

Lessons learnt from capacity building in LMO detection in the Southern African Network of GM detection Laboratories (SANGL)

Viljoen CD¹, Mnyulwa D² and Maredza AT²

¹Human Molecular Biology Unit, School of Biomedical Sciences,
University of the Free State

²Regional Agricultural & Environmental Innovations Network (RAEIN)-Africa

T: +27(0)51 401 9111 | info@ufs.ac.za | www.ufs.ac.za

© Copyright reserved
Kopiereg voorbehou

UNIVERSITY OF THE
FREE STATE
UNIVERSITEIT VAN DIE
VRYSTAAT
YUNIVESITHI YA
FREISTATA



UFS·UV
HEALTH SCIENCES
GESONDHEIDSWETENSKAPPE

Cartagena Protocol on Biosafety: Need for capacity building

- **Protocol entered into force in 2000**
- **Current status of implementation in Africa**
 - ❖ **47 countries have acceded to the Protocol**
 - ❖ **27 countries have ratified the protocol**
(<https://bch.cbd.int/protocol/parties>)
- **Capacity building initiatives in Africa have not always paid dividends**
 - ❖ **Challenges in the political and socio-economic environment** (Araya-Quesada et al. 2010)



SANGL

SOUTHERN AFRICAN NETWORK FOR GM DETECTION LABORATORIES

- **Established in 2009**

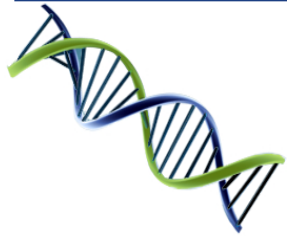
- ❖ **Two laboratories per country**

- ❖ **Nominated by Focal Points for the Protocol to ensure regulatory recognition**

- **SANGL members**

- ❖ **Laboratories in 13 countries**

- ❖ **Angola, Botswana, the Democratic Republic of Congo, Eswatini, Lesotho, Madagascar, Malawi, Mozambique, Namibia, South Africa, Tanzania, Zambia, Zimbabwe**



SANGL

SOUTHERN AFRICAN NETWORK FOR GM DETECTION LABORATORIES



Overview of SANGL activities

- **2009: Regional meeting to establish SANGL and set strategic goals and objectives**
- **2010: Train-the-Trainers workshop in GM detection in South Africa**
- **2011: Workshop to identify national and regional issues in LMO detection for SANGL to meet regional objectives in South Africa**
- **2013-2014: MCLP ICLT preparatory grant (RAEIN-Africa)**
- **2017-2023: MCLP ICLT project (RAEIN-Africa)**

Training workshop in South Africa 2011



Lessons learnt: Challenging environment for LMO monitoring

- **Lack of regulatory environment**
- **Insufficiently trained human capacity**
- **Lack of physical resources/laboratories**
- **Lack of access to affordable equipment and consumables**

Lack of regulatory environment for LMO monitoring

- **Countries may not have a functional regulatory system to manage LMOs**
 - ❖ **Countries use interim measures to manage LMOs**
 - ❖ **No mandate for LMO detection results in an inability to budget for LMO detection**
 - ❖ **Difficult to convince donors that LMO detection is a priority**

Insufficiently trained human capacity

- **Lack of trained human capacity in LMO detection**
 - ❖ **Capacity building develops expertise**
 - ❖ **Trained staff are upwardly mobile**
 - ❖ **Leave the institution without the benefit of the capacity building**

Lack of physical infrastructure

- **LMO detection has specific considerations regarding spatial orientation**
 - ❖ **Most laboratories are required to repurpose space to save on cost**
 - ❖ **It can be challenging to get funding to repurpose existing facilities**

