# 9th AC Key Messages - Science, Indigenous Knowledge and Innovation: Implications for ACP Agriculture

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# Overview

- Background
- Objectives
- Workshop Programme Overview
- Key Messages
- Conclusion

# Background

- In 2009, the AC identified the:
  - Top 3 **mega challenges** for ACP agricultural science and innovation namely;
    - **Climate change**
    - **Increasing water scarcity**
    - **Growing food insecurity**
  - Most **important** agricultural commodities for ACP trade & consumption for;
    - **Grains, fruits, vegetables, livestock, poultry, dairy, roots & tubers** (**food**)
    - **Medicinal plants**, essential oils and gums (**non-food**)
  - Major **technologies** to shape science & innovation
    - **ICTs and bio & nanotechnology**

# Background

- Most important scientific disciplines for transforming ACP agriculture:
  - **Biotechnology & genetic engineering;**
  - **ICTs**
  - **Natural resource management (biodiversity)**
  - **Post-harvest technology**

- Possible actions that ACP scientific community could take for responding to mega challenges e.g.
  - **Incorporating indigenous knowledge** and **skills** in the **ACP ST&I agenda** for responding to the mega challenges in support of **agricultural and rural development (ARD)**

# Objectives of 9th AC Meeting

- To achieve **shared understanding** and **consensus** on **indigenous knowledge** and its relevance to transforming the formal science and innovation agenda for addressing the **mega challenges** facing ARD

- To share knowledge, experiences and best practices and identify opportunities and constraints **for systematically integrating indigenous knowledge** in the ACP agricultural science, research, education and training agenda in support of agricultural innovation

# Objectives of 9th AC Meeting

- To reflect on **ethical issues** concerning the documentation, publication and exploitation of indigenous knowledge for science, education, innovation and economic development

- To identify and prioritize **policies**, **strategies** and **programmes** at organizational, national, regional and international levels for making **science** more **inclusive** and **valorizing indigenous knowledge** through its integration in science, research and tertiary education programmes

# What Is Indigenous Knowledge

- *Indigenous knowledge encompasses all forms of knowledge; technologies, know-how, skills, practices, beliefs, teachings and the wisdom that enable a community to overcome constraints in their natural environment, carry out their activities and/or earn their livelihood. It is accumulated through experience and passed on from generation to generation through verbal communication, art, dance or practice. It is location and culture specific and rooted in tradition and evolves by learning and doing. It is not acquired through formal learning processes and presupposes that there has not been any influence from other knowledge systems. Indigenous knowledge can also be referred to as 'traditional' or 'local' knowledge and is not formally registered or published but embedded in the heads of the people, who own it, and can thus be classified as tacit knowledge.* ***AC, 2010***

# Programme Overview

- **Making Science more inclusive**

✓ **Explored the history of knowledge**

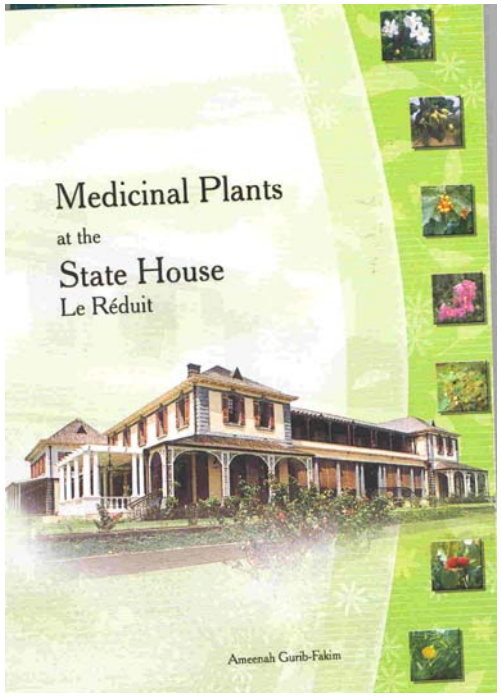
✓ **Reflected on policies and strategies for promoting IK in the biosciences for development of the bio-economy**

