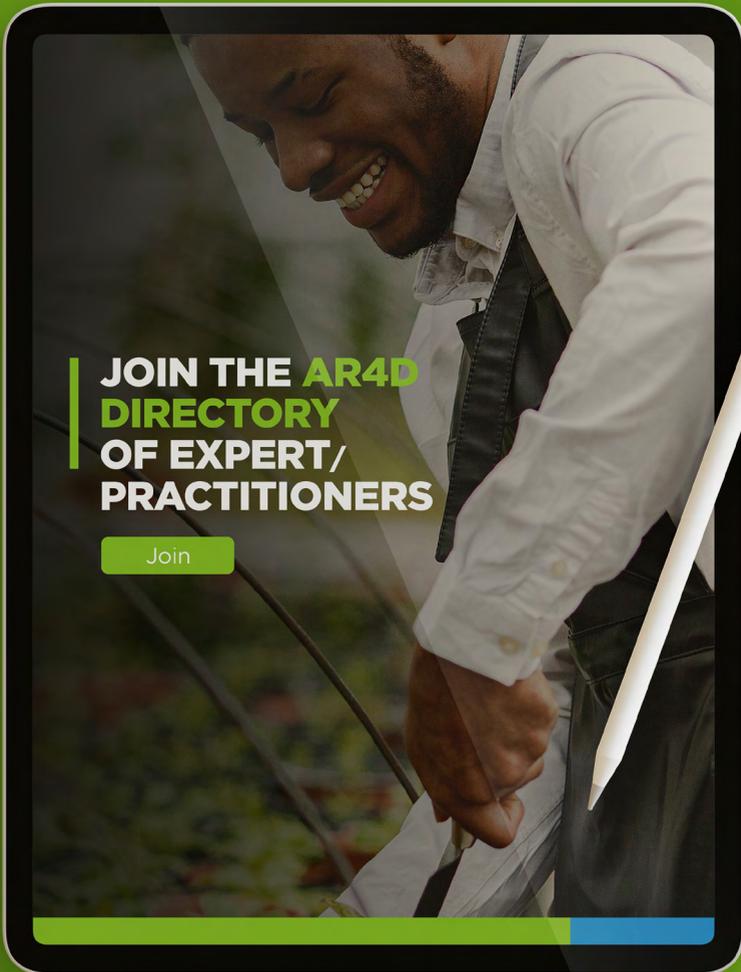


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