



**nardi**

National Agricultural Research & Development Institute

**Knowledge Management Sensitisation Workshop  
ROLE OF BOTSWANA (NARDI) IN SUPPORTING  
CAARDESA INFORMATION COMMUNICATION,  
KNOLWEDGE AND MANAGEMENT**

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# PRESENTATION OUTLINE

1. Introduction and Background information.
2. Knowledge Management for Agricultural development.
3. About CCARDESA ICKM.
4. NARDI Knowledge Management (KM) strategy.
5. Role of Botswana (NARDI) to support CCARDESSA Information, Communications and knowledge Management/Malabo.
6. Conclusion

# INTRODUCTION AND BACKGROUND

- CAADP's goals of eliminating hunger, substantial reduction on poverty, creation of wealth and jobs and improved management of the continent's natural resources.
- Views Knowledge Management as one of the key drivers to facilitating the achievement of the Malabo targets to sharing innovation related to climate-relevant agricultural transformation; among others.
- KM led by the President through the reset Agenda.
- African Union Commission leading the continental KM Strategy, which is implemented by CCARDESA at regional level.
- At National level MOA KM strategy.
- Management of KM is still the missing link.

# Knowledge Management for Agricultural development



Knowledge generation  
(creation of innovative  
solutions to address  
farming solutions)



Knowledge transfer



Knowledge sharing  
(evidence based)



Integrating Agric  
systems



Collaborations and  
partnership

## ABOUT CCARDESA INFORMATION COMMUNICATIONS AND KNOWLEDGE MANAGEMENT(ICKM)

- Mandated to coordinate research and collect information and disseminate from and between all member states.
- **Thematic area:** knowledge and information Management, communication and policy support.
- Positioned as a knowledge broker and works with MOA at National level.
- KM strategy and data capturing tools to ensure that Agric information and knowledge products are shared with CCARDESA.
- ICKM focal point persons-promote and raise awareness CCARDESA ICKM system, curation and co-creation of Agric content, uploading of content. (research and extension).

# MINISTRY OF AGRICULTURE KNOWLEDGE MANAGEMENT STRATEGY

- ▶ The Ministry does not have a Research Agents to guide the research priorities for the country. Although during NDP 10 a lot of technologies were technologies were released, the Ministries does not have capacity to multiply these technologies.

# NARDI MANDATE, AIMS AND OBJECTIVES

- National Agricultural Research and Development Institute (NARDI) merges the operations of the Department of Agricultural Research (DAR), National Veterinary Laboratory (NVL) and National Food Technology Research Centre (NFTRC). (2018).
- Aims to engage in high quality, innovation-intensive and needs-driven research and development; as well as commercialization and technology transfer activities across the agricultural value chain, to benefit consumers, farmers, industry, government and science.
- **To Increase** the contribution of Agriculture to Botswana's GDP; **improve** utilisation of natural products and agricultural produce; **foster** inclusion and **knowledge transfer initiatives**; and **provide** innovative solutions and adaptations to climate change, yield improvement and Commercialisation of agriculture

# OUR VISION

**A renowned transformative agricultural research and development institute**

# OUR MISSION

**We generate innovative solutions for the Agricultural sector**

# OUR CORE VALUES

**Excellence, Intrapreneurial, Innovation, Integrity & Teamwork**





## KEY THEMATIC AREAS

- NARDI operates along the following key research thematic areas:
  1. Field Crops & Horticulture
  2. Animal Production and Health
  3. Agricultural and Biosystems Engineering
  4. Food Science & Technology,
  5. Agricultural Economics and Statistics
  6. **Innovation, knowledge management & intellectual asset beneficiation.**
  7. Technology transfer and Commercialisation.