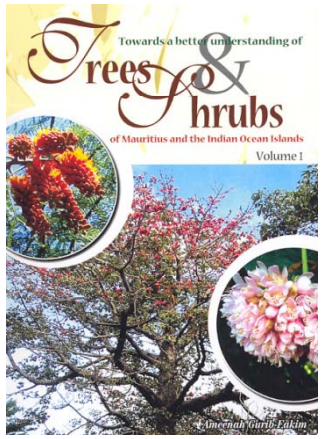
✓ **Learned lessons from traditional medicine** - documentation, evaluation, validation and application

✓ **Worked in groups**

# Programme Overview

- **Learning from traditional medicine**




Documenting

Policy advocacy

*Plasmodium falciparum – malaria research*

# Programme Overview

- **Knowledge Convergence – IK, Science, Biodiversity and Sustainable Development**
  - ✓ **Aquatic resources & traditional knowledge / Ghana (women as custodians)**
  - ✓ **Fisheries - Science, art, local knowledge (youth)**
  - ✓ **Neo-tropical animals – indigenous breeds ( mainstreaming in IK in education and research)**
  - ✓ **Plant biodiversity (food & the environment)**

Value chain _Neo tropical Animals

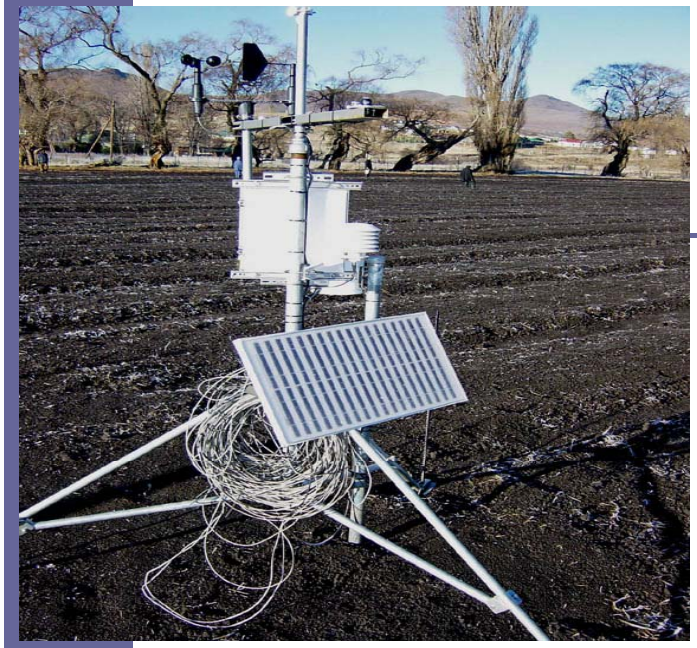
# Programme Overview

- **Field Trip : Harnessing IK through application of science & innovation (Walking the talk)**

