



science  
& technology

Department:  
Science and Technology  
REPUBLIC OF SOUTH AFRICA



National  
Research  
Foundation

# Towards Resilient Futures Community of Practice

Workshop 24 May 2019



The CoP initiative is aimed at establishing collaborations amongst research chairs:

- ❖ Form strategic partnerships within the research community
- ❖ Conduct evidence-based research solutions to societal challenges
- ❖ Translate research findings into actionable policy

# SARChI Chair: Developmental Economics

Haroon Borhat



# SARChI Chair: Mineral Law in Africa

Hanri Mostert



# SARChI Chair: Bioprocess Engineering

Sue Harrison



# SARChI Chair: Minerals Beneficiation

Dee Bradshaw



# Driving Post-mining Industrial Development through Fibrous Multi- Product Value Chains

October 2017 – October 2019

# Study Context

- ❖ 6000 Abandoned mines in South Africa; more closures expected
- ❖ Post-closure environmental and socio-economic impacts
  - ✓ Polluted and degraded lands
  - ✓ Economic vacuum
- ❖ Post-mining land use for agriculture offers the potential to restore degraded land and stimulate economic growth beyond life-of-mine
- ❖ Fibre-producing plants have potential to create multi-product value chains and absorb metals from soils

# Study Objective

Explore whether fibre-rich plants, such as bamboo and bast fibres, can be used to remediate degraded land in a way that:

- ❖ is economically feasible,
- ❖ leads to enhanced economic complexity,
- ❖ promotes the establishment of a fibre micro-industry,
- ❖ creates higher value-add outputs
- ❖ provides employment opportunities

# Research Approach

- 1. Environmental perspective:** What are the environmental factors that influence the ability of rapidly growing, fibre-rich plants to remediate damaged & polluted land?
- 2. Engineering perspective:** What are processing alternatives & implications for downstream recovery of multi-value products?
- 3. Economics perspective:** How can economic complexity be built on the basis of an understanding of local socio-economic linkages?
- 4. Legal perspective :** What regulatory barriers exist, & how can they be addressed

9h25

## Welcome and contextualisation

*Jennifer Broadhurst*

9h40

## Session 1: Oral presentations

*Mine rehabilitation and crop cultivation*

11h40

## Session 2: Oral presentations

*Crop to products*

14h00

## Session 3: Round table discussions

15h35

## Guest lecture

*Ritva Muhlbauer: The Green Engine Initiative*

16h00

## Closing remarks