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Decoding the Future

WELCOME!

BREAKAWAY ROOM 1



Dr Dashnie Naidoo-Maharaj
Agricultural Research Council

Plant
Biodiversity

Indigenous
Knowledge

Scientific
Innovation

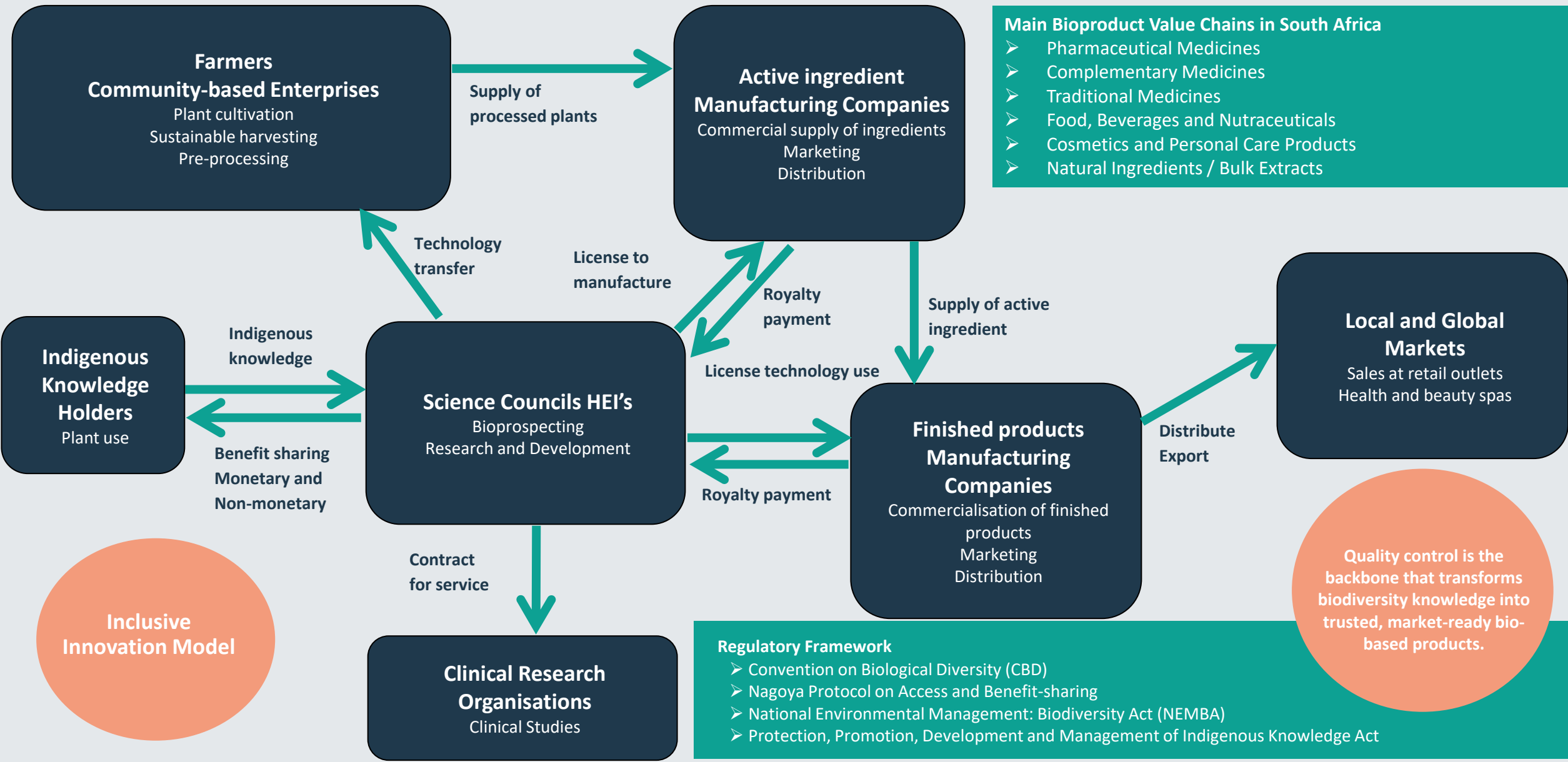
Commercial
Ingredients
and Products

**Respecting the Past, Innovating the Future:
Equitable Commercial Pathways for Indigenous Bio Resources**



Equitable Commercial Pathways for Indigenous Bioresources

PARTNERSHIP BETWEEN THE PUBLIC & PRIVATE SECTORS



Bioinnovation Value Chain Champion

SOLUTION TO ADVANCING EQUITABLE COMMERCIALISATION OF INDIGENOUS BIORESOURCES

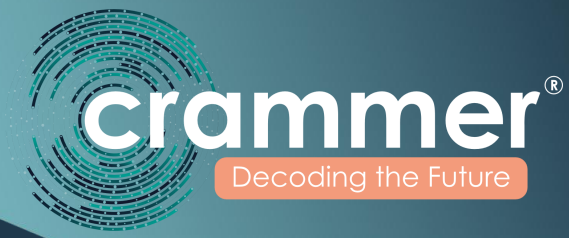
- ▶ Many bioresource initiatives fail because they focus on only one part of the value chain.
- ▶ A **bioinnovation champion** who understands the entire bioresource ecosystem is needed to align stakeholders, integrating biodiversity, indigenous knowledge, science, industry, and markets into a functioning innovation system.
- ▶ This ensures that commercialization is **efficient, equitable, and sustainable**, ultimately contributing to **economic growth and societal impact**.



Assist Traditional
Health Practitioners
Standardise African
Traditional Medicines

Assist SMMEs
Ensure safety, efficacy,
traceability, and
regulatory compliance

BREAKAWAY ROOM 1



Prof Mthokozisi Simelane | University of Johannesburg

**Respecting the Past, Innovating the Future: Equitable
Commercial Pathways for Indigenous Bio-Resources**



A CASE STUDY FROM OUR PROJECT



Our project began with traditional knowledge from Manguzi relating to a medicinal plant used for diabetes management.

Through scientific validation we:

- ▶ Isolated bioactive compounds
- ▶ Filed and secured a patent
- ▶ Developed a complementary medicine prototype
- ▶ Structured licensing discussions with industry

This was not theoretical. It required navigating TK, IP, ABS, regulation, and commercial negotiations simultaneously.

