

Value of ecosystem services to South Africa's economy

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What are ecosystem services?

Ecosystem services are benefits (goods & services) that humans obtain from ecosystems

An ecosystem is:

“a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit”



Source: Britannica, 2024

Types of ecosystem services



Provisioning services - relate to the supply of food, raw materials, energy, medicinal resources, rangelands, livestock fodder, etc.



Regulation services - relate to flood control, carbon storage, control of wastes, sediment retention, pollution control, seed dispersal, etc.



Maintenance/supporting services - necessary for the production of other ecosystem services, e.g. nutrient cycling, primary production, provision of habitat, soil formation, etc.



Cultural services - non-material benefits that contribute to wider needs and desires of society, e.g. aesthetic values, spiritual and religious, educational and recreation (ecotourism)

Sources: Markandya, 2019; Elbasit et al., 2021; Turpie et al., 2021

What is value?

The value of something is its importance or usefulness

(Collins Dictionary)

Different types of value, including:

- ☐ Functional
- ☐ Monetary
- ☐ Social
- ☐ Psychological



Total economic value =

Direct use values



Indirect use values



Non-use values



'Consumptive'

- e.g. direct harvest of forest products, fish or medicinal plants, etc. or
'non-consumptive' -
e.g. recreation



Provide an **input into another activity** which has economic value, e.g. pollination, flood mitigation, etc.



Includes **option**, **bequest** and **existence** values

Overall value of ecosystem services

The value of ecosystem services provided by South Africa's terrestrial, freshwater and estuarine habitats:

+R275 billion per annum

+benefits to the rest of the world

+a major source of **direct income to poor households**

+provide considerable **non-market benefits**

Source: Turpie et al., 2017



Source: Expedia, 2024

Overall value of ecosystem services

Total ecosystem service values for South Africa change over time as a result of **land-use change**

The 2019 calculated value was:

▣ **USD 437 billion ~125% of GDP**

Source: Elbasit et al., 2021



Value: Biotrade

The GDP contribution of bioprospecting/biotrade - **approx. R1.85 billion** (2020)



The largest resource use in products is ***Aloe ferox*** (bitter Aloe) followed by, bee products, *Aspalathus linearis* (rooibos) and *Pelargonium sidoides*



The **total revenue produced from value-added bioproducts** in the domestic retail market was approximately **R1.5 billion** in 2013



Traditional Medicines market valued at **approx. R2.9 billion a year**
= 5.6% of the national health budget (2007)

Sources: NBES, 2024; South African Department of Forestry, Fisheries and the Environment, 2023; Mander et al., 2007

Value: Tourism

Tourism related to biodiversity:

- generated a direct spend of **R 31 billion in 2015**
- created more than **88,000 direct jobs**
- accounted for more than **R1 billion in taxes on products**

Sources: DAFF, 2013 in Driver et al., 2019; Joubert & Poole, 2018



Value: Fisheries

Total value of **subsistence fishing** estimated at approx. **R16 million** with approx. **29,000 fishers** involved in 2016

Approx. **1.3 million recreational anglers** with an annual spend of **R17 billion**

Source: SACRAA, 2017



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Value: **Wildlife ranching and hunting**

- Estimated size of the **wildlife product market exceeded R580 million** in 2013
- **Taxidermy and tannery services** are estimated at **R580 million per year**
- The total economic contribution of the hunting sub-sector estimated at **R14.4 billion**
- **67% of the value** of the hunting sub-sector comes from ancillary goods and services



Credit: Gregoire Dubois

Sources: South African Department of Forestry, Fisheries and the Environment, 2023; Taylor et al., 2015

Why is any of this important?