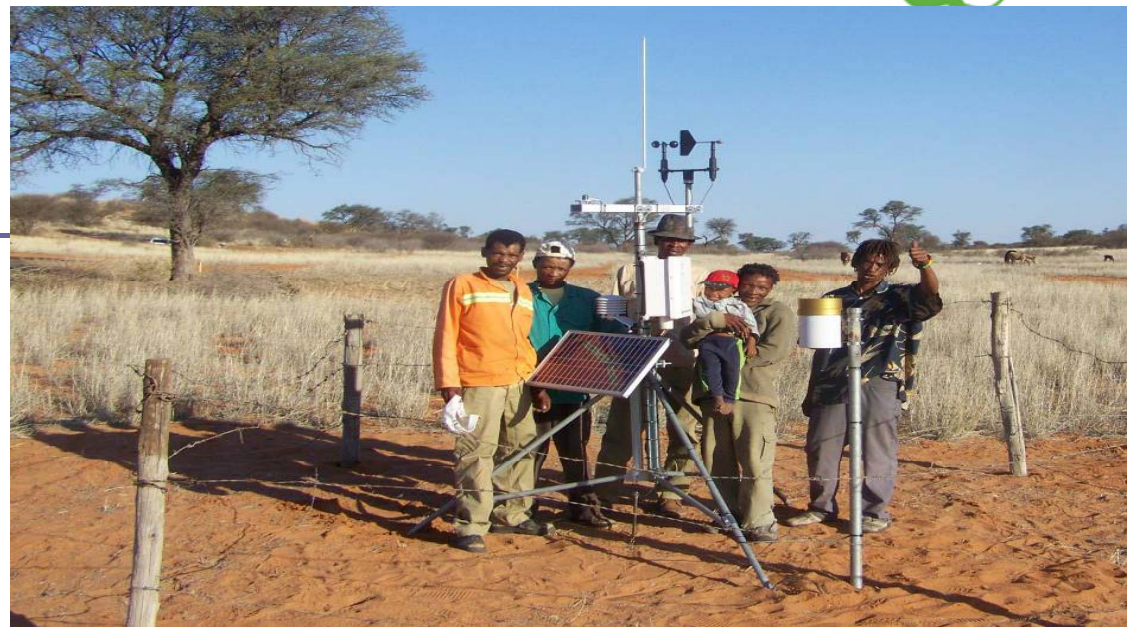
✓ **Visit to CSIR – Convergence of science and IK**

✓ **Biomox Pharmaceutical – Commercialization of IK**

✓ **University of Pretoria – research, teaching and out reach ( mainstreaming IK in higher education and research)**



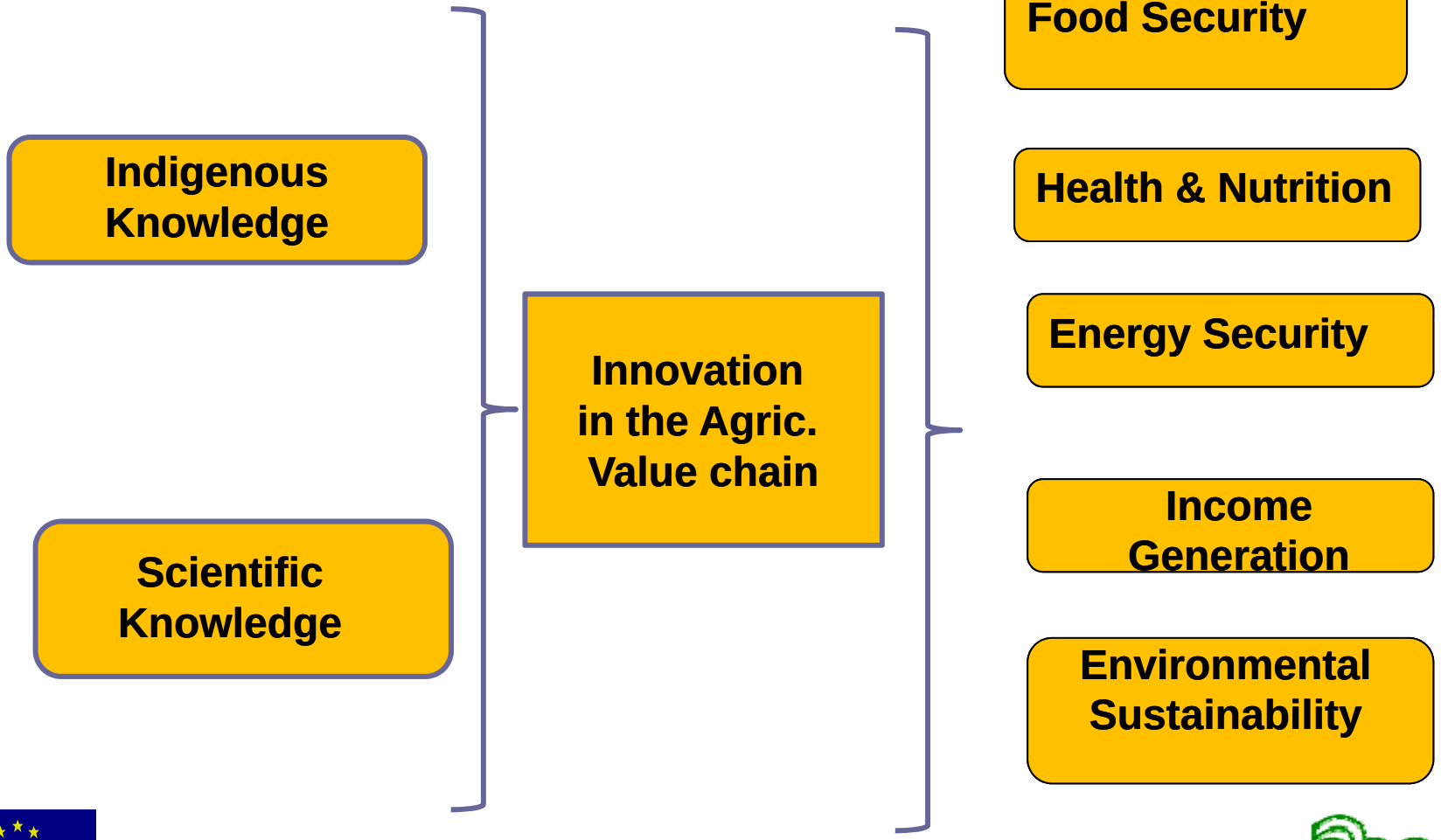
Pelargonium sidoides cultivation site, Eastern Cape



