



**TERRESTRIAL ECOLOGY
RESEARCH UNIT**

STRATEGIC FRAMEWORK

2002-2006



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RESEARCH UNIT**



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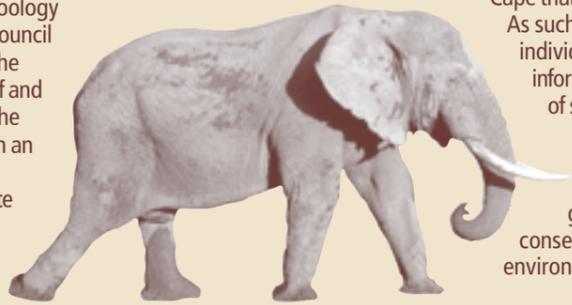
CONTENTS

INTRODUCTION	2
STRATEGIC FRAMEWORK	2
Vision and Mission	
Conceptual framework	
Concepts	
External environment	
<i>Biological</i>	
<i>Institutional</i>	
<i>Political</i>	
Assumptions	
Principles	
<i>Self-resourcing</i>	
<i>Setting priorities</i>	
<i>Flexibility</i>	
<i>Marketing</i>	
<i>Management</i>	
STRATEGIC DIRECTIONS	5
Niche	
Size	
Internal structure	
Collaboration	
Marketing	
Structure, governance and resources	
PROGRAMMES	6
Research	
Training	
Community Services	
Scientific Services	
Consultancy work	
Marketing	
STAFF	8

INTRODUCTION

The formation of the Terrestrial Ecology Research Unit (TERU) was approved by the Council of the University of Port Elizabeth in 1991, in response to a need for terrestrial ecology training opportunities for postgraduate students and for terrestrial ecological research by conservation and environmental management agencies. TERU began operating in 1992, within the Zoology Department, and in 1997 it received Council recognition as a research unit within the Faculty of Science. TERU comprises staff and postgraduate students, principally of the Zoology and Botany Departments, with an Advisory Board comprising representatives of State, NGO and private conservation and environmental management interests.

As of July 2001, TERU has produced 72 scientific papers, 18 book chapters, 9 papers in published conference proceedings, 2 conference proceedings, 42 professional reports and 36 popular articles. In addition, 135 conference presentations have been made. Contributions towards student training include 21 Honours projects and 21 Masters and Doctoral dissertations and theses. These products have made a significant contribution to the development of human resources and to the sustainable utilisation of natural resources in the Eastern Cape and beyond. In addition, TERU staff and associated students are involved in community-based programmes, including



environmental education and the provision of a broad range of environmental advice.

TERU, which has received a number of awards in recognition of its work, is the only university-based agency in the Eastern Cape that focuses on the terrestrial environment. As such it is a unique resource for those individuals and organizations requiring information, research and training in the fields of sustainable natural resource use and planning. Over the last nine years, TERU has attracted support from a wide variety of funding agencies, including government departments, parastatals, conservation agencies, international environmental organisations and NGOs.

Approaching the end of its first decade of existence, it is appropriate that TERU develops a strategic framework that serves to guide and focus TERU's activities into the future. The development of the framework presented in this document, has been influenced by (i) a SWOT analysis and (ii) the expansion and consolidation of TERU.

The document is divided into two parts: (i) a strategic framework (vision, mission, conceptual framework etc), (ii) a list of programmes that will ensure that TERU implements its Mission and strives towards its Vision over the next five years.

STRATEGIC FRAMEWORK

VISION AND MISSION

The Vision of TERU is to achieve by 2006, national and international recognition as a terrestrial ecology research and postgraduate training unit of excellence.

The Mission of TERU is to develop scientific knowledge of the ecology and conservation of terrestrial ecosystems, especially in the Eastern Cape and adjacent regions of high biodiversity, which will enable communities to make wise environmental management decisions. In achieving its Mission TERU will build human capacity through postgraduate training.

CONCEPTUAL FRAMEWORK

Concepts

Conceptually, TERU is a research institution involved in the following:

- ❖ applied and fundamental research;
- ❖ training of postgraduate students;
- ❖ community service, involving two major activities:
 - ◆ representation on committees, statutory and civil non-governmental organizations, that influence conservation interventions;
 - ◆ communicating information to the public;
- ❖ service to science through representation on professional committees, and includes referee, review and editorial duties;
- ❖ consultancy work, providing professional services.

External environment

This includes the following aspects: biological, institutional, and political.