# RATIONALE

- ▶ Aimed at **knowledge generation, sharing, collaboration, protection** (IP), translation of research and development outcomes into commercially viable products; **publishing** of KM outputs to enable **Knowledge transfer** and promotion of innovation and adoption of technologies.
- ▶ Strategic objective; **Establishing a knowledge Centre-** (evidence-based solutions) and collaboration internally and externally.
- ▶ The development of this strategy is crucial to take a holistic Approach and address KM gaps/issues outlined by the Malabo declaration, CCARDESA and MOA.

# STAKEHOLDER ANALYSIS

Stakeholder	Who	KNOWLEDGE NEEDS
Shareholder	Government	Innovative solutions to addresses changes in socio and economic Agric - development, KM investment and Partnerships, revenue generation and sustainability.
Farming community	Small and commercial holder farmers, Farmer associations.	Access to knowledge technologies for values addition and processions, knowledge centre, Knowledge Partnerships.
Investors	Government ,financial institutions	Investment for knowledge generation, innovation and technologies, development of entrepreneurs, research partnerships,
Knowledge Partners	DIVAGRI- diversification pathways –promote bio-based circular agricultural technologies (includes sa, Mozambique, Namibia, Botswana) and EU -knowledge centre-farmer based solutions. International Rice Research Institute –rice.	Knowledge exchange, Cost sharing partnerships, capacity building,
Knowledge workers/ agents (internal and external) (Knowers.. generate knowledge)	local innovators, researchers, Agric experts Researchers	Partnerships, Knowledge resources, Knowledge generation partnerships.
Research and Innovation Institutions	Parastatals and Academic Institutions, Private institutions	Knowledge sharing partnerships, KM expert collaboration,
IP Organisations	Companies and Intellectual Property	knowledge protection.
Media	Local newspapers, TV, publishers	Knowledge and Evidence based research.

# SITUATIONAL ANALYSIS (INTERNALY)

## Strengths

- Leadership support
- Knowledge generation.
- Mechanisms for documenting knowledge-libraries, archives, data centres, systems etc.
- strong partnerships for KM
- Established technology transfer component at NARDI.
- IP management function

## Weakness

- Weak Knowledge capture and packaging (esp. for small holder farmers).
- Limited access to knowledge and information. (language, formats etc.)
- Inadequate Staffing, skills, experiences for KM.
- Poor KM infrastructure (ICT platforms) and physical workspace.
- knowledge outputs does not translate into economic benefits-(Publishing, value addition).
- No framework for knowledge sharing with partners.
- Lack of KM policy and procedures.
- Lack of system to reward innovation and creativity.
- No systems to capture experiences from farmers, researchers and employees

# SITUATIONAL ANALYSIS (EXTERNAL)

## Threats

- Loss of expertise and experience due to merger.
- Lack of participation by owners of indigenous knowledge.
- Lack of KM policy even at National level
- Inadequate Strategic planning and focus on KM.
- Poor ICT infrastructure and networks
- Advancement of other institutions. BUAN
- Fake news.

## Opportunities

- Change of farmer demands (commercial investment).
- Climate changes- innovative solutions.
- Role of science in driving agricultural development and economy.
- KM becoming important to drive agricultural development.
- Regional and International protocols i.e Malabo declaration.
- Leveraging on the well-informed clientele (researchers and customers) for NARDI.
- Digital transformation and ICT strategy.
- Harvest indigenous knowledge-hidden treasure.

# Accra Declaration

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# KM STRATEGIC PRIORITIES (example)

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1



- **ESTABLISH CoP's AND PARTNERSHIPS**
- **KNOWLEDGE MANAGEMENT IN THE SYSTEM**

2



**DIGITISATION AND 4IR**

**KNOWLEDGE PROCESSES (MANAGEMENT)**



**VALUE CREATION (Knowledge economy and sustainability)**

# KNOWLEDGE MANAGEMENT IN THE SYSTEM

## Actions

- Develop and approve knowledge capture policy and guidelines. (Document lessons learnt/Project, Experiment Capitalization, extension, outstations).
- Integrating KM system into NARDI business strategy ( ISO 9000:2015, ISO 30401;2018, PMS)

## Deliverables

- Policy
- Ensure sustainability of KM system.



