

NATIONAL BIODIVERSITY ECONOMY DEVELOPMENT STRATEGY

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Biodiversity and Conservation



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OUTLINE

- RSA: A country rich in Biodiversity and TK
- Bioprospecting in RSA
- National Biodiversity Economy Development Strategy (**NBEDS**)
- NBEDS and DST's Bio-Economy Strategy



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SOUTH AFRICAN BIOLOGICAL DIVERSITY

- 3rd most biologically diverse country in the world, after Brazil & Indonesia.
- 3 oceans: the Atlantic, Indian & Southern Ocean.
- 2% of the world's land area, contains
 - 10% of the world's plants
 - 7% of the reptiles, birds and mammals
 - 15% of known coastal marine species



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SOUTH AFRICAN CULTURAL DIVERSITY

- SA comprises of different cultural groups who have lived close to nature for generations.
- SA's diverse culture has resulted in rich TK on the properties of plants, seeds, animals, algae & other biological resources
- *Biodiversity* + *traditional knowledge* = **Green Gold**
- SA's green gold is desired by national and multi-national industries to develop commercial products.



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BIOPROSPECTING/BIOTRADE IN RSA

- 88 organizations with bioprospecting products ~ 601 products
- 207 species potentially used in bioprospecting
- Top three resource account for 50% of the products and includes products containing:
 - *Aloe ferox* (Bitter aloe)
 - *Aspalathus species* (Rooibos)
 - *Pelargonium sidoides*



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BIOPROSPECTING/BIOTRADE IN RSA

Resource: *Aloe ferox*

- Mostly wild harvested
- In 1996, estimated rural industry supported by wild harvested *A. ferox* = R4million per annum
- In 2006, this figure was adjusted to R8-9 million per annum
- If growth in the industry is added = R12-15 million per annum



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UTILISATION OF SOUTH AFRICA'S IBR AND TK

- In the context of Bioprospecting, historically controlled by government in an uncoordinated manner.
- This has led to numerous cases of –
 - Unfair, inequitable & no sharing of benefits arising from bioprospecting with indigenous & local communities on the utilisation of their IBR & TK.
 - Unsustainable use of IBRs.
 - Poor management and conservation of IBRs.
- These concerns were addressed through introduction of International & National legislation.



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- Convention on Biological Diversity
 - South Africa Party since 1995
- Nagoya Protocol on Access and Benefit Sharing
 - South Africa ratified in January 2013
- National Environmental Management Act, 1998
- National Environmental Management: Biodiversity Act, 2004 (NEMBA)
- Regulations on Bioprospecting, Access and Benefit-Sharing, 2008

International



National

Amendment Bioprospecting, Access and Benefit-Sharing Regulations



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MAIN POLICY OBJECTIVES

- To establish **clear & appropriate rules for access** to IBRs for bioprospecting activities in order to attain conservation, sustainable utilization and socio-economic development goals.
- To make **obligatory requirement to seek PIC** from the ILCs who are the holders of TK associated with IBRs before undertaking bioprospecting activities.
- To ensure **fair & equitable sharing** of the benefits arising from bioprospecting with ILCs through MAT.
- To provide **simplified procedures** for non-commercial research.



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**Export of plants
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**Biodiversity and
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**Government
Entities**

**CSIR
ARC
MRC
TIA
SEDA
SABS**

**Department of
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**Intellectual
Property Rights
and Business
Development**

**Department of
Science and
Technology**

**Intellectual
Property Rights, TK
documentation**



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Full Potential Yet?

| <i>Resource</i> | Estimate of the current size of the market based on resource use estimates from literature (Rands per year) | Estimate of the potential size of the market for bioproducts based on applications for resource utilisation (Rands per year) |
|----------------------------------|---|--|
| <i>Aloe ferox</i> | 196,000,000 | 200,000,000 |
| <i>Pelargonium sidoides</i> | 14,000,000 | 500,000,000 |
| <i>Bulbine frutescence</i> | 7,000,000 | 280,000,000 |
| <i>Galenia africana</i> | 7,000,000 | 280,000,000 |
| <i>Helichrysum odoratissimum</i> | 5,000,000 | 200,000,000 |
| <i>Flueggae virosa</i> | 5,000,000 | 200,000,000 |
| <i>Harpagophytum procumbens</i> | 37,000,000 | 140,000,000 |
| Other | 9,000,000 | 350,000,000 |
| Total | 280,000,000 | 2,150,000,000 |



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NBEDS

- **Scope:** Commercialisation & trade of RSA's biodiversity & its components.
- **Aim:** Implementation framework to achieve optimum economic benefits—direct, indirect and induced—from the commercialisation of biodiversity in South Africa.



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NBEDS

- **Key sectors:** Indigenous natural products and wildlife sectors.
- **Timeframe:** Ten year strategy



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NBEDS: 5 MAIN ACTIONS

- Provide national **coordination, leadership and guidance** on the commercialisation and trade of South Africa's biological diversity and the components of such biological diversity of South Africa.
- Promote and support the **sustainable commercial use** of such biodiversity.



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NBEDS: 5 MAIN ACTIONS

- Contribute to the **transformation** of the biodiversity economy sector.
- Establish a **facility** for the promotion and enhancement of the use of biodiversity compounds.
- Leverage **funding** for NBEDS implementation, including the establishment and operation of the **National Compound Library**.



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NATIONAL COMPOUND LIBRARY

Purpose:

- Stock take and conserve RSA's biodiversity.
- Promotion and enhancement of RSA's biodiversity.
- Linking Traditional Knowledge associated with biodiversity use.
- Sustainable utilization of RSA's biodiversity.



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NBEDS KEY AREAS

1. Setting overall policy approaches in the indigenous natural and wildlife sectors
2. **Determination and development of value chains** in the indigenous natural and wildlife sectors
3. **Institutional arrangements** for the management, regulation and support to the indigenous natural and wildlife sectors (including industry associations / forums)
4. **ABS** within the indigenous natural product sectors
5. Valorisation / beneficiation strategies for the indigenous natural and wildlife sectors



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NBEDS Key Areas

6. **Certification** of indigenous natural and wildlife products
7. **Quality standards** of indigenous natural and wildlife products
8. **Supply side capacity / international demand** of indigenous natural and wildlife products
9. **Contribution to livelihoods / poverty reduction** through indigenous natural and wildlife products
10. **Conservation** of biodiversity through sustainable use of indigenous natural resources and wildlife
11. **Harmonisation** of policies / strategies in the biodiversity economy sector



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NBEDS KEY AREAS

12. Facilitate **private sector investments** and **Public-Private Partnerships**
13. **Infrastructure development** for the biodiversity economy
14. **Transformation** of the biodiversity economy
15. **Coordination of research** in the indigenous natural and wildlife sectors
16. Champion communication, **awareness raising** and information dissemination of the biodiversity economy initiatives
17. Set up **reporting mechanisms** on impact of NBEDS interventions



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NBEDS & DST'S BIO-ECONOMY STRATEGY

Complimenting Strategies towards promoting:

- Green and inclusive Economy
- Natural product development inspired by Indigenous Knowledge Systems / Traditional Knowledge
- Intellectual Property Rights/Ownership
- Partnerships
- Sustainability of Resource and Industry - ***National Compound Library***
- Alleviating poverty and unemployment



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NBEDS Choreography

Branch Biodiversity & Conservation

CD: Biodiversity Economy and Sustainable Use

Directorate: Bioprospecting & BioEconomy

- *Dr Moscow Marumo*

Chief Director: Biodiversity Economy and Sustainable Use

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