PRACTICAL CHALLENGE

TRUST VS SPEED

1

Challenge:

Commercial timelines move faster than community processes.

Reality:

- ▶ Community consultations take time
- ▶ Traditional leadership structures must be respected
- ▶ Expectations must be managed carefully

Tip:

Engage early — before grant submission and before patent filing.
Trust built early reduces legal risk later.

PRACTICAL CHALLENGE

2

ABS & IP MISALIGNMENT

Under National Environmental Management: Biodiversity Act, ABS compliance is mandatory.

Challenge:

IP timelines and ABS approvals do not always align.

Risks encountered:

- ▶ Delays in permit approvals
- ▶ Uncertainty during patent filing
- ▶ Institutional confusion about sequencing

Tip:

Map regulatory pathway at project inception — not midway.

ABS strategy must sit inside the IP strategy.

PRACTICAL CHALLENGE

3

PUBLICATION PRESSURE

Academic pressure to publish can undermine commercialisation.

We faced:

- ▶ Student graduation timelines
- ▶ Journal submission pressure
- ▶ Patent confidentiality requirements

Tip:

Establish internal publication–IP clearance protocols.

Train postgraduate students on commercialization awareness early.

PRACTICAL CHALLENGE

4

BENEFIT-SHARING EXPECTATIONS

Communities often assume immediate financial returns.

But product development includes:

- ▶ Preclinical testing
- ▶ Formulation costs
- ▶ Regulatory approvals
- ▶ Market entry delays

Revenue may take years.

Tip:

Design phased benefit-sharing:

- ▶ Short-term: training & capacity building
- ▶ Medium-term: project-based payments
- ▶ Long-term: royalties

Equity must be structured across time horizons.

PRACTICAL CHALLENGE

5

THE “VALLEY OF DEATH”

Between lab proof-of-concept and commercial product lies a funding gap.

High costs:

- ▶ Toxicology
- ▶ Stability studies
- ▶ GMP manufacturing
- ▶ Regulatory submissions

This is where many TK-based innovations fail.

Tip:

Secure industry partners early.

Structure licensing discussions before full scale-up.