# KNOWLEDGE PROCESSES (MANAGEMENT)

## Actions

- Knowledge audit, Process mapping and architecture.
- Upgrade, integrate and coordinate Knowledge infrastructures and centers (KIC, data centre).
- Acquire knowledge resources through subscriptions, partnerships, registration to association bodies.
- Publications and publishing (includes Translation of scientific content, engaging publishers).

## Deliverables

- Knowledge process management tool.
- KIC'S operational.
- visibility of research publications.

# **DIGITISATION AND 4IR**

## **Actions**

- Establishment to knowledge centre. (HUB)
- Digitisation strategy (Website, Applications, social Media).
- Local/indigenous agricultural knowledge capture systems or model.
- System integration (labs, data and stats, DS pace, CRM).

## **Deliverables**

- Digital approach to extension.
- End-user Digital platforms
- knowledge graph- research intelligence/data management, data analytics, market intelligence.

# ESTABLISH CoP's AND PARTNERSHIPS

## Actions

- knowledge inclusion model facilitate socio economic partnerships.
- Knowledge sharing framework with other research partners or institutions.
- Promote the agricultural research Knowledge Agenda.
- Resource Mobilization plan for KM (Future and new business needs) (KM fund).
- Establish CoP's and KM champions for Prioritised research programmes, projects and outstations.

## Deliverables

- Local expert directory (BAPSA, Veterinary Association, Farmer Associations).
- KM partnership framework.
- Resources for Knowledge generation.
- Co-authoring of Scientific publications.

# VALUE CREATION ( Knowledge economy and sustainability)

## Actions

- Technology transfer and Adoption. (coaching and mentorship of local farmers and community, ( climate smart seed varieties).
- Knowledge transfer activities to promote value addition for farmers . (NARPO, post harvesting)
- Establish asset beneficiation and commercialisation model (licence agreements, profit sharing partnerships, copyrights and patenting).
- Promote Investment in technology outputs (governments, donors, and investors).

## Deliverables

- Value addition programs.
- Awareness of the (government Community and employees) scope of KM protection-employees/IP.
- Facilitate protection of IP's.
- Commercializing of IP's

# ROLE OF BOTSWANA(NARDI) TO SUPPORT CCARDESA ICKMSSA (Malabo declaration)

- Collaboration on Curation and co-creation of digital content ( improve access to Agric information regional and continental level).
- Participate in D-hubs, Linking NARDI website, Information repositories and Knowledge hubs and expert database.
- Facilitate Knowledge transfer and link farmers to evidence based solutions (**resilient climate variability, ending hunger**)
- Capturing and sharing success stories, (Indigenous knowledge activities, national prioritised research areas (sorghum, maize etc)and other agricultural developments and Projects in the region.
- Translation of knowledge outputs into user friendly formats. (Technology transfer office, communications, media).
- Invest in knowledge protection (IP) and commercialisation to facilitate Agri economic activities (**eradicate poverty through agriculture**)
- Advocacy and leadership for research knowledge agenda.
- Knowledge partnerships for access to technologies and markets.
- Capacity building for KM.

# CONCLUSION

Just starting to build.

Collaboration and Partnerships.

Governance, structures. (International Research Council, Continental KM call action etc).

Capacity building, creation of value and wealth from knowledge.

Experiential capitalisation (indigenous knowledge)

Increase KM funding.

Knowledge inclusion (gender, norm etc).

Collaborative strategies to fight fake news.

**Opportunity** - Upgrading of Ministry of Communications, Knowledge and Technology will be of great value.

Re-optimisation of research institutions through merger- BITRI , BUAN and NARDI facilitate knowledge generation to be shared and utilised.

Eliminate barriers to sharing knowledge and have common call for sharing knowledge CCARDESA/Malabo.

Digitisation as the drive (knowledge, extension services, data mgmt. and information).

Achieve Knowledge economy and to advance Agric development.

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