Devil's claw site, Kalahari, Northern Cape

*Lippie Javanica in  the field_Mosquito repellant*

# Key Messages



# Key Messages

- **Integrating IK into Research & Training agenda has benefits – but scientists and other actors need to!!**

  - ✓ **Recognize that IK was here before modern science and acknowledge IKS in its own rights**
  - ✓ **Make an inventory of locally based IK, empirically justified by experience etc**
  - ✓ **Ensure broad inter-disciplinary research and training for validation of promising IK that can be up-scaled**
  - ✓ **Follow ethical principles – cultural sensitivity, respect traditional practices and rights of inventors. Individual & collective responsibility or scientific community**

# Key Messages

- **Lessons learned**
  - Funding is needed to support R&D
  - IK holders must be integrated in scientific studies very early in the process (IK academy / council)
  - Integration & knowledge transfer is difficult – sometimes IK works and more often not: IK is a social practice specific to a local domain
  - IK research & teaching must be multi-disciplinary
  - Pitfalls should be avoided – Need to get buy-in from academic heads, policy makers and build trust of IK holders, be careful using other knowledge systems to affirm IKS

# Key Messages

## Policy recommendations

- IK, SK and Innovation should be a platform for solving the problem of food, nutrition, health and energy security, environmental sustainability, income generation and economic development
- Promote & support the organization of IK holders to strengthen their voice in the policy debate
- Build institutional framework for IK recognition and protection at the national level – IP laws, organizations and institutions, integrate IK standards, avoid risks of piracy
- Ensure national, regional & international
  - Coherence (CBD, WTO/TRIPS etc)
  - IP Systems (sui generis rather than patents)
  - Advocacy campaigns using regional policy organs

# Key Messages

- **Policy recommendations**
  - Promote empirical multidisciplinary research
  - Reform higher education curricula
    - IK inventories in first year
    - Analysis at postgraduate level
  - **For CTA**
    - Involve IK holders in ASTI platforms and build on the inclusiveness of ASTI system approach
    - Support opening research and HE institutions to the legal issues governing IK
    - Support publication series on IK case studies but analyze and identify success factors

# Conclusions

- ACP countries should invest in IKS as an important component of their strategy for growth and development and provide adequate funding for R&D
- Public/private partnerships are necessary for R&D and commercialization of promising IK discoveries
- ACP countries should put IKS policies in place – learn from South Africa e.g. favourable policies with economic incentives which enable IK practitioners to benefit
- ACP countries should strengthen agricultural extension services to support mainstreaming IK
- **CTA should convene an international symposium on IKS in 2012**

# THANK YOU