Key **growth opportunity** for South Africa



South Africa has a **comparative advantage**



Diversification is needed to **reduce risk & build resilience**



Extensive **value chains & multipliers** possible

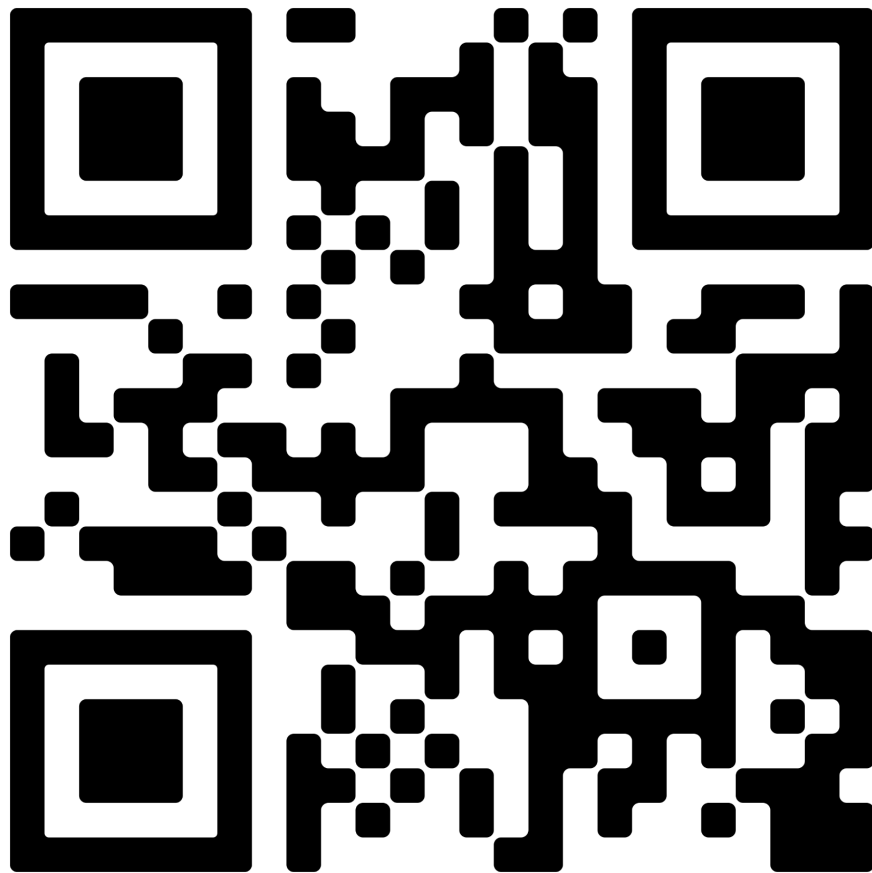


If sustainably managed, **aligns conservation & development**

Result in the recognition of nature as
a key strategic asset & encourages investment in it

Source: Snyman et al., 2021

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Threats to ecosystem services

- the **overharvesting** of resources
- **overgrazing** leading to degradation in some areas
- bush **encroachment**
- the spread of **invasive alien plants**
- the **loss of habitat** due to expanding cultivation, human settlements and other activities such as mining
- **Illegal, unregulated and unreported** use
- **climate change**

Source: Adapted from Turpie et al., 2021





**“You can’t manage what
you don’t measure”**

- Peter Drucker

Recommendations to improve understanding the value of ecosystem services

 Produce **enhanced national land cover and land use data series**

 Develop processes and systems to gather consistent, comparable **agricultural, general resource use & biodiversity economy statistics** – including subsistence and small-scale

 **Centrally collate and consistently & regularly report all statistics**

 Undertake **further, and ongoing research and modelling** to improve methods and estimates and to fill data gaps

 **“You can’t manage what you don’t measure”**
Peter Drucker

Source: Adapted from Turpie et al., 2021



Credit: Crazy Egg Inc, 2024

Be aware of all the ecosystem services that you rely on daily – in the food you eat, the clothes you wear, the water you drink and instead of being a conservationist, become an **environmental investor** or environmental economist: creating economies in and around nature for the benefit of the planet and her people.

Thank you

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