PRACTICAL CHALLENGE

POWER IMBALANCE

6

Commercial negotiations can create imbalance between:

- ▶ Universities
- ▶ Industry
- ▶ Rural knowledge holders

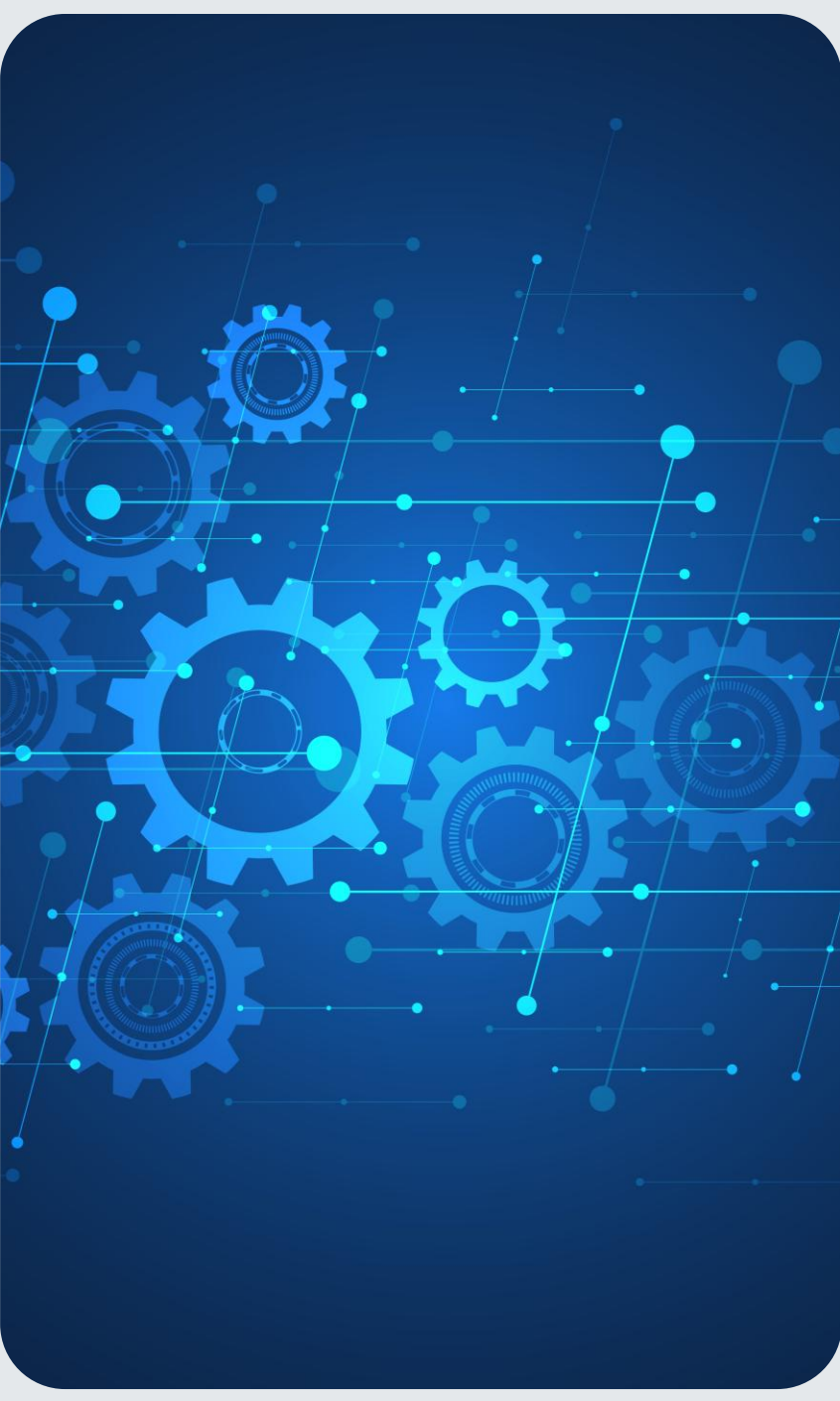
Without structure, communities remain symbolic stakeholders.

Tip:

Institutionalise benefit-sharing agreements.

Ensure community representation in governance structures.

Equity must be contractual, not informal.



What worked for us

Key enabling factors:

- ✓ Early community engagement
- ✓ Legal compliance integrated from day one
- ✓ Strong technology transfer support
- ✓ Clear IP ownership
- ✓ Transparent communication
- ✓ Structured licensing model

Commercial discipline strengthened — not weakened — equity.



Final practical message

From experience, three lessons stand out:

1. Commercialisation of TK is possible — but it is complex.
2. Legal structure is not a barrier; it is a safeguard.
3. Equity must be engineered intentionally.

If we respect the past strategically and innovate responsibly, Indigenous Bio-Resources can become sustainable economic drivers — not just research outputs.



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THANK YOU