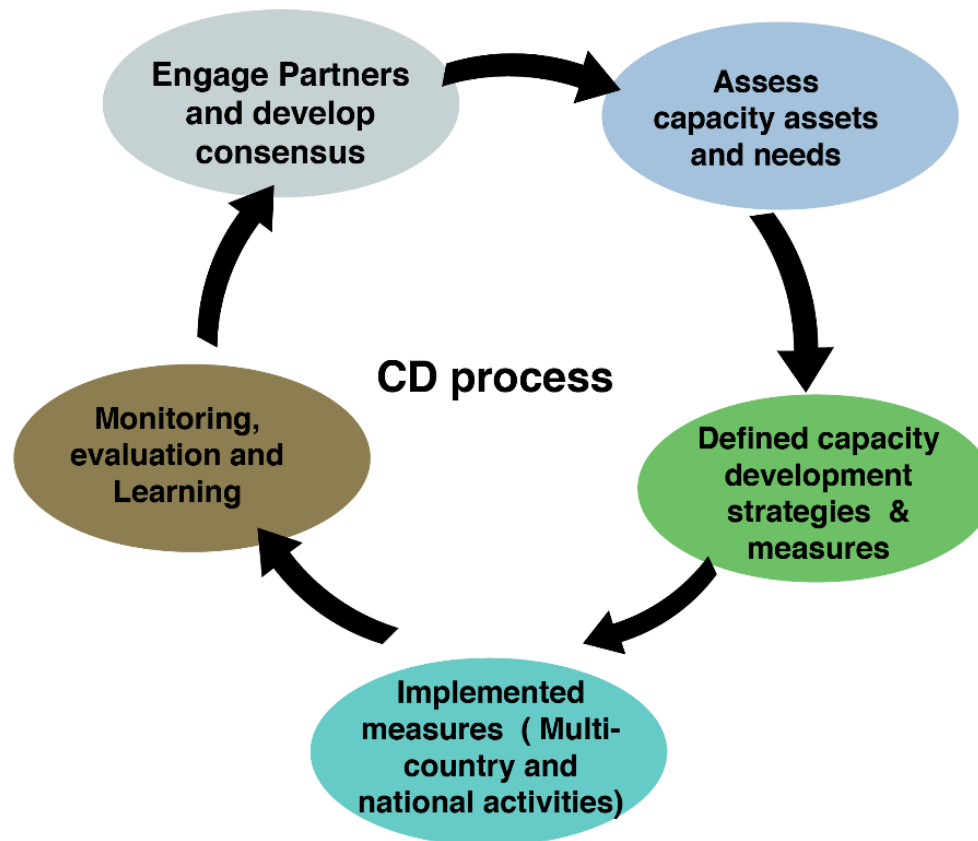
Lack of access to affordable equipment and consumables

- **Equipment and consumables are imported**
 - ❖ Cost two to three times more than in developed countries
- **In-country customs processes**
 - ❖ Processes are tedious, time-consuming and expensive
 - ❖ May lack cold chain facilities - can result in reagents being spoilt
- **Technical support for equipment**
 - ❖ Little technical support for equipment maintenance or adequate training
- **Institutional procurement processes**
 - ❖ Can be bureaucratic and result in delays or wrong procurement

MCP-ICTL project

- **2017-2023: Multi-country Project to strengthen Institutional Capacities on LMO testing in support of national decision making**
 - ❖ **Funding: UNEP-GEF**
 - ❖ **Project coordination: RAEIN-Africa**
 - ❖ **Countries: Angola, DRC, Lesotho, Madagascar, Malawi, Mozambique**

MCP-ICLT project: Cooperative development



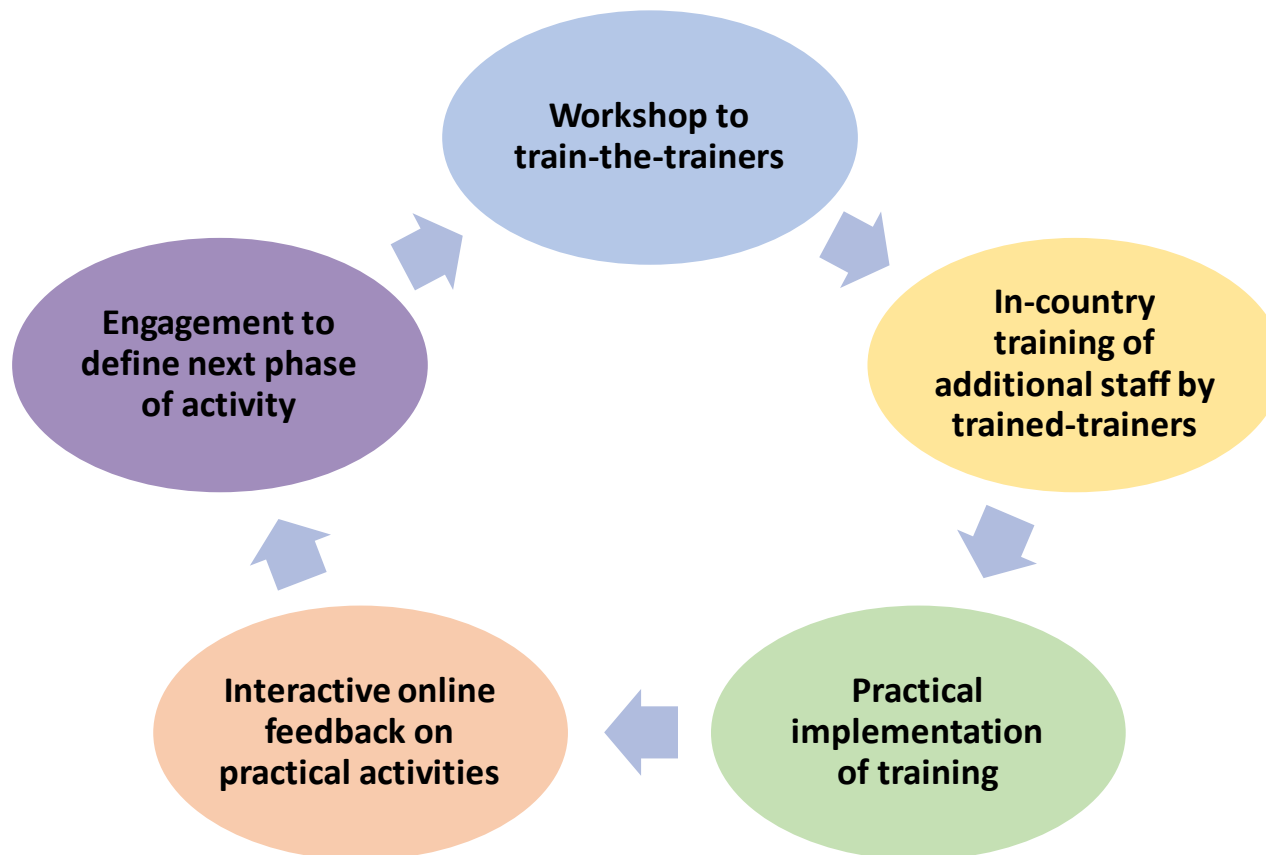
Capacity building objectives 1

- **LMO detection and quantification**
 - ❖ **Sampling for LMO detection**
 - ❖ **Qualitative LMO detection**
 - ❖ **Quantification of LMOs**
 - ❖ **Laboratory quality management**

Capacity building objectives 2

- **Supporting capacity building**
 - ❖ **Laboratory spatial orientation and process flow**
 - ❖ **Procurement processes**
 - ❖ **Communication and report writing**
 - ❖ **Costing of diagnostic services**
 - ❖ **Financial sustainability**

Multiplier effect: Reinforce training and develop additional capacity



Conclusions

- **Capacity building is more effective within the context of a supportive network**
- **Capacity building should take practical in-country considerations into account**
- **A reiterative approach to training ensures continual buy-in and implementation**
- **Multiplier effect: Reinforce training through in-country training and practical components**

Ke a leboha
Dankie
Thank You



T: +27(0)51 401 9111 | info@ufs.ac.za | www.ufs.ac.za

© Copyright reserved
Kopiereg voorbehou

UNIVERSITY OF THE
FREE STATE
UNIVERSITEIT VAN DIE
VRYSTAAT
YUNIVESITHI YA
FREISTATA

