

# Conceptual model for sustainable natural resource use in South African National Parks

Dr. Kelly Scheepers

South African National Parks, Conservation  
Services, PO Box 110040, Hadison Park,  
Kimberley, 8306

Email: [kellys@sanparks.org](mailto:kellys@sanparks.org); Tel: 053 832 5488;  
Fax: 053 833 4543



# Background

With growing pressure on natural resources in South Africa (particularly by the rural population), and many communal resources in a poor state, SANParks has taken up the challenge to investigate requests and identify opportunities whereby local communities neighbouring national parks can be granted access to park resources for subsistence use in a manner which is sustainable, and so as not to compromise South Africa's biodiversity. Consistent with the community based natural resource management movement in South Africa, this shift in conservation policy from preservationist to people-friendly also aims to address the inequalities of the past with regard to all people's access to resources and development opportunities. Although local communities are anticipated to be the largest resource user group, the feasibility of resource use requests by other relevant stakeholders such as SANParks staff, SANParks business (e.g. concessions), small-scale entrepreneurs (e.g. arts and crafts centre) and researchers will also be investigated.

# Background

However, as national parks have traditionally been managed with a no-use policy, there is no baseline data to guide the setting of sustainable use levels. Moreover, socio-ecological systems are complex, often with multiple driving factors that cut across different spatial and temporal scales, as well as a degree of uncertainty and unpredictability. Hence, research calls for an integrated approach that recognizes the interconnections between the different components of the system.

# Key elements for a SANParks approved research project on resource use

- Adopts a systems approach
- Acknowledges that social and ecological systems are inextricably linked
- Works across disciplines
- Is multi-scalar
- Aims to develop a set of adaptive and flexible resource management strategies
- Combines different types of knowledge (e.g. local and scientific knowledge)
- Combines different techniques and methodologies, or develops new ways of quantifying and monitoring sustainable resource use levels
- Fits within SANParks research framework

# SANParks research framework for resource use

This framework assumes that people's resource use patterns, determined by the trade-off between resource availability (including what resources are gained from access to the park) and the accessibility costs (i.e. the costs of obtaining these resources e.g. travel costs), directly impact on the natural resource base (e.g. national park), and the ecosystem goods and services it provides, and vice versa. Furthermore, people's livelihood strategies (e.g. their income, expenses, savings and dependence on ecosystem goods and services), their social assets (e.g. local knowledge, culture and beliefs) and institutions (e.g. formal laws and local rules regarding resource use) also influence their resource use patterns, and therefore, indirectly impact on the natural resource base, and the ecosystem goods and services it provides.

# SANParks research framework for resource use

In turn, this socio-ecological system is subject to external socio-economic and political factors (e.g. a change in political ruling party), as well as external ecological factors (e.g. droughts or floods). Ultimately, understanding these interconnections will better enable us (SANParks) to manage the system, set sustainable resource use levels, and be able to predict the implications of social, ecological and economic changes in the system for sustainability.

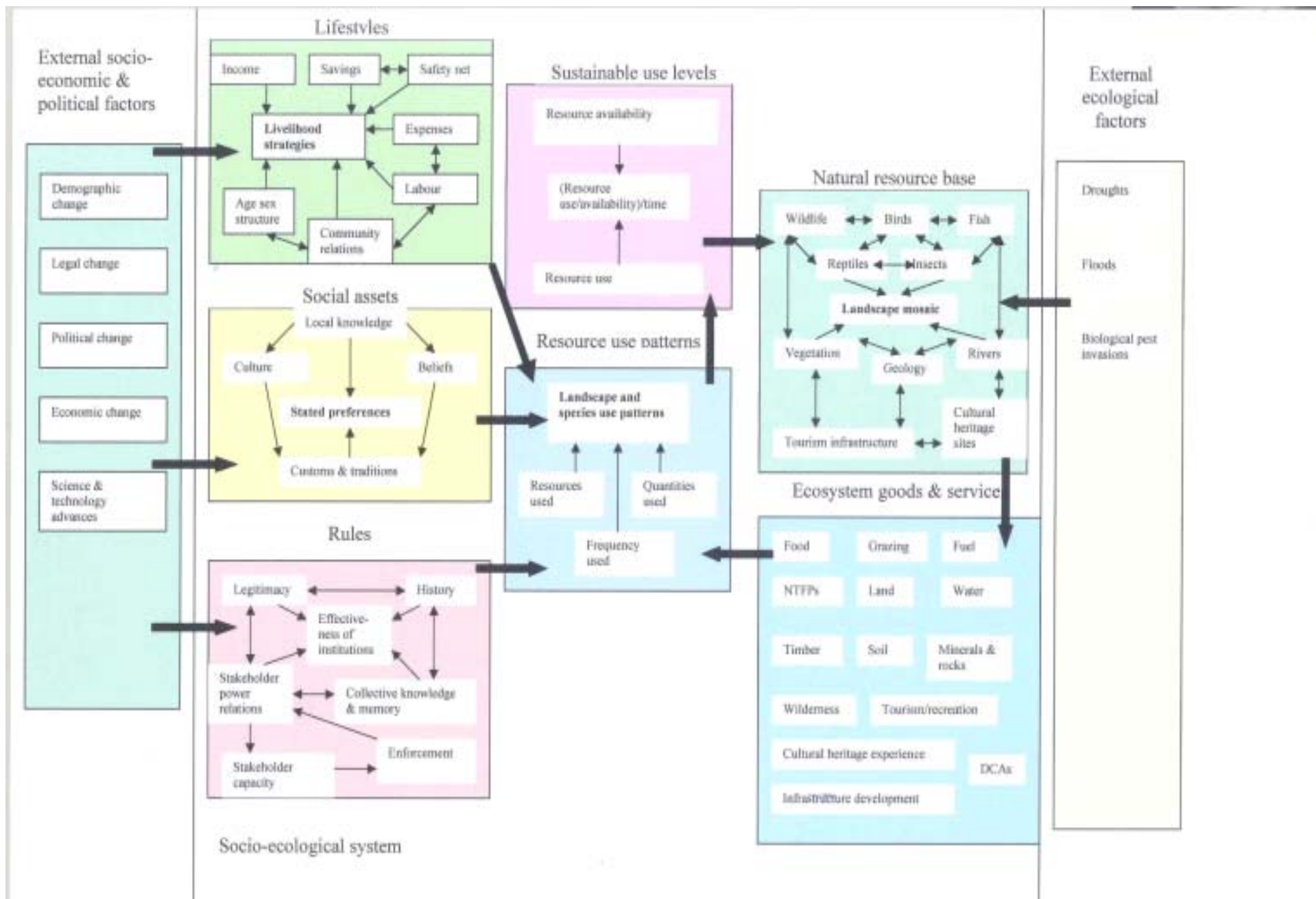


Figure 1: SANParks research framework for resource use

# Research priorities for projects

- Inventory of ecosystem goods and services
- Quantification of sustainable resource use levels
- Development of monitoring indicators (TPCs) for sustainable use
- Development of park-level resource use policies and procedures
- Livelihood studies – what is the relative importance of different ecosystem goods and services to communities, and potential demands on park resources?
- People's preferences versus their actual resource use patterns – what trade-offs do people make in their resource use decisions, what are feasible alternatives to the use of park resources?
- Managing parks for resource use and biodiversity conservation – under what circumstances are these different land uses complementary and conflicting

# Research priorities for projects

- What are the driving factors (ecological, social, economic, political etc.) of the system?
- What are the differences in effect on biodiversity of natural and anthropogenic disturbance?
- Institutional analyses – what can scientists learn from local knowledge, and what can local communities learn from science?
- Valuation of ecosystem goods and services – how to quantify all the costs and benefits (tangible and intangible, direct and indirect), what should be the discount rate?

# Contact details

- Research proposals can be submitted to any of the following persons:
- Kelly Scheepers ([kellys@sanparks.org](mailto:kellys@sanparks.org))
- Rina Grant ([rinag@sanparks.org](mailto:rinag@sanparks.org))
- Louise Swemmer ([louises@sanparks.org](mailto:louises@sanparks.org))