Biological

The biological arena for TERU is primarily the Eastern Cape, a unique area supporting high regional biodiversity in the form of two global hotspots of diversity, (the Cape Floral Region and the Succulent Karoo), two IUCN centres of endemism (the Albany Centre and the Pondoland Centre), the juxtaposition of diverse biomes and the complexity of their ecotones and transitions, the presence of large carnivores and megaherbivore-dominated ecosystems. In addition, the absence of tropical diseases reduces restrictions on research activities.

There is excellent scope for attracting international participation in local research on wildlife biology, plant-animal interactions, conservation biology and biodiversity.

Institutional

TERU is, and will remain a largely self-financing research and postgraduate training institution located in the Faculty of Science, University of Port Elizabeth. The Unit takes full cognizance of, and conforms to, the University's strategic planning initiatives, research programmes and postgraduate policies. The administrative support and infrastructure available to the Unit, including that from various academic departments, facilitate efficient and effective research and training activities.

In implementing this strategic framework, TERU is mindful of the changes occurring within the University in terms of academic and administrative functioning and general strategic planning. The Unit will seek to ensure that it remains informed of the role, shape and size of all institutions relevant to its activities.

TERU will endeavour to bring about transformation in its leadership. Equity at other levels is in keeping with national and University policy. TERU will endeavour to correct this situation by being alert to opportunities for recruitment of staff and students from underrepresented groups.

Political

South Africa's democratic government, its political stability, and its obligations as a signatory to international conventions provide the opportunity for TERU to source research funds from international agencies, develop international research partnerships and participate in international research programmes.

TERU's location within the Eastern Cape, one of South Africa's poorest provinces, means that it is well positioned to provide information and capacity-building in support of socio-economic development based on the conservation and judicious exploitation of the region's natural resources.

Assumptions

In the compilation of TERU's strategic framework, the following assumptions are made that:

- ❖ the University of Port Elizabeth (UPE) will retain a research capacity;
- ❖ UPE cannot provide sufficient support for all TERU's requirements;
- ❖ there will be continued pressure on TERU staff to demonstrate excellence in research, training, community service, scientific service, and administration;
- ❖ local scientific research funding (National Research Foundation (NRF), University Research Committee, World Wide Fund-South Africa, etc.) will continue to decline in real terms;
- ❖ although opportunities for research funding from new, and mainly international sources (Global Environment Facility, Conservation International, European Union, U.S. National Science Foundation etc.) will increase, nevertheless, access to these funds will require a specialized approach;
- ❖ students will be attracted from outside UPE;
- ❖ owing to the training-based nature of NRF grants, the competition for good postgraduate students will increase;
- ❖ the potential exists to attract foreign researchers and students.

Principles

TERU has adopted the following principles in order to overcome constraints on achieving its Vision over the next five years.

Self-resourcing

TERU will have to become more active in finding funds for research, training and administration, outside of UPE.

Setting priorities

TERU will consider, on an ongoing basis, its role, size and internal structure. Given its limited resources, in terms of both finance and capacity, the Unit will ensure that research, training and community service activities will be strategically prioritized.



Flexibility

TERU will maintain flexibility for finding solutions to problems that may constrain the Unit in achieving its Mission. It will also respond to unanticipated opportunities as they arise.

Marketing

In order to accomplish its Mission, TERU will achieve visibility and a brand status amongst its stakeholders.

Management

The core staff of TERU (listed under STAFF pg 8) maintains a generally flat structure and operates according to the different strengths of the various individuals.



STRATEGIC DIRECTIONS

Niche

TERU occupies a unique position in that it:

- ❖ is a university-based terrestrial research institute;
- ❖ raises much of its own funding;
- ❖ conducts research through post-graduate training;
- ❖ delivers community services;
- ❖ delivers scientific services;
- ❖ collaborates with a wide range of experts;
- ❖ focuses primarily on Eastern Cape issues.

Size

TERU comprises a core of three research and management staff members, a variable number of research assistants on short-term contracts and postgraduate students. Strategies for maintaining an effective size include focussing on a limited number of priorities; increasing skills and resource bases by recruiting good postdoctoral researchers, expanding collaboration with Research Associates and by contracting researchers and institutes for specific activities. The aim is to keep the Unit compact, i.e. student numbers should reflect the Unit's capacity. Nonetheless, TERU will remain flexible enough to capitalize on promising opportunities.

TERU will need to expand its facilities in order to achieve its Mission.

Internal structure

The internal structure of TERU is as follows:

- ❖ Core Staff (Director and two Alternate Directors),
- ❖ Administrator (Contract),
- ❖ Postgraduate and postdoctoral students,
- ❖ External expertise, e.g. GIS, resource economics, statistics, remote sensing.

TERU's internal structure will remain sufficiently flexible to achieve its strategic goals. For example, the skills base in TERU might be broadened through the use of in-house consultants and Research Associates.

Collaboration

TERU will maintain and develop productive collaborative interactions with a wide variety of individuals and institutes, both locally and abroad. Links with other institutes will enhance facilities such as libraries, computer equipment, etc. A special effort will be made to import skills by inviting collaborators to become Research Associates. These collaborative efforts can be formalized by memoranda of understanding where appropriate.

Marketing

TERU's profile will be maintained, both internally (within UPE) and externally, through :

- ❖ scientific outputs;
- ❖ popular articles;
- ❖ interviews;
- ❖ conferences;
- ❖ media releases through UPE, the press, etc.;
- ❖ a website on the Internet.

STRUCTURE, GOVERNANCE AND RESOURCES

Structure and governance

The key University of Port Elizabeth (UPE) management components affecting TERU are the Faculty of Science, the TERU Advisory Board, the Botany and Zoology Departments, and the Director. TERU operates under the auspices of the Dean of Science to whom it reports annually (in the form of an Annual Report). The Dean of Science reports to the University Council on the Unit's research and extension programmes, staffing needs and funding. The Advisory Board is appointed by the Director.

The Director is responsible to the Dean for all TERU activities. The primary functions of the Director are to:

- ❖ provide leadership for all programmes executed by the Unit;
- ❖ be responsible to the Dean and the Advisory Board for the implementation of the TERU Strategic Framework;
- ❖ keep the Dean and the Advisory Board informed on all activities within TERU especially those that might influence the achievement of its Mission;
- ❖ promote the establishment and maintenance of mutually beneficial relationships with organizations, institutes and individuals that may affect TERU;
- ❖ identify and facilitate access to sources of funds required for undertaking TERU's programmes;
- ❖ ensure that TERU is represented in the national and international scientific and conservation communities;
- ❖ ensure that the Strategic Framework is reviewed regularly and amended as changing conditions require;
- ❖ promote the development of TERU staff through updating job descriptions and providing regular feedback.

Resources

TERU receives core support (funding for certain staff members and administration facilities) from UPE, but a large portion of funds, for running expenses and research, are raised from external sources. Additional resources are accessed through collaboration with Research Associates and colleagues from many cognate institutes. TERU allocates resources to limited community and scientific service programmes contributing to professional, statutory and civil committees; and communicating information to a broader public.

Where possible, funds will be secured in interest-bearing accounts, an action that requires specific instructions to be given to the University administrators.

The office space presently occupied by TERU is sufficient to meet current requirements. Additional infrastructure and space will be needed by 2002, to enable the 5-year programme (2002-2006) to be successfully implemented. Currently (2001), transport facilities are adequate.

PROGRAMMES

The following is a brief overview of the research, training, community service, and consultancy activities within TERU.

RESEARCH

The research fields covered by TERU are diverse and include both applied and fundamental components. Special emphasis is placed on the terrestrial ecosystem in the Cape Floral Kingdom, Succulent Karoo and Subtropical Thicket ecoregions.

The strengths of the Unit's members and associates are incorporated in the following Research Themes

Conservation Biology

This theme seeks to identify priorities in terms of areas and implementation options for the efficient and effective long-term conservation of populations, species, habitats, as well as the ecological and evolutionary processes that maintain them. TERU has developed particular skills in conservation planning and is well positioned to make significant advances of high academic and applied impact.

Animal-plant Interactions

This theme seeks to develop an understanding of the nature of the interactions between animals and plants and a predictive understanding of perturbations associated with animal impacts on communities and ecosystems. It will draw on the considerable experience that TERU has developed on the impacts of megaherbivores on thicket vegetation as well as granivory and dispersal ecology.



Resource Ecology

This theme seeks to develop a predictive understanding of the responses of biota to different forms of utilisation. This information will enable TERU to contribute to the development of management interventions for the sustainable use of natural resources, and reflects TERU's ability to address both floral and faunal research questions.



Transformation and Restoration Ecology

This theme seeks to understand the cause and consequences of ecosystem transformation across all levels of integration to provide

guidelines for restoration of biodiversity and ecosystem function. This theme draws and builds on information and experience available in TERU.

Biodiversity

This theme seeks to gain a predictive understanding of the patterns, determinants and function of biodiversity. This theme underpins much of TERU's research, and the Unit has developed the capacity to address many issues in biodiversity research.

Fundamental Research

This theme seeks to encourage research on any intellectually interesting ecological or evolutionary question. This allows TERU researchers to express their unrestrained curiosity and enthusiasm to pursue themes in addition to those listed above.

TRAINING

TERU's training programme is aimed at attracting and producing high calibre postgraduate students and postdoctoral fellows through providing excellent supervision, appropriate facilities, and adequate resources.

The principle of using research projects to train students underlies TERU's training approach.

Interaction with stakeholders, participation in project development and management, participation in consulting work and the production of scientific outputs is actively encouraged in TERU's training programme in order to produce well-rounded graduates who are well-equipped to enter the workplace in their chosen fields.

COMMUNITY SERVICES

The role of TERU's community service is largely one of conservation advocacy. It has two components:

- ❖ communication of specialist knowledge to enable communities to make sound environmental management decisions;
- ❖ provision of specialist input through membership of statutory and civil committees dealing with conservation and other environmental issues.



SCIENTIFIC SERVICES

TERU's members provide support to the scientific community through the following activities:

- ❖ review of publications;
- ❖ evaluation of project proposals;
- ❖ evaluation of the scientific status of individuals;
- ❖ service on scientific committees;
- ❖ external examination of theses;
- ❖ editorial work for scientific journals;
- ❖ management of academic and scientific organizations.

CONSULTANCY WORK

TERU staff and students are regularly approached to undertake consultancy work. While it is clearly not the primary function of TERU to provide a consultancy service, such opportunities can often be used to further its Mission. There is also considerable scope for earning funds to support research by taking on selected consultancies.

All prospective consultancies are appraised by the Director who decides whether the work conforms to TERU's priorities. Wherever possible, approved consultancies involve postgraduate students; are linked to formalised research projects and lead to published products. All TERU consultancy work must conform to the highest scientific and ethical standards.

Funds accruing from consultancies are deposited in the relevant UPE discretionary fund administered by TERU, with these funds being apportioned as follows: 10% towards the general running expenses of TERU; 5% towards the mandatory UPE Research Levy, and the remainder of the funds allocated for research support.

MARKETING

TERU recognizes the need to develop and implement a marketing strategy in order to maintain a high profile amongst its stakeholders, thereby enabling it to attract external funding. This marketing must be directed internally within UPE, and externally.

Marketing actions include:

- ❖ the production of top quality scientific and popular publications;
- ❖ conference and workshop participation;
- ❖ media exposure;
- ❖ active communication of TERU's activities (e.g. road show, pamphlet, website);
- ❖ excelling at community service.

STAFF

Membership as of 2001 (excluding postgraduate students)

Core Staff

G.I.H. Kerley PhD (Port Elizabeth)	Director, and Associate Professor
R.M. Cowling PhD (Cape Town)	Research Professor
A.F. Boshoff PhD (London)	Research Fellow

Research Staff

S Wilson MSc (UPE)	Research assistant
R Sims-Castley MSc (UPE), MSc (Cranfield)	Research assistant
L Visagie MSc (Stell.)	Research assistant
N Smith BSc (Hons) (UPE)	Part-time Research Assistant

Post-doctoral fellows and Research Associates:

Listed in the Annual Reports

TERU Advisory Board

Representatives of the following stakeholders are invited by the Director to serve on the Advisory Board:

- ❖ South African National Parks
- ❖ National Research Foundation
- ❖ Department of Economic Affairs, Environment & Tourism (Eastern Cape)
- ❖ Agricultural Research Council
- ❖ Department of Agriculture & Land Affairs (Eastern Cape)
- ❖ Eastern Cape Agricultural Union
- ❖ World Wide Fund for Nature-South Africa
- ❖ Academic representative from outside UPE
- ❖ Individual from private agriculture
- ❖ Individual from the business community
- ❖ Heads of Zoology and Botany Departments
- ❖ Director and core staff of TERU



From left to right: Rebecca Sims-Castley, Graham Kerley, Nadia Smith, Richard Cowling, Sharon Wilson, Louise Visagie and André